CHAPTER 30

STORMWATER MANAGEMENT

(Ord. 2015-13)

30.01 ADOPTION OF THE McHENRY COUNTY STORMWATER MANAGEMENT ORDINANCE. The provisions of the McHenry County Stormwater Management Ordinance originally passed and approved by the McHenry County Board on January 20, 2004, subsequently amended from time to time, are hereby incorporated by reference and fully adopted by the Village of Richmond, effective September 3, 2015, and shall be known as Chapter 30, Stormwater Management, in the Richmond Village Code, subject to the following amendments:

To Section 15.60.060, Article VI.C.2.e, the following shall be added:

> The flood hazard area shall not be smaller than the mapped flood of record unless a BFE is determines and the available topography has sufficient detail, in the opinion of the enforcement officer, to document that the ground is above the BFE.

To Section 15.60.060, Article VI.C.3.b, the following shall be added:

> The flood hazard area shall not be smaller than the map1ped Zone AE unless the available. Topography has sufficient detail, in the opinion of the enforcement officer, to document that the ground is above the BFE.

To Section 15.60.060, Article VI.C.4.b, the following shall be added:

> The flood hazard area shall not be smaller than the mapped Zone A unless a BFE is determined and the available topography has sufficient detail, in the opinion of the enforcement officer, to document that the ground is above the BFE.

To Section 15.60.060, Article VI.C.5.b, the following shall be added:

> The flood hazard area shall not be smaller than the mapped Zone AH unless a BFE is determined and the available topography has sufficient detail, in the opinion of the enforcement officer, to document that the ground is above the BFE.

To Section 15.60.060, Article VI.C.6.b, the following shall be added:

> The flood hazard area shall not be smaller than the mapped Zone AO unless a BFE is determined and the available topography has sufficient detail, in the opinion of the enforcement officer, to document that the ground is above the BFE.

To Section 15.60.060, Article VI B.1.g, the following shall be added:

> The plats for subdivisions, PUD’s, and manufactured home parks shall also show all flood zones (A, AE, AH, AO, floodway) from the currently defective floodplain map.

To Section 15.60.060, Article VI.B.4.f, the following shall be added:

Driveway culverts shall be a minimum of 15” diameter. Road culverts shall be a minimum of 18” diameter. Culverts shall meet IDOT material specifications.

To Section 15.060.030, Article III.B.2.b, the following shall be added:

17. Minimum slopes of grass areas shall be 2% and of ditches shall be 1%, if constructed or disturbed.

To Section 15.060.060, Article VI.B.1, the following shall be added:

o. Minimum slopes of proposed grass areas shall be 2% and of proposed parking lots and ditches shall be 1%.

30.02 RESERVED.

30.03 FEES. The following fees shall be paid to the Village of Richmond prior to issuance of any permit required by this Chapter 30:

(a) Minor development which includes any land disturbing activity that results from or is associated with any building construction or demolition permit issued by the Village of Richmond:

1. Review fee, includes one resubmittal-See Village Code (Appendix B)
2. Resubmittals beyond the first resubmittal-See Village Code (Appendix B)
3. Prearranged and required inspection services-See Village Code (Appendix B)

(b) All other minor development:

1. Review fee, includes one resubmittal-See Village Code (Appendix B)
2. Additional deposit for consulting services-See Village Code (Appendix B)

TABLE OF CONTENTS

NOTES TO USER 5

ARTICLE I 6

§15.60.010 Introduction, Authority and Purpose 6

A. Introduction 6
B. Authority 6
C. Purpose 6

ARTICLE II 8

§15.60.020 Scope of Regulation 8

A. Jurisdiction and Administration 8
B. Regulated Development 8
C. Exempted Development 8
D. Reduced Standards for Specific Types of Development 9

ARTICLE III 12

§15.60.030 General Permits 12

A. General Permit Number 1 - Authorizing Routine Projects 13
B. General Permit Number 2 - Authorizing Single Family Homes 21
C. Letters of Understanding 24

ARTICLE IV 25

§15.60.040 Stormwater Management Permit Provisions 25

A. Development Classification 25
B. Development Phasing 25
C. Approval Prior to Permitting 25
D. Fees and Application Review Times 26
E. Permit Terms and Extensions 26
F. Permit Conditions 27

ARTICLE V 28

§15.60.050 Application Requirements 28

A. Enforcement Officer Authority 28
B. Property Interest 28
C. Basic Submittal 28
D. Soil Erosion and Sediment Control Submittal 29
E. Runoff Control Submittal 30
F. Flood Hazard Area Submittal 33
G. Wetlands, Waters, and Buffer Area Submittal 35

Refer to Appendix 12 for the definition of underlined terms or to Appendix 13 for a list of acronyms.
Refer to Appendix 1 for permitting flowcharts.

ARTICLE VI 37

§15.60.060 Performance Standards 37

A. Soil Erosion and Sediment Control 37
B. Runoff Control 44
C. Flood Hazard Areas 55
D. Wetlands and Waters 69
E. Buffer Areas 75

ARTICLE VII 79

§15.60.070 Variances and Appeals 79

A. Variances 79
B. Appeals 81

ARTICLE VIII 83

§15.60.080 Inspections and Access 83

ARTICLE IX 84

§15.60.090 Violation and Penalty 84

ARTICLE X 86

§15.60.100 Procedure and Enforcement 86

A. Responsibility for Enforcement 86
B. Multi-County Municipalities 86
C. Duties of the MCSC Chief Engineer 87
D. Duties of the Enforcement Officer 87
E. Representative Capacity 89
F. Community Certification 89

ARTICLE XI 92

§15.60.110 Disclaimer of Liability 92

ARTICLE XII 93

§15.60.120 Severability 93

ARTICLE XIII 94

§15.60.130 Abrogation and Greater Restrictions 94

ARTICLE XIV 95

§15.60.140 Amendments 95

TABLES

1. Regulation of Routine Projects 10

2. Summary of General Permit 1 12

3. Applicability of Soil Erosion and Sediment Control Performance Standards 37

4. Minimum Elevation Standards for Public Health Protection 59

5. Building Protection Standards for Flood Hazard Areas 60

6. Acceptable Measures for Flood Protection 60

7. Compensatory Storage Exemptions 67

8. Required Compensatory Storage Ratios 68

9. IWMC Mitigation Ratios 72

10. Buffer Widths 76

FIGURES

1 How to Elevate Your Floodplain Building 62

2 Enclosures Below the BFE 63

3 Accessory Structures 65

4 Understanding the Floodway 129

5 Flood Hazard Areas 132

6 Understanding the Riverine Floodplain 133

APPENDICES

APPENDIX 1 96

§15.60.150 Permitting Flowcharts 96

APPENDIX 2 105

§15.60.160 Standard Soil Erosion and Sediment Control Notes 105

APPENDIX 3 107

§15.60.170 Standard Drain Tile Notes 107

Refer to Appendix 12 for the definition of underlined terms or to Appendix 13 for a list of acronyms.
Refer to Appendix 1 for permitting flowcharts.

APPENDIX 4 108

§15.60.180 Rainfall Depth-Duration Frequency Tables for McHenry County 108

APPENDIX 5 110

§15.60.190 Hydrologic and Hydraulic Models and Techniques approved by MCSC 110

APPENDIX 6 112

§15.60.200 Detention Volume vs. Percent Impervious Chart for McHenry County 112

APPENDIX 7 113

§15.60.220 IDNR/OWR Dam Safety Permit Flowchart 113

APPENDIX 8 114

§15.60.230 Public Bodies of Water in McHenry County 114

APPENDIX 9 115

§15.60.240 McHenry County Watersheds 115

APPENDIX 10 116

§15.60.250 McHenry County Watershed Plans 116

APPENDIX 11 117

§15.60.260 Floodplain and Floodway Maps 117

APPENDIX 12 126

§15.60.270 Definitions 126

APPENDIX 13 149

§15.60.280 Acronyms 149

Refer to Appendix 12 for the definition of underlined terms or to Appendix 13 for a list of acronyms.
Refer to Appendix 1 for permitting flowcharts.

Notes to User

The McHenry County Stormwater Management Ordinance (this Ordinance) regulates development and substantial improvements to buildings in the floodplain throughout McHenry County, within incorporated and unincorporated areas alike. As you read through this Ordinance, you will notice that certain terms are underlined and the Ordinance uses numerous acronyms. Underlined terms are defined in Appendix 12 and acronyms are defined in Appendix 13.

Not all development is regulated by this Ordinance, but development that is regulated requires a stormwater management permit before construction is allowed to commence. Some development is regulated because of its size, such as: development that hydrologically disturbs 5,000 square feet or more; development that hydrologically disturbs 50% or more of a parcel; and development that results in an additional 20,000 square feet of impervious area since the original effective date of this Ordinance. Other development is regulated because of its location, regardless of its size. Examples include development that is located partially or completely in a flood hazard area or wetland.

The basic steps used to determine whether a particular project requires a stormwater management permit are listed below. The Permitting Flow Charts in Appendix 1 provide additional guidance. If you have any questions about this Ordinance or its applicability to a specific project, please contact the McHenry County Department of Planning and Development.

1. Determine whether your project meets the definition of development (see Appendix 12). If it does, go on to Step 2.
2. Determine whether your project is regulated development (see Article II, Section B). If it is, go on to Step 3.
3. Determine whether your project is exempted development (see Article II, Section C). If it is not, go on to Step 4.
4. Determine whether your project qualifies for a General Permit, which waives certain requirements of this Ordinance in order to streamline the permit process for specific types of routine projects (see Article III). If it does, follow the process described for that General Permit. If it does not, go on to Step 5.
5. Determine how your project is classified (see Article IV, Section A) and then go on to Step 6.
6. Determine which Application Requirements apply (see Article V). Then go on to Step 7.
7. Determine which Performance Standards apply (see Article VI). Then go on to Step 8.
8. Submit a complete stormwater management permit application to a Certified Community or to the McHenry County Department of Planning and Development, along with the required submittals.
9. Await the issuance of a stormwater management permit prior to commencing your project.

Article I

§15.60.010 Introduction, Authority and Purpose

A. Introduction

1. The McHenry County Comprehensive Stormwater Management Plan, adopted by the McHenry County Board on June 16, 1997 states, "To provide a consistent level of protection and to provide equity throughout the County, a program for consistent Countywide regulation and enforcement should be developed with standards established at the Countywide level and, where appropriate, modified at the watershed level to meet watershed specific needs. A Countywide regulatory program would involve development of a Countywide watershed development ordinance that applies to both incorporated and unincorporated areas. ... [T]he watershed development ordinance should be comprehensive and specify standards for stormwater drainage and detention, floodplain management, soil erosion and sedimentation control, and stream and wetland protection in a single document."

2. McHenry County has determined that uniform and consistent enforcement by municipalities that adopt the standards of the Stormwater Management Ordinance will enhance the effectiveness of the program. The County also understands that local conditions may sometimes require additional or more restrictive standards to meet the purpose of this Ordinance. In those instances where the requirements of this Ordinance are not stipulated in a municipal ordinance or are more restrictive than

municipal requirements, this Ordinance shall prevail. In some cases, the requirements of this Ordinance are more restrictive than Federal or State minimum standards. A municipality has the right to enact more restrictive standards than the minimum standards of this Ordinance.

B. Authority

1. This Ordinance is enacted pursuant to the powers granted to McHenry County by 55 ILCS 5/5-1041, 1042, 1049, 1062, 1063, 1104, 12003, 15001 & 40001 *et seq.*, (County) and by 65 ILCS 5/1-2-1, 11-12-12, 11-30-2, 11-30-8, 11-31-2 and 615 ILCS 5/5 *et seq*. including 18g.

2. This Ordinance establishes minimum standards and may be superseded by more restrictive Federal, State, or other local regulations.

C. Purpose

1. The purpose of this Ordinance is to establish reasonable rules and regulations for <u>floodplain</u> and <u>stormwater management</u> in order to:

a. Protect and preserve the quality and environmental values of land and water resources in McHenry County;

b. Encourage <u>development</u> in a manner that promotes the orderly, sustainable and cost-effective utilization of land and water resources;

c. Minimize the impact of <u>development</u> on <u>flood</u> hazards, <u>erosion,</u> and water quality;

d. Minimize the need for additional expenditure of public funds for <u>flood</u> control projects, <u>repairs</u> to <u>flood</u> damaged public facilities and utilities, and <u>flood</u> related emergency operations;

e. Minimize additional disruption of governmental services and the economy due to flooding and drainage problems;

f. Maintain eligibility for the NFIP by equaling or exceeding Federal floodplain development regulations (the NFIP is codified as 44 CFR 59-79, as amended) thereby making federally subsidized flood insurance available to residents in participating communities;

g. Protect the hydrologic, hydraulic, water quality, aquatic habitat, recreation and other beneficial functions of streams, ponds, lakes, wetlands, and flood storage areas;

h. Protect the quantity and quality of groundwater resources;

i. Meet the requirements of The Rivers, Lakes and Streams Act, Resources, 615 ILCS 5/1 *et. seq.*;

j. Minimize harm due to periodic flooding including loss of life and property and threats and inconveniences to public health, safety and welfare;

k. Protect buildings and improvements to buildings from flood damage;

l. Facilitate the permitting of sound maintenance of channels and existing stormwater management systems; and

m. Require the regular, planned maintenance of new stormwater management systems.

Article II

§15.60.020 Scope of Regulation

A. Jurisdiction and Administration

1. This Ordinance applies throughout McHenry County, within incorporated and unincorporated areas.
2. The administration and enforcement of this Ordinance shall be performed by:

   Certified Communities, within their respective jurisdictions; and, The MCSC, its agents, employees and assignees in all other areas of McHenry County.
3. A list of Certified Communities may be obtained from the McHenry County Department of Planning and Development.

B. Regulated Development

1. Refer to the Regulated Development Flowchart in Appendix 1.
2. No person, firm, corporation or governmental agency, unless specifically exempted, shall commence any regulated development without first obtaining a stormwater management permit. Unless it is specifically exempted in Article II, Section C, any activity that meets any of the following criteria, is considered regulated development:
   a. Any development that is located partially or completely in a flood hazard area; or,
   b. Any development located partially or completely within the boundary of a wetland; or
   c. Any development that hydrologically disturbs 5,000 square feet or more; or,
   d. Any development that hydrologically disturbs 50% or more of a parcel; or
   e. Any development that results in an additional 20,000 square feet of impervious area since the effective date of this Ordinance; or,
   f. Any development on a lot or parcel of land platted after December 1, 2014 that results in impervious area exceeding the design parameters of an existing stormwater management facility; or,
   g. Any development that is part of a larger common plan of development that, as a whole, would constitute regulated development.

C. Exempted Development

1. Development that consists solely of the following activities shall be exempt from the requirements of this Ordinance, upon review and verification by the Enforcement Officer:
   a. Maintenance of existing buildings outside the floodplain;
   b. Maintenance of existing buildings within the floodplain that does not constitute a substantial improvement;
   c. Maintenance of existing roads and trails;
   d. Other maintenance activities;

e. Gardening and landscaping that does not involve filling, grading, or the construction of berms;

f. Tillage and similar agricultural practices that do not involve filling, grading or the construction of levees;

g. Improvements undertaken pursuant to a written NRCS Conservation Plan, when the improvements are not located within a flood hazard area, WOTUS, or IWMC;

h. Demolition and accompanying restoration, including the removal of bridges and culverts, provided that:

(1) Natural land contours are restored;

(2) The disturbed area is less than 1 acre; and

(3) Appropriate soil erosion and sediment control practices are utilized;

i. Installation, repair or replacement of an onsite waste disposal system, well, sewer or water service line, or other utility service line serving one existing building, provided that:

(1) The activity is not located partially or completely in a flood hazard area or a wetland;

(2) The disturbed area is less than 1 acre;

(3) The activity does not result in an increase in ground elevation; and

(4) Appropriate soil erosion and sediment control practices are utilized.

D. Reduced Standards for Specific Types of Development

1. Regulated development that received one or more of the approvals set forth in a through e below prior to June 1, 2004 shall be exempt from the Buffer Areas Performance Standards of this Ordinance and may be exempt from the Runoff Rate Reduction and Watershed Specific Requirements of this Ordinance, upon review and by the Enforcement Officer that the regulated development is consistent with the prior approval. An applicant's written exemption request shall itemize each Ordinance provision for which an exemption is requested.

a. Annexation agreement

b. Final plat of subdivision

c. Planned unit development

d. Replat of an industrial subdivision

e. Replat of a commercial subdivision

2. Mining Development that received a conditional use permit prior to June 1, 2004 shall be exempt from the Buffer Areas Performance Standards of this Ordinance and shall be exempt from the Compensatory Storage Requirements of this Ordinance for fill outside the floodway, upon review and authorization by the Enforcement Officer. The Enforcement Officer may give credit toward meeting the Compensatory Storage Requirements for excavation prior to June 1, 2004 and after September 30, 1981, which was the effective date of the first FIRM in McHenry County. An applicant's written exemption request shall itemize each Ordinance provision for which an exemption is requested.

3. A Public Road Development in a floodway shall be exempt from the BFE determination requirements of this Ordinance, provided IDOT/DOH issues a Floodway Construction Permit for the Public Road Development.

4. Portions of a development site that do not drain offsite may be exempt from the Soil Erosion and Sediment Control Performance Standards of this Ordinance.

Table 1. Regulation of Routine Projects

Project Type	Exempt	General Permit	Individual Permit
Building Maintenance	Refer to Appendix 12: Maintenance of Existing Buildings	N/A	Refer to Appendix 12: Substantial Improvement
New Single Family Home	N/A	Refer to Article III, Section B: General Permit 2	All Other Development Regulated by Article II, Section B
Road Maintenance	Refer to Appendix 12: Maintenance of Roads and Trails	N/A	All Other Development Regulated by Article II, Section B
Trails	Refer to Appendix 12: Maintenance of Roads and Trails	Refer to Article III, Section A: General Permit 1	All Other Development Regulated by Article II, Section B
Driveways	Refer to Appendix 12: Other Maintenance Activities	Refer to Article III, Section A: General Permit 1	All Other Development Regulated by Article II, Section B
Parking Lots	Refer to Appendix 12: Other Maintenance Activities	N/A	All Other Development Regulated by Article II, Section B
Culverts, Storm Sewers, and Drain Tiles	Refer to Appendix 12: Other Maintenance Activities	Refer to Article III, Section A: General Permit 1	All Other Development Regulated by Article II, Section B
Bridges	Refer to Appendix 12: Other Maintenance Activities	N/A	All Other Development Regulated by Article II, Section B
Dredging	Refer to Appendix 12: Other Maintenance Activities	Refer to Article III, Section A: General Permit 1	All Other Development Regulated by Article II, Section B
Removal of an Obstruction	Refer to Appendix 12: Other Maintenance Activities	Refer to Article III, Section A: General Permit 1	All Other Development Regulated by Article II, Section B
Stormwater Management Facilities	Refer to Appendix 12: Other Maintenance Activities	N/A	All Other Development Regulated by Article II, Section B
Gardening and Landscaping	Refer to Article II, Section C: Exempted Development	N/A	All Other Development Regulated by Article II, Section B

Project Type	Exempt	General Permit	Individual Permit
Tillage and Similar Agricultural Practices	Refer to Article II, Section C: Exempted Development	N/A	All Other Development Regulated by Article II, Section B
Implementing a NRCS Conservation Plan	Refer to Article II, Section C: Exempted Development	N/A	All Other Development Regulated by Article II, Section B
Demolition	Refer to Article II, Section C: Exempted Development	N/A	All Other Development Regulated by Article II, Section B
Onsite Waste Disposal Systems and Wells	Refer to Article II, Section C: Exempted Development	Refer to Article III, Section A: General Permit 1	All Other Development Regulated by Article II, Section B
Sewer and Water Service Lines	Refer to Article II, Section C: Exempted Development	N/A	All Other Development Regulated by Article II, Section B
Underground and Overhead Utilities	Refer to Appendix 12: Other Maintenance Activities	Refer to Article III, Section A: General Permit 1	All Other Development Regulated by Article II, Section B
Seawalls	N/A	Refer to Article III, Section A: General Permit 1	All Other Development Regulated by Article II, Section B
Shoreline and Streambank Stabilization	N/A	Refer to Article III, Section A: General Permit 1	All Other Development Regulated by Article II, Section B
Boat Docks	N/A	Refer to Article III, Section A: General Permit 1	All Other Development Regulated by Article II, Section B
Signposts, Poles Fencing, and Guardrails	N/A	Refer to Article III, Section A: General Permit 1	All Other Development Regulated by Article II, Section B
Decks	N/A	Refer to Article III, Section A: General Permit 1	All Other Development Regulated by Article II, Section B
Pools	N/A	Refer to Article III, Section A: General Permit 1	All Other Development Regulated by Article II, Section B
Material Storage	N/A	Refer to Article III, Section A: General Permit 1	All Other Development Regulated by Article II, Section B
Wetland Restoration and Enhancement	N/A	Refer to Article III, Section A: General Permit 1	All Other Development Regulated by Article II, Section B

Article III

§15.60.030 General Permits

General Permits waive certain requirements of this Ordinance in order to streamline the permit process for specific types of routine projects. The General Permits listed in this Article may be issued by MCSC or a Certified Community, provided that the regulated development meets the Applicability criteria, the Terms and Conditions for the specific type of project, and the Authorization requirements.

Table 2. Summary of General Permit 1

Type of Regulated Development	Applicability	Authorization	Terms and Conditions
Underground and Overhead Utilities	A.1	A.2	A.3.a, A.3.b
Storm Sewer Outfalls, Drain Tile Outfalls, and Outlet Channels	A.1	A.2	A.3.a, A.3.c
Sidewalks, Trails, Driveways, and Patios	A.1	A.2	A.3.a, A.3.d
Boardwalks	A.1	A.2	A.3.a, A.3.e
Seawalls	A.1	A.2	A.3.a, A.3.f
Other Shoreline and Streambank Protection	A.1	A.2	A.3.a, A.3.g
Minor Non-Commercial Boat Docks	A.1	A.2	A.3.a, A.3.h
Signposts, Poles, Fencing, and Guardrails	A.1	A.2	A.3.a, A.3.i
Minor Modification of Culverts, Storm Sewers, and Drain Tiles	A.1	A.2	A.3.a, A.3.j
Decks	A.1	A.2	A.3.a, A.3k
Topsoil and Sand Restoration	A.1	A.2	A.3.a, A.3.l
Pools	A.1	A.2	A.3.a, A.3.m
Replacement Onsite Waste Disposal Systems	A.1	A.2	A.3.a, A.3.n
Material Storage	A.1	A.2	A.3.a, A.3.o
Dredging	A.1	A.2	A.3.a, A.3.p
Wetland Restoration and Enhancement	A.1	A.2	A.3.a, A.3.q

A. **General Permit Number 1 - Authorizing Routine Projects**

1. Applicability

a. This General Permit Number 1 only applies to regulated developments identified in this Section, which result in less than 20,000 square feet of hydrologically disturbed area, except where the Terms and Conditions for Specified Development set forth in Paragraph 3 below explicitly state otherwise.

b. This General Permit Number 1 applies to regulated development within flood hazard areas, except where the Terms and Conditions for Specified Development set forth in Paragraph 3 below explicitly state otherwise.

c. This General Permit Number 1 applies to IWMC impacts less than or equal to 0.10 acre.

d. This General Permit Number 1 applies to regulated development within WOTUS when a permit or letter of no objection has been obtained from the USACE.

e. This General Permit Number 1 does not apply to regulated developments which would be required to meet the Stormwater Storage Requirements of this Ordinance.

f. This General Permit Number 1 does not apply to regulated developments which would adversely impact drainage patterns on adjoining property or increase flood heights on adjoining property.

2. Authorization

a. Applicants seeking authorization by General Permit Number 1 shall demonstrate an ownership interest in the subject property, or written authorization by the property owner to proceed with the development, and shall submit a stormwater management permit application with the required supporting information to the Enforcement Officer prior to commencing a proposed regulated development. The following information is required in support of the stormwater management permit application:

(1) A description and depiction of the proposed regulated development demonstrating that it meets the conditions of the General Permit;

(2) All applicable consultations, waivers, approvals, and permits from Federal, State, and local authorities shall be submitted; and

(3) Payment of the stormwater management permit fee.

b. If the Enforcement Officer determines that the proposed regulated development complies with the terms and conditions of General Permit Number 1, the Enforcement Officer shall notify the applicant in writing and shall schedule a meeting at the development site for photographic documentation of the site conditions. If the Enforcement Officer determines that the regulated development does not comply with the terms and conditions of General Permit Number 1, the Enforcement Officer shall notify the applicant in writing and provide instructions on the procedures to seek authorization under an individual permit.

c. No part of a regulated development shall be authorized by a General Permit, unless the entire regulated development meets the terms and conditions of one or more General Permits.

d. Regulated development not specified in, or not meeting the terms and conditions of, a General Permit shall require an individual permit.

e. MCSC and certified communities may authorize regulated development under General Permit Number 1.

f. Any regulated development authorized by this General Permit Number 1 shall be completed within 2 years of the date of authorization.

3. Terms and Conditions for Specified Development

a. All specified regulated development

(1) Disturbance of vegetation shall be kept to a minimum during construction to prevent erosion and sedimentation. The Enforcement Officer may add requirements or conditions as necessary to control soil erosion and sedimentation.

(2) Any drain tile serving adjoining properties that is damaged as a part of regulated development authorized by this General Permit shall be repaired.

(3) This General Permit Number 1 does not authorize the operation of equipment within a channel. To the extent possible, all in-stream work shall be conducted during low-water conditions.

(4) This General Permit Number 1 authorizes temporary channel crossings, when necessary, provided that the temporary channel crossing meets the following requirements:

i. Temporary approach roads shall be 0.5 foot or less above existing grade;

ii. Fill within the channel shall be at or below existing grade and shall be composed of non-erosive material, such as rip-rap or gravel; and

iii. The temporary channel crossing, including temporary approach roads, shall be removed within 90 days after installation, unless the Enforcement Officer grants an extension of time.

(5) Except as specified in Paragraph 2 above and in these Terms and Conditions for Specified Development of this General Permit Number 1, the Application Requirements and Performance Standards of this Ordinance are waived for regulated development authorized by this General Permit Number 1.

b. Underground and overhead utilities - To be authorized by this General Permit Number 1, underground and overhead utilities installation shall meet the following criteria.

(1) The construction of the utility shall not result in any increase in ground elevations within a flood hazard area.

(2) The construction of the utility shall not involve the placement of above ground structures in a flood hazard area other than supporting towers for overhead utilities, well casings, and watertight openings necessary for a water supply system or sanitary sewer line.

All above ground openings for new and replacement water supply systems and wells within a flood hazard area shall be watertight or elevated to the FPE. When the BFE has not yet been determined according to the Flood Hazard Areas Performance Standards of this Ordinance, the BFE may be approximated by adding 2 feet to the highest adjacent grade.

(3) All above ground openings for new and replacement sanitary sewer lines within a flood hazard area shall be watertight below the FPE. When the BFE has not yet been determined according to the Flood Hazard Areas Performance Standards of this Ordinance, the BFE may be approximated by adding 2 feet to the highest adjacent grade.

(4) In the case of underground stream crossings, the top of the pipe or encasement shall be buried a minimum of 3 feet below the existing stream bed.

(5) Overhead utilities and associated supporting towers shall be non-obstructive to flood flows, shall not be placed below the ordinary high water mark, and shall be designed not to catch debris within a flood hazard area. If attached to an existing bridge, the utility shall be constructed above the low chord elevation.

(6) In IWMC, any excavation shall be backfilled with soil excavated from the trench in the same stratification in which it was removed.

(7) A contingency plan for frac-out shall be required for any utility proposed to be installed by directional boring.

c. Storm sewer outfalls, drain tile outfalls, and outlet channels - To be authorized by this General Permit Number 1, storm sewer outfalls, drain tile outfalls, and outlet channels shall meet the following criteria.

(1) The outfall shall not project riverward or lakeward of the existing adjacent natural bank slope or bulkhead.

(2) Construction of outfalls and outlet channels shall not result in an increase in ground elevation within a flood hazard area.

(3) The velocity of the discharge shall not exceed the scour velocity of the channel soil, unless channel erosion would be prevented by the use of rip-rap or other design measures.

(4) Outlets from drainage ditches shall not be opened to a stream until the ditch is vegetated or otherwise stabilized to minimize stream sedimentation.

(5) Bank erosion shall be prevented by aprons, energy dissipaters, or drop structures as necessary.

d. Sidewalks, trails, driveways, and patios - To be authorized by this General Permit Number 1, sidewalks, trails, driveways, and patios shall be built at or below existing grade within a flood hazard area.

e. Boardwalks - To be authorized by this General Permit Number 1, boardwalks shall meet the following criteria.

(1) This General Permit Number 1 does not apply to boardwalks within a designated floodway.

(2) The construction of the boardwalk shall not result in any increase in existing ground elevations within a flood hazard area.

(3) The boardwalk shall be anchored to prevent lateral movement.

(4) The boardwalk shall be non-obstructive to flood flows and designed not to catch debris.

f. Seawalls - To be authorized by this General Permit Number 1, construction of seawalls shall meet the following criteria.

(1) The length of shoreline or streambank to be protected shall not exceed 500 feet.

(2) The seawall shall be properly anchored to resist anticipated forces of current and wave action.

(3) The seawall shall not extend higher than the ordinary high water mark, unless the height of the new seawall matches the height of the existing seawall or existing seawalls on adjacent properties.

(4) Eroded areas on the landward side of the seawall may be backfilled, provided the backfill is not placed higher than the top of the seawall.

(5) The seawall shall be located so that the modified cross-sectional area of a channel does not decrease the cross-sectional area of the natural channel upstream and downstream of the development site. The Enforcement Officer may waive this requirement where a new seawall would tie into existing seawalls upstream and downstream of the development site, or where a new seawall is constructed no more than 6 inches riverward of the existing seawall.

(6) In the case of seawalls on lakes, the seawall shall be constructed at or landward of the water line as determined by the normal pool elevation. The Enforcement Officer may waive this requirement where a new seawall would tie into existing seawalls on adjacent properties, or where a new seawall is constructed no more than 6 inches lakeward of the existing seawall.

g. Other shoreline and streambank protection - To be authorized by this General Permit Number 1, construction of shoreline and streambank protection shall meet the following criteria.

(1) Where vegetative streambank and shoreline protection is not used, only the following structural materials may be utilized: stone and concrete riprap, cellular blocks, fabric-formed concrete, gabion baskets, rock and wire mattresses, sand/cement filled bags, geotechnical fabric materials, and treated timber (excluding creosote treated railroad ties, utility poles, and other timber).

(2) The length of shoreline or streambank to be protected shall not exceed 1,000 feet. Where non-vegetative (structural) protection is utilized, the

length of shoreline or streambank stabilization to be protected shall not exceed 500 feet. Vegetative and non-vegetative protection may be combined, but in no case shall non-vegetative protection exceed 500 feet in total length.

(3) All material utilized shall be properly sized or anchored to resist anticipated forces of current and wave action. The *Illinois Urban Manual* (www.aiswcd.org/IUM) or other references approved by the Enforcement Officer may be used for proper material sizing.

(4) Materials shall be placed in a way that would not cause erosion or the accumulation of debris on properties adjacent to or opposite the project.

(5) Materials shall be placed so that the modified cross-sectional area of a channel conforms to that of the natural channel upstream and downstream of the development site or the bank may be graded to obtain a flatter slope and to lessen the quantity of material required.

(6) In the case of gabion structures and similar protection measures on lakes, the structure shall be constructed at or landward of the water line as determined by the normal pool elevation.

(7) This General Permit Number 1 does not authorize in-stream work performed beyond the toe of the slope, with the exception of naturalized grade control that does not result in a loss of conveyance.

h. Minor non-commercial boat docks - To be authorized by this General Permit Number 1, construction of minor non-commercial boat docks shall meet the following criteria.

(1) The boat dock shall not project more than 50 feet into a waterway, and in no instance greater than 1/4 of the width of the waterway.

(2) The width of the boat dock shall not be greater than 10 feet.

(3) For L-shaped or T-shaped docks, the length of that portion parallel to the shoreline shall not exceed 50% of the landowner's shoreline frontage, nor be greater than 50 feet in length.

(4) Docks shall be aligned so as not to cross the straight-line projection of property lines into the waterway or come within 10 feet of the straight-line projection of the property line.

(5) Seasonal shore stations/boat lifts shall be located adjacent to a boat dock or seawall and shall not cross the straight-line projection of the property lines.

(6) The boat dock shall be securely anchored to prevent its detachment and becoming a floating hazard during times of high water or winds.

(7) This General Permit Number 1 does not authorize any accessory structures or improvements to a minor non-commercial boat dock, such as non-fabric roofs and elevated decks.

(8) Non-floating boat docks shall be constructed in a manner which will minimize obstruction of flow.

i. Signposts, poles, fencing, and guardrails - To be authorized by this General Permit Number 1, signposts, poles, fencing, and guardrails shall meet the following criteria.

(1) No fencing shall be placed within a floodway.

(2) No fill except posts, poles, and supports shall be placed within the flood hazard area.

(3) Signposts, poles, fencing, and guardrails shall be non-obstructive to flood flows.

j. Minor modification of culverts, storm sewers, and drain tiles - To be authorized by this General Permit Number 1, minor modification of culverts, storm sewers and drain tiles shall meet the following criteria.

(1) This General Permit Number 1 does not authorize modifications to the size, shape, and material of culverts within a floodway.

(2) This General Permit Number 1 does not authorize modifications to the size, shape, and material of culverts where a building within 500 feet upstream of the culvert is located within a mapped Zone AE, A, AH, or AO floodplain on the FEMA FIRM.

(3) This General Permit Number 1 does not authorize modifications to the size, shape, and material of culverts where a building within 500 feet upstream of the culvert is located within a mapped Flood of Record area on the USGS-Hydrologic Investigation Atlas Flood of Record Map.

(4) This General Permit Number 1 does not authorize culvert extensions within a designated floodway.

(5) Modifications to the size, shape, and material of a culvert, storm sewer, or drain tile shall maintain 90-125% of the capacity of the existing culvert, storm sewer, or drain tile. Minor adjustment of pipe invert elevations to correct an adverse slope shall be allowed without consideration of the resulting increase in pipe capacity. Calculations prepared by a licensed professional engineer shall be submitted demonstrating compliance with this condition.

(6) Culvert extensions shall not exceed the lesser of 40 feet or 100% of the original pipe length and shall not result in a change in alignment or a reduction in pipe size.

k. Decks - To be authorized by this General Permit Number 1, decks shall meet the following criteria.

(1) The construction of the deck shall not result in any increase in existing ground elevations within a flood hazard area.

(2) The deck shall be constructed as a stand-alone structure and shall not be attached to an existing building.

(3) The deck shall not be enclosed.

(4) The deck shall be anchored to prevent lateral movement.

(5) The deck must be non-obstructive to flood flows and designed not to catch debris.

(6) The deck shall be designed to allow automatic entry and exit of floodwaters.

l. Topsoil and sand restoration - To be authorized by this General Permit Number 1, topsoil and sand restoration shall meet the following criteria.

(1) Topsoil may be placed within a flood hazard area for the purpose of restoring the natural ground elevation and stabilizing an erosion control problem or establishing vegetative cover.

(2) Topsoil may be placed within a flood hazard area for the purpose of restoring pre-subsidence ground elevations to an area that primarily experiences subsidence due to flooding. The restoration fill shall not exceed pre-subsidence ground elevations.

(3) Up to 1 cubic yard of sand per lineal foot may be placed for the purpose of restoring a beach within a flood hazard area.

(4) The length of beach restoration shall not exceed 1000 feet.

(5) This General Permit Number 1 does not authorize the placement of sand for the purpose of creating a new beach or expanding an existing beach.

m. Pools - To be authorized by this General Permit Number 1, pools shall meet the following criteria.

(1) This General Permit Number 1 does not authorize the installation of above ground pools within a flood hazard area.

(2) This General Permit Number 1 does not authorize fill within a flood hazard area.

(3) Spoil materials shall be hauled away from the development site.

(4) Disturbance of vegetation shall be kept to a minimum during construction to prevent erosion and sedimentation.

(5) Appropriate soil erosion and sediment control practices shall be utilized.

n. Replacement onsite waste disposal systems - To be authorized by this permit, replacement onsite waste disposal systems shall meet the following criteria.

(1) Replacement onsite waste disposal systems may be installed in the flood hazard area below the BFE, provided that no reasonable alternative exists, as determined by the Enforcement Officer, and provided that the system has a watertight holding tank and all mechanical and electrical components and above ground openings of the system below the BFE are watertight. When the BFE has not yet been determined according to the Flood Hazard Areas Performance Standards of this Ordinance, the BFE may be approximated by adding two feet to the highest adjacent grade.

(2) Fill within a flood hazard area shall be the minimum necessary for construction.

o. Material storage - To be authorized by this General Permit Number 1, material storage shall meet the following criteria.

(1) This General Permit Number 1 does not apply within a flood hazard area.

(2) The design shall minimize exposure of pollutants to precipitation and stormwater runoff.

p. Dredging - To be authorized by this General Permit Number 1, dredging shall meet the following criteria.

(1) This General Permit Number 1 applies to dredging channels and ponds.

(2) This General Permit Number 1 does not apply to the construction of a new channel or water body; all work shall be for the purpose of re-establishing the natural or original designed condition.

(3) Spoil materials shall be spread thinly (less than 0.1 foot) and incorporated into existing cultivated areas, or shall be hauled away from the development site.

(4) Temporary stockpiles greater than 100 cubic yards and temporary stockpiles remaining in place more than 7 days shall not be located in flood hazard areas and shall be non-obstructive to flood flows. Temporary stockpile areas shall not occupy more than 20,000 square feet in total.

(5) Channel dredging projects shall not exceed 0.5 mile. The hydrologic disturbance limit of 20,000 square feet is waived for the area of channel dredging.

q. Wetland restoration and enhancement - To be authorized by this General Permit Number 1, wetland restoration and enhancement shall meet the following criteria.

(1) This General Permit Number 1 authorizes wetland restoration and enhancement on any public or private land, including:

i. The removal of accumulated sediments;

ii. Restoration of eroded areas and grade stabilization;

iii. Installation, removal and maintenance of small water control structures, dikes and berms; and

iv. Other related activities.

(2) This General Permit Number 1 may be used to relocate aquatic habitat types on the development site.

(3) This General Permit Number 1 does not authorize:

i. Fill within flood hazard areas, except that which would restore the development site to the natural condition;

ii. The relocation or channelization of a linear waterway such as a river, stream, or creek;

iii. The conversion of a stream or creek to another aquatic use, such as the creation of an impoundment for waterfowl habitat; or

iv. The conversion of natural wetlands to another aquatic use.

(4) The abandonment or removal of drain tiles shall be annotated on a drain tile survey for any restoration and enhancement activities involving the abandonment or removal of drain tiles.

B. **General Permit Number 2 - Authorizing Single Family Homes**

1. Applicability

a. This General Permit Number 2 only applies to regulated developments involving the construction or reconstruction of a single family residence resulting in less than 1 acre of hydrologically disturbed area.

b. This General Permit Number 2 does not apply to regulated development within flood hazard areas.

c. This General Permit Number 2 does not apply to regulated development within IWMC or WOTUS.

d. This General Permit Number 2 does not apply to regulated developments which would be required to meet the Stormwater Storage Requirements of this Ordinance.

e. This General Permit Number 2 does not apply to regulated developments which would adversely impact drainage patterns on adjoining property or increase flood heights on adjoining property.

2. Authorization

Applicants seeking authorization by General Permit Number 2 shall demonstrate an ownership interest in the subject property, or written authorization by the property owner to proceed with the development, and shall submit a stormwater management permit application with the required supporting information to the Enforcement Officer prior to commencing the proposed regulated development. The following information is required for authorization by General Permit Number 2.

a. A development plan shall be submitted showing the proposed regulated development with all other relevant information, including but not limited to:

(1) Property lines;

(2) Buildings and other structures;

(3) Easements;

(4) Utility lines, culverts, onsite waste disposal systems, and wells;

(5) Existing and proposed ground elevations sufficient to depict the proposed work and how it ties into existing ground elevations;

(6) Existing and proposed impervious areas;

(7) Areas of temporary disturbance;

(8) Placement of spoil materials;

(9) Details of construction;

(10) Dimensions of the proposed regulated development;

(11) The type and location of all soil erosion and sediment control measures;

(12) Specifications for seeding or other methods of stabilization;

(13) The McHenry County *Standard Soil Erosion and Sediment Control Notes* in Appendix 2;

(14) All components of the stormwater management system, including the overland flow path, drain tiles, storm sewers, and water quality protection measures; and

(15) The McHenry County *Standard Drain Tile Notes* in Appendix 3;

(16) The location of any flood hazard area on the development site and extending 100 feet beyond the development site, based on available maps and studies; and

(17) The location of all WOTUS and IWMC, extending 100 feet beyond the development site, based on available maps and studies.

b. For regulated development disturbing 20,000 square feet or more, the development plan shall be prepared by a licensed professional engineer and include the following additional information:

(1) A benchmark referenced to NAVD88;Existing contours extending 100 feet beyond the development site with a maximum contour interval of 1 foot;

(2) Existing spot elevations demonstrating drainage patterns;

(3) Top of foundation and lowest entry elevation of all existing buildings within 100 feet of the development site;

(4) All existing impervious areas such as roadways, structures, parking lots, driveways, sidewalks, pathways, trails;

(5) The existing stormwater management system including storm sewers, drain tiles, culverts, and inlets on the development site and 100 feet beyond the development site. Information regarding the invert and rim elevations, pipe sizes, pipe lengths, and material type shall be provided;

(6) Existing utilities including sanitary sewer, water main, onsite waste disposal system, well, or any other utilities that exist on the site and 100 feet beyond the development site. On development sites where an infiltration facility is proposed, existing water supply wells shall be shown 200 feet beyond the development site. Information regarding the invert and rim elevations, pipe sizes, pipe lengths, and material type shall be provided;

(7) Location and limits of all existing and proposed deed or plat restrictions;

(8) Existing trees and vegetation areas on the development site;

(9) Proposed contours throughout the development site with a maximum contour interval of 1 foot;

(10) Proposed spot elevations demonstrating drainage patterns;

(11) Top of foundation, lowest floor, low opening elevation, and floodproofing elevations of all proposed structures adjacent to a stormwater management facility or along an overland flow path;

(12) All proposed impervious areas such as roadways, structures, parking lots, driveways, sidewalks, pathways, trails;

(13) The proposed stormwater management system including pipes, drain tiles, culverts, and inlets on the development site. Information regarding the invert and rim elevations, pipe sizes, pipe lengths, and material type shall be provided;

(14) Proposed utilities including sanitary, storm, water main, onsite waste disposal system, well, or any other utilities on the site. Information regarding the invert and rim elevations, pipe sizes, pipe lengths, and material type shall be provided;

(15) Design details for proposed stormwater management system including, but not limited to major and minor stormwater systems, and; and

(16) Cross-sections for overland flow paths, sufficient to demonstrate compliance with the freeboard requirements of this Ordinance.

c. All applicable consultations, waivers, approvals, and permits from Federal, State, and local authorities shall be submitted.

d. Payment of the stormwater management permit fee.

e. If the Enforcement Officer determines that the proposed regulated development complies with the terms and conditions of General Permit Number 2, the Enforcement Officer shall notify the applicant in writing. If the Enforcement Officer determines that the regulated development does not comply with the terms and conditions of a General Permit Number 2, the Enforcement Officer shall notify the applicant in writing and provide instructions on the procedures to seek authorization under an individual permit.

f. No part of a regulated development shall be authorized by a General Permit, unless the entire regulated development meets the terms and conditions of one or more General Permits.

g. Regulated development not specified in, or not meeting the terms and conditions of, a General Permit shall require an individual permit.

h. MCSC and Certified Communities may authorize regulated development under General Permit Number 2.

i. Except as specified in this Paragraph 2 and in the Terms and Conditions for Specified Development set forth in Paragraph 3 below of this General Permit Number 2, the Application Requirements and Performance Standards of this Ordinance are waived for regulated development authorized by a General Permit Number 2.

j. Disturbance of vegetation shall be kept to a minimum during construction to prevent erosion and sedimentation. The Enforcement Officer may add requirements or conditions as necessary to control soil erosion and sedimentation.

k. Any regulated development authorized by this General Permit shall be completed within 2 years of the date of authorization.

3. Terms and Conditions for Specified Development

a. All concentrated stormwater discharges from a regulated development shall be conveyed into an existing channel, storm sewer, or overland flow path and shall not result in flood damage at the development site or upstream of the development site.

b. The diversion of stormwater runoff shall be prohibited unless no reasonable alternative exists, as determined by the Enforcement Officer. The diversion of stormwater runoff shall not result in flood damage at the development site, upstream of the development site or on downstream adjoining properties.

c. Appropriate pre-treatment shall be provided for stormwater runoff directed to new or existing Class V injection well.

d. Appropriate pre-treatment shall be provided for stormwater runoff directed to infiltration based practices in areas designated as High or Moderately High Potential for Aquifer Recharge/Contamination on the McHenry County Sensitive Aquifer Recharge Areas Map.

C. **Letters of Understanding**

The McHenry County Board may enter into Letters of Understanding with various agencies that perform regulated development activities in McHenry County. The purpose of a Letter of Understanding is to streamline the stormwater management permit process for routine and minor projects related to the restoration or enhancement of natural areas or for regulated development that makes natural areas accessible to the public. A Letter of Understanding shall describe the terms and conditions for specific regulated development activities to ensure compliance with the purpose and intent of this Ordinance. A Letter of Understanding will be issued after notice and opportunity for public review and comment, and approval from IDNR/OWR and FEMA, if required by law. Once a Letter of Understanding has been issued, the Letter of Understanding shall authorize any regulated development by the named agency which meets the terms and conditions of the Letter of Understanding, until the Letter of Understanding expires or is terminated by action of the McHenry County Board. Certified Communities may adopt and enforce any Letter of Understanding issued by McHenry County within the community's jurisdiction. Noncompliance with the requirements and standards of a Letter of Understanding constitutes a violation of this Ordinance and is subject to the Violation and Penalty standards of this Ordinance.

Article IV

§15.60.040 Stormwater Management Permit Provisions

A. Development Classification

1. Refer to the Development Classification Flowchart in Appendix 1.
2. The Enforcement Officer shall make the determination regarding the classification of a regulated development.
3. All regulated development requiring a stormwater management permit, except regulated development authorized by a General Permit, shall be classified as a Minor, Intermediate, Major, Public Road, or Mining Development.
4. Regulated development located partially or completely within a flood hazard area shall also be classified as a Flood Hazard Area Development.
5. Regulated development located partially or completely within WOTUS or IWMC shall also be classified as a Wetlands and Waters Development.
6. Regulated development located partially or completely within a watershed or sub-watershed, for which additional or more restrictive standards have been adopted by MCSC or a Certified Community, shall also be classified as a Watershed Specific Area Development.
7. To the extent that a regulated development fits multiple classifications, it shall comply with all applicable requirements for each classification.

B. Development Phasing

In order to preclude inappropriate phasing of development to circumvent the intent of this Ordinance, the requirements of this Ordinance shall apply all regulated development within the contiguous property, unless waived by the Enforcement Officer.

C. Approval Prior to Permitting

1. Prior to the issuance of stormwater management permit, the applicant may request conditional approval of: a BFE determination, floodway delineation, IWMC boundary determination, or any other component of a regulated development. A request for conditional approval shall include the information required for the component of regulated development by the Application Requirements of this Ordinance. The Enforcement Officer shall review the component of regulated development based on conformance with the Performance Standards of this Ordinance.
2. Earth change approval for a regulated development may be granted by the Enforcement Officer prior to the issuance of a stormwater management permit. The Earth change approval is subject to the following conditions:
    a. An Earth Change Plan shall be submitted demonstrating that the proposed grading would meet the applicable Performance Standards of this Ordinance;
    b. No impervious areas shall be created;
    c. No fill shall be placed in flood hazard areas;
    d. No regulated development may occur within IWMC or WOTUS;
    e. No regulated development may occur in areas for which Federal and/or State permits are required, unless the applicable permits have been obtained;

f. All regulated development shall be completed at the risk of the applicant;

g. Additional conditions may be specified by the Enforcement Officer, depending on development site characteristics; and

h. Earth change approval may be revoked by the Enforcement Officer at any time for non-compliance with the requirements of this Ordinance or the conditions of the earth change approval.

D. Fees and Application Review Times

1. A fee schedule shall be established by separate resolution of McHenry County.

2. A separate fee schedule may be established by Certified Communities.

3. Stormwater management permit applications shall be reviewed within 15 business days of receipt to determine if the Application Requirements of this Ordinance have been met. A complete application package shall be approved or denied within 45 business days of the latest item submitted.

E. Permit Terms and Extensions

1. The term of a stormwater management permit shall be from the issue date to the expiration date. The term of a stormwater management permit shall be:

a. The lesser of 2 years or the term of the building permit for General Permits and for Minor, Intermediate, and Public Road Developments;

b. The lesser of 3 years or the term of the building permit for Major Developments; or

c. The lesser of 10 years or the term of the conditional use permit for Mining Development.

2. A permit extension may be requested in writing by the applicant if the regulated development is not completed within the term of the stormwater management permit. The Enforcement Officer may extend the permit for the time periods listed below. Permit extension requests may not be made prior to 90 days of the permit expiration date.

a. The permit term for General Permits and for Minor, Intermediate, and Public Road Developments may be extended for 6 months at a time.

b. The permit term for Major Developments and Mining Developments may be extended for 12 months at a time.

3. The Enforcement Officer may amend or add special conditions to the permit at the time of the extension, such as updating the terms of a performance guarantee by revising the estimated cost to complete construction.

4. A stormwater management permit shall be terminated without the possibility of an extension if the actual start of construction is not commenced within 180 days after the issue date of the stormwater management permit and if any activity related to a building authorized by the stormwater management permit is not in compliance with the most recent version of:

a. the FIS,

b. the FIRM,

c. the NFIP regulations, and

d. the Flood Hazard Areas Performance Standards of this Ordinance.

5. A stormwater management permit may be terminated during its term or a permit extension may be denied for reasons including, but not limited to:

a. Noncompliance with any condition of the permit;

b. The applicant's failure to disclose fully all relevant facts in the application process or the applicant's misrepresentation of any relevant facts at any time;

c. The regulated development is not commenced within 2 years after the issue date of the stormwater management permit;

d. The regulated development is suspended or abandoned for a period of 6 months after commencing the regulated development.

F. Permit Conditions

1. Special Conditions may be added to a permit by the Enforcement Officer to clarify the purpose or authorization granted by the stormwater management permit. Special conditions may also specify other restrictions and constraints of the regulated development.

2. Development plans bearing the approval stamp of the Enforcement Officer shall be retained at the development site throughout the duration of construction activities.

3. A deed or plat restriction required as part of a stormwater management permit shall not be modified without the approval of the Enforcement Officer.

Article V

§15.60.050 Application Requirements

A. Enforcement Officer Authority

The Enforcement Officer shall make the determination as to whether the submitted documentation demonstrates compliance with this Ordinance.

B. Property Interest

The applicant shall demonstrate an ownership interest in the subject property, or written authorization by the property owner to proceed with the development.

C. Basic Submittal

The following requirements apply to all regulated development, except regulated development authorized by a General Permit.

1. A stormwater management permit application shall be submitted.

2. A development plan shall be submitted showing the proposed regulated development with all other relevant information, including but not limited to:

a. Property lines;

b. Buildings and other structures;

c. Easements;

d. Utility lines, culverts, onsite waste disposal systems, and wells;

e. Existing and proposed ground elevations sufficient to depict the proposed work and how it ties into existing ground elevations;

f. Existing and proposed impervious areas;

g. Areas of temporary disturbance;

h. Placement of spoil materials;

i. Details of construction;

j. Dimensions of the proposed regulated development;

k. The location of any flood hazard area on the development site and extending 100 feet beyond the development site, based on available maps and studies, unless a BFE determination is required by this Ordinance; and

l. The location of all WOTUS and IWMC, extending beyond the development site, based on available maps and studies, unless a Wetland Determination Report is required by this Ordinance.

3. For regulated development that does not include a new building and would not change existing ground elevations, the development plan may be sketched on an aerial photograph showing 2 foot contour interval topographic mapping and the applicant's written agreement that: "The finished ground elevations shall match existing ground elevations and all spoil material shall be removed from the development site" which shall be depicted on the aerial photograph as a note.

4. All applicable consultations, waivers, approvals, and permits from Federal, State, and local authorities shall be submitted.

5. Payment of the stormwater management permit fee.

D. Soil Erosion and Sediment Control Submittal

In addition to other applicable Application Requirements, the following requirements apply to all regulated development, except regulated development authorized by a General Permit.

1. A development plan shall be submitted demonstrating compliance with the Soil Erosion and Sediment Control Performance Standards of this Ordinance. The development plan shall include:

a. The type and location of all soil erosion and sediment control measures. If the regulated development will be constructed in phases, the development plan shall specify all control measures necessary for each phase;

b. Detail drawings for all soil erosion and sediment control measures;

c. Specifications for seeding or other methods of stabilization; and

d. The McHenry County *Standard Soil Erosion and Sediment Control Notes* in Appendix 2.

2. For regulated development disturbing 1 acre or more, the development plan shall be submitted with the following additional information:

a. A narrative description of the existing land cover and soil survey data for the development site and adjacent areas;

b. A narrative description of the proposed temporary and permanent soil erosion and sediment control practices, including a narrative describing how flood hazard areas, wetlands, waters and buffer areas will be protected from erosion and sedimentation;

c. A schedule of construction activities including, but not limited to, clearing and grading, installation of stabilized construction entrances, disposal of construction waste, stockpiling, and inspection and maintenance of all soil erosion and sediment control practices;

d. Data and calculations used to size, locate, design, and maintain all soil erosion and sediment control practices, where applicable, and for the design of temporary stream crossings; and

e. Identification of person(s) or entity having legal responsibility for installation, maintenance, and removal of erosion and sediment control practices during construction and after regulated development is completed.

3. All applicable consultations, waivers, approvals, and permits from Federal, State, and local authorities shall be submitted including, but not limited to:

a. Coverage by the IEPA under General NPDES Permit No. ILR10; and

b. A permit from the road authority for development in a public right-of-way.

E. Runoff Control Submittal

In addition to other applicable Application Requirements, the following requirements apply to all regulated development, except regulated development authorized by a General Permit.

1. Refer to the Runoff Control Submittal Flowchart in Appendix 1.

2. For Minor Development the following documentation shall be submitted demonstrating compliance with the Runoff Control Performance Standards of this Ordinance.

a. A development plan shall be submitted that depicts:

(1) All applicable components of the stormwater management system, including the overland flow path, drain tiles, storm sewers, and water quality protection measures; and

(2) Includes the McHenry County *Standard Drain Tile Notes* in Appendix 3.

b. As applicable, design calculations prepared by a licensed professional engineer shall be submitted. When required, the design calculations shall demonstrate that the Runoff Control Performance Standards of this Ordinance have been met for the following components:

(1) Overland flow paths;

(2) Drain tiles; and

(3) Storm sewers.

3. For Intermediate, Major, Public Road, or Mining Development, the development plans and supporting calculations shall be prepared by a licensed professional engineer and shall meet the Minor Development Runoff Control Submittal requirements set forth in Paragraph E.2 above and the following additional requirements:

a. A statement shall be submitted, which is signed by the licensed professional engineer that prepared the development plans, rendering an opinion that the development plans meet the minimum requirements of this Ordinance;

b. A development plan shall be submitted that depicts:

(1) A benchmark referenced to NAVD88;

(2) Existing utilities including sanitary sewer, water main, onsite waste disposal system, well, or any other utilities that exist on the site and 100 feet beyond the development site. On development sites where an infiltration facility is proposed, existing water supply wells shall be shown 200 feet beyond the development site. Information regarding the invert and rim elevations, pipe sizes, pipe lengths, and material type shall be provided;

(3) Location and limits of all existing and proposed deed or plat restrictions;

(4) Existing trees and vegetation areas on the development site;

(5) Proposed contours throughout the development site with a maximum contour interval of 1 foot;

(6) Proposed spot elevations demonstrating drainage patterns;

(7) Top of foundation, lowest floor, low opening elevation, and floodproofing elevations of all proposed structures within a flood hazard area, adjacent to a stormwater management facility; or along an overland flow path;

(8) All proposed impervious areas such as roadways, structures, parking lots, driveways, sidewalks, pathways, and trails;

(9) Proposed stormwater management system including pipes, drain tiles, culverts, and inlets on the development site. Information regarding the invert and rim elevations, pipe sizes, pipe lengths, and material type shall be provided;

(10) Proposed utilities including sanitary, storm, water main, onsite waste disposal system, well, or any other utilities on the development site. Information regarding the invert and rim elevations, pipe sizes, pipe lengths, and material type shall be provided;

(11) Design details for proposed stormwater management system including, but not limited to, major and minor stormwater systems, stormwater management facilities, water quality protection measures, overflow structures, and control structures including restrictor size and invert; and Cross-sections for overland flow paths and stormwater management facilities sufficient to demonstrate compliance with the freeboard requirements of this Ordinance;

c. Runoff data and calculations for the development site and tributary areas, if a stormwater management system is necessary for the development site to meet the requirements of this Ordinance. The data and calculations may include the following, as applicable:

(1) A narrative identifying the procedures, assumptions, and data used in hydrologic and hydraulic calculations for sizing both major and minor stormwater systems;

(2) A schematic diagram of the existing and proposed hydrologic and hydraulic calculations;

(3) Delineation of tributary areas to each overland flow path, inlet and stormwater management facility;

(4) Time of concentration calculations;

(5) Runoff Curve Number and runoff coefficient calculations for existing and proposed conditions;

(6) Rainfall depth and distribution data;

(7) Storm sewer and inlet design calculations;

(8) Hydraulic grade line and high water surface elevations for design storm events;

(9) Assumptions or calculations utilized to determine tailwater conditions for the development site;

(10) Digital copies of the hydrologic and hydraulic models; and

(11) Other calculations necessary to demonstrate compliance with this Ordinance;

d. Stormwater management facility data and calculations for the development site and tributary areas, if stormwater storage is necessary for the development site to meet the requirements of this Ordinance. The data and calculations shall include the following:

(1) A narrative identifying the procedures, assumptions, and data used in hydrologic and hydraulic calculations to determine the post-development allowable release rate and related stormwater storage volume;

(2) A tabular summary of existing, allowable, and proposed release rates for design storm events;

(3) A tabular summary of required and proposed stormwater storage volumes for design storm events;

(4) Elevation versus storage area data for the stormwater management facility;

(5) Elevation versus discharge curve data for the control structure of the stormwater management facility;

(6) Elevation versus time data for the stormwater management facility;

(7) Calculations demonstrating that the overflow structure is sized to meet the requirements of this Ordinance;

(8) Assumptions or calculations utilized to determine tailwater conditions for the development site; and

(9) Seeding and/or planting specifications for detention within IWMC;

e. Infiltration facility data including the following development site specific information, prepared by a qualified professional, if the applicant proposes an infiltration facility to meet the Stormwater Storage Requirements of this Ordinance;

(1) Infiltration rate; and

(2) Seasonal high groundwater elevation;

f. Pre-treatment measures for infiltration facilities, Class V injection wells, and infiltration-based water quality treatment practices;

g. A narrative describing how the development site utilizes the strategies in the Runoff Volume Reduction Hierarchy of this Ordinance, if applicable;

h. Watershed specific design data, if applicable;

i. A recorded deed or plat restriction, if applicable; and

j. A recorded maintenance plan, if applicable.

4. For regulated development required to meet the Stormwater Storage Requirements of this Ordinance, as-built plans shall be submitted with a certificate stating that stormwater management facilities were constructed in substantial conformance with the approved development plans.

5. All applicable consultations, waivers, approvals, and permits from Federal, State, and local authorities shall be submitted including, but not limited to documentation of IEPA receipt of a Class V injection well inventory.

F. Flood Hazard Area Submittal

In addition to other applicable Application Requirements, the following requirements apply to all Flood Hazard Area Development, except regulated development authorized by a General Permit.

1. Refer to the Flood Hazard Area Submittal Flowchart in Appendix 1.

2. A statement shall be submitted, which is signed by the licensed professional engineer that prepared the development plans, rendering an opinion that the development plans meet the minimum requirements of this Ordinance;

3. A development plan and calculations shall be submitted demonstrating compliance with the Flood Hazard Areas Performance Standards of this Ordinance. The development plan shall include:

a. A benchmark referenced to NAVD88;

b. A delineation of the existing and proposed BFE on the development site with the source of the BFE noted;

c. Mapped limits of the flood hazard area per the appropriate source;

d. A delineation of the floodway on the development site;

e. Identification of any public bodies of water;

f. Top of foundation, lowest floor, low opening elevation, and floodproofing elevations of all proposed buildings within a flood hazard area;

g. Details of floodproofing measures, such as material specifications, construction methods, and calculations; and

h. Notes limiting the usage of enclosed areas below the BFE.

4. A BFE determination prepared by a licensed professional engineer, if necessary to meet the Flood Hazard Areas Performance Standards of this Ordinance. The BFE determination shall include the following:

a. A narrative identifying the procedures, assumptions, and data used in the existing and proposed hydrologic and hydraulic calculations;

b. A tabular summary of existing and proposed flows, flood elevations, and velocities for all storm events up to and including the base flood event;

c. A schematic diagram of the existing and proposed hydrologic and hydraulic calculations;

d. An exhibit delineating all tributary areas for the hydrologic and hydraulic calculations;

e. Time of concentration calculations for existing and proposed conditions;

f. Runoff Curve Number calculations for existing and proposed conditions;

g. Rainfall depth and distribution data;

h. An exhibit locating all cross-sections utilized within the hydrologic and hydraulic calculations;

i. Hydraulic grade line and water surface elevations for all storm events up to and including the base flood event;

j. Analyses of alternative transition sections;

k. Assumptions or calculations utilized to determine tailwater conditions for the development site;

l. Digital copies of the hydrologic and hydraulic models; and

m. Other calculations necessary to demonstrate compliance with this Ordinance.

5. Floodplain fill and compensatory storage calculations prepared by a licensed professional engineer, if compensatory storage is necessary for the development site to meet the requirements of this Ordinance. The data and calculations shall include the following:

a. Cross-sections showing the areas of fill and excavation;

b. A plan view delineating the location of cross-sections;

c. A tabular summary of fill and excavation volumes; and

d. As applicable, as-built plans and a certificate stating that compensatory storage areas were constructed in substantial conformance with the approved development plans.

6. For revisions to FIRM(s) necessary to meet the Flood Hazard Areas Performance Standards of this Ordinance, the following information shall be submitted:

a. All hydrologic and hydraulic calculations;

b. All LOMC applications with supporting documentation; and

c. A recorded deed or plat restriction for any offsite increase in the water surface profile.

7. For any repair, reconstruction, rehabilitation, addition, or other activity to a building in a floodplain, a substantial improvement determination shall be submitted. The data and calculations shall include:

a. A detailed and complete cost estimate;

b. Supporting documentation for the cost estimate, including data from recognized cost estimating manuals or contractor bids;

c. A signed and notarized market value determination form; and

d. A calculation of the cumulative percentage of individual damages, repairs, reconstructions, rehabilitations, additions, improvements, and maintenance.

8. For buildings required to meet the Building Protection Requirements of this Ordinance, an Elevation Certificate, a Floodproofing Certificate, or a similar instrument shall be submitted demonstrating compliance with this Ordinance.

9. All applicable consultations, waivers, approvals, and permits from Federal, State, and local authorities shall be submitted including, but not limited to permits from IDNR/OWR for floodway construction, dam safety, or development within a public body of water.

G. Wetlands, Waters, and Buffer Area Submittal

In addition to other applicable Application Requirements, the following requirements apply to all Wetlands and Waters Development, except regulated development authorized by a General Permit.

1. Refer to the Wetlands, Waters and Buffer Area Submittal Flowchart in Appendix 1.

2. A development plan shall be submitted demonstrating compliance with the Wetlands and Waters Performance Standards and the Buffer Area Performance Standards of this Ordinance. The development plan shall include a delineation of all WOTUS, IWMC, and buffer areas on the development site.

3. A Letter of No Impact or a Wetland Determination Report, prepared by wetland specialist, shall be submitted for all WOTUS and IWMC on the development site, if applicable.

4. All applicable consultations, waivers, approvals, and permits from Federal, State, and local authorities shall be submitted including, but not limited to:

a. A Jurisdictional Determination and a Letter of No Objection from the USACE;

b. A permit from the USACE;

c. Documentation that the regulated development is in compliance with the IDNR's Endangered Species Consultation Program [520 ILCS 10/11];

d. Documentation that the regulated development is in compliance with the U.S. Fish and Wildlife Service's consultation program under the Endangered Species Act; and

e. A Natural Resources Information (NRI) report or letter prepared by the McHenry-Lake County Soil and Water Conservation District.

5. For regulated development within the buffer area of WOTUS or IWMC, the following additional information shall be submitted:

a. A narrative describing the current condition of the buffer area, including the existing plant community(s) present and a list of the plant species characterized individually as native or non-native;

b. Calculations for determining the existing and proposed buffer area impacted by the development;

c. The size, location, and design details for any BMPs proposed for mitigating buffer impacts; and

d. Calculations demonstrating that the required buffer area is provided by varying the buffer width.

6. For regulated development adjacent to IWMC, but not impacting the IWMC, wetland hydrology calculations shall also be submitted.

7. For IWMC impacts, the following additional information prepared by a wetland specialist shall be submitted:

a. A mitigation plan;

b. Performance standards and a recorded maintenance plan for onsite mitigation of a IWMC impact; and

c. A receipt for payment into a Wetland Bank or the MCSC Wetland Restoration Fund.

8. For Category IV IWMC impacts, a narrative describing the benefits of the IWMC impacts to the aquatic environment shall also be submitted. The narrative shall be prepared by a wetland specialist.

9. For Category V temporary IWMC impacts, a restoration plan prepared by a wetland specialist shall be submitted.

10. A recorded maintenance plan and a recorded deed or plat restriction shall be submitted for the wetlands, waters and buffer areas within or adjacent to a regulated development disturbing 5 acres or more, a Mining Development, or any regulated development involving a subdivision of land.

11. For buffer averaging, a recorded deed or plat restriction shall be submitted for the wetlands, waters and buffer areas.

Article VI

§15.60.060 Performance Standards

A. Soil Erosion and Sediment Control

Table 3. Applicability of Soil Erosion and Sediment Control Performance Standards

Type of Development	Basic Requirements A.1	Requirements for Development Disturbing 1 acre or More A.2	Channel Requirements A.3	Inspections and Maintenance Requirements A.4	Notification Requirements A.5	Special Precautions A.6
General Permit	Waived	Waived	Waived	Waived	Waived	Waived
Minor	X	N/A	If Channel Construction Included	X	X	X
Intermediate	X	N/A	If Channel Construction Included	X	X	X
Major	X	X	If Channel Construction Included	X	X	X
Public Road	X	If Dev > 1 ac	If Channel Construction Included	X	X	X
Mining	X[5]	If Dev > 1 ac	If Channel Construction Included	X	X	X
Flood Hazard Area	X	If Dev > 1 ac	If Channel Construction Included	X	X	X
Wetland	X	If Dev > 1 ac	If Channel Construction Included	X	X	X

5. Requirements may be waived by the Enforcement Officer for portions of the development site that do not drain offsite.

1. Basic Requirements

The following requirements apply to all regulated development, except regulated development authorized by a General Permit. Specific requirements may be waived by the Enforcement Officer for portions of the development site that do not drain offsite.

a. Control measures shall meet the minimum standards and specifications of the *Illinois Urban Manual* (www.aiswcd.org/IUM) unless stated otherwise in this Ordinance.

b. Soil disturbance shall be conducted in such a manner as to minimize erosion. Areas of the development site that are not to be disturbed shall be protected from construction traffic or other disturbance until final stabilization is achieved.

c. Soil stabilization measures shall consider the time of year, development site conditions and the use of temporary or permanent measures.

d. Stabilization by seeding shall include topsoil placement and fertilization, as necessary.

e. Native seed mixtures shall include rapid-growing annual grasses or small grains to provide temporary soil stabilization.

f. Offsite property shall be protected from erosion and sedimentation. Velocity dissipation devices shall be placed at concentrated discharge locations and along the length of any outfall channel, as necessary to prevent erosion.

g. Sediment control measures shall be installed prior to the disturbance of tributary areas.

h. Stabilization of disturbed areas shall be initiated immediately whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the development site, or temporarily ceased on any portion of the development site and will not resume for a period exceeding 14 calendar days. Stabilization of disturbed areas shall be initiated within 1 working day of permanent or temporary cessation of earth disturbing activities and shall be completed as soon as possible, but not later than 14 calendar days from the initiation of stabilization work in an area. Exceptions to these time frames are specified below:

(1) Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable; and

(2) In areas where construction activity has temporarily ceased and will resume after 14 days, a temporary stabilization method may be used.

i. Disturbance of steep slopes shall be minimized. Areas or embankments having slopes steeper than 3:1 shall be stabilized with staked in place sod, erosion control blanket in combination with seeding, or an equivalent control measure.

j. The interior side slopes of all stormwater management facilities shall be stabilized with staked in place sod, erosion control blanket in combination with seeding, or an equivalent control measure. The control measure shall be installed between the design high water level and the bottom of the facility in a dry bottom stormwater management facility, or between the design high water level and the normal water level for all other stormwater management facilities.

k. Perimeter control measures shall be provided downslope and perpendicular to the flow of runoff from disturbed areas, where the tributary area is greater than 5,000 square feet, and where runoff will flow in a sheet flow manner. Perimeter erosion control shall also be provided at the base of soil stockpiles. Acceptable perimeter control measures include:

(1) Silt fences meeting the standards and specifications of the *Illinois Urban Manual* (www.aiswcd.org/IUM) or *AASHTO Standard Specification 288-00*;

(2) A vegetated filter strip, meeting the following standards:

i. A minimum width of 25 feet perpendicular to the flow of runoff; and

ii. Vegetation consists of native plants, turf grass, or other plants that cover 70% or more of the ground surface; or

(3) An equivalent control measure. The Enforcement Officer may allow agricultural crops as a perimeter control measure, if such measures are projected to control erosion as well as other typical perimeter controls. The appropriateness of agricultural crops as a perimeter control measure depends on development site specific considerations, such as the ground slope, type of crop, and the distance to the nearest channel or adjacent property.

l. The stormwater management system shall be protected from erosion and sedimentation downslope from disturbed areas. Inlet protection that reduces sediment loading, while allowing runoff to enter the inlet shall be required for all storm sewers. Check dams, or an equivalent control measure, shall be required for all channels. Filter fabric inlet protection and straw bale ditch checks are not acceptable control measures.

m. If dewatering services are used, discharges shall be routed through an effective sediment control measure (e.g., sediment trap or an equivalent control measure). The Enforcement Officer shall be notified prior to the commencement of dewatering activities.

n. All temporary soil erosion and sediment control measures shall be removed within 30 days after final stabilization of the development site is achieved or after the temporary measures are no longer necessary. Trapped sediment shall be removed and disturbed areas shall be permanently stabilized.

o. Stockpiled soil and materials shall be removed from flood hazard areas at the end of each work day. Soil and materials stockpiled in IWMC or buffer areas shall be placed on timber mats, or an equivalent control measure.

p. Effective control measures shall be utilized to minimize the discharge of pollutants from the development site. At a minimum, control measures shall be implemented in order to:

(1) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash water; and

(2) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, vehicle fluids, sanitary waste, and other materials present on the development site to precipitation and to stormwater.

q. Adequate receptacles shall be provided for the depositing of all construction material debris generated during the development process. The applicant shall not cause or permit the dumping, depositing, dropping, throwing, discarding or leaving of construction material debris upon or into any development site, channel, or IWMC. The development site shall be maintained free of construction material debris.

r. Where regulated development is allowed within a buffer area, construction fencing shall be installed a minimum of 1 foot outside the WOTUS or IWMC and all other regulated development shall be limited to the non-WOTUS or nonIWMC side of the construction fence. This requirement shall not apply to regulated development involving impacts to or enhancement of WOTUS or IWMC.

s. The Enforcement Officer may require additional or alternate soil erosion and sediment control measures, based on development site specific considerations and the effectiveness of the installed control measures.

2. Requirements for Development Disturbing 1 acre or More

In addition to the Basic Requirements, the following requirements apply to Major Development, Public Road Development and Mining Development disturbing 1 acre or more.

a. Meet the requirements of IEPA General NPDES Permit No. ILR10, if applicable.

b. A stabilized construction entrance shall be located at any point where traffic will be exiting a development site to a public right-of-way, street, alley or parking area. Any sediment or soil reaching an improved public right-of-way, street, alley or parking area shall be removed by scraping or street cleaning as accumulations warrant and transported to a controlled sediment disposal area.

c. Structural control measures shall be utilized, when necessary, to treat wash water, divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the development site. Such practices may include: earth dikes, drainage swales, sediment traps, check dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and sediment basins.

d. Unless otherwise specified in this Ordinance or in the *Illinois Urban Manual* (www.aiswcd.org/IUM), the structural practices shall be designed for a storm event equal to or greater than a 25 year, 24 hour storm.

e. Sediment traps and sediment basins shall be appropriately sized and designed to facilitate periodic removal of sediment, and located with regard to the size of the tributary area:

(1) Runoff from disturbed areas with more than 1 but fewer than 5 acres of tributary area shall be routed to a sediment trap, or an equivalent control measure;

(2) Runoff from disturbed areas with a tributary area of 5 acres or more shall be routed to a sediment basin with a perforated filtered riser pipe, or an equivalent control measures; and

(3) Sediment basins shall have both a permanent pool (dead storage) and additional volume (live storage). Each volume shall, at a minimum, be equal to the amount of runoff from a 2 year, 24 hour storm over the onsite hydrologically disturbed tributary area. The live storage volume may be determined using the Detention Volume vs. Percent Impervious Chart in Appendix 6 and the developed condition percent impervious area. The

available sediment volume below the normal water level shall be in addition to the dead storage volume and shall be sized for the estimated sediment load generated from the development site over the duration of the construction period. For construction periods exceeding 1 year, the 1 year sediment load may be utilized with an annual sediment removal schedule.

3. Channel Requirements

In addition to other applicable Soil Erosion and Sediment Control Performance Standards, the following requirements apply to regulated development below the ordinary high water mark of channels.

c. Land disturbance in channels shall be avoided, where possible. The following requirements shall be met when land disturbance below the ordinary high water mark of channels cannot be avoided:

(1) Disturbance shall be timed to occur during low-flow or no-flow conditions;

(2) Equipment shall only cross channels at permanent bridges or culverts, except when a temporary channel crossing meets the following criteria:

i. Fill within the channel shall be composed of non-erosive material, such as rip-rap or gravel; and

ii. The temporary channel crossing, including temporary approach roads, shall be removed within 1 year after installation, unless the Enforcement Officer grants an extension of time.

(3) Temporary cofferdams may be required by the Enforcement Officer and shall be constructed of non-erosive material; and

(4) The disturbed area, including bed and banks, shall be stabilized with staked in place sod, erosion control blanket in combination with seeding, or an equivalent control measure no more than 48 hours after disturbance is completed or interrupted.

b. New or relocated channels shall be constructed in dry conditions. All construction, including stabilization, shall be completed prior to diversion of water into the new or relocated channel.

4. Inspection and Maintenance Requirements

The following requirements apply to all regulated development, except regulated development authorized by a General Permit.

a. Development plans bearing the approval stamp of the Enforcement Officer shall be retained at the development site throughout the duration of construction activities and shall be annotated with field changes.

b. Disturbed areas that have not been finally stabilized and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Structural control measures identified in the plans shall be observed to ensure that they are operating correctly. Discharge locations shall be inspected to evaluate whether soil erosion and sediment control measures are effective in preventing

significant impacts to receiving waters. Locations where vehicles enter or exit the development site shall be inspected for evidence of offsite sediment tracking. Such inspections shall be performed at the intervals stated in Paragraph 4.c below.

c. For regulated development disturbing 1 acre or more, a qualified inspector (provided by the applicant) shall inspect the development site at the following intervals:

(1) Upon completion of installation of soil erosion and sediment control measures (including perimeter controls and diversions), prior to proceeding with any other earth disturbance or grading;

(2) After stripping and clearing;

(3) After rough grading;

(4) After final grading;

(5) After seeding and landscaping;

(6) After final stabilization and landscaping, prior to removal of sediment controls;

(7) At least once every 7 calendar days; and

(8) Within 24 hours of the end of a storm that is 0.5 inch or greater.

d. For regulated development disturbing less than 1 acre, an inspector (provided by the applicant) shall inspect the development site at intervals 1, 3, 4, 6, 7 and 8 of the above list.

e. Inspections may be reduced to once per month when construction activities have ceased due to frozen ground conditions. Weekly inspections shall resume when construction activities resume, within 24 hours of the end of a storm that is 0.5 inch or greater, or when snowmelt results in a discharge from the development site.

f. Inspection reports shall be retained at the development site throughout the duration of construction activities, and made available to the Enforcement Officer upon request. The reports shall include:

(1) The scope of the inspection;

(2) The name and signature of the inspector;

(3) Qualifications of the qualified inspector, if required;

(4) The date of the inspection;

(5) Observations relating to the conditions and effectiveness of control measures; and

(6) Corrective actions taken to address deficiencies.

g. All temporary and permanent erosion and sediment control measures shall be maintained in an effective working condition throughout the duration of construction activities. Deficiencies shall be identified through regular inspections, summarized in inspection reports, and repaired or replaced immediately. The Enforcement Officer shall be notified of any Incidence of

Noncompliance filed with the IEPA and whenever an ineffective control measure needs to be replaced with an alternative control measure.

5. Notification Requirements

The following requirements apply to all regulated development, except regulated development authorized by a General Permit.

a. To facilitate inspections by the Enforcement Officer and to ensure compliance with the stormwater management permit, and this Ordinance, the applicant shall notify the Enforcement Officer within 2 working days of the construction stages specified below:

(1) For regulated development disturbing 1 acre or more:

i. Prior to the start of construction;

ii. Upon completion of installation of soil erosion and sediment control measures (including perimeter controls and diversions), prior to proceeding with any other earth disturbance or grading;

iii. After stripping and clearing,

iv. After rough grading;

v. After final grading;

vi. After seeding and landscaping;, and

vii. After final stabilization and landscaping, prior to removal of sediment controls.

viii. If stripping, clearing, grading and/or landscaping are to be done in phases or areas, the applicant shall give notice at the completion of each of the above work stages in each phase or area.

(2) For regulated development disturbing less than 1 acre, notifications are required at stages i, ii, iv, and vii of the above list.

6. Special Precautions

a. If at any stage of the construction, the Enforcement Officer determines that the nature of the regulated development is such that further work authorized by an issued stormwater management permit is likely to imperil any property, public way, IWMC, WOTUS, buffer area, or stormwater management system, the Enforcement Officer may require, as a condition of allowing the work to be continued, that reasonable special precautions be taken to avoid the likelihood of such peril. Special precautions may include, but shall not be limited to: constructing a more level exposed slope; constructing additional drainage facilities, berms, or terraces; compaction, or cribbing; temporary or permanent stabilization; or hiring a professional consultant to recommend corrective actions.

b. Where it appears that damage may occur due to incomplete grading at the development site, work may be stopped and the applicant required to install temporary structures, or take such other measures as may be required to protect adjoining property or the public safety prior to the advent of seasonal rains or winter shut-down. For regulated development disturbing 1 acre or

more, or where unusual site conditions prevail, the Enforcement Officer may require that the operations be conducted in specific stages, so as to insure the completion of protective measures or devices.

B. Runoff Control

1. Basic Requirements

The following requirements apply to all regulated development, except regulated development authorized by a General Permit.

a. All concentrated stormwater discharges from a development site shall be conveyed into an existing channel, storm sewer, or overland flow path and shall not result in flood damage at the development site or upstream of the development site.

b. The diversion of stormwater runoff shall be prohibited unless no reasonable alternative exists, as determined by the Enforcement Officer. The diversion of stormwater runoff shall not result in flood damage at the development site, upstream of the development site, or on downstream adjoining properties.

c. Within a development site, streets, blocks, lots, deed or plat restrictions, parks and other public grounds shall be located in such a manner as to preserve natural streams and channels.

d. Stormwater management facilities within subdivisions, Planned Unit Developments, and manufactured home parks with 5 or more parcels platted after December 1, 2014 shall be located within an outlot.

e. The development plans and plats for subdivisions, Planned Unit Developments, and manufactured home parks shall show the BFE, as well as the limits of flood hazard areas, public bodies of water, WOTUS, IWMC, and buffer areas.

f. The plats for subdivisions, Planned Unit Developments, and manufactured home parks shall include a signed statement by a licensed professional engineer that accounts for changes in the drainage of surface water in accordance with the Plat Act (765 ILCS 205/2).

g. The plats for subdivisions, Planned Unit Developments, and manufactured home parks shall specify the minimum low opening elevation for each lot adjacent to an overland flow path, the minimum lowest adjacent grade for each lot adjacent to a flood hazard area, and the maximum impervious area allowed on each lot for the provided stormwater storage volume.

h. The stormwater management system for a regulated development shall be functional prior to the issuance of a certificate of occupancy or a certificate of completion for any building which is part of the regulated development.

i. A community shall not approve any preliminary Planned Unit Development or Plat of Subdivision, unless the Planned Unit Development or Plat is subject to meeting the minimum standards of this Ordinance.

j. A community shall not approve any final Planned Unit Development or Plat of Subdivision, unless the Planned Unit Development or Plat meets the minimum standards of this Ordinance.

k. A final Planned Unit Development or Plat of Subdivision with an area greater than 5 acres platted after December 1, 2014 shall state the maximum impervious area allowed for each lot or parcel of land based on the design of the stormwater management system.

l. Pursuant to State law, a property owner of a parcel being subdivided adjacent to a State or County right-of-way shall notify the highway authority of the proposed subdivision in writing, and request that the highway authority provide, at the cost of the highway authority or otherwise provided by law, the amount of additional capacity in any stormwater detention facility to be constructed in the subdivision for the future availability of the highway authority for meeting stormwater detention requirements of any future public construction on the highway.

m. A maintenance plan shall be recorded for the stormwater management system. The Enforcement Officer may waive this requirement for Minor and Intermediate Development.

2. Overland Flow Paths

In addition to other applicable Runoff Control Performance Standards, the following requirements apply to all regulated development, except regulated development authorized by a General Permit.

a. An overland flow path shall be provided for all areas of a development site. The overland flow path shall convey floodwaters for all storm events up to and including the base flood event without flood damage at the development site or upstream of the development site. Where the tributary area is less than 20 acres, the storm sewers and inlets may be sized for the base flood event in lieu of providing an overland flow path.

b. An overland flow path serving more than one property shall be protected from obstructions, such as fencing, landscaping, or storage sheds through a deed or plat restriction. The Enforcement Officer may waive the requirement for a deed or plat restriction where an increase in flood heights on upstream adjoining properties is unlikely to result from obstruction of the overland flow path.

c. The overland flow path shall be designed to:

(1) Ensure the freeboard requirement of this Ordinance is met;

(2) Prevent an increase flood heights on upstream adjoining properties; and

(3) Prevent flood damage at the development site.

d. The overland flow path shall be designed using a model or technique identified in Appendix 5 of this Ordinance or otherwise approved by MCSC, based on the flow rate for:

(1) The base flood event considering all onsite and offsite tributary areas; or

(2) Conveyance of a minimum of 1 cfs per acre of tributary area.

e. The minimum low opening elevation for a new building that is located adjacent to an overland flow path and has not been wet floodproofed according to the Building Protection Standards of this Ordinance, shall meet the following freeboard requirement:

(1) At least 0.5 foot above the BFE where the tributary area is 20 acres or less; or

(2) At least 1.0 foot above the BFE where the tributary area is between 20 and 100 acres; or

(3) At least 2.0 feet above the BFE where the tributary area is 100 acres or more.

f. Modification of an existing overland flow path shall not result in increased flood heights on upstream adjoining properties or flood damage at the development site.

3. Drain Tiles

In addition to other applicable Runoff Control Performance Standards, the following requirements apply to all regulated development, except regulated development authorized by a General Permit.

a. Drain tiles disturbed during regulated development shall be reconnected by those responsible for their disturbance, unless the development plans specify abandonment of the drain tiles.

b. All abandoned drain tiles within disturbed areas shall be removed in their entirety.

c. Drain tiles within the disturbed area of a development site shall be replaced, bypassed around the development site or intercepted and connected to the stormwater management system for the development site. The size of the replaced or bypassed drain tile shall be equivalent to the existing drain tile.

d. Existing drain tiles shall be protected from an adverse tailwater condition due to a new stormwater management system.

e. Observation wells, or similar structures for inspecting and maintaining drain tiles, shall be installed at any point where an existing drain tile flows into or out of a development site. Maintenance access shall be provided to the observation well through a deed or plat restriction for regulated development disturbing 5 acres or more.

f. Concentrated discharges from a development site shall be connected to an existing drain tile, where possible; however, the primary outlet from the development site shall be a surface discharge and the drain tile connection shall be designed as a secondary, low flow outlet. When no reasonable alternative exists, the Enforcement Officer may approve the connection of a concentrated discharge from a development site to an existing drain tile as the primary outlet, provided the existing drain tile is located within a deed or plat restriction to the point it discharges into a channel.

g. A drain tile survey shall locate existing farm and storm drain tiles by means of slit trenching or other appropriate methods performed by an experienced subsurface drainage consultant. A drain tile survey shall include the following as applicable on a topographic map:

(1) The location of each slit trench identified to correspond with the tile investigation report and field staked at no less than 50 foot intervals;

(2) The location of each drain tile with a flow direction arrow, tile size and any connection to adjoining properties;

(3) A summary of the tile investigation report showing trench identification number, tile size, material and quality, percentage of the tile filled with water, percentage of restrictions caused by sediment; depth of ground cover and tile system classification; and

(4) The name, address and phone number of the person or consultant responsible for the drain tile survey.

h. The Enforcement Officer may accept a drain tile map prepared by a drainage district or other reliable source in lieu of a drain tile survey. The drain tile survey requirement shall be waived for any Minor Development and the Enforcement Officer may waive the drain tile survey requirement for an Intermediate Development, Major Development, Public Road Development or Mining Development, provided the applicant submits a narrative and supporting evidence indicating to the satisfaction of the Enforcement Officer that drain tiles are not likely to be present within the development site. This evidence may consist of:

(1) Soil maps;

(2) Historic aerial photographs;

(3) Historic topographic maps; and

(4) Wetland maps.

4. Storm Sewers

In addition to other applicable Runoff Control Performance Standards, the following requirements apply to all regulated development, except regulated development authorized by a General Permit.

a. Storm sewers shall not connect to sanitary sewers.

b. Energy dissipation devices shall be provided at the outlets of all storm sewer systems to minimize erosion.

c. New storm sewers serving new regulated development shall be designed by a licensed professional engineer for the 10 year critical duration storm as a minimum. The storm sewer design shall be based on full flow conditions, unless detailed calculations demonstrate the hydraulic grade line would not exceed the ground elevation. The Enforcement Officer may waive this requirement when storm sewers are not necessary for the development site to meet the requirements of this Ordinance.

d. New inlets shall be designed to prevent ponding in streets from exceeding 0.5 foot during the 100 year storm and to prevent ponding in parking lots from exceeding 1.0 foot during the 100 year storm. Ponding depth shall be measured at the inlet. The Enforcement Officer may waive this requirement when storm sewers are not necessary for the development site to meet the requirements of this Ordinance.

e. The minimum full flow velocity for new storm sewers serving new regulated development shall be 2.5 feet per second. The maximum full flow velocity for new storm sewers serving new regulated development shall be 8.0 feet per second. The Enforcement Officer may waive this requirement when storm

sewers are not necessary for the development site to meet the requirements of this Ordinance.

f. The minimum storm sewer size shall be 12 inches for storm sewers serving more than one property. The Enforcement Officer may waive this requirement when storm sewers are not necessary for the development site to meet the requirements of this Ordinance.

g. New storm sewers serving more than one property shall be located in a deed or plat restriction of sufficient size to maintain and re-construct the storm sewer. The Enforcement Officer may waive the requirement for a deed or plat restriction where an increase in flood heights on upstream adjoining properties is unlikely to result from the lack of maintenance of the storm sewer.

5. Runoff Rate Reduction

In addition to other applicable Runoff Control Performance Standards, the following requirements apply to all regulated development required to provide stormwater storage.

a. Stormwater Storage Requirements

(1) Stormwater storage shall be required for a regulated development that creates 20,000 square feet or more new impervious area, unless the conditions of i, ii, or iii are met:

i. 1.0 acre or less of new impervious area is created; and

(a) The total impervious area including the proposed development would not exceed 10% of the contiguous property; and

(b) The applicant demonstrates to the satisfaction of the Enforcement Officer that the development will not result in flood damage at the development site, upstream of the development site, or on downstream adjoining properties; or

ii. The total impervious area including the proposed development would not exceed 5% of the contiguous property; and

(a) An agricultural conservation easement or other conservation easement is recorded over sufficient undeveloped area that the total impervious area may not exceed 5% of the contiguous property. The easement shall be granted to McHenry County or a Certified Community. The easement may be temporary, but the term of the easement shall run until the stormwater storage waiver is no longer necessary, for reasons such as the removal of new impervious area or the installation of a stormwater management facility; and

(b) The applicant demonstrates to the satisfaction of the Enforcement Officer that the development will not result in flood damage at the development site, upstream of the development site, or on downstream adjoining properties; or

iii. The regulated development is a Public Road Development and less than 1.5 acres of new impervious area is created.

(2) Linear impervious areas, such as a widened road, driveways and public recreational trails, which are less than 12.4 feet wide (1.5 acres per lineal mile) may be excluded when calculating the new impervious area to determine whether stormwater storage is required. This exclusion shall apply only when determining whether stormwater storage is required and not to the design of a stormwater management facility in cases where stormwater storage is required.

b. Allowable Release Rates

(1) The allowable release rates for a development site shall be calculated based on the hydrologically disturbed area of the regulated development, except that the allowable release rate for a Public Road Development involving an existing linear impervious surface shall be based on the new impervious area, rather than the hydrologically disturbed area.

(2) Release rates for a detention facility shall not exceed the lesser of the following:

i. 0.04 cubic feet per second per acre for the 2 year, 24 hour storm and 0.15 cubic feet per second per acre for the 100 year, 24 hour storm;

ii. More restrictive release for the 2 year and 100 year storm rates, if adopted by the MCSC or a certified community; or

iii. The existing conditions peak runoff rate.

(3) The allowable release rates for a detention facility shall be utilized for the design of an infiltration facility, unless the Enforcement Officer approves a design based on the infiltration rate of the underlying soil, as determined by a qualified professional. In such a case, the Enforcement Officer may add special conditions to the approval, such as a performance guarantee or a design factor of safety.

c. Runoff Rates and Storage Volume

(1) The required stormwater storage volume may be determined by:

i. The Detention Volume vs. Percent Impervious Chart in Appendix 6 for stormwater management facilities with a tributary area less than 10 acres, provided that the allowable release rates are 0.04 cubic feet per second per acre for the 2 year storm and 0.15 cubic feet per second per acre for the 100 year storm; or

ii. A licensed professional engineer using a model or technique identified in Appendix 5 of this Ordinance or otherwise approved by MCSC or IDNR/OWR.

(2) Runoff calculations for all offsite tributary areas may be based on either the anticipated future land use conditions or existing land use conditions. Anticipated future land use conditions shall be based on future land use and existing offsite stormwater management facilities. Existing land use conditions shall be based on existing land use and existing offsite stormwater management facilities.

(3) Compensatory storage for flood storage volume lost in a depressional storage area may either be:

i. Added to the required 2 year stormwater storage volume; or

ii. Replaced as a new depressional storage area.

(4) The Enforcement Officer may waive the requirement to add compensatory storage volume to the required detention storage volume if accessing the compensatory storage volume would:

i. Require a control structure with a diameter smaller than the minimum diameter; or

ii. Result in a dewatering time that exceeds the maximum dewatering time.

(5) Any regulated development that results in impervious area exceeding the design parameters of an existing detention or infiltration facility shall either expand the existing stormwater management facility, or include a control measure designed to reduce the additional volume of runoff from the regulated development, such as a rain garden or the replacement of existing impervious pavement with permeable pavement.

d. Stormwater Management Facilities

(1) Basic Requirements

The following requirements apply to the stormwater management facilities for all regulated development required to meet the Stormwater Storage Requirements of this Ordinance.

i. Offsite runoff may be bypassed around a proposed stormwater management facility.

ii. Stormwater management facilities shall be sized for the runoff from any public road improvements required as part of the regulated development.

iii. Stormwater management facilities shall be designed to dewater within 72 hours following the end of the design storm.

iv. A stable overflow shall be provided for each stormwater management facility. The overflow shall be capable of passing the unattenuated inflow from the 100 year critical duration storm from the entire tributary area without increasing flood heights on upstream adjoining properties or resulting in flood damage at the development site, based on runoff calculations meeting the Runoff Rates and Storage Volume Standards of this Ordinance. The overflow elevation shall be at or above the 100 year design high water elevation.

v. A minimum freeboard of one 1 foot shall be provided above the design high water surface elevation of the 100 year flow through the overflow.

vi. Stormwater management facilities serving more than one property shall be located in a deed or plat restriction with access to the stormwater management facility from the public right-of-way. The Enforcement Officer may waive the requirement for a deed or plat

restriction where an increase in flood heights on upstream properties is unlikely to result from the lack of maintenance of the stormwater management facility.

(2) Detention facilities

In addition to other applicable Stormwater Management Facility Standards, the following requirements apply to detention facilities for all regulated development required to meet the Stormwater Storage Requirements of this Ordinance.

i. Single pipe outlets shall have a minimum inside diameter of 12 inches. Control structures such as orifices, weirs, and perforated risers may be used to meet the allowable release rates. Outlet pipes and control structures shall be designed to minimize the need for maintenance and prevent tampering.

ii. Control structures shall have a minimum diameter of 4 inches when a single pipe outlet or an orifice plate is used to restrict the outflow from a detention facility. If a smaller diameter is necessary to meet the allowable release rates, the control structure shall be designed to prevent clogging.

iii. Detention facilities shall be designed with appropriate tailwater conditions, as approved by the Enforcement Officer.

iv. Inlets to the detention facility shall be located as far from the outlet as possible. Paved low flow channels shall not be allowed between inlets and the outlet.

v. The side slopes at the shoreline of wet bottom and wetland detention facilities (from at least 6 inches below to at least 6 inches above normal water level) shall be no steeper than 10:1 to prevent shoreline erosion due to wave action and fluctuating water levels. Above shoreline areas, or in dry detention facilities, the maximum side slope shall be 4:1.

vi. Wet bottom detention facilities with a permanent pool depth greater than 3 feet shall include a safety shelf with a minimum 8 foot width that is no more than 1 foot below normal water level.

(3) Online detention

In addition to other applicable Stormwater Management Facility Standards, the following requirements apply to online detention facilities for all regulated development required to meet the Stormwater Storage Requirements of this Ordinance.

i. Online detention shall not be allowed on perennial streams.

ii. Online detention shall not be allowed in HQAR.

iii. Online detention shall not be allowed where the offsite to onsite tributary area ratio is greater than 10:1, except for regulated development that provides a watershed benefit. Online detention shall not be allowed where the tributary area is greater than 640

acres, except for regulated development that provides a watershed benefit.

iv. The release rates shall be 0.04 cubic feet per second per acre of the total tributary area at the elevation created by impoundment of the required 2 year stormwater storage volume, and 0.15 cubic feet per second per acre of the total tributary area at the elevation created by impoundment of the required 100 year stormwater storage volume. The release rate and required stormwater storage volume shall be calculated using the 24 hour storm. These standards may be modified by the Enforcement Officer to prevent an increase in the existing condition peak discharge rate or to prevent frequent overflow from the online detention facility.

v. Compensatory storage shall be provided for the volume of flood storage lost due to fill and stormwater storage within a flood hazard area. The compensatory storage volume shall be in addition to the required detention volume.

vi. Meet IDNR/OWR and USACE requirements for modifications to a channel to accommodate online detention, if applicable.

vii. An impoundment of a channel shall be designed to allow the migration and movement of present or potentially present indigenous species that require access upstream and downstream of the impoundment as part of their life cycle.

(4) Detention within WOTUS and IWMC

In addition to other applicable Stormwater Management Facility Standards, the following requirements apply to detention facilities located within WOTUS or IWMC.

i. Detention within WOTUS shall meet the requirements of the USACE, if applicable.

ii. Detention within IWMC shall require IWMC mitigation, unless the detention facility is vegetated according to the standards of the *Native Plant Guide for Streams and Stormwater Facilities in Northeastern Illinois* (NRCS, et al.) and the pre-development IWMC is comprised of:

(a) Farmed wetlands;

(b) Non-farmed wetlands that are not HQAR covered by at least 85% of one or more of the following species:

(i) Reed canary grass (*Phalaris arundinacea*)

(ii) Purple loosestrife (*Lythrum salicaria*)

(iii) Common reed (*Phragmites australis*)

(iv) Buckthorn (*Rhamnus spp.*)

(c) Non-farmed wetlands that are not HQAR with a FQI of 7 or less; or

(i) Open water that is not HQAR.

(5) Infiltration facilities

In addition to other applicable Stormwater Management Facility Standards, the following requirements apply to infiltration facilities for all regulated development required to meet the Stormwater Storage Requirements of this Ordinance.

i. The underlying soils shall have an infiltration rate of at least 0.5 inch per hour. The development site specific infiltration rate shall be determined by a qualified professional and approved by the Enforcement Officer.

ii. The bottom of the infiltration facility shall be at least 4 feet above the seasonal high groundwater elevation. The development site specific seasonal high groundwater elevation shall be determined by a qualified professional and approved by the Enforcement Officer.

iii. The design high water level of the facility shall be at least 200 feet from water supply wells and onsite waste disposal systems.

iv. The design high water level of the facility shall be at least 10 feet from any building foundation.

v. Pre-treatment shall be provided to prevent obstruction of the infiltration facility.

vi. Runoff from the following areas shall not be routed to an infiltration facility:

(a) Areas subject to frequent winter deicing; and

(b) Other areas where precipitation will be exposed to potential contaminants.

vii. The maximum side slope shall be 4:1.

6. Runoff Volume Reduction Hierarchy

In addition to other applicable Runoff Control Performance Standards, the following requirements apply to Major Development, Public Road Development and Mining Development disturbing 1 acre or more.

a. The applicant shall choose one or more strategy from the following hierarchy to minimize the increase in runoff volume from the development site:

(1) Preservation of natural features of the development site (e.g. natural storage and infiltration characteristics, floodplains, wetlands, prairies and woodlands);

(2) Preservation of the existing natural streams, channels and drainageways;

(3) Minimization of impervious surfaces created at the development site (e.g. narrowing road width, minimizing driveway length and width, clustering homes and shared driveways);

(4) Conveyance of stormwater in open vegetated channels;

(5) Natural landscaping as an alternative to turf grass;

(6) Structural measures that provide water quality and quantity control;

(7) Structural measures that provide only quantity control.

7. Water Quality Protection

In addition to other applicable Runoff Control Performance Standards, the following requirements apply to all regulated development, except regulated development authorized by a General Permit.

a. Water quality treatment shall be provided for stormwater runoff from increased impervious areas.

(1) On highly impervious development sites, such as multi-family residential and non-residential developments, water quality treatment devices shall be designed to remove both floatable and settleable pollutants from as much of the stormwater runoff from increased impervious areas as possible. This requirement may be met by directing as much stormwater runoff from increased impervious areas as possible through a hydrodynamic separator, or into a catch basin fitted with a hooded outlet cover. Alternate treatment methods providing a similar or higher level of water quality treatment may be approved by the Enforcement Officer.

(2) In Public Road Developments, the stormwater management system shall be designed to direct as much stormwater runoff from increased impervious areas as possible through a vegetated swale, across a vegetated filter strip, or into a catch basin before being discharged from the development site. Alternate treatment methods providing a similar or higher level of water quality treatment may be approved by the Enforcement Officer.

b. Appropriate pre-treatment shall be provided for stormwater runoff directed to new or existing Class V injection well.

c. Appropriate pre-treatment shall be provided for stormwater runoff directed to infiltration based practices in areas designated as High or Moderately High Potential for Aquifer Recharge/Contamination on the McHenry County Sensitive Aquifer Recharge Areas Map.

8. Watershed Specific Requirements

In addition to other applicable Runoff Control Performance Standards, the following requirements apply to Watershed Specific Area Development, except regulated development authorized by a General Permit.

a. Crystal Lake Watershed Specific Requirements

(1) The boundary of the Crystal Lake Watershed is generally depicted in Appendix 9. Any area of land along the watershed boundary that can be shown to be outside of the Crystal Lake Watershed shall not be subject to the Crystal Lake Watershed Specific Requirements.

(2) Any regulated development that hydrologically disturbs more than 20,000 square feet of land within the Crystal Lake Watershed shall comply with the following requirements in addition to the other applicable requirements of this Ordinance:

i. The regulated development shall incorporate runoff volume reduction practices to infiltrate, evaporate, or transpire at least 95% of the annual stormwater runoff volume from hydrologically disturbed areas.

ii. Perform an evaluation of the development site and field testing practices in accordance with Chapter 2.1 of the City of Crystal Lake - Crystal Lake Watershed Stormwater Management Design Manual.

iii. Design the development site in accordance with sections 3.4-3.7 and section 5.1 of the City of Crystal Lake - Crystal Lake Watershed Stormwater Management Design Manual (http://www.crystallake.org/home/showdocument?id=230).

b. McHenry County Watershed Plans are listed in Appendix 10 for reference only. Recommendations from these plans may be the basis for additional Watershed Specific Requirements upon amendment of this Ordinance by the McHenry County Board.

C. Flood Hazard Areas

1. A development is located in a flood hazard area if any of the following criteria are met:

a. If any portion of the development site is within a mapped Flood of Record area on the USGS-Hydrologic Investigation Atlas Flood of Record Map;

b. If any portion of the development site is within a closed contour of a depressional storage area;

c. If any portion of the development site is within a channel that has a tributary area greater than 100 acres;

d. If any portion of the development site is within a mapped Zone AE, A, AH or AO floodplain on the FEMA FIRM;

e. If any portion of the development site is outside a mapped Zone AE, but is below the BFE; or

f. If any portion of the development site is below the BFE determined by the simplified methods for estimating the BFE described in the FEMA publication *Managing Floodplain Development in Approximate Zone A Areas.*

2. Determining the BFE and Limits of a Flood Prone Area

a. The BFE shall be determined utilizing one of the following methodologies:

b. Adding 3 feet to the Flood of Record indicated on the USGS-Hydrologic Investigation Atlas;

c. Adding 0.5 foot to the surface overflow of a depressional storage area. Where a smaller depressional storage area exists within a larger depressional storage area, the BFE shall be based on the highest surface overflow; or

d. The BFE may be determined by a licensed professional engineer using a model or technique identified in Appendix 5 of this Ordinance or otherwise approved by MCSC or IDNR/OWR.

e. The limits of a flood prone area shall be the projection of the BFE onto the development site topography.

3. Determining the BFE and Limits of a Zone AE Floodplain

a. The BFE shall be determined utilizing the following hierarchy as it applies to the development site:

(1) The 1 Percent Annual Chance elevation from the Summary of Stillwater Elevations table in the FIS (for non-riverine flood sources);

(2) The Regulatory 1 Percent Annual Chance Flood Water Surface Elevation from the Floodway Data Table in the FIS (for a development site located at a cross-section);

(3) The 1 Percent Annual Chance Flood Elevation at the development site scaled onto the Flood Profile in the FIS; or

(4) The BFE may be determined by a licensed professional engineer using a model or technique identified in Appendix 5 of this Ordinance or otherwise approved by MCSC or IDNR/OWR.

b. The limits of a Zone AE floodplain shall be the projection of the BFE onto the development site topography. The Building Protection Standards for Flood Hazard Areas of this Ordinance apply to a building within a mapped Zone AE floodplain until a LOMC is obtained from FEMA.

4. Determining the BFE and Limits of a Zone A Floodplain

a. The BFE shall be determined utilizing one of the following methodologies:

(1) For regulated developments less than 50 lots and 5 acres, the Enforcement Officer may approve the use of the simplified methods for estimating the BFE described in the FEMA publication *Managing Floodplain Development in Approximate Zone A Areas*; or

(2) The BFE shall be determined by a licensed professional engineer using a model or technique identified in Appendix 5 or otherwise approved by MCSC or IDNR/OWR.

b. The limits of a Zone A floodplain shall be the projection of the BFE onto the development site topography. The Building Protection Standards for Flood Hazard Areas of this Ordinance apply to a building within a mapped Zone A floodplain until a LOMC is obtained from FEMA.

5. Determining the BFE and Limits of a Zone AH Floodplain

a. The BFE shall be determined utilizing one of the following methodologies:

(1) The elevation noted on the FIRM; or

(2) The BFE may be determined by a licensed professional engineer using a model or technique identified in Appendix 5 of this Ordinance or otherwise approved by MCSC or IDNR/OWR.

b. The limits of a Zone AH floodplain shall be the projection of the BFE onto the development site topography. The Building Protection Standards for Flood Hazard Areas of this Ordinance apply to a building within a mapped Zone AH floodplain until a LOMC is obtained from FEMA.

6. Determining the BFE and Limits of a Zone AO Floodplain

a. The BFE shall be determined utilizing one of the following methodologies:

(1) The depth noted on the FIRM plus the highest adjacent grade;

(2) At least 2 feet above the highest adjacent grade if no depth is noted on the FIRM; or

(3) The BFE may be determined by a licensed professional engineer using a model or technique identified in Appendix 5 of this Ordinance or otherwise approved by MCSC or IDNR/OWR.

b. The limits of a Zone AO floodplain shall be the projection of the BFE onto the development site topography. The Building Protection Standards for Flood Hazard Areas of this Ordinance apply to a building within a mapped Zone AO floodplain until a LOMC is obtained from FEMA.

7. Determining the Limits of Floodways

a. The designated floodway boundary shall be as depicted on the FIRM. The non-designated floodway boundary shall match the floodplain boundary as depicted on the FIRM. The location of the floodway boundary shall be scaled onto the development plan using references common to both the FIRM and the development plan. IDNR/OWR shall determine the exact location of the floodway boundary wherever an interpretation is needed, including non-designated floodways not depicted on the FIRM.

b. Any area of land that can be shown to be higher than the BFE and is located within the boundary of a designated or non-designated floodway is considered a floodway until a LOMR has been obtained from FEMA to revise the floodway boundary.

8. Basic Requirements

The following requirements apply to all regulated development in a flood hazard area, except regulated development authorized by a General Permit, and where these requirements are modified in the Public Flood Control Project Standards of this Ordinance.

a. Regulated development within a flood hazard area, including both permanent and temporary measures, shall meet the following criteria:

(1) Regulated development shall not result in increased flood damage at the development site or upstream of the development site.

(2) Any water surface profile increase shall:

i. Be contained within the banks of the water body; or

ii. Be contained within the development site, property in which the applicant has an ownership interest, or a deed or plat restriction; or

iii. Not exceed 0.1 foot upstream flood height increase for the base flood event.

(3) Any increase in average channel velocity shall:

i. Not exceed the scour velocity of the predominant soil type of the channel; or

ii. Provide stabilization measures to prevent increased scour and erosion.

b. Any regulated development involving a channel modification, fill, stream maintenance, or a levee, shall not decrease the flood carrying capacity of the flood hazard area.

c. All regulated development in a flood hazard area shall meet IDNR/OWR requirements for floodway construction, dam safety, and public bodies of water, if applicable.

d. A LOMC from FEMA shall be required, with concurrence from IDNR/OWR, for any regulated development that:

(1) Increases the water surface profile by 0.1 foot or more in a floodplain for the base flood event;

(2) Increases the water surface profile by more than 0.0 foot in a floodway for the base flood event;

(3) Revises the boundary of a floodplain for a future building by the placement of fill;

(4) Revises the boundary of a floodway; or

(5) Establishes the BFE for a regulated development equal to or exceeding 50 lots or 5 acres.

e. A CLOMR is required prior to issuance of a stormwater management permit when a regulated development within a floodplain would increase flood heights more than 0.1 foot, or when a regulated development within a floodway would increase flood heights more than 0.0 foot. Once a CLOMR has been issued by FEMA, with concurrence from IDNR/OWR**,** the Enforcement Officer may allow filling, the construction or reconstruction of bridges and culverts, and similar regulated development within the floodplain necessary to obtain the LOMR.

9. Standards for Designated Floodways

Any regulated development within a designated floodway shall meet the appropriate use standards as determined by IDNR/OWR.

10. Public Health Protection Standards

The following requirements apply to all regulated development in a flood hazard area, except regulated development authorized by a General Permit.

Table 4. Minimum Elevation Standards for Public Health Protection

Type of Flood Hazard Area	Storage of Materials Outside a Building C.10.a	Water Supply Systems C.10.b	Sanitary Sewers C.10.b	Wells C.10.c	New Onsite Waste Disposal Systems C.10.d	Replacement Onsite Waste Disposal Systems C.10.d	Wastewater Treatment Plants C.10.e
Flood Prone Area	Waived	Waived	Waived	Waived	Waived	Waived	FPE
Floodplain: Flood Fringe and Floodway	BFE	FPE	FPE	FPE	N/A	Waived	FPE

a. No regulated development in a floodplain shall include the outside storage of chemicals, explosives, buoyant materials, fertilizers, flammable liquids, pollutants, or other hazardous or toxic materials below the BFE.

b. New and replacement water supply systems and sanitary sewer lines in a floodplain shall consist of watertight construction below the FPE.

c. The wellhead for new wells in a floodplain shall be elevated to the FPE to prevent floodwaters from entering the well. The Enforcement Officer may provide an approximate BFE for the purpose of well protection.

d. New onsite waste disposal systems, such as septic systems, shall not be installed in the floodplain. Replacement onsite waste disposal systems may be installed in the flood hazard area below the BFE if no reasonable alternative exists, as determined by the Enforcement Officer, and provided that the system has a watertight holding tank and all mechanical and electrical components and above ground openings of the system below the BFE are watertight.

e. Wastewater treatment plants in a flood hazard area shall be equipped with watertight openings below the FPE. These facilities shall be located to avoid impairment to the facility or contamination of floodwaters during the base flood.

11. Building Protection Standards for Flood Hazard Areas

The following requirements apply to: all new buildings, building additions, and substantial improvements located within a floodplain; and to all new buildings and building additions in a flood prone area after December 1, 2014 that increase total enclosed area below the BFE by more than 600 square feet. These requirements apply to a building within a mapped floodplain until a LOMC is obtained from FEMA.

a. Basic Requirements

(1) A building may be constructed in a flood hazard area, provided that it meets the FPE and lowest floor elevation requirements listed in Table 5 by utilizing an acceptable protection measure listed in Table 6. Lowest floor elevation requirements do not apply to buildings utilizing dry floodproofing as the flood protection measure.

(2) All building protection measures shall meet the Standards for Flood Protection Measures in this Ordinance.

(3) An elevation certificate or a floodproofing certificate shall be required for any building, building addition, or substantial improvements to a building within a floodplain. The elevation certificate or a floodproofing certificate shall be prepared on forms published by FEMA, except for small accessory buildings, the Enforcement Officer may allow alternate documentation that the constructed building complies with the Building Protection Standards for Flood Hazard Areas of this Ordinance.

Table 5. Building Protection Standards for Flood Hazard Areas

Type of Building	Type of Flood Hazard Area	Flood Protection Elevation (feet above BFE)	Lowest Floor Elevation (feet above BFE)[6]
Residential	Flood Prone Area	2	2
	Floodplain	2	2
Attached Garage	Flood Prone Area	0.5	0.5
	Floodplain	0.5	0.5
Accessory	Flood Prone Area	2	<BFE
	Floodplain	2	0.5
Small Accessory	Flood Prone Area	0.5	<BFE
	Floodplain	0.5	<BFE
Non-Residential	Flood Prone Area	2	2
	Floodplain	2	2
Agricultural	Flood Prone Area	2	<BFE
	Floodplain	2	<BFE

6. This requirement does not apply to dry floodproofed buildings.

Table 6. Acceptable Measures for Flood Protection

Type of Building	Type of Flood Hazard Area	Construction on Permanent Fill C.11.b(1)	Elevation on Crawl Space, Stilts, Piles, Walls, etc. C.11.b(2)	Dry Floodproofing C.11.b(3)	Wet Floodproofing C.11.b(4)
Residential	Flood Prone Area	YES	YES	YES	NO
	Floodplain	YES	YES	NO	NO
Attached Garage	Flood Prone Area	YES	YES	YES	NO
	Floodplain	YES	YES	NO	NO
Accessory	Flood Prone Area	YES	YES	YES	YES
	Floodplain	YES	YES	YES	NO
Small Accessory	Flood Prone Area	YES	YES	YES	YES
	Floodplain	YES	YES	YES	YES
Non-Residential	Flood Prone Area	YES	YES	YES	NO
	Floodplain	YES	YES	YES	NO
Agricultural	Flood Prone Area	YES	YES	YES	YES
	Floodplain	YES	YES	YES	YES

b. Standards for flood protection measures:

(1) Elevation on permanent fill

A building elevated on fill shall meet the following criteria:

i. The lowest floor (including basement) shall be at or above the lowest floor elevation shown in Table 5, based on the type of building and the type of flood hazard area;

ii. Fill shall be placed following the FEMA guidelines for ensuring that buildings placed on fill (FEMA Technical Bulletin 10-01, or current guidelines) are reasonably safe from flooding, except where the requirements of this Ordinance exceed FEMA guidelines**;**

iii. All building components shall be constructed of flood damage-resistant materials up to the FPE shown in Table 5, based on the type of building and the type of flood hazard area;

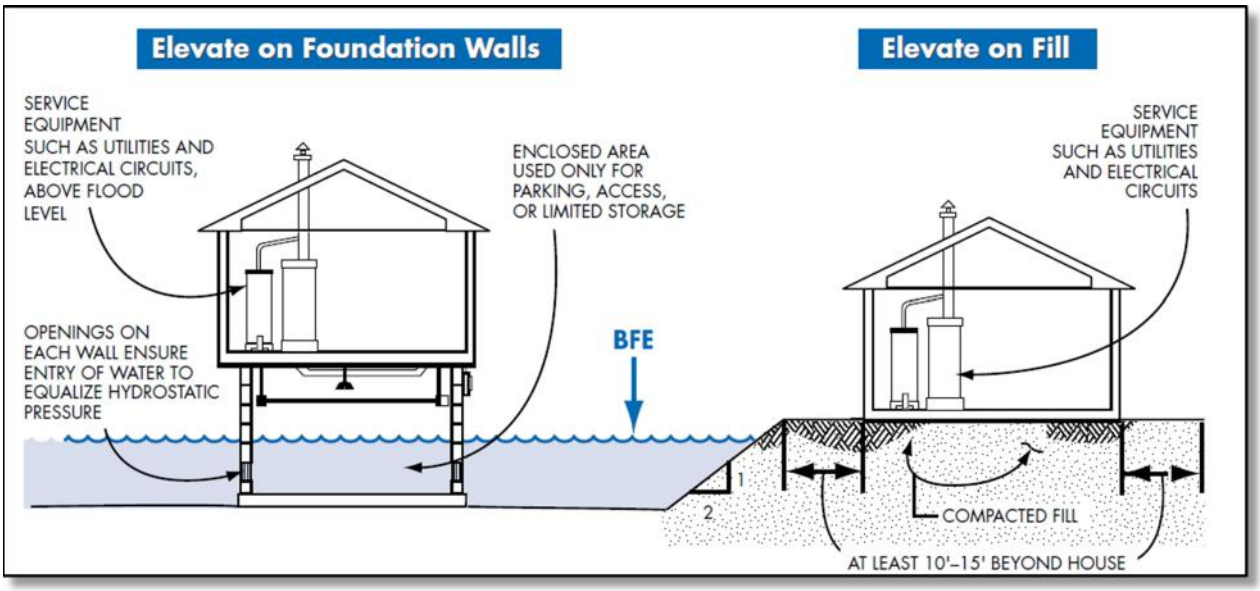
iv. Manufactured homes, recreational vehicles, or travel trailers installed on a site for more than 180 consecutive days shall be elevated to or above the FPE; and shall be anchored to resist flotation, collapse, or lateral movement by being tied down in accordance with the Rules and Regulations for the Illinois Mobile Home Tie-Down Act issued pursuant to 77 Ill. Adm. Code Part 870; and Recreational vehicles or travel trailers shall be required to meet the elevation and anchoring requirements above unless:

(a) They are on site for fewer than 180 consecutive days; and,

(b) They are fully licensed and ready for highway use. A recreational vehicle or travel trailer is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utility and service devices, and has no permanently attached additions.

FIGURE 1

How to Elevate Your Floodplain Building
(IDNR *Floodplain Management in Illinois Quick Guide*, 2001)



(2) Elevation on a crawl space, stilts, piles, walls, etc.

A building elevated on a crawl space, stilts, piles, etc., shall meet the following criteria:

i. The lowest floor (including basement) shall be at or above the lowest floor elevation shown in Table 5, based on the type of building and the type of flood hazard area;

ii. The lowest inside grade shall not be below the existing and proposed lowest adjacent grade;

iii. The building or improvements may be elevated on stem walls or may be elevated on a crawl space, stilts, piles, walls, or other foundation that is permanently open to floodwaters and not subject to damage by hydrostatic pressures of the base flood.

iv. The permanent openings shall meet all of the following criteria:

(a) The bottom of the permanent openings shall be no more than 1 foot above the lowest adjacent grade;

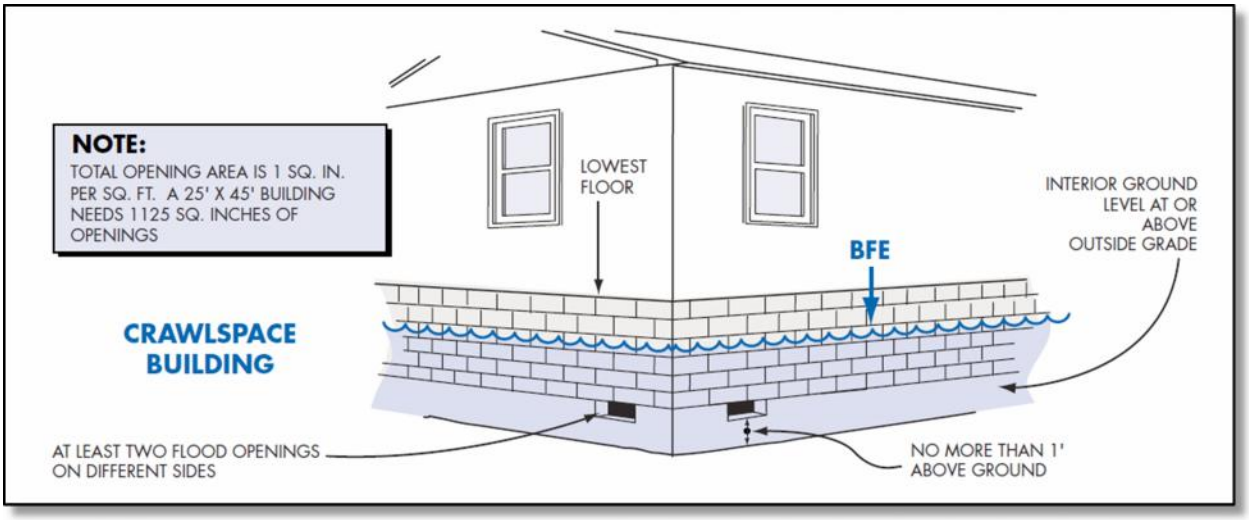
(b) The total net area shall be provided below the BFE and consist of a minimum of 2 openings for each enclosed area with each opening of an enclosed area on a different exterior wall;

(c) Any louvers, screens, or other opening covers shall not block or impede the automatic flow of floodwaters into and out of the enclosed area; and

(d) The openings shall have a total net area of not less than 1 square inch for every 1 square foot of enclosed area subject to flooding below the BFE, unless the building is equipped with engineered openings meeting the FEMA guidelines for openings in foundation walls and walls of enclosures (FEMA Technical Bulletin 1-08, or current guidelines), except where the requirements of this Ordinance exceed FEMA guidelines**;**

FIGURE 2

Enclosures below the BFE
(IDNR *Floodplain Management in Illinois Quick Guide*, 2001)



v. The foundation and supporting members shall be anchored and aligned in relation to flood flows and adjoining structures so as to minimize exposure to known hydrodynamic forces such as current, waves, ice and floating debris;

vi. All building components below the FPE shown in Table 5 shall be constructed of flood damage-resistant materials;

vii. All electrical, heating, ventilating, plumbing, and air conditioning equipment and utility meters shall be located at or above the FPE shown in Table 5;

viii. Water and sewer pipes, electrical and telephone lines, submersible pumps, and other waterproofed service facilities may be located below the FPE shown in Table 5;

ix. The areas below the FPE shown in Table 5 may only be used for the parking of vehicles, building access or storage in an area other than a basement;

x. All interior storage within a building in the floodplain shall be elevated at least 0.5 feet above the BFE;

xi. Manufactured homes, recreational vehicles, or travel trailers installed on a site for more than 180 consecutive days shall be elevated to or above the FPE; and shall be anchored to resist flotation, collapse, or lateral movement by being tied down in accordance with the Rules and Regulations for the Illinois Mobile Home Tie-Down Act issued pursuant to 77 Ill. Adm. Code Part 870; and

xii. Recreational vehicles or travel trailers shall be required to meet the elevation and anchoring requirements above unless:

(a) They are on site for fewer than 180 consecutive days; and,

(b) They are fully licensed and ready for highway use; A recreational vehicle or travel trailer is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utility and service devices, and has no permanently attached additions.

(3) Dry floodproofing

A building that is dry floodproofed shall meet the following criteria:

i. Dry floodproofing shall be provided to the FPE shown in Table 5.

ii. Dry floodproofing shall follow current FEMA guidelines, except where the requirements of this Ordinance exceed FEMA guidelines; and

(4) Wet floodproofing

A building that is wet floodproofed shall meet the following criteria:

i. The building shall not be used for human habitation;

ii. All building components below the FPE shown in Table 5 shall be constructed with flood damage-resistant materials;

iii. The building shall be anchored to prevent flotation, collapse, or lateral movement;

iv. All electrical, heating, ventilating, plumbing, and air conditioning equipment and utility meters shall be located at or above the FPE shown in Table 5;

v. Water and sewer pipes, electrical and telephone lines, submersible pumps, and other waterproofed service facilities may be located below the FPE shown in Table 5; and

vi. The permanent openings shall meet all of the following criteria:

(a) The bottom of the permanent openings shall be no more than 1 foot above the lowest adjacent grade;

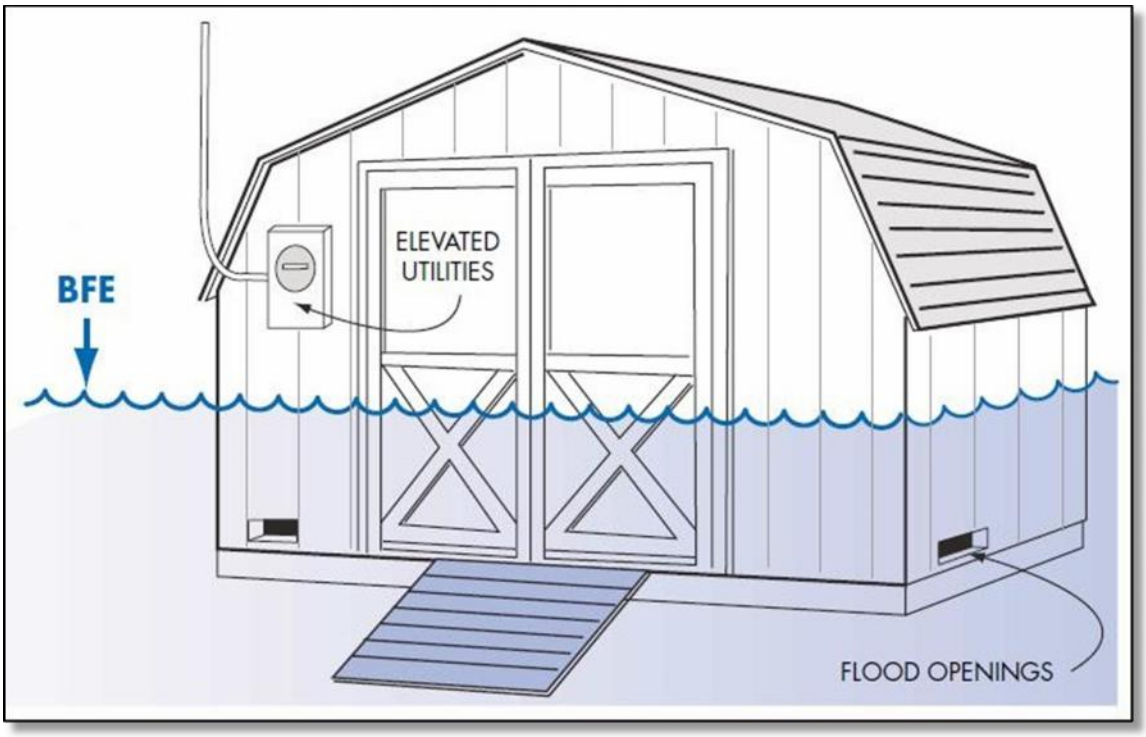
(b) The total net area shall be provided below the BFE and consist of a minimum of 2 openings for each enclosed area with each opening of an enclosed area on a different exterior wall;

(c) Any louvers, screens, or other opening covers shall not block or impede the automatic flow of floodwaters into and out of the enclosed area; and

(d) The openings shall have a total net area of not less than 1 square inch for every 1 square foot of enclosed area subject to flooding below the BFE, unless the building is equipped with engineered openings meeting the FEMA guidelines for openings in foundation walls and walls of enclosures (FEMA Technical Bulletin 1-08, or current guidelines), except where the requirements of this Ordinance exceed FEMA guidelines.

FIGURE 3

Accessory Structures
(IDNR *Floodplain Management in Illinois Quick Guide*, 2001)



12. Substantial Improvement Standards

In addition to other applicable Flood Hazard Area Performance Standards, the following requirements apply to any repair, reconstruction, rehabilitation, addition, or other activity to a building within a floodplain.

a. Determining substantial improvement

The repair or improvement of a building shall be considered a substantial improvement if either of the following criteria is met:

(1) The cost of a single project or the value of damage caused by a single event equals or exceeds 50 percent of the market value of the building before the improvement or repair is started; or

(2) The cumulative cost of two or more projects requiring a building permit or a stormwater management permit over a 5 year period equals or exceeds 50 percent of the market value of the building tracked on a percentage basis for each project.

b. Determining the cost

(1) A detailed and complete cost estimate shall be prepared by the applicant on a form provided by McHenry County. The cost estimate may exclude items not considered a permanent part of the building (i.e., plans, surveys, or permits), but shall include the cost of:

i. Damages of any origin, regardless of the actual repair work; and

ii. Maintenance of existing buildings that was or will be part of a larger project requiring a building permit or a stormwater management permit.

(2) The cost estimate shall be based on pre-damage costs, if applicable.

(3) The cost of all materials shall be equal to the actual or estimated fair market value of the materials. Where materials or servicing equipment are donated or discounted below normal market value, the cost shall be adjusted to fair market value.

(4) The cost of all labor shall be equal to the actual or estimated fair market value of the labor. Where volunteer or discounted labor is involved, the cost of the labor shall be adjusted to fair market value.

c. Determining the market value

(1) A signed and notarized market value determination shall be prepared on a form provided by McHenry County. The market value may be determined by:

i. Multiplying the current tax assessed value of the building by three. The current tax assessed value shall exclude:

(a) The value of the land; and

(b) The value of any other buildings or exterior improvements on the land; or

ii. A certified appraisal prepared by a state licensed appraiser, completed within the previous two years, and based on the comparable sales method;

iii. An estimate prepared and sealed by a licensed architect; or

iv. An alternate approach, approved by the Enforcement Officer, provided that the building does not have a tax assessed value and the cost estimate is clearly less than 50 percent of the market value.

(2) The market value shall be based on the value prior to any construction or damages, if applicable.

d. Determining the cumulative percentage

(1) The percentage for each individual project shall be determined by dividing the cost of the project (at the time the project was completed, including the full cost of any damage, if applicable) by the value of the structure (at the time the project was completed, or prior to any damage, if applicable); and

(2) Adding the percentages of each individual project.

e. Substantial improvements to buildings shall meet the Building Protection Standards for Flood Hazard Areas of this Ordinance.

13. Compensatory Storage Volume Standards

The following requirements apply to all regulated development resulting in flood storage volume lost or displaced due to the placement of fill, materials, or structures in a flood hazard area, or due to draining a depressional storage area, except regulated development authorized by a General Permit or specifically exempted below.

Table 7. Compensatory Storage Exemptions

Type of Flood Hazard Area	**Fill Less than 5 Cubic Yards C.13.a(1)**	**Replacement Septic Systems and Wells C.13.a(2)**	**Floodproofing Habitable Buildings C.13.a(3)**	**Artificially Created Storage C.13.a(4)**	**All Other Regulated Development C.13.b**
Flood Prone Area	Exempt	Exempt	Exempt	Exempt	Not Exempt
Floodplain: Flood Fringe	Exempt	Exempt	Exempt	Exempt	Not Exempt
Floodplain: Designated or Non-Designated Floodway	Exempt	Not Exempt	Exempt	Exempt	Not Exempt

a. Compensatory storage exemptions

(1) Compensatory storage may be waived through a written waiver by the Enforcement Officer for up to 5 cubic yards of fill within the flood fringe or a flood prone area. This waiver may only be exercised one time per parcel. The Enforcement Officer may deny the waiver for reasons including, but not limited to:

i. A determination that the fill would create a damaging or potentially damaging increase in flood heights or velocity; or

ii. That a parcel has been subdivided to qualify for more than one waiver.

(2) Compensatory storage shall not be required for replacement onsite waste disposal systems within the flood fringe or a flood prone area. The

applicant shall demonstrate to the satisfaction of the Enforcement Officer that no reasonable alternative location exists outside of the flood hazard area and that the fill volume is the minimum necessary.

(3) Compensatory storage shall not be required for the floodproofing of existing lawful habitable residential or commercial buildings within 10 feet of the outside face of the building.

(4) Compensatory storage shall not be required to replace the loss of artificially created storage due to a reduction in upstream head loss caused by a bridge, culvert, storm sewer, or constructed embankment.

Table 8. Required Compensatory Storage Ratios

Type of Flood Hazard Area	Regulated Development without As-Builts[7]	Regulated Development with As-Builts	Public Road Development
Riverine Floodplain	1.5:1	1.2:1	Minimum 1:1
Riverine Flood Prone Area	1.5:1	1.2:1	Minimum 1:1
Non-Riverine Floodplain	1:1	1:1	1:1
Non-Riverine Flood Prone Area	1:1	1:1	1:1

7. As-built plans shall be required for any regulated development resulting in 100 cubic yards or more of fill in a flood hazard area.

b. Compensatory storage requirements

(1) Compensatory storage volume shall be provided below the BFE and above the normal water level.

(2) As-built plans shall be required for any regulated development resulting in 100 cubic yards or more of fill in a flood hazard area. The Enforcement Officer may require as-built plans for regulated development resulting in smaller amounts of fill in a flood hazard area based on development site specific considerations.

(3) For regulated development in a riverine flood hazard area:

i. Hydraulically equivalent compensatory storage volume shall be provided at ratios at least equal to:

(a) 1.5 times the flood storage volume lost or displaced; or

(b) 1.2 times the flood storage volume lost or displaced, provided that as-built plans are submitted.

ii. For a Public Road Development that cannot reasonably provide the compensatory storage volume required by this Ordinance, the additional compensatory storage volume required beyond a 1:1 ratio may be waived by the Enforcement Officer. The waiver shall be the minimum necessary to afford relief.

iii. Any additional compensatory storage volume required beyond a 1:1 ratio may be provided above or below the 10 year flood elevation.

iv. The compensatory storage area shall be located in close proximity to the fill area and shall drain freely and openly to the channel.

(4) For regulated development in a non-riverine flood hazard area:

i. The compensatory storage volume shall be at least equal to the flood storage volume lost or displaced; and

ii. The compensatory storage volume lost by filling or draining a depressional storage area shall be based on the critical duration storm.

14. Public Flood Control Project Standards

The Flood Hazard Area Performance Standards of this Ordinance shall be considered met for any public flood control project that meets all the following criteria.

a. Flood heights shall not be increased outside a deed or plat restriction for all flood events up to and including the base flood event.

b. The improvements shall be owned and maintained by a public agency. A land stewardship corporation, or similar entity, may own and maintain the improvements, provided that a public agency executes an agreement with the corporation to take over ownership, operation, and maintenance if the corporation dissolves or fails to meet its obligations.

c. A CLOMR and a LOMC from FEMA shall be required, with approval from IDNR/OWR, for any regulated development that:

(1) Increases the water surface profile by 0.1 foot or more in a floodplain for any storm event up to and including the base flood event;

(2) Revises the boundary of a floodplain by the placement of fill; or

(3) Revises the boundary of a floodway.

D. Wetlands and Waters

1. Minimization of Impacts

All reasonable measures shall be taken to avoid and minimize impacts to wetlands, streams, ponds and lakes.

2. Jurisdictional Determination

a. The applicant shall obtain a Jurisdictional Determination from the USAGE for any regulated development that impacts wetlands or waters or is adjacent to wetlands or waters. This requirement may be waived by the Enforcement Officer when the USAGE issues a Letter of No Objection for the regulated development.

b. Impacts to WOTUS shall be mitigated according to the requirements of the USAGE.

c. Impacts to IWMG shall be mitigated according to the requirements of this Ordinance. No IWMG impacts shall be allowed without a clear purpose and need for the regulated development and without demonstrating the measures taken to avoid and minimize IWMG impacts to the satisfaction of the Enforcement Officer.

3. Boundary Determination Requirements

The following requirements apply to all regulated development within or adjacent to IWMG, except regulated development authorized by a General Permit.

a. A Letter of No Impact prepared by a wetland specialist may be accepted by the Enforcement Officer, in lieu of a Wetland Determination Report, when a field investigation by the wetland specialist reveals the closest wetland or water to a regulated development is clearly beyond the limits of the required buffer. A Letter of No Impact shall include:

(1) The date of the field investigation;

(2) A written description of the development site closest to the IWMG;

(3) Golor photographs representative of the development site closest to the IWMG;

(4) A grading plan showing the limits of development site and the approximate boundary of the IWMG closest to the development site; and

(5) An aerial photograph showing the limits of development site and the approximate boundary of the IWMG closest to the development site.

b. The presence and boundary of waters shall be determined by a wetland specialist. Waters shall include the entire area inundated at the ordinary high water mark.

c. The presence and boundary of farmed wetlands within or adjacent to a development site shall be determined by the NRGS or a wetland specialist, in accordance with the current NRGS wetland delineation methodology.

d. The presence, boundary, and quality of non-farmed wetlands within or adjacent to a development site shall be determined by a wetland delineation conducted in accordance with the current USAGE wetland delineation methodology. The findings of this determination shall be documented in a Wetland Determination Report prepared by a wetland specialist.

e. A Wetland Determination Report shall be prepared by a wetland specialist and shall include:

(1) A plan showing the location and extent of all wetlands and waters within or adjacent to the development site. The boundaries of these wetlands and waters shall be flagged in the field and surveyed. The approximate location and extent of offsite wetlands and waters within 100 feet of the development site shall also be shown. The approximate offsite boundaries shall be established using the best available information, as approved by the Enforcement Officer. The best available information may include:

i. Aerial photography;

ii. A previously approved Wetland Determination Report, even if the report was prepared more than 5 years ago;

iii. The ADID Map or other wetland map; and

iv. McHenry County Soil Survey;

(2) An aerial photograph delineating all wetlands and waters within or adjacent to the development site, as well as the approximate location and extent of wetlands and waters within 100 feet of the development site;

(3) The most recent version of the following maps, delineating the limits of the development site:

i. USGS Quadrangle Map;

ii. NRCS Wetland Inventory Map;

iii. FEMA FIRM;

iv. McHenry County Soil Survey;

v. USGS Hydrologic Investigations Atlas, and

vi. ADID Map;

(4) USACE data sheets with color photographs provided for representative upland and wetland data points; and

(5) A narrative description of the wetlands, including a Floristic Quality Assessment, as determined by the methodology described in *Plants of the*

Chicago Region (Swink, F. and G. Wilhelm, 1994, 4th Edition, Indianapolis: Indiana Academy of Science). Floristic Quality Assessments shall be conducted during the local growing season, generally between May 15 and October 1. Non-growing season assessments may require additional sampling during the growing season prior to approval.

f. Approval of a Wetland Determination Report shall remain valid for 5 years.

4. Hydrology Requirement

The following requirement applies to all regulated development within or adjacent to IWMC, except regulated development authorized by a General Permit.

a. The regulated development shall maintain 80%-150% of the existing condition runoff volume from the development site to each IWMC for the 2 year, 24 hour

storm event; otherwise the IWMC shall be considered impacted and shall be subject to the Mitigation Requirements of this Ordinance.

5. Mitigation Requirements

The following requirements apply to all regulated development resulting in a IWMC impact, except regulated development authorized by a General Permit.

a. IWMC mitigation is required for regulated development resulting in IWMC impacts greater than or equal to 0.10 acre to IWMC. The Enforcement Officer may require mitigation for IWMC impacts less than 0.10 acre for reasons including, but not limited to:

(1) The proposed regulated development would result in a cumulative IWMC impact greater than or equal to 0.10 acre, due to a prior unmitigated impact to the same IWMC; or

(2) A prior unmitigated impact to another IWMC within the contiguous property.

Table 9. IWMC Mitigation Ratios

Cat	IWMC Quality	Impact Area	Regulated Development Type	D.5.a	D.5.c.(1)	D.5.c.(2)	D.5.c.(3)	D.5.c.(4)	D.5.c.(5)
I	Any	< 0.10 ac	Any	Exempt					
I	Standard[8]	0.1- 1.0 ac	Any		1.5:1 or 1:1				
II	Standard[8]	1.0-2.0 ac	Any		1.5:1 or 1:1				
III	Standard[8]	> 2.0 ac	Any		1.5:1 or 1:1				
III	HFVW	Any	Any			3:1[9]			
III	HQAR or HQHS	Any	Any				5:1[9]		
Impacts Prior to Permit Issuance								5:1[9]	
IV	Any	Any	Restoration, Creation, and Enhancement						1:1
V	Any	Any	Temporary Impact						1:1

8. Standard means any IWMC that is not a HFVW, HQAR, or HQHS.

9. Maybe reduced to 1:1. Refer to D.5.c(6).

b. IWMC impacts shall be categorized as follows:

(1) Category I: IWMC impacts with a cumulative impact area less than or equal to 1 acre and not impacting HQAR, HFVW, or HQHS;

(2) Category II: IWMC impacts with a cumulative impact area greater than 1 acre and less than or equal to 2 acres and not impacting HQAR, HFVW, or HQHS;

(3) Category III: IWMC impacts with a cumulative impact area greater than 2 acres or impacting HQAR, HFVW, or HQHS;

(4) Category IV: IWMC impacts necessary for wetland restoration, wetland creation and/or wetland enhancement, including streambank and shoreline stabilization projects that utilize appropriate bioengineered practices; or

(5) Category V: Temporary IWMC impacts.

c. IWMC mitigation shall replace the area of IWMC impacted by regulated development at the following proportional rates (i.e., creation acreage to IWMC impact acreage):

(1) 1.5:1 ratio for IWMC impacts under Categories I, II and III that are not designated as HQAR, HQHS, or HFVW, or a minimum 1:1 ratio for USACE-certified wetland mitigation bank credits;

(2) 3:1 ratio is required for IWMC impacts that are designated as HFVW;

(3) 5:1 ratio is required for IWMC impacts that are designated as HQHS or HQAR;

(4) 5:1 ratio is required for IWMC impacts prior to issuance of a stormwater management permit, if the Enforcement Officer determines that IWMC mitigation is an acceptable alternative to wetland restoration; and

(5) 1:1 ratio is required for IWMC impacts under Categories IV and V; or

(6) 1:1 ratio may be allowed for IWMC impacts under Categories I, II and III, including HQAR, HQHS, an HFVW, provided that IWMC mitigation occurs onsite according to the requirements of this Ordinance.

d. A mitigation plan shall be prepared by a wetland specialist for any regulated development that requires IWMC mitigation. A mitigation plan shall include:

(1) A statement of the purpose and need for the project;

(2) A statement of the area, type, and Category of the IWMC impact;

(3) A statement of the selected mitigation option;

(4) A narrative describing the alternative measures taken to avoid, minimize, or mitigate IWMC impacts;

(5) A narrative describing any benefits to the aquatic environment;

(6) A narrative describing how the selected mitigation alternative is consistent with the Mitigation Hierarchy of this Ordinance; and

(7) A narrative describing the monitoring and maintenance tasks necessary to ensure the long-term success of the mitigation.

6. Mitigation Options

The following requirements apply to all regulated development resulting in a IWMC impact requiring IWMC mitigation.

a. IWMC mitigation shall be designed to duplicate or improve the hydrologic, biologic, botanic, and wildlife features of the IWMC.

b. Onsite IWMC mitigation

(1) Onsite IWMC mitigation includes mitigation on a parcel adjacent to the development site, even if the adjacent parcel has a different owner.

(2) Onsite IWMC mitigation shall only be allowed for IWMC impacts in Categories IV and V, or if the mitigation area is 1.5 acres or larger and:

i. The IWMC mitigation area is located within a conservation easement managed by a conservation agency; or

ii. The applicant establishes performance standards approved by the Enforcement Officer, and provides a performance guarantee payable to the MCSC Wetland Restoration Fund in the event the performance standards are not met.

(3) Temporary IWMC impacts shall be restored in place. The disturbed area shall be:

i. Returned to its original contour and general soil profile;

ii. Restored to a comparable IWMC community type; and

iii. Exhibit an FQI no lower than that of the IWMC prior to disturbance.

(4) The Buffer Area Performance Standards of this Ordinance shall apply to IWMC mitigation areas, except mitigation for IWMC impacts in Categories IV and V.

(5) The area of wetland restoration shall not be less than the area of IWMC impact. The additional mitigation area may consist of wetland enhancement; however, only 0.25 acre of mitigation shall be credited for each acre of wetland enhancement.

(6) Wetland creation shall not be credited for mitigation of IWMC impacts.

c. Wetland mitigation banking

(1) Wetland mitigation banking shall be required if the IWMC mitigation area is less than 1.5 acres.

(2) Mitigation credit may be obtained by payment into a Wetland Bank or the MCSC Wetland Restoration Fund. A receipt for payment into a Wetland Bank or the MCSC Wetland Restoration Fund shall be provided prior to issuance of a stormwater management permit.

(3) To provide credit for mitigation, a Wetland Bank must be certified by the USACE and comply with the *Interagency Coordination Agreement on Wetland Mitigation Banking within the Regulatory Boundaries of Chicago District*, dated January, 1997, or current version.

(4) Payment into the MCSC Wetland Restoration Fund shall not be allowed if the IWMC impact is in the same watershed as a Wetland Bank in existence at the time the MCSC Wetland Restoration Fund was established, provided the Wetland Bank has mitigation credits available. The following Wetland Banks were in existence at the time the MCSC Wetland Restoration Fund was established:

i. Sybaquay Girl Scout Camp (Kishwaukee River Watershed);

ii. Kishwaukee Bottoms (Kishwaukee River Watershed);

iii. Marengo (Kishwaukee River Watershed), and

iv. Slough Creek (Nippersink Creek Watershed).

7. Mitigation Hierarchy

In addition to other applicable Wetland and Waters Performance Standards, the following requirements apply to all regulated development requiring IWMC mitigation.

a. IWMC mitigation shall be provided as close to the IWMC impact site as possible, with respect to the following hierarchy:

(1) Onsite, provided the criteria for onsite mitigation are met;

(2) Wetland mitigation banking within the same sub-watershed;

(3) Wetland mitigation banking within an adjacent sub-watershed and within the same watershed;

(4) Wetland mitigation banking within the same watershed;

(5) Wetland mitigation banking within an adjacent watershed; or

(6) Wetland mitigation banking within McHenry County.

b. Any funds paid into the MCSC Wetland Restoration Fund shall only be used to fund wetland restoration activities located fully within McHenry County.

8. Requirements for Underground Utilities

The following requirements apply to all regulated development involving the installation of underground utilities, except regulated development authorized by a General Permit.

a. In the case of underground stream crossings, the top of the pipe or encasement shall be buried a minimum of 3 feet below the existing stream bed.

b. In IWMC, any excavation shall be backfilled with soil excavated from the trench in the same stratification in which it was removed.

c. A contingency plan for frac-out shall be required for any utility proposed to be installed by directional boring.

E. Buffer Areas

1. Buffer Requirements

The following requirements apply to all regulated development adjacent to WOTUS or IWMC, except regulated development authorized by a General Permit. These

requirements are minimum standards and may be superseded by more restrictive USACE requirements.

Table 10. Buffer Widths

Buffer Type	Criteria	E.1.b.(1)	E.1.b.(2)	E.1.c.(1)	E.1.c.(2)	E.1.c.(3)
Linear	Tributary Area > 20 ac	50 ft				
Linear	HFVW, HQHS, or HQAR		100 ft			
Non-Linear	0.25 ac < Surface Area < 0.50 ac			30 ft		
Non-Linear	0.50 ac < Surface Area				50 ft	
Non-Linear	HFVW, HQHS, or HQAR					100 ft

a. Roadside drainage ditches, detention facilities, borrow pits, quarries, and improvements to public roads shall be exempt from these Buffer Requirements.

b. Buffers shall be designated along both sides of linear WOTUS and IWMC using the following widths:

(1) 50 feet on each side of linear WOTUS and IWMC having a tributary area greater than 20 acres; or

(2) 100 feet on each side of linear WOTUS and IWMC that are HFVW, HQHS, or HQAR.

c. Buffers shall encompass all non-linear WOTUS and IWMC using the following widths:

(1) 30 feet for all non-linear WOTUS and IWMC with a surface area of at least 0.25 acre but less than 0.50 acre;

(2) 50 feet for all non-linear WOTUS and IWMC with a surface area of at least 0.50 acres; or

(3) 100 feet for all non-linear WOTUS and IWMC that are HFVW, HQHS, or HQAR.

d. Buffer areas for wetlands shall extend landward from the wetland boundary.

e. Buffer areas for water bodies which are WOTUS or IWMC shall extend landward from the ordinary high water mark.

f. A property may contain a buffer area originating from WOTUS or IWMC on another property.

g. Buffer widths may be increased by the Enforcement Officer where State or Federal threatened and endangered species may be present or for Illinois Natural Area Inventory sites following consultation with IDNR and USFWS.

h. Buffer areas within subdivisions, Planned Unit Developments, and manufactured home parks with 5 or more parcels platted after December 1, 2014 shall be located within an outlot with adjacent stormwater management facilities, WOTUS, and/or IWMC.

i. Buffer areas within regulated development disturbing 5 acres or more shall be located within a deed or plat restriction with adjacent stormwater management facilities, WOTUS, and/or IWMC.

j. A maintenance plan shall be prepared for the buffer areas. The Enforcement Officer may waive this requirement for Minor and Intermediate Development.

k. Filling WOTUS or IWMC to meet these Buffer Requirements or any other regulatory program shall not be allowed.

2. Buffer Use

The following requirements apply to all regulated development within buffer areas for WOTUS or IWMC, except regulated development authorized by a General Permit. These requirements may be superseded by more restrictive USACE requirements.

a. Buffer areas shall be maintained free from development including disturbance of the soil, dumping or filling, erection of buildings and placement of impervious areas except as follows:

(1) Buildings, trails, water dependent facilities, other new impervious areas occupying a maximum of 20% of the buffer area, provided that the stormwater runoff from the new impervious areas is not concentrated;

(2) Grading or filling, provided the that the hydrologically disturbed area is revegetated according to the *Native Plant Guide for Streams and Stormwater Facilities in Northeastern Illinois*, NRCS, et al., (as amended);

(3) Redevelopment within the footprint of legal non-conforming development in existence within a buffer area prior to the effective date of this Ordinance;

(4) BMPs;

(5) Stormwater management facilities; and

(6) Utilities, including wastewater wetlands, but not including septic leach fields.

b. Regulated development within buffer areas which does not conform to the allowable uses shall be mitigated by:

(1) Varying the buffer width to a minimum of 1/2 the prescribed buffer width, provided that the total area of the buffer adjacent to WOTUS or IWMC is

not reduced and that the buffer is located within a deed or plat restriction; or

(2) Replacing the impacted buffer area with BMPs, such as a rain garden or replacement of existing turf grass with native vegetation, at a 1:1 proportional rate.

(3) The consultation of the USAGE, IDNR, or USFWS may preclude the use of either mitigation approach.

3. In the event the implementation of these Buffer Requirements preclude an otherwise legally buildable parcel from being developed, the Enforcement Officer may allow the minimal amount of relief from the Buffer Area Performance Standards in order to restore the parcel to a buildable condition.

Article VII

§15.60.070 Variances and Appeals

A. Variances

Variances to the provisions of this Ordinance may be granted subject to the process and standards that follow.

1. Process

a. In order to be considered for a variance, a variance petition shall be submitted to the Enforcement Officer.

b. The Enforcement Officer shall submit a written recommendation to the oversight committee regarding each variance petition within 30 days after receipt of a complete variance petition. The oversight committee may also request an opinion from the McHenry County Stormwater Technical Advisory Committee.

c. The oversight committee shall have the authority to grant variances to the provisions of this Ordinance.

(1) A public hearing is required for a variance petition that affects adjoining properties or has the potential to affect adjoining properties, as determined by the Enforcement Officer.

i. When required, the petitioner shall schedule a public hearing before the oversight committee and shall be responsible for all fees associated with the hearing. Notice of the hearing shall be published once in a newspaper having a general circulation within the community. The publication shall not be less than 15 days, nor more than 30 days prior to the hearing. All owners of record of land within 250 feet of the contiguous property shall be served notice of the public hearing not less than 15 days, nor more than 30 days prior to the hearing. The notice shall be served by certified mail, return receipt requested. All notices shall include at least the following information:

(a) The street address of the development site, or if there is no street address, then the location of the development site with reference to well-known landmarks;

(b) A description of the regulated development;

(c) Identification of each Ordinance provision for which a variance is requested;

(d) A statement that any person may attend the hearing and submit verbal comments regarding the variance petition with the date, time, and location of the hearing;

(e) A statement that any person may submit written comments regarding the variance petition with the address to which written comments shall be mailed and the date by which written comments shall be received; and

(f) A statement that any and all documents that concern the variance petition which are subject to public disclosure, will be made available for inspection by the community with the location where the documents will be available for inspection.

(2) The oversight committee shall grant the variance, grant the variance with conditions, or deny the variance in writing within 45 days after receipt of the written recommendation from the Enforcement Officer.

(3) Written decisions shall be made public for all variance petitions and shall be on file with the community.

(4) The MCSC Chief Engineer shall be notified of every variance hearing in a Certified Community and of every variance granted by a Certified Community.

(5) Any person with an affected interest in the variance petition may appeal a variance decision according to the Appeals standards of this Ordinance.

2. Standards

a. The oversight committee may grant variances to the provisions of this Ordinance if the petitioner provides evidence demonstrating that:

(1) Failure to grant the variance would result in an unreasonable hardship; and

(2) The variance is necessary due to unique and exceptional physical circumstances or a condition of a particular property; and

(3) The variance is the minimum necessary to afford relief, and

(4) The variance will not cause detriment to the public good, safety or welfare; and

(5) The variance will not cause an increase in the water surface profile within a floodway; and

(6) The variance will not cause an increase in the water surface profile upstream of the development site, unless:

i. The increase is contained within the banks of the water body; or

ii. The increase is contained within the development site, property in which the applicant has an ownership interest, or a deed or plat restriction; or

iii. The increase does not exceed 0.1 foot for the base flood event.

(7) The variance will not be contrary to the spirit, purpose and intent of this Ordinance; and

(8) The regulated development meets the minimum Federal, State, and other local regulations, including those of IDNR/OWR and FEMA for participation in the NFIP.

b. The Enforcement Officer shall notify a petitioner in writing that a variance from the requirements of the Building Protection Standards of this Ordinance, that lessens the degree of protection to a building may result in increased premium rates for flood insurance and may increase the risk of loss of life and property. The Enforcement Officer shall require the petitioner to acknowledge the assumption of the risks and liability in writing. If the variance is approved, the document shall be recorded against the property with the McHenry County Recorder of Deeds Office and the petitioner shall pay the fee for recording the exception.

3. Conditions

a. In granting a variance, the oversight committee may impose specific conditions and limitations on the petitioner concerning any matter relating to the purposes of this Ordinance.

b. Whenever any variance is granted subject to any condition to be met by the petitioner, the petitioner shall submit evidence that the condition has been met.

4. A variance petition shall include:

a. A stormwater management permit application;

b. Payment of the initial application fee;

c. Payment of the variance fee;

d. A description and depiction of the regulated development;

e. Plans, reports, calculations and any other documentation listed in the Application Requirements of this Ordinance which the Enforcement Officer deems necessary in order to make a written recommendation to the oversight committee;

f. Identification of each Ordinance provision for which a variance is requested;

g. A written statement describing the effect on adjoining properties; and

h. A legal description or PIN for all parcels impacted by the regulated development.

B. Appeals

1. Any person aggrieved by the following decisions of the Enforcement Officer shall have the right to appeal the decision to the oversight committee:

a. The denial of a stormwater management permit;

b. The conditions imposed on a stormwater management permit; and

c. The issuance of a stop work order.

2. Any person aggrieved by a ruling of the oversight committee, including rulings related to variance petitions, may appeal that ruling to the MCSC.

3. After exhausting the administrative reviews set forth in this Section, any aggrieved person contesting a ruling of the MCSC may appeal to the Illinois circuit courts under the Illinois Administrative Procedures Act (5 ILCS 100/1-1 *et. seq.*).

4. All appeals to the oversight committee and the MCSC shall be made in writing, shall specify the reasons for the appeal, and shall include all information pertinent to the appeal. For appeals regarding permit denials or permit conditions, the appeal must be submitted within 30 calendar days from the date of denial or conditional issuance of a stormwater management permit. An appeal of the issuance of a stop work order must be served within 14 calendar days from the date of posting the stop work order.
5. The oversight committee and the MCSC shall rule in favor of or against an appeal, in whole or in part, within 45 days after receipt of the appeal.
6. Any person who has been issued a stormwater management permit, and appeals a condition of the permit, may commence construction of the subject development prior to the resolution of the appeal; however, any commencement of construction must comply with all the terms and conditions of the stormwater management permit as issued.
7. Any person whose stormwater management permit was denied is prohibited from commencing construction of the subject development while the appeal is pending. Under no circumstances shall construction commence prior to the issuance of a stormwater management permit.
8. Any person who requests an appeal of the issuance of a stop work order must suspend construction of the subject development while the appeal is pending.

Article VIII

§15.60.080 Inspections and Access

Representatives of the MCSC and of any Federal, State and local unit of government are authorized to enter upon any land or water to inspect for development activity that is or appears to be regulated development.

Pursuant to the authority granted by 55 ILCS 5/5-1062, representatives of the MCSC may, after 10 calendar days' written notice to the owner or occupant, enter upon any lands or waters within the County for the purpose of inspecting stormwater or flood hazard area facilities, structures, or areas. The MCSC representatives may cause the removal of obstructions to an affected watercourse.

The 10 calendar day notification requirement shall not apply in an emergency situation, as determined by the Enforcement Officer, or on any lands or waters that are the subject of an active stormwater management permit or permit application.

Article IX

§15.60.090 Violation and Penalty

Any person who violates, disobeys, omits, neglects, refuses to comply with or resists the enforcement of any provision of this Ordinance, including but not limited to: obtaining a required stormwater management permit, violating a condition of an issued stormwater management permit, or violating a stop work order shall be in violation of this Ordinance and subject to various available legal or equitable actions, remedies and penalties.

A. Failure to comply with any of the requirements of this Ordinance shall constitute a violation, and any person convicted thereof shall be fined not more than seven hundred fifty dollars ($750.00) for each offense. Each day the violation continues shall be considered a separate offense.

B. Any legal action resulting in a guilty verdict shall be subject to a minimum fine totaling not less than one hundred dollars ($100.00) plus court costs.

C. Whenever the Enforcement Officer finds a violation of this Ordinance, or of any stormwater management permit or stop work order, within his or her respective jurisdiction, the Enforcement Officer may pursue any one or more of the following legal or equitable actions, remedies and penalties against any person found to be in violation of this Ordinance including but not limited to:

1. The Enforcement Officer may initiate a complaint and civil legal action in a court of competent jurisdiction against any person in violation of this Ordinance;

2. The Enforcement Officer may revoke any stormwater management permit issued;

3. The Enforcement Officer may require the person to apply for an "after-the-fact" stormwater management permit, including any and all supporting documentation required thereto, for any unpermitted, unauthorized regulated development, disturbance, or impact;

4. The Enforcement Officer may require the development site or impacted area to be fully restored to its condition existing prior to the violation. If it is not feasible or practical to fully restore the development site or impacted area to the condition existing prior to the violation, the Enforcement Officer may allow the development site or impacted area to be restored to a condition that increases flood storage or decreases stormwater runoff compared to the condition existing prior to the violation;

5. The Enforcement Officer may issue a stop work order requiring the suspension of any further work on the development site. Such stop work order shall be in writing, indicate the reason for its issuance, and require compliance with this Ordinance prior to completion of the activity in violation;

6. The Enforcement Officer may take other legal action including but not limited to a temporary restraining order and other preliminary or permanent injunctive relief necessary to prevent further harm or violation and/or remedy any harm or violation that has already occurred, and if applicable require removal, correction, remediation and/or mitigation for said harm and violation. In addition to any fine or other relief, all costs and expenses, including reasonable attorney's fees incurred, may be recovered;

7. The Enforcement Officer may require removal, correction, remediation and/or mitigation for any harm and violation that has occurred and require that the area be fully restored to its condition prior to such regulated development, disturbance or impact; and

8. The Enforcement Officer may, after notice is sent to the owner(s) of the parcel(s) upon which the violation is located, record the complaint filed, the notice of violation or any stop work order against the property at the McHenry County Recorder of Deeds Office.

Article X

§15.60.100 Procedure and Enforcement

A. Responsibility for Enforcement

1. The MCSC shall oversee the enforcement of this Ordinance.

2. The MCSC Chief Engineer, and the Enforcement Officers in Certified Communities, shall enforce this Ordinance. In performing their duties, the MCSC Chief Engineer and the Enforcement Officers in Certified Communities may delegate routine responsibilities to a designee.

3. A Certified Community shall enforce the requirements of this Ordinance on municipal projects that are regulated by this Ordinance and are within the community's jurisdiction.

4. Upon the request of a Certified Community, the MCSC Chief Engineer may be the Enforcement Officer for any regulated development:

   a. Located within multiple Certified Communities; or

   b. Partially located within a Certified Community and partially located within a non-Certified Community; or

   c. Meeting the terms and conditions of a Letter of Understanding issued by McHenry County.

5. Each community shall remain solely responsible for its standing in the NFIP.

B. Multi-County Municipalities

1. A multi-county municipality may adopt and enforce one of the following ordinances of an adjacent county if the municipality has corporate authority within that county:

   a. The Cook County Watershed Management Ordinance, as amended from time to time by the Metropolitan Water Reclamation District of Greater Chicago Board of Commissioners, provided that the municipality also adopts a NFIP compliant ordinance;

   b. The Kane County Stormwater Ordinance, as amended from time to time by the Kane County Board; or

   c. The Lake County Watershed Development Ordinance, as amended from time to time by the Lake County Board.

2. A stormwater management permit shall not be required from McHenry County for any regulated development within a multi-county municipality, in which the multi-county municipality meets all of the following criteria:

   a. Elects to adopt an adjacent county's ordinance;

   b. Has authority to adopt an adjacent county's ordinance;

   c. Retains qualified staff or consultants per the adopted ordinance;

   d. Enters into an intergovernmental agreement with McHenry County; and

   e. Administers and enforces the adopted ordinance per the requirements of the adopted ordinance.

C. Duties of the MCSC Chief Engineer The

MCSC Chief Engineer shall:

1. Supervise the enforcement of this Ordinance in Certified Communities by periodically reviewing the community's Ordinance enforcement records and making remedial recommendations to the community;
2. Notify all the communities of the County, FEMA, and IDNR/OWR of any amendments to this Ordinance; and
3. Maintain a current list of all maps considered regulatory under this Ordinance.

D. Duties of the Enforcement Officer The

Enforcement Officer shall;

1. Attend a minimum of 4 hours of annual training for Enforcement Officers, as scheduled by the County;

2. Ensure that all applicable consultations, waivers, approvals, and permits from Federal, State, and other local authorities are received prior to issuing a stormwater management permit;

3. Utilize a form to document the following characteristics for each stormwater management permit issued:

   a. The proposed hydrologically disturbed area;
   b. The existing and proposed impervious area and the impervious area that existed at the development site prior to the effective date of this Ordinance;
   c. Whether a flood hazard area exists on the development site;
   d. Whether a IWMC exists on the development site;
   e. The development classification;
   f. The signature of the licensed professional engineer that has reviewed and recommends approval the stormwater management permit application, if applicable;
   g. The signature of the wetland specialist that has reviewed and recommends approval of the stormwater management permit application, if applicable;
   h. The signature of the Enforcement Officer issuing the stormwater management permit.

4. Approve the BFE for a regulated development, if applicable;

5. Ensure that a licensed professional engineer reviews or supervises the review of any plans, calculations or analyses prepared by a licensed professional engineer as part of a stormwater management permit application. The review and design engineers shall not be the same person;

6. Ensure that a wetland specialist reviews or supervises the review of any documents prepared by a wetland specialist as part of a stormwater management permit application. The review and design wetland specialist shall not be the same person;

7. Determine whether as-built plans and/or a performance guarantee are necessary to ensure regulated development is built and maintained in accordance with the stormwater management permit. The amount of a performance bond, surety, or other such security may be up to 150 percent of the estimated cost to complete construction of the approved stormwater management system. The estimated cost to complete construction shall be prepared by a licensed professional engineer and approved by the Enforcement Officer;

8. Ensure that the required notice of a petition for a variance has been given and published as required by this Ordinance;

9. Notify the MCSC Chief Engineer of every scheduled variance hearing not less than 15 days, nor more than 30 days prior to the hearing;

10. Notify a petitioner for a variance that such variance may result in increased rates for flood insurance, if applicable;

11. Notify the MCSC Chief Engineer of an application for a CLOMR or LOMR;

12. Provide for inspections of regulated development as required by this Ordinance;

13. Investigate complaints of violations of this Ordinance within his or her community;

14. Notify violators within floodplains that failure to comply with the provisions of the NFIP could make them ineligible to receive flood insurance;

15. Utilizes the legal or equitable actions, remedies and penalties necessary to enforce this Ordinance within his or her community;

16. Advise, consult, and cooperate with other governmental agencies to promote the purposes of this Ordinance;

17. Maintain copies of all the following documents for public inspection:

a. Stormwater management permit applications;

b. Applicable Federal, State, and other local permits;

c. Variances;

d. Records required for eligibility in the NFIP, including elevation certificates, floodproofing certificates, and lowest floor elevations;

e. Documentation and data on the cost of any repair, reconstruction, rehabilitation, or other improvement to a building in the floodplain in order to enforce the substantial improvement requirements of this Ordinance;

f. CLOMRs, LOMRs, LOMAs; and

g. Any additional documentation submitted to demonstrate compliance with the requirements of this Ordinance;

18. Inspect damaged buildings, regardless of the source of the damage, located within the floodplain, to determine whether they have been substantially damaged;

19. Notify the MCSC Chief Engineer, FEMA, and IDNR/OWR of any proposed amendment to this Ordinance;

20. Notify IDNR/OWR of any dam that does not have a permit from IDNR/OWR;

21. Notify IDNR/OWR, IEMA, and the owner of the dam, if a dam is believed to be in an unsafe condition; and

22. Notify adjacent communities in writing 30 days prior to the issuance of a stormwater management permit involving a channel modification.

E. Representative Capacity

In all cases when any action is taken by the MCSC Chief Engineer or the Enforcement Officer, or his or her duly appointed designee, to enforce the provisions of this Ordinance, such action shall be take either in the name of the County or the Certified Community, as the case may be, and neither the MCSC Chief Engineer or the Enforcement Officer nor his or her designee, in so acting shall be rendered personally liable.

F. Community Certification

1. Certification Criteria

Any community of McHenry County, including multi-county municipalities, that meets the following criteria may be certified by MCSC to enforce the provisions of this Ordinance within the community's jurisdiction.

a. The community shall be participating in the regular phase of the NFIP and shall not be a NFIP sanctioned community;

b. The community shall have adopted this Ordinance or an ordinance that is at least as stringent and contains all the criteria of this Ordinance; and

c. The community shall agree to perform the duties of the Enforcement Officer within the community's jurisdiction.

2. Certification Process and Duties

a. A petition for certification shall be submitted to the MCSC indicating how the community meets the Certification Criteria of this Ordinance. A copy of the community's adopted ordinance shall be included with the petition.

b. Within 90 days of receipt of the petition and in conjunction with the next regularly scheduled MCSC meeting, the MCSC Chief Engineer shall make a recommendation to the MCSC, based on his or her review of the petition recommendation shall be presented.

c. Within 60 days of the MCSC Chief Engineer's recommendation, the MCSC may approve the petition as submitted, may approve the petition with conditions, or may deny the petition. A notice of the MCSC action shall be submitted to the petitioning community.

d. Certified Communities shall notify the MCSC Chief Engineer within 2 weeks of any change in:

(1) The community's Enforcement Officer; or

(2) The licensed professional engineer(s) or wetland specialist(s) responsible for review of stormwater management permit applications for the Certified Community.

e. Certified Communities shall submit an annual report summarizing the community's stormwater management permit activity. At a minimum, the annual report shall include:

(1) The name and contact information for the Enforcement Officer;

(2) The name and contact information for the licensed professional engineer responsible for reviewing or supervising the review of any plans, calculations or analyses prepared by a licensed professional engineer as part of a stormwater management permit application;

(3) The name and contact information for the wetland specialist responsible for reviewing or supervising the review of any documents prepared by a wetland specialist as part of a stormwater management permit application;

(4) Documentation of the following characteristics of each stormwater management permit issued:

i. The proposed hydrologically disturbed area;

ii. The existing and proposed impervious area and the impervious area that existed at the development site prior to the effective date of this Ordinance;

iii. Whether a flood hazard area exists on the development site;

iv. Whether a IWMC exists on the development site;

v. The development classification;

vi. The signature of the licensed professional engineer that has reviewed and recommends approval the stormwater management permit application, if applicable;

vii. The signature of the wetland specialist that has reviewed and recommends approval of the stormwater management permit application, if applicable;

viii. The signature of the Enforcement Officer issuing the stormwater management permit;

(5) A list of any stormwater management permits issued for regulated development that was designed and reviewed by the same firm;

(6) A summary of any variances granted to the provisions of this Ordinance; and

(7) A list of any pending violations to the provisions of this Ordinance.

f. Certified Communities shall petition for recertification every 5 years.

3. Committee Review of Performance

a. Within the 5 year certification period, the MCSC or the MCSC Chief Engineer may periodically review the community's ordinance enforcement records and make remedial recommendations to the community, if necessary. Review findings will be used in the assessment of petitions for recertification from certified communities.

b. The MCSC may rescind a community's certification for the following reasons:

(1) The community is no longer a participant in the NFIP;

(2) The community adopts an ordinance or amends its ordinance so that its ordinance is less restrictive than this Ordinance; or

(3) The community fails to enforce the provisions of this Ordinance or issues a permit not meeting the requirements of this Ordinance.

c. The MCSC Chief Engineer may immediately rescind a community's certification for the above reasons until the MCSC can discuss the reasons at the next regularly scheduled meeting.

Article XI

§15.60.110 Disclaimer of Liability

It is recognized that the degree of flood protection required by this Ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations; however, on occasion, greater floods than the base flood will occur and will result in greater flood heights and flood damage. Furthermore, flood heights may be increased by other man-made or natural causes. These provisions do not imply that land outside flood hazard areas or that uses permitted within such areas will be free from flooding or flood damage. These provisions shall not create liability on the part of the MCSC nor any Certified Community nor any officer or employee thereof for any flood damage that results from reliance on this Ordinance or any administrative decision lawfully made there under.

Article XII

§15.60.120 Severability

A. The provisions of this Ordinance shall be severable in accordance with the following rules:

1. If any court of competent jurisdiction shall adjudge any provision of this Ordinance invalid, such judgment shall not affect any other provision of this Ordinance; and
2. If any court of competent jurisdiction shall adjudge invalid the application of any provision of this Ordinance to a particular parcel of land, a particular structure, or a particular development, such judgment shall not affect the application of said provisions to any other parcel of land, structure, or development.

B. All such unaffected provisions of this Ordinance shall remain in full force and effect.

Article XIII

§15.60.130 Abrogation and Greater Restrictions

This Ordinance is not intended to repeal, abrogate or impair any existing easements, covenants, or deed restrictions. Where this Ordinance and other ordinances, easements, covenants, or deed restrictions conflict or overlap, whichever imposes the more stringent restrictions shall prevail. This Ordinance shall repeal the original ordinance or resolution which was adopted to meet the community's NFIP regulations, but shall not repeal the resolution which the community passed in order to establish initial eligibility for the NFIP.

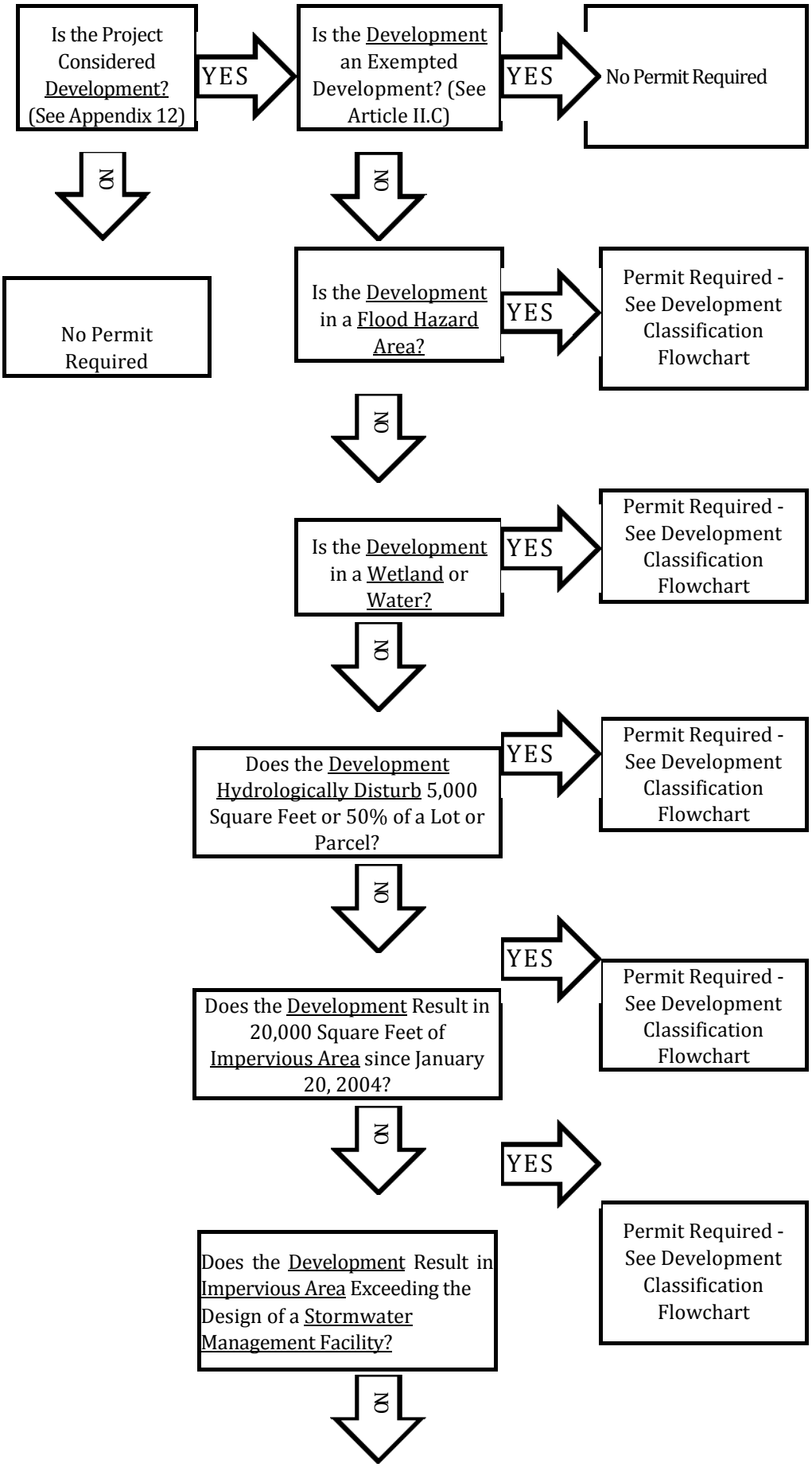
Article XIV

§15.60.140 Amendments

No amendment to this Ordinance may be adopted without a public hearing first being held before the MCSC upon notice published. Notice of the hearing shall be published once in a newspaper having a general circulation within the community. The publication shall not be less than 15 days, nor more than 30 days, prior to the hearing. FEMA and IDNR/OWR shall also be notified prior to adoption of any amendment. Amendments to this Ordinance shall become effective when adopted by the McHenry County Board.

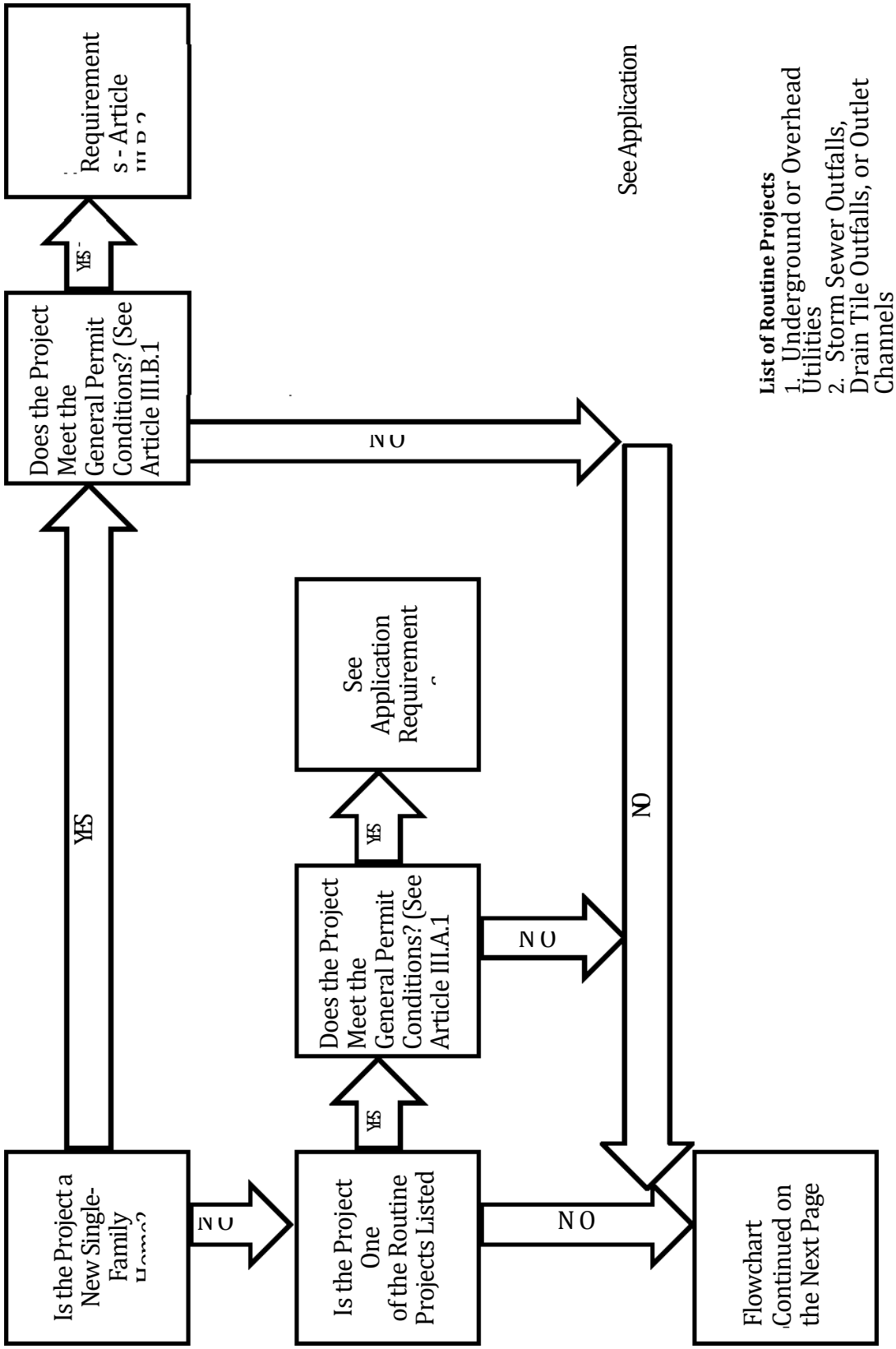
From time to time the lists in Appendix 11 of this Ordinance need to be updated to reflect a new or revised FIRM or FIS. Routine revisions to update these lists are required by FEMA and IDNR/OWR. Public notice and review of a new or revised FIRM or FIS is required by FEMA and IDNR/OWR prior to final adoption. The public notice and review process applies to both the impacted community and individual property owners. For this reason, the lists in Appendix 11 may be updated by MCSC without additional public notice over and above that accomplished by FEMA and IDNR/OWR.

Regulated Development Flowchart



No Permit Required

Development Classification Flowchart (Page 1 of 2)

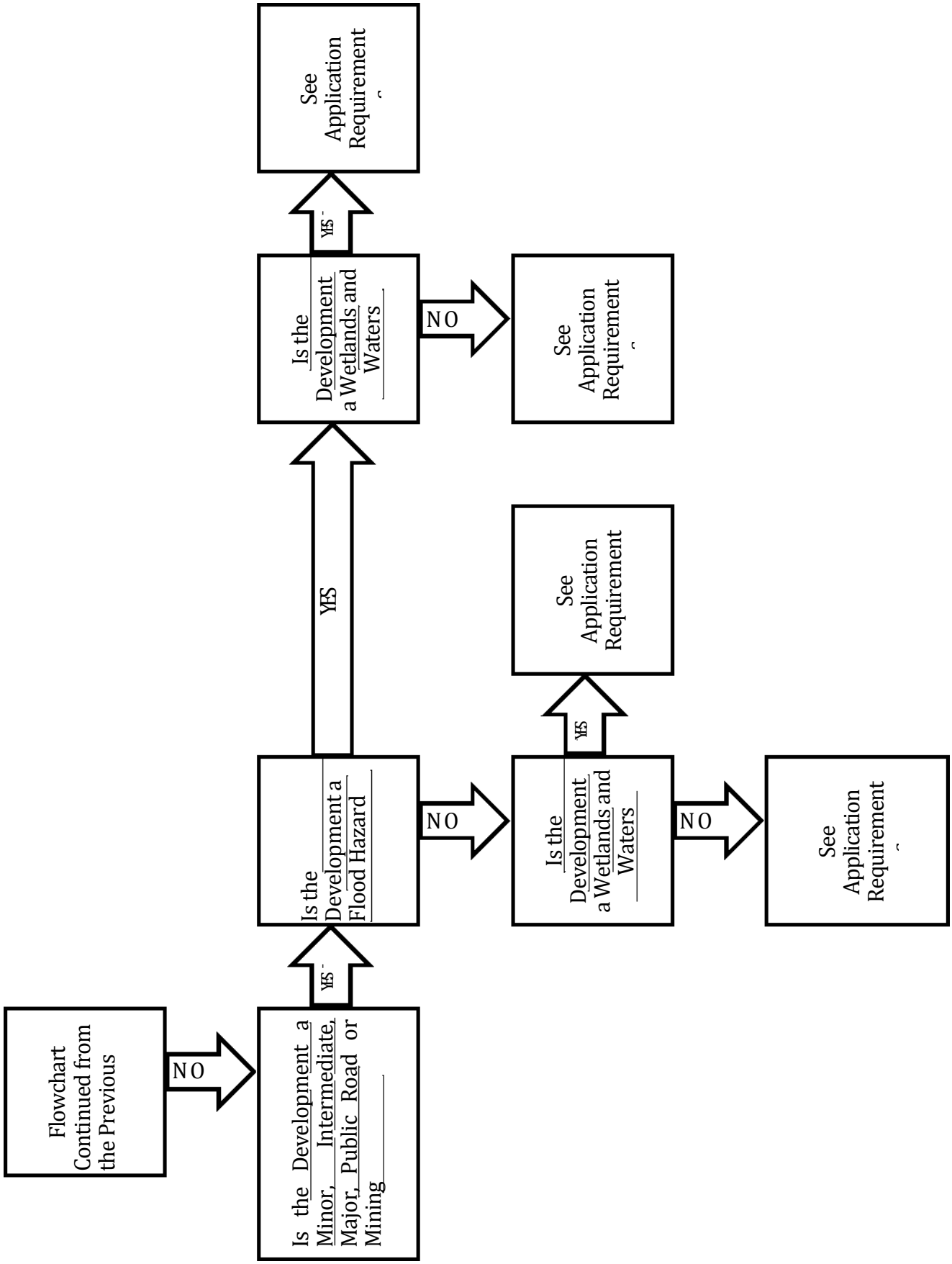


List of Routine Projects

1. Underground or Overhead Utilities
2. Storm Sewer Outfalls, Drain Tile Outfalls, or Outlet Channels
3. Sidewalks, Trails, Driveways, or Patios
4. Boardwalks
5. Seawalls
6. Other Shoreline or Streambank Stabilization
7. Minor Non-Commercial Boat Docks
8. Signposts, Poles, Fencing, or Guardrails
9. Minor Modification of Culverts, Storm Sewers or Drain Tiles
10. Docks

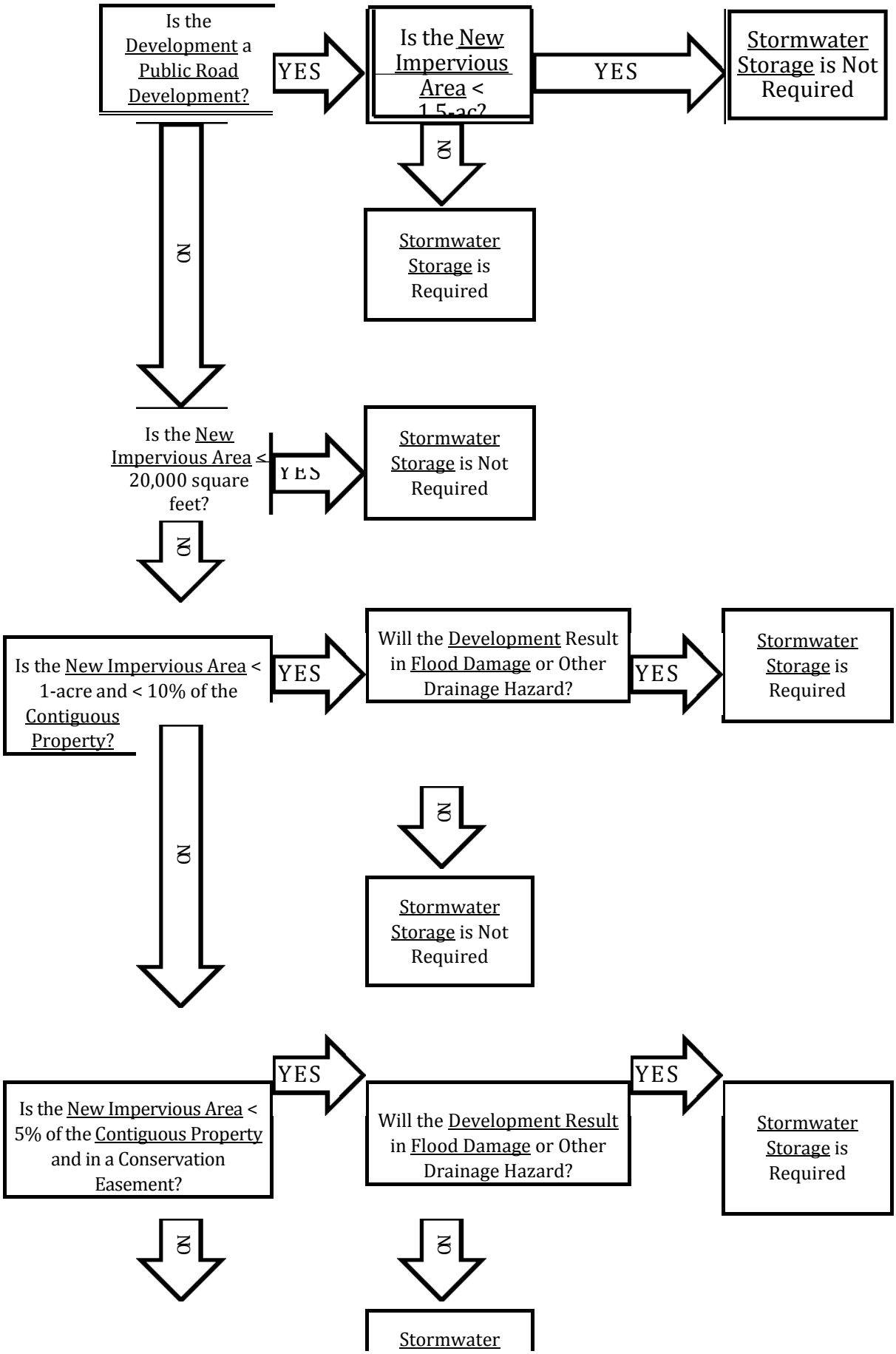
Refer to Appendix 12 for the definition of underlined terms or to Appendix 13 for a list of acronyms.

Development Classification Flowchart (Page 2 of 2)



Refer to Appendix 12 for the definition of underlined terms or to Appendix 13 for a list of acronyms.

Runoff Control Submittal Flowchart (Page 1 of 2)

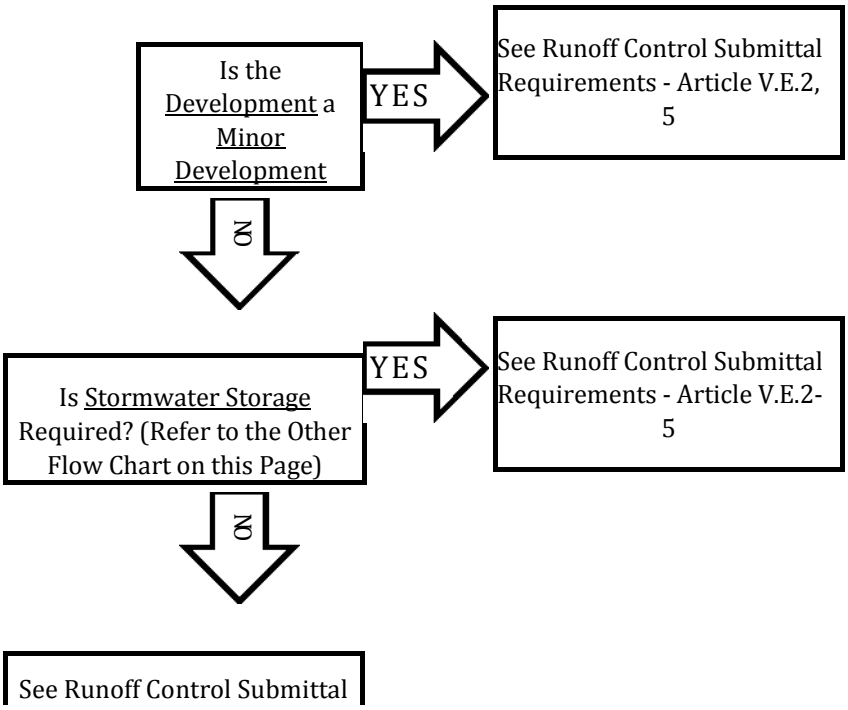


Refer to Appendix 12 for the definition of underlined terms or to Appendix 13 for a list of acronyms.

Storage is Required

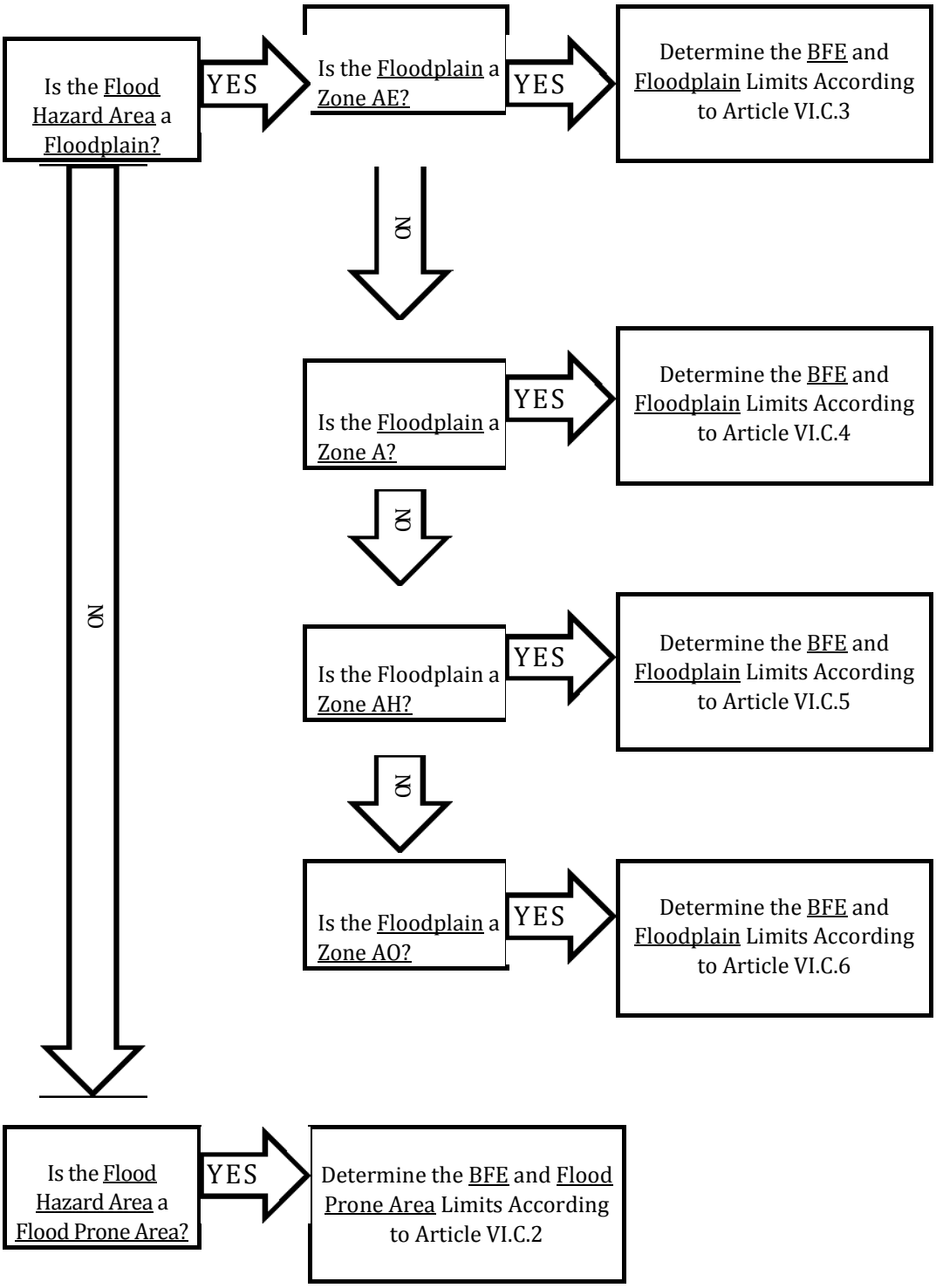
Stormwater Storage is Not Required

Runoff Control Submittal Flowchart (Page 2 of 2)



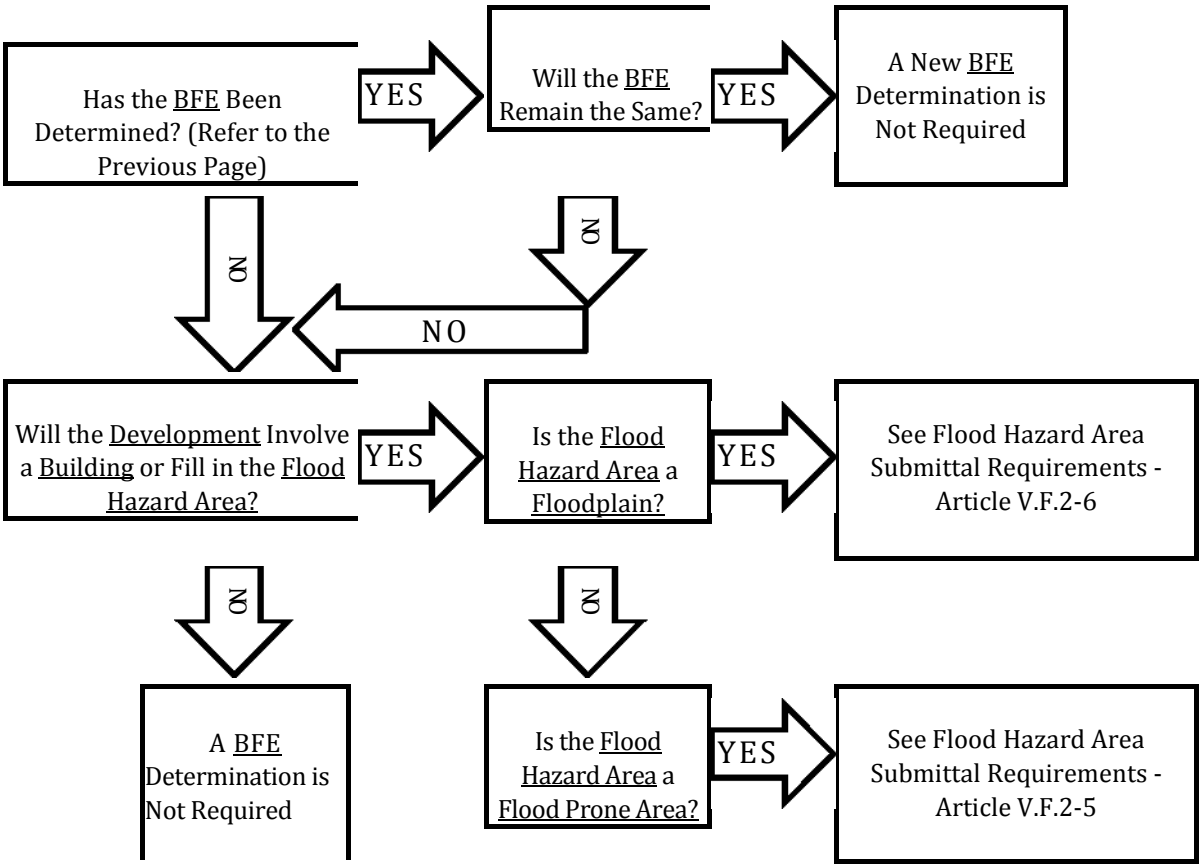
Requirements - Article V.E.2, 3a, 3b, 3h-j, 5

Flood Hazard Area Submittal Flowchart (Page 1 of 3)

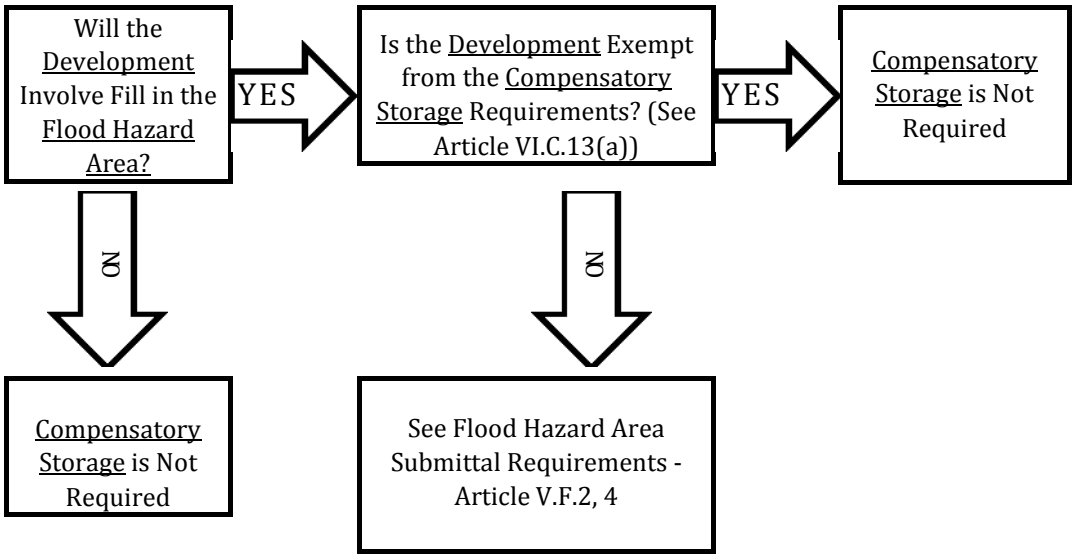


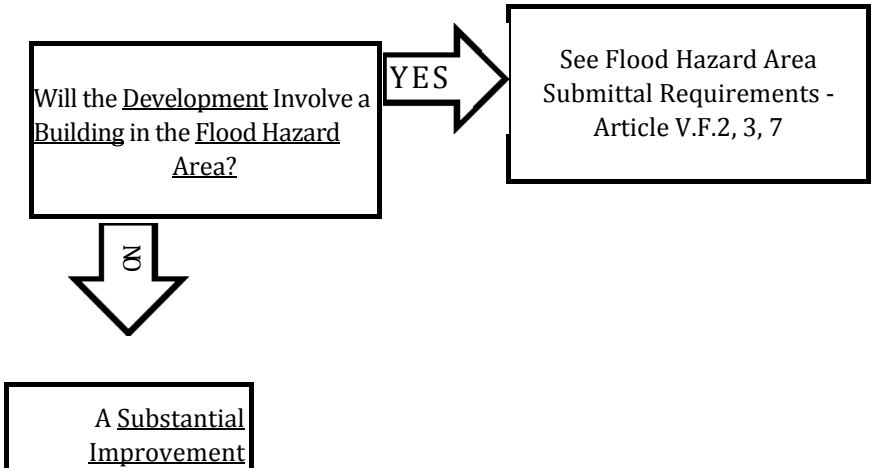
Refer to Appendix 12 for the definition of underlined terms or to Appendix 13 for a list of acronyms.

Flood Hazard Area Submittal Flowchart (Page 2 of 3)



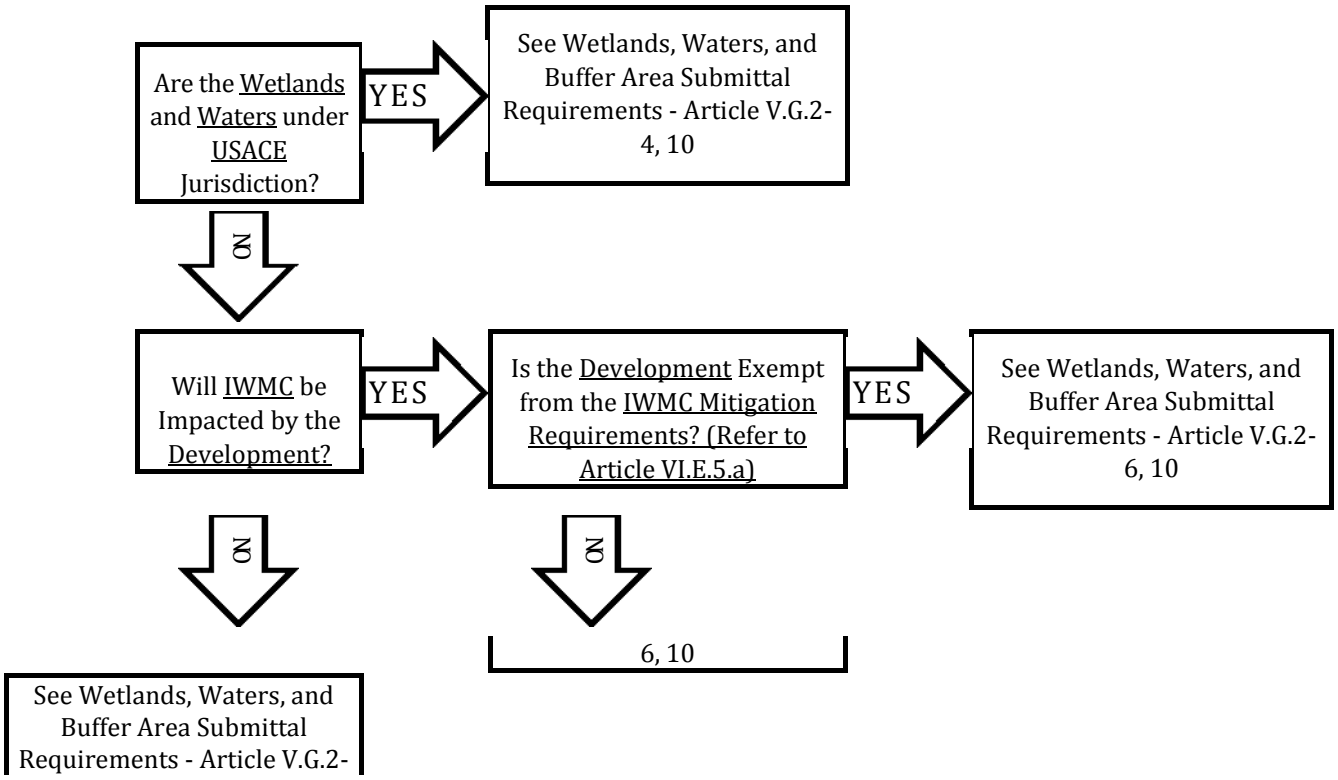
Flood Hazard Area Submittal Flowchart (Page 3 of 3)





Calculation is is
Not Required

Wetlands, Waters, and Buffer Areas Flowchart



See Wetlands, Waters, and Buffer Area Submittal Requirements - Article V.G.2-11

Appendix 2

§15.60.160 Standard Soil Erosion and Sediment Control Notes

1. Control measures shall meet the minimum standards and specifications of the *Illinois Urban Manual* (www.aiswcd.org/IUM) unless stated otherwise.

2. Soil disturbance shall be conducted in such a manner as to minimize erosion. Areas of the development site that are not to be disturbed shall be protected from construction traffic or other disturbance until final stabilization is achieved.

3. Soil stabilization measures shall consider the time of year, development site conditions and the use of temporary or permanent measures.

4. Stabilization by seeding shall include topsoil placement and fertilization, as necessary.

5. Native seed mixtures shall include rapid-growing annual grasses or small grains to provide initial, temporary soil stabilization.

6. Offsite property shall be protected from erosion and sedimentation. Velocity dissipation devices shall be placed at concentrated discharge locations and along the length of any outfall channel, as necessary to prevent erosion.

7. Sediment control measures shall be installed prior to the disturbance of tributary areas.

8. Stabilization of disturbed areas shall be initiated immediately whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the development site, or temporarily ceased on any portion of the development site and will not resume for a period exceeding 14 calendar days. Stabilization of disturbed areas shall be initiated within 1 working day of permanent or temporary cessation of earth disturbing activities and shall be completed as soon as possible, but not later than 14 calendar days from the initiation of stabilization work in an area. Exceptions to these time frames are specified below:

   a. Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable; and

   b. In areas where construction activity has temporarily ceased and will resume after 14 days, a temporary stabilization method may be used.

9. Disturbance of steep slopes shall be minimized. Areas or embankments having slopes steeper than 3:1 shall be stabilized with staked in place sod, erosion control blanket in combination with seeding, or an equivalent control measure.

10. Perimeter control measures shall be provided downslope and perpendicular to the flow of runoff from disturbed areas, where the tributary area is greater than 5,000 square feet, and where runoff will flow in a sheet flow manner. Perimeter erosion control shall also be provided at the base of soil stockpiles.

11. The stormwater management system shall be protected from erosion and sedimentation downslope from disturbed areas. Inlet protection that reduces sediment loading, while allowing runoff to enter the inlet shall be required for all storm sewers. Check dams, or an equivalent control measure, shall be required for all channels. Filter fabric inlet protection and straw bale ditch checks are not acceptable control measures.

Refer to Appendix 12 for the definition of underlined terms or to Appendix 13 for a list of acronyms. Refer to Appendix 1 for permitting flowcharts.

12. If dewatering services are used, discharges shall be routed through an effective sediment control measure (e.g., sediment trap or an equivalent control measure). The Enforcement Officer shall be notified prior to the commencement of dewatering activities.

13. All temporary soil erosion and sediment control measures shall be removed within 30 days after final stabilization of the development site is achieved or after the temporary measures are no longer necessary. Trapped sediment shall be removed and disturbed areas shall be permanently stabilized.

14. Stockpiled soil and materials shall be removed from flood hazard areas at the end of each work day. Soil and materials stockpiled in IWMC or buffer areas shall be placed on timber mats, or an equivalent control measure.

15. Effective control measures shall be utilized to minimize the discharge of pollutants from the development site. At a minimum, control measures shall be implemented in order to:

a. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash water; and

b. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, vehicle fluids, sanitary waste, and other materials present on the development site to precipitation and to stormwater.

16. Adequate receptacles shall be provided for the depositing of all construction material debris generated during the development process. The applicant shall not cause or permit the dumping, depositing, dropping, throwing, discarding or leaving of construction material debris upon or into any development site, channel, or IWMC. The development site shall be maintained free of construction material debris.

17. The Enforcement Officer may require additional or alternate soil erosion and sediment control measures, based on development site specific considerations and the effectiveness of the installed control measures.

Appendix 3

§15.60.170 Standard Drain Tile Notes

1. Drain tiles disturbed during regulated development shall be reconnected by those responsible for their disturbance, unless the development plans specify abandonment of the drain tiles.
2. All abandoned drain tiles within disturbed areas shall be removed in their entirety.
3. Drain tiles within the disturbed area of a development site shall be replaced, bypassed around the development site or intercepted and connected to the stormwater management system for the development site. The size of the replaced or bypassed drain tile shall be equivalent to the existing drain tile.

Appendix 4

§15.60.180 Rainfall Depth-Duration Frequency Tables for McHenry County

Bulletin 70 Rainfall Depths (ISWS, 1989)

Duration	Frequency						
	1-year	2-year	5-year	10-year	25-year	50-year	100-year
5 min	0.30	0.36	0.46	0.54	0.66	0.78	0.91
10 min	0.55	0.67	0.84	0.98	1.21	1.42	1.67
15 min	0.68	0.82	1.03	1.21	1.49	1.75	2.05
30 min	0.93	1.12	1.41	1.65	2.04	2.39	2.80
1 hour	1.18	1.43	1.79	2.10	2.59	3.04	3.56
2 hour	1.48	1.79	2.24	2.64	3.25	3.82	4.47
3 hour	1.60	1.94	2.43	2.86	3.53	4.14	4.85
6 hour	1.88	2.28	2.85	3.35	4.13	4.85	5.68
12 hour	2.18	2.64	3.31	3.89	4.79	5.62	6.59
18 hour	2.30	2.79	3.50	4.11	5.06	5.95	6.97
24 hour	2.51	3.04	3.80	4.47	5.51	6.46	7.58
48 hour	2.70	3.30	4.09	4.81	5.88	6.84	8.16
72 hour	2.93	3.55	4.44	5.18	6.32	7.41	8.78
120 hour	3.25	3.93	4.91	5.70	6.93	8.04	9.96
240 hour	4.12	4.95	6.04	6.89	8.18	9.38	11.14

Huff Quartiles for Time Distribution of Heavy Rainfall

Duration < 6 hours	1st Quartile
6 hours < Duration < 12 hours	2nd Quartile
12 hours < Duration < 24 hours	3rd Quartile
Duration > 24 hours	4th Quartile

Cumulative Percent of Storm	Drainage Area under 10 Square Miles				Drainage Area 10 to 50 Square Miles				Drainage Area 50 to 400 Square Miles			
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
05	16	03	03	02	12	03	02	02	08	02	02	02
10	33	08	06	05	25	06	05	04	17	04	04	03
15	43	12	09	08	38	10	08	07	34	08	07	05
20	52	16	12	10	51	14	12	09	50	12	10	07
25	60	22	15	13	62	21	14	11	63	21	12	09
30	66	29	19	16	69	30	17	13	71	31	14	10
35	71	39	23	19	74	40	20	15	76	42	16	12
40	75	51	27	22	78	52	23	18	80	53	19	14
45	79	62	32	25	81	63	27	21	83	64	22	16
50	82	70	38	28	84	72	33	24	86	73	29	19
55	84	76	45	32	86	78	42	27	88	80	39	21
60	86	81	57	35	88	83	55	30	90	86	54	25
65	88	85	70	39	90	87	69	34	82	89	68	29
70	90	88	79	45	92	90	79	40	93	92	79	35
75	92	91	85	51	94	92	86	47	95	94	87	43
80	94	93	89	59	95	94	91	57	96	96	92	54
85	96	95	92	72	96	96	94	74	97	97	95	75
90	97	97	95	84	97	97	96	88	98	98	97	92
95	98	98	97	92	98	98	98	95	99	99	99	97

Appendix 5

§15.60.190 Hydrologic and Hydraulic Models and Techniques approved by MCSC

Hydrologic Models or Techniques Approved by MCSC				
Hydrologic Model or Technique	**Less than 10 ac 5.c.(1)**	**Less than 20 ac 5.c.(2)(a)**	**Between 20 and 100 ac 5.c.(2)(b)**	**Greater than 100 ac 5.c.(2)(c)**
Detention Volume vs. Percent Impervious Chart	X			
Rational Method	Runoff but not Storage	Runoff but not Storage		
TR-55	X	X	X	
USGS Regression Equations			X[10]	X[10]
StreamStats			X[10]	X[10]
HEC-1	X	X	X	X
TR-20	X	X	X	X
HEC-HMS	X	X	X	X

10. Only allowed where all habitable buildings are above the BFE.

1. The hydrologic models or techniques approved by MCSC include, but are not limited to:

   a. HEC-HMS, TR-20, HEC-1, TR-55, and the Rational Method for tributary areas less than 20 acres;

   b. HEC-HMS, TR-20, HEC-1, TR-55, USGS Regression Equations, and StreamStats for tributary areas less than 100 acres but greater than or equal to 20 acres; or

c. HEC-HMS, TR-20, HEC-1, USGS Regression Equations, and StreamStats for tributary areas of 100 acres or more.

2. The Rational Method may be used to determine the peak stormwater runoff rate, but neither the Rational Method nor the Modified Rational Method shall be used to determine the required stormwater storage volume.

3. The Rainfall Depth Duration Frequency Tables in Appendix 4 shall be used for all hydrologic models.

4. Peak stormwater runoff rates determined using hydrograph producing models shall be based on the critical duration storm event using the appropriate Huff Rainfall Distributions in Appendix 4.

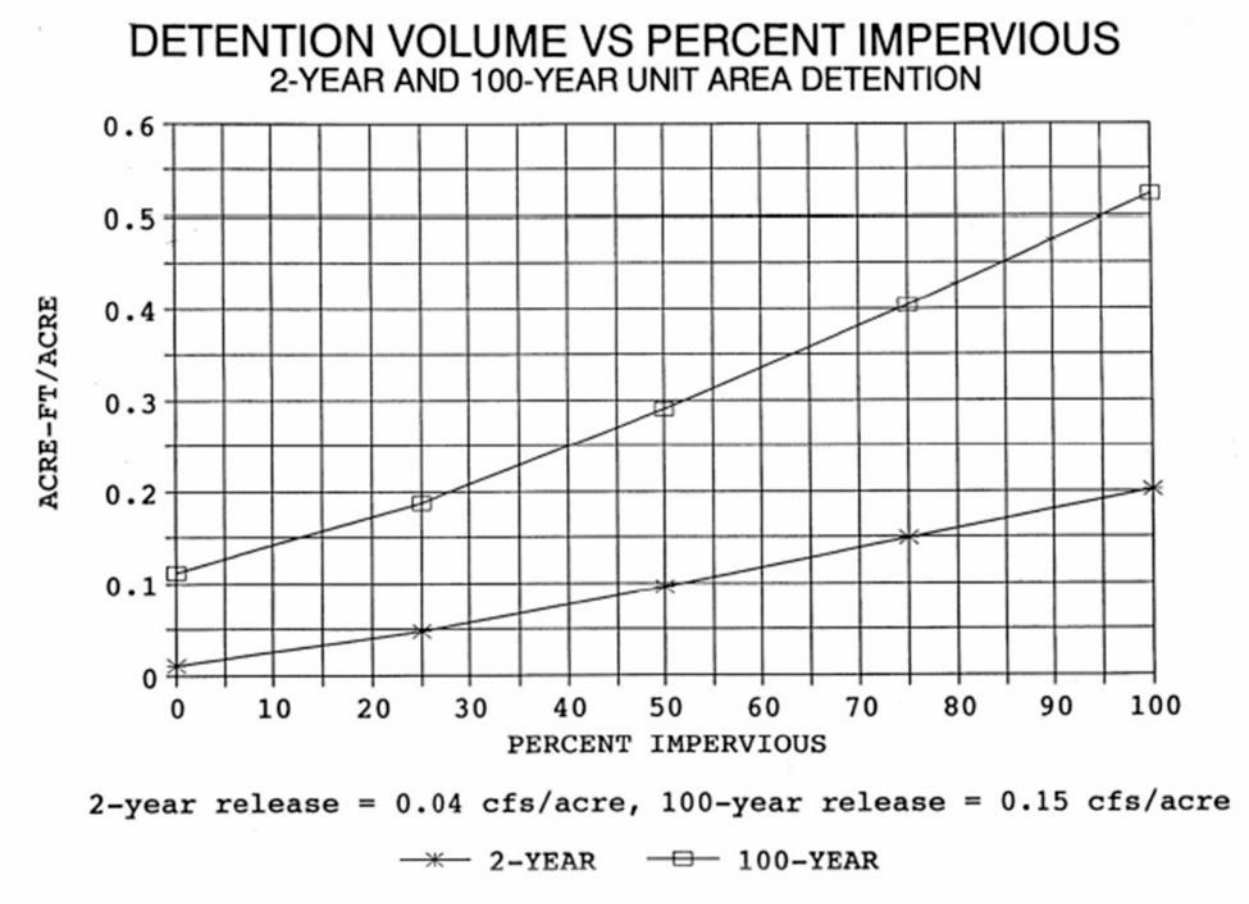
5. Peak stormwater runoff rates determined using TR-55 shall be based on the 24 hour NRCS (SCS) Type II distribution.

6. BFE determinations using USGS Regression Equations and StreamStats shall only be allowed where all habitable buildings are above the BFE.

Appendix 6

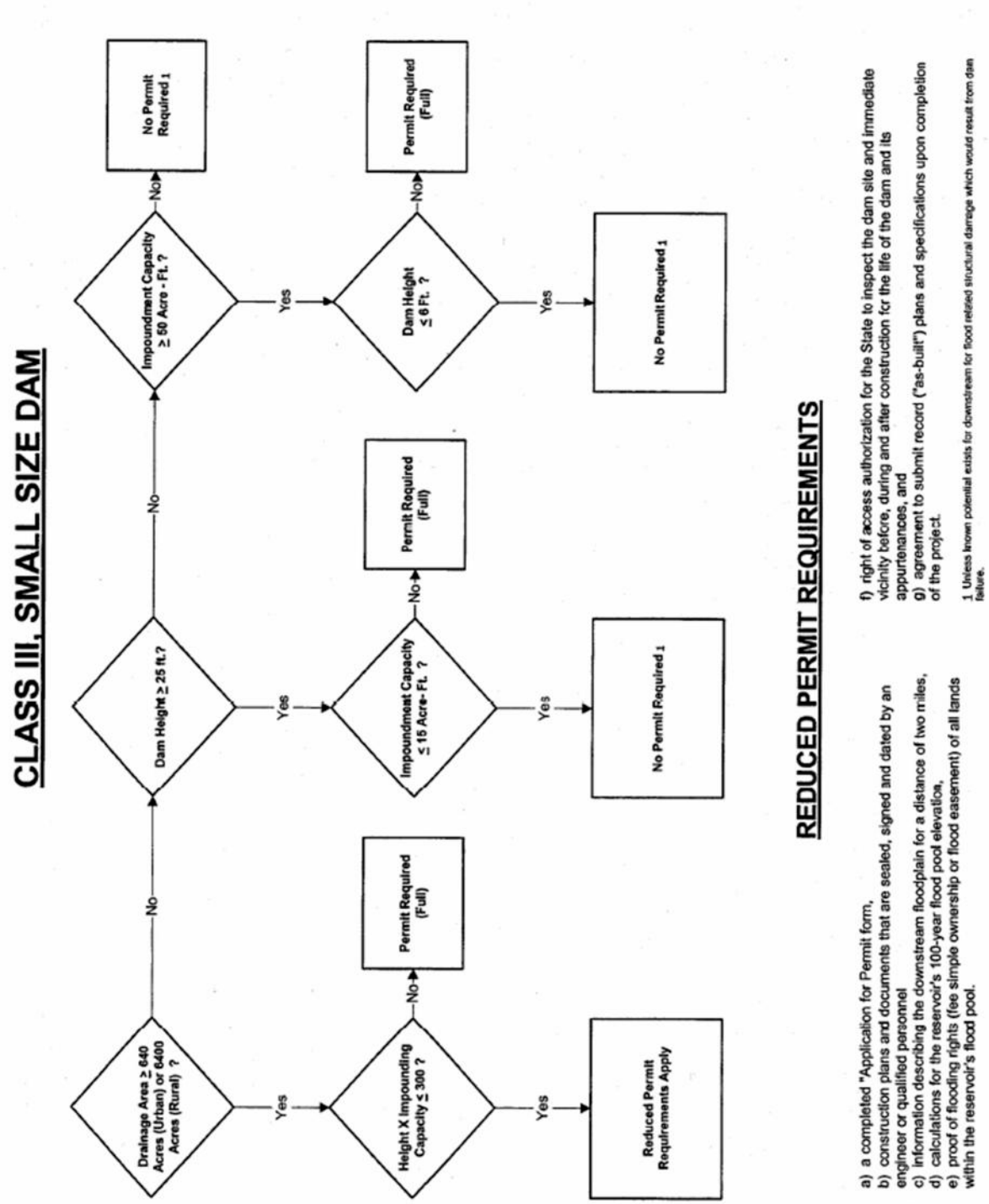
§15.60.200 Detention Volume vs. Percent Impervious Chart for McHenry County

Unit Area Detention Volume (NIPC, 1991)



Appendix 7

§15.60.220 IDNR/OWR Dam Safety Permit Flowchart



Refer to Appendix 12 for the definition of underlined terms or to Appendix 13 for a list of acronyms.
Refer to Appendix 1 for permitting flowcharts.

Appendix 8

§15.60.230 Public Bodies of Water in McHenry County

The following public bodies of water were navigable in their natural condition or were improved for navigation and opened to public use. The entire length and surface area in Illinois, including all backwater lakes and sloughs open to the main channel or body of water at normal flows or stages, which are open to the public.

1. Fox River (Illinois River Basin)

2. Fox Chain-O-Lakes (Lake and McHenry Counties): Bluff Lake, Lake Catherine, Channel Lake, Fox Lake, Grass Lake, Lake Marie, Nippersink Lake, Dunns Lake, Pistakee Lake, Lake Jerilyn, Lac Louette, Redhead Lake;

3. Griswold Lake including the connecting channel to the Fox River.

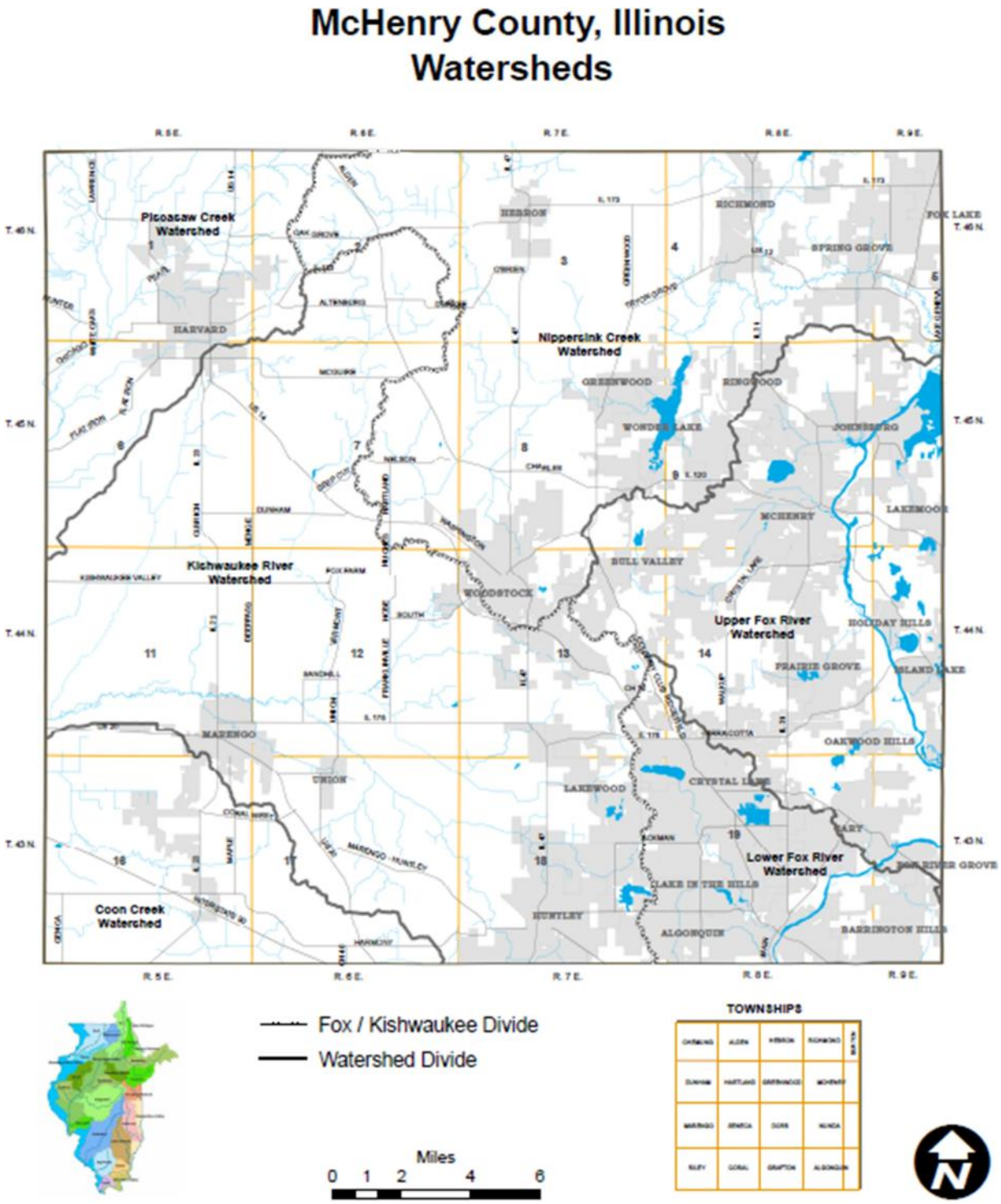
The following public bodies of water are navigable waters that were dedicated to public use. This list is incomplete. It is believed there are numerous channels and slips in subdivisions on the margins of public bodies of water which have been dedicated by plat. Additional channels and slips have been dedicated by common law.

1. No list for McHenry County.

NOTE: The above lists are provided by IDNR/OWR. An IDNR/OWR permit is required for regulated development within the listed waterways and adjacent wetlands.

Appendix 9

§15.60.240 McHenry County Watersheds



Refer to Appendix 12 for the definition of underlined terms or to Appendix 13 for a list of acronyms.
Refer to Appendix 1 for permitting flowcharts.

Appendix 10

§15.60.250 McHenry County Watershed Plans

Crystal Lake Watershed Design Manual and Implementation Plan

Lawrence Creek Watershed Plan

Nippersink Watershed Plan

Preserving the Kishwaukee Watershed (Greater Marengo-Union Area Watershed Plan)

Silver Creek and Sleepy Hollow Creek Watershed Action Plan

Upper Kishwaukee River Watershed Plan

Watershed Protection and Restoration Strategy for Boone Creek

Woods Creek Watershed Plan

Appendix 11

§15.60.260 Floodplain and Floodway Maps

COMMUNITY NAME	COMMUNITY NUMBER	DATE OF CURRENT EFFECTIVE MAP (OR MAP INDEX)	MCHENRY COUNTY FIRM PANEL NUMBER	MCHENRY COUNTY FIS EFFECTIVE DATE
ALGONQUIN, VILLAGE OF	170474	NOV. 16, 2006	17111C 0320J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0334J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0335J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0336J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0337J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0340J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0341J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0342J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0343J	NOV. 16, 2006
BARRINGTON HILLS, VILLAGE OF	170058	NOV. 16, 2006	17111C 0342J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0353J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0354J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0356J	NOV. 16, 2006
BULL VALLEY, VILLAGE OF	170977	NOV. 16, 2006	17111C 0183J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0200J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0205J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0215J	NOV. 16, 2006
CARY, VILLAGE OF	170475	NOV. 16, 2006	17111C 0334J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0335J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0351J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0352J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0353J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0354J	NOV. 16, 2006
CRYSTAL LAKE, CITY OF	170476	NOV. 16, 2006	17111C 0200J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0215J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0220J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0310J	NOV. 16, 2006

COMMUNITY NAME	COMMUNITY NUMBER	DATE OF CURRENT EFFECTIVE MAP (OR MAP INDEX)	MCHENRY COUNTY FIRM PANEL NUMBER		MCHENRY COUNTY FIS EFFECTIVE DATE
		NOV. 16, 2006	17111C	0326J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0327J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0328J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0329J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0334J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0335J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0336J	NOV. 16, 2006
FOX LAKE, VILLAGE OF	170362	NOV. 16, 2006	17111C	0112J	NOV. 16, 2006
FOX RIVER GROVE, VILLAGE OF	170477	NOV. 16, 2006	17111C	0353J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0354J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0365J	NOV. 16, 2006
GREENWOOD, VILLAGE OF	171057	NOV. 16, 2006	17111C	0074J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0086J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0088J	NOV. 16, 2006
HARVARD, CITY OF	170479	NOV. 16, 2006	17111C	0017J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0025J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0036J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0050J	NOV. 16, 2006
HEBRON, VILLAGE OF	170086	NOV. 16, 2006	17111C	0075J	NOV. 16, 2006
HOLIDAY HILLS, VILLAGE OF	170936	NOV. 16, 2006	17111C	0236J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0237J	NOV. 16, 2006
HUNTLEY, VILLAGE OF	170480	NOV. 16, 2006	17111C	0304J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0308J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0309J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0312J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0314J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0315J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0316J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0318J	NOV. 16, 2006

COMMUNITY NAME	COMMUNITY NUMBER	DATE OF CURRENT EFFECTIVE MAP (OR MAP INDEX)	MCHENRY COUNTY FIRM PANEL NUMBER	MCHENRY COUNTY FIS EFFECTIVE DATE
		NOV. 16, 2006	17111C 0320J	NOV. 16, 2006
ISLAND LAKE, VILLAGE OF	170370	NOV. 16, 2006	17111C 0236J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0237J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0238J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0239J	NOV. 16, 2006
JOHNSBURG, VILLAGE OF	170486	NOV. 16, 2006	17111C 0093J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0094J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0111J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0112J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0113J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0114J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0206J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0207J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0226J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0230J	NOV. 16, 2006
LAKE IN THE HILLS, VILLAGE OF	170481	NOV. 16, 2006	17111C 0308J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0309J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0316J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0320J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0328J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0329J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0334J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0335J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0336J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0337J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0341J	NOV. 16, 2006
LAKEMOOR, VILLAGE OF	170915	NOV. 16, 2006	17111C 0226J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0230J	NOV. 16, 2006
LAKEWOOD, VILLAGE OF	170805	NOV. 16, 2006	17111C 0309J	NOV. 16, 2006

COMMUNITY NAME	COMMUNITY NUMBER	DATE OF CURRENT EFFECTIVE MAP (OR MAP INDEX)	MCHENRY COUNTY FIRM PANEL NUMBER		MCHENRY COUNTY FIS EFFECTIVE DATE
		NOV. 16, 2006	17111C	0310J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0326J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0328J	NOV. 16, 2006
MARENGO, CITY OF	170482	NOV. 16, 2006	17111C	0163J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0164J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0275J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0276J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0277J	NOV. 16, 2006
MCCULLOM LAKE, VILLAGE OF	170829	NOV. 16, 2006	17111C	0098J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0206J	NOV. 16, 2006
MCHENRY COUNTY (UNINC.)	170732	PANEL NUMBERS LISTED AT THE END OF THE TABLE			
MCHENRY, CITY OF	170483	NOV. 16, 2006	17111C	0205J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0206J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0207J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0208J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0209J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0217J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0220J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0226J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0230J	NOV. 16, 2006
OAKWOOD HILLS, VILLAGE OF	170831	NOV. 16, 2006	17111C	0220J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0238J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0335J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0351J	NOV. 16, 2006
PORT BARRINGTON, VILLAGE OF	170478	NOV. 16, 2006	17111C	0239J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0352J	NOV. 16, 2006
PRAIRIE GROVE, VILLAGE OF	170975	NOV. 16, 2006	17111C	0217J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0220J	NOV. 16, 2006
		NOV. 16, 2006	17111C	0236J	NOV. 16, 2006

COMMUNITY NAME	COMMUNITY NUMBER	DATE OF CURRENT EFFECTIVE MAP (OR MAP INDEX)	MCHENRY COUNTY FIRM PANEL NUMBER	MCHENRY COUNTY FIS EFFECTIVE DATE
		NOV. 16, 2006	17111C 0238J	NOV. 16, 2006
RICHMOND, VILLAGE OF	170484	NOV. 16, 2006	17111C 0079J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0080J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0081J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0083J	NOV. 16, 2006
RINGWOOD, VILLAGE OF	170060	NOV. 16, 2006	17111C 0087J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0089J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0091J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0093J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0094J	NOV. 16, 2006
SPRING GROVE, VILLAGE OF	170485	NOV. 16, 2006	17111C 0082J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0084J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0091J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0092J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0103J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0111J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0112J	NOV. 16, 2006
TROUT VALLEY, VILLAGE OF	170062	NOV. 16, 2006	17111C 0334J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0353J	NOV. 16, 2006
UNION, VILLAGE OF	170487	NOV. 16, 2006	17111C 0281J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0300J	NOV. 16, 2006
WONDER LAKE, VILLAGE OF	170976	NOV. 16, 2006	17111C 0074J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0086J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0087J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0088J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0089J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0200J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0205J	NOV. 16, 2006
WOODSTOCK, CITY OF	170488	NOV. 16, 2006	17111C 0176J	NOV. 16, 2006

COMMUNITY NAME	COMMUNITY NUMBER	DATE OF CURRENT EFFECTIVE MAP (OR MAP INDEX)	MCHENRY COUNTY FIRM PANEL NUMBER	MCHENRY COUNTY FIS EFFECTIVE DATE
		NOV. 16, 2006	17111C 0177J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0178J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0179J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0181J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0183J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0200J	NOV. 16, 2006
MCHENRY COUNTY (UNINC.)	170732	NOV. 16, 2006	17111C 0017J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0025J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0036J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0050J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0064J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0065J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0070J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0073J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0074J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0075J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0079J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0080J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0081J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0082J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0083J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0084J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0086J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0087J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0088J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0089J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0091J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0092J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0093J	NOV. 16, 2006

COMMUNITY NAME	COMMUNITY NUMBER	DATE OF CURRENT EFFECTIVE MAP (OR MAP INDEX)	MCHENRY COUNTY FIRM PANEL NUMBER	MCHENRY COUNTY FIS EFFECTIVE DATE
		NOV. 16, 2006	17111C 0094J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0103J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0111J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0112J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0113J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0114J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0150J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0163J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0164J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0175J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0176J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0177J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0178J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0179J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0181J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0183J	NOV. 16, 2006
MCHENRY COUNTY (UNINC.)	170732	NOV. 16, 2006	17111C 0200J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0205J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0206J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0207J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0208J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0209J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0215J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0217J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0220J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0226J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0230J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0236J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0237J	NOV. 16, 2006

a.

Refer to Appendix 12 for the definition of underlined terms or to Appendix 13 for a list of acronyms.
Refer to Appendix 1 for permitting flowcharts.

COMMUNITY NAME	NUMBER	DATE OF CURRENT [redacted] (OR MAP INDEX)	MCHENRY COUNTY FIRM PANEL NUMBER	MCHENRY COUNTY FIS EFFECTIVE DATE
		NOV. 16, 2006	17111C 0238J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0239J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0275J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0276J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0277J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0281J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0300J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0303J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0304J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0305J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0308J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0309J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0310J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0312J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0314J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0315J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0316J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0318J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0320J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0326J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0327J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0328J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0329J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0334J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0335J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0336J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0337J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0340J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0341J	NOV. 16, 2006

COMMUNITY NAME	NUMBER	DATE OF CURRENT [redacted] (OR MAP INDEX)	MCHENRY COUNTY FIRM PANEL NUMBER	MCHENRY COUNTY FIS EFFECTIVE DATE
		NOV. 16, 2006	17111C 0342J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0343J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0351J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0352J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0353J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0354J	NOV. 16, 2006
		NOV. 16, 2006	17111C 0365J	NOV. 16, 2006

Appendix 12

§15.60.270 Definitions

The following definitions shall be used with this Ordinance.

accessory building: A non-habitable structure which is on the same parcel of property as the principal structure to be insured and the use of which is incidental to the use of the principal structure.

agricultural building: An accessory building that is used solely for agricultural purposes in which the use is exclusively in connection with the production, harvesting, storage, drying, or raising of agricultural commodities, including the raising of livestock.

actual start of construction: Either the first placement of permanent construction of a building on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or placement of a manufactured home on a foundation.

adequate downstream stormwater capacity: A downstream channel or stormwater management system with the ability to store and convey the anticipated 100 year stormwater runoff without damage to an adjacent or downstream building.

Advanced Identification Wetland Study (ADID): A study conducted in McHenry County by the USACE and the USEPA in 1997 to generate wetland maps.

applicant: Any person, firm, or governmental agency who owns property or its duly appointed representative and proposes to develop that property and executes the necessary forms to procure a permit to obtain authorization for such regulated development from the Enforcement Officer.

appropriate use: The only regulated development within the designated floodway that is permissible and will be considered for permit issuance. The appropriate uses are determined by IDNR/OWR.

armoring: The placement of materials (concrete, rip-rap, retaining wall, etc.) within a channel or along a shoreline to protect property along streams, lakes or ponds from damage caused by wave action and flowing water.

as-built plans: Record drawings prepared by a licensed land surveyor or licensed professional engineer to confirm that a regulated development was constructed in substantial conformance with the approved plans.

base flood: The flood having a one percent probability of being equaled or exceeded in any given year. The base flood is also known as the 100 year flood event.

base flood elevation (BFE): The water surface elevation that can be expected during the base flood. Determination of the BFE at any location is as described in the Flood Hazard Areas section of this Ordinance.

basement: Any area of a building having its floor below ground level on all sides.

best management practice (BMP): Land planning and engineered practices designed to reduce soil erosion, sediment deposition, and water quality impacts of development.

boardwalk: A walkway constructed of wooden, composite, metallic, or other decking material, primarily serving pedestrian and bicycle traffic.

buffer: An area of predominantly vegetated land located adjacent to WOTUS and IWMC for the purpose of, but not limited to, reducing contaminants in stormwater that flows to such areas.

building: A structure that is principally above ground and is enclosed by two or more rigid walls and a roof. The term includes a gas or liquid storage tank, a manufactured home, mobile home or a prefabricated building. This term also includes recreational vehicles or travel trailers installed on a site for more than 180 consecutive days.

Certified Community: A community which has petitioned the MCSC and has been found by the MCSC to be capable of enforcing an ordinance (or ordinances) which contain rules and regulations which are consistent with or at least as stringent as the regulations of this Ordinance.

Certified Erosion, Sediment and Storm Water Inspector (CESSWI): A certification by EnviroCert International, Inc., which can be earned by demonstrating certain qualifications based on a combination of education and experience, and passing an exam.

Certified Professional in Erosion and Sediment Control (CPESC): A certification by EnviroCert International, Inc., which can be earned by demonstrating certain qualifications based on a combination of education and experience, and passing an exam.

channel: Any river, stream, creek, brook, branch, flow path, slough, ditch, gully, ravine, swale, wash, or drainageway with a discernible bed and banks, in or into which surface or groundwater flows, either perennially or intermittently.

channel modification: Alteration of a channel by changing the physical dimensions or materials of its bed or banks. Channel modification includes damming, rip-rapping or other armoring, widening, deepening, straightening, relocating, lining and significant removal of bottom or woody vegetation of the channel. Channel modification does not include dredging or the clearing of invasive, dead or dying vegetation, debris, or trash from the channel.

Class V injection wells: Any bored, drilled, or driven shaft, or dug hole that is deeper than its widest surface dimension, or an improved sinkhole, or a sub-surface fluid distribution system. This includes most direct infiltration structures such as drywells and column drains. Class V injection wells are regulated by the IEPA and the owner of any proposed injection well is required to submit an inventory information form prior to the infiltration structure becoming operational.

column drain: Any device, including drywells, which facilitates direct infiltration of stormwater runoff below the soil layer (typically greater than five feet).

community: Any municipality (as defined at Ill. Rev. Stat., 1989, Ch. 24, 1-1-2 {1}) or McHenry County when providing services or applying its regulatory authority to the unincorporated portions of the County.

compensatory storage: An excavated volume of storage used to offset the loss of existing flood storage volume when:

A. Fill, materials or structures are placed within a flood hazard area; or
B. A depressional storage area is drained.

Conditional Letter of Map Revision (CLOMR): A letter which indicates that FEMA will revise the BFEs, flood insurance rate zones, flood boundaries or floodway as shown on an effective FIRM, once the as-built plans are submitted and approved.

contiguous property: The lot or parcel of land on which a development is proposed, together with the adjacent lots or parcels of land that were owned in whole, or in part, by the same property owner on the effective date of this Ordinance.

control structure: A structure designed to control the rate of flow that passes through it, based on a specific upstream and downstream water surface elevation.

cosmetic repair: Cleaning, sanitizing, resurfacing (e.g., sanding, repair of joints, re-painting) and similar repairs.

critical duration: The duration of a storm event that results in the greatest peak runoff rate or the greatest peak storage volume required. A critical duration analysis shall compare the peak runoff rates or the peak storage volumes from varying storm durations between the 1 hour and 240 hour events.

dam: All obstructions, wall embankments or barriers, together with their abutments and appurtenant works, if any, constructed for the purpose of storing or diverting water or creating a pool. Underground water storage tanks are not included.

deed or plat restriction: permanent easements, covenants, deed restricted open spaces, outlots, reserved plat areas, and conservation easements dedicated to meet the requirements of this Ordinance, or public road rights-of-way that contain any part of the stormwater management system of a development.

depressional storage area: A non-riverine depression where stormwater collects; only regulated when total storage of an individual depressional storage area exceeds 0.75 acre-feet. Any area within a closed contour and drained by a sewer or culvert with a full-flow capacity greater than 0.10 cubic feet per second per acre (cfs/ac) capacity shall not be considered a depressional storage area.

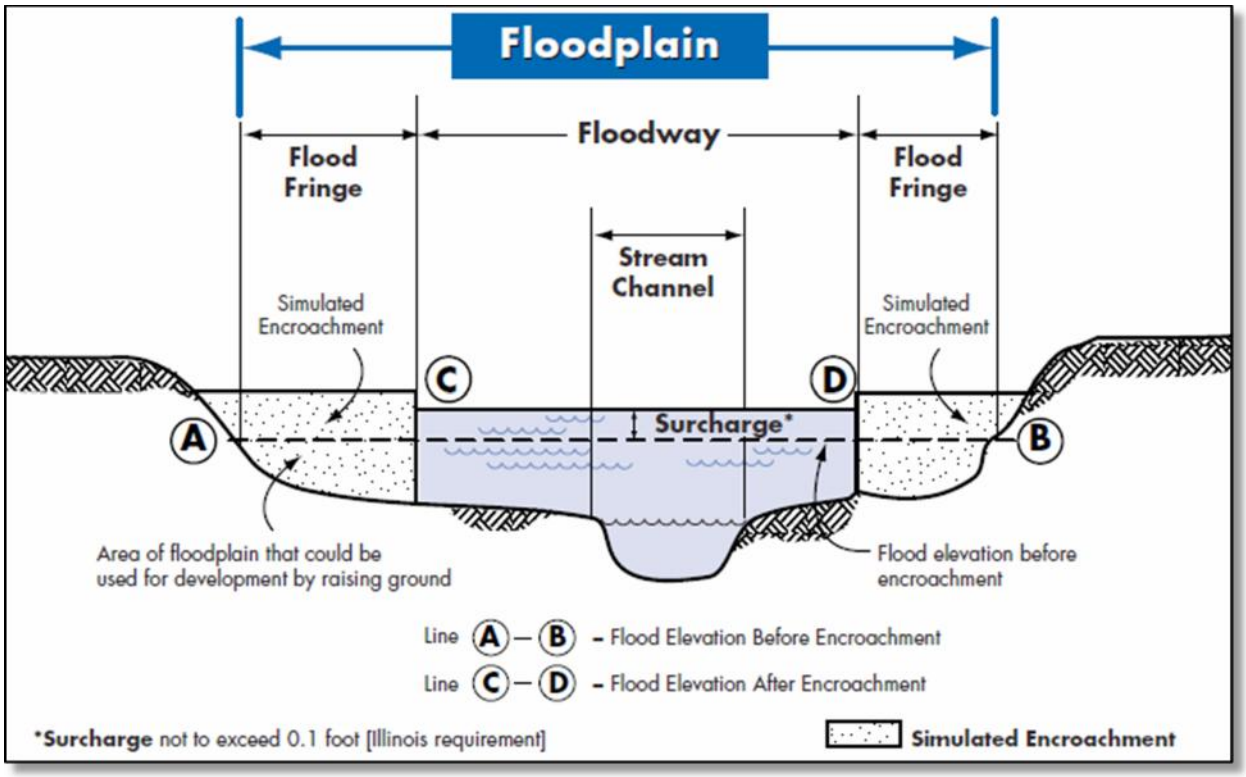
design storm: A selected storm event, described in terms of the statistical probability of occurring once within a given number of years, for which stormwater or flood control improvements are designed and built.

designated floodway: The channel, including on-stream lakes, and that portion of the floodplain adjacent to a stream or watercourse, as depicted on the FEMA FIRM, which is needed to store and convey the existing 100 year frequency flood discharge with no more than a 0.1 foot increase in stage due to the loss of flood conveyance or storage, and no more than a 10 percent increase in velocities. The need to preserve storage when determining the designated floodway will be waived if all the municipalities and counties along a hydraulically significant portion of

the watershed require hydraulically equivalent compensatory storage for all lost floodplain storage volume.

FIGURE 4

Understanding the Floodway
(IDNR *Floodplain Management in Illinois Quick Guide*, 2001)



detention facility (detention pond/detention basin): A man-made structure for the temporary storage of water with a controlled release rate.

development: Any man-made change to real estate by private property owners or public agencies including, but not limited to:

A. Construction, reconstruction, repair or remodeling, maintenance or placement of a building or any addition to a building, including "ag exempt" buildings;

B. Installing a manufactured home on a site, preparing a site for a manufactured home, or installing a recreational vehicle or travel trailer on a site for more than 180 days (if the recreational vehicle or travel trailer is on the site for less than 180 days, it must be fully licensed and ready for highway use);

C. Drilling, mining, installing utilities, construction of roads, bridges, or similar projects;

D. Demolition of a structure or redevelopment of a site;

E. Construction or erection of levees, walls, fences, dams, or culverts;

F. Channel modification;

G. Filling, dredging, grading, excavating, paving, or other alterations of the ground surface;

H. Storage of materials;

I. Extensive removal of vegetation; or

J. Any other activity of man that changes the direction, height, or velocity of flood or surface water.

development site: The portion of contiguous property that is hydrologically disturbed by the development.

drain tile: Sub-surface conduit used for drainage of land, typically for agricultural purposes. Drain tile does not include footing drains.

drain tile survey: An inventory of existing farm and storm drain tiles, typically based upon a field investigation utilizing the slit trench method to locate existing drain tiles.

dredging: The maintenance or restoration of a water body by removing accumulated silt, sediment, and other debris from its bed.

dry detention facility: A detention facility designed to drain completely after temporary storage of stormwater. A dry detention facility is normally dry over the majority of its bottom area.

dry floodproofing: Building protection measures designed according to current FEMA guidelines to keep water out of the building. Dry floodproofing measures are among the floodproofing measures described in the following FEMA publications: *Engineering Principles and Practices for Retrofitting Flood-Prone Residential Structures* (FEMA P-259), *Homeowner's Guide to Retrofitting* (FEMA P-312), *Selecting Appropriate Mitigation Measures for Floodprone Structures* (FEMA 551), *Protecting Building Utilities from Flood Damage* (FEMA 348), *Reducing Damage from Localized Flooding* (FEMA 511), *Non-Residential Floodproofing - Requirements and Certification* (FEMA TB 3), and *Floodproofing Non-Residential Structures* (FEMA 102).

earth change: Development in which the primary activity is a change in ground elevations affected by the movement of earth materials.

effective date of this Ordinance: January 20, 2004. Subsequent amendments shall be effective upon passage of an amending ordinance.

elevation certificates: A form published by FEMA that is used to certify the lowest floor (including the basement) elevation to which a building has been constructed.

emergency overflow: The structure in a stormwater management facility designed to protect the stormwater management system in the event of a malfunction of the control structure or a storm event greater than the design storm. The emergency overflow capacity initiates at the design high water level of the stormwater management facility.

Enforcement Officer: The MCSC Chief Engineer or the Certified Community's development regulations officer.

erosion: The process whereby soil is detached by precipitation, flowing water, wind or wave action.

extensive removal of vegetation: Removal of 1 acre or more of vegetation, such as woods or meadow, for non-agricultural purposes and replacement with a surface cover having a higher Runoff Curve Number. The removal of vegetation (in any quantity) consisting primarily of invasive, dead, or dying vegetation shall not be considered extensive removal of vegetation.

flood: A general and temporary condition of partial or complete inundation of normally dry land areas from overflow of inland or tidal waves, or the unusual and rapid accumulation of runoff of surface water from any source.

flood damage: A measurable rise in flood heights at a building currently subject to flooding, or flooding of a building not currently subject to flooding.

flood damage-resistant materials: Any building product (material, component or system) capable of withstanding direct contact with floodwaters for at least 72 hours without sustaining damage requiring more than cosmetic repair. FEMA Technical Bulletin 2 provides guidance in the classification of flood damage-resistant materials.

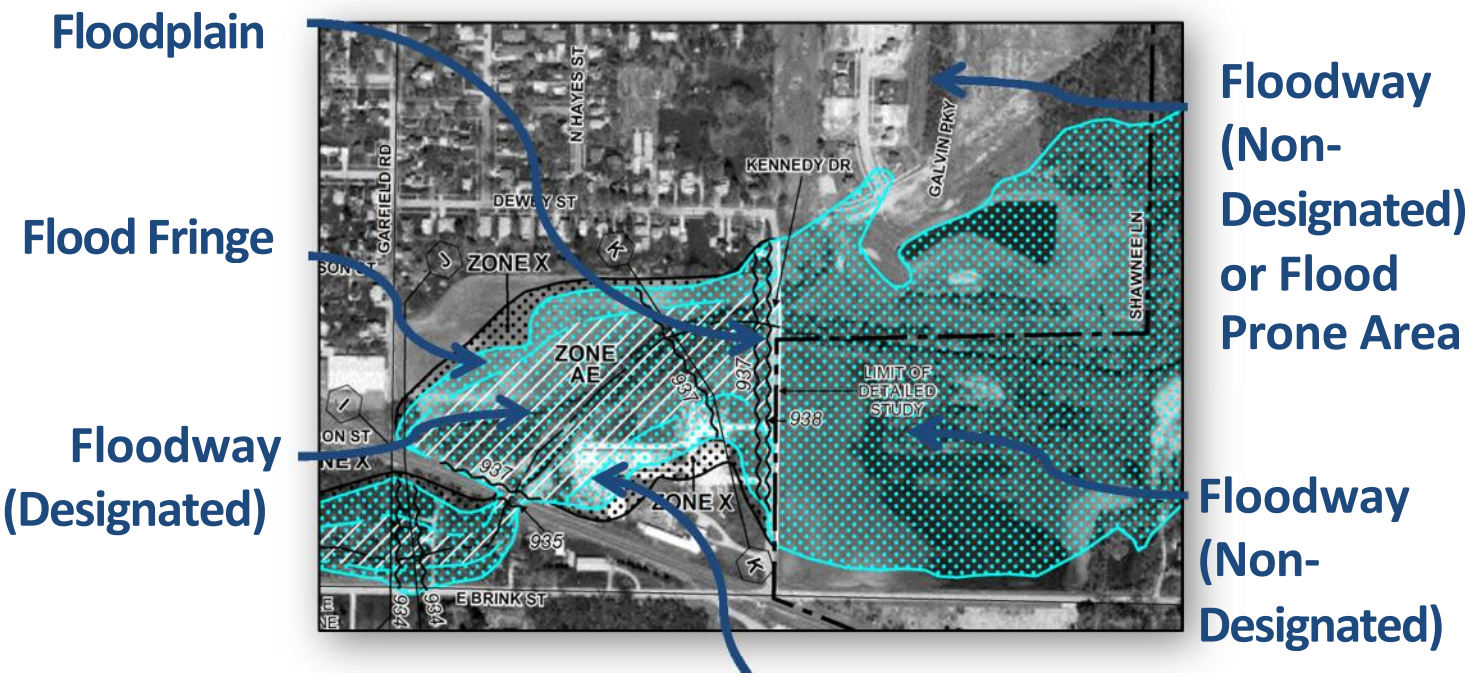
flood frequency: A frequency, normally expressed as a period of years, that a flood of a stated magnitude can be expected to be equaled or exceeded, based upon a statistical analysis of the percent chance of occurrence in any given year.

flood fringe: That portion of the floodplain outside of a designated floodway. No flood fringe exists within a floodplain that has a non-designated floodway.

flood hazard area: The land located in a floodway, floodplain, or flood prone area subject to the base flood.

FIGURE 5

Flood Hazard Areas



Flood Fringe

Flood Hazard Area Development: Regulated development located partially or completely within a floodway, floodplain, or a flood prone area.

Flood Insurance Rate Map (FIRM): A map prepared by FEMA that depicts the floodplain, designated floodways, and flood insurance risk premium zones within McHenry County. The effective dates of the FIRMs in McHenry County are listed in Appendix 11. The effective FIRMs may be amended or revised by a LOMC.

Flood Insurance Study (FIS): A report published by FEMA for McHenry County in conjunction with the McHenry County's FIRMs. The effective date of the McHenry County FIS is shown in Appendix 11. The study contains such background data as the base flood discharges and water surface elevations that were used to prepare the FIRMs. The effective FIS may be revised by a LOMC.

flood prone area: Any area inundated by the base flood and located outside the limits of the floodplain that:

A. Has a tributary area greater than 100 acres,
B. Is a depressional storage area, or
C. Is mapped as a Flood of Record area on the USGS-Hydrologic Investigation Atlas Flood of Record Maps.

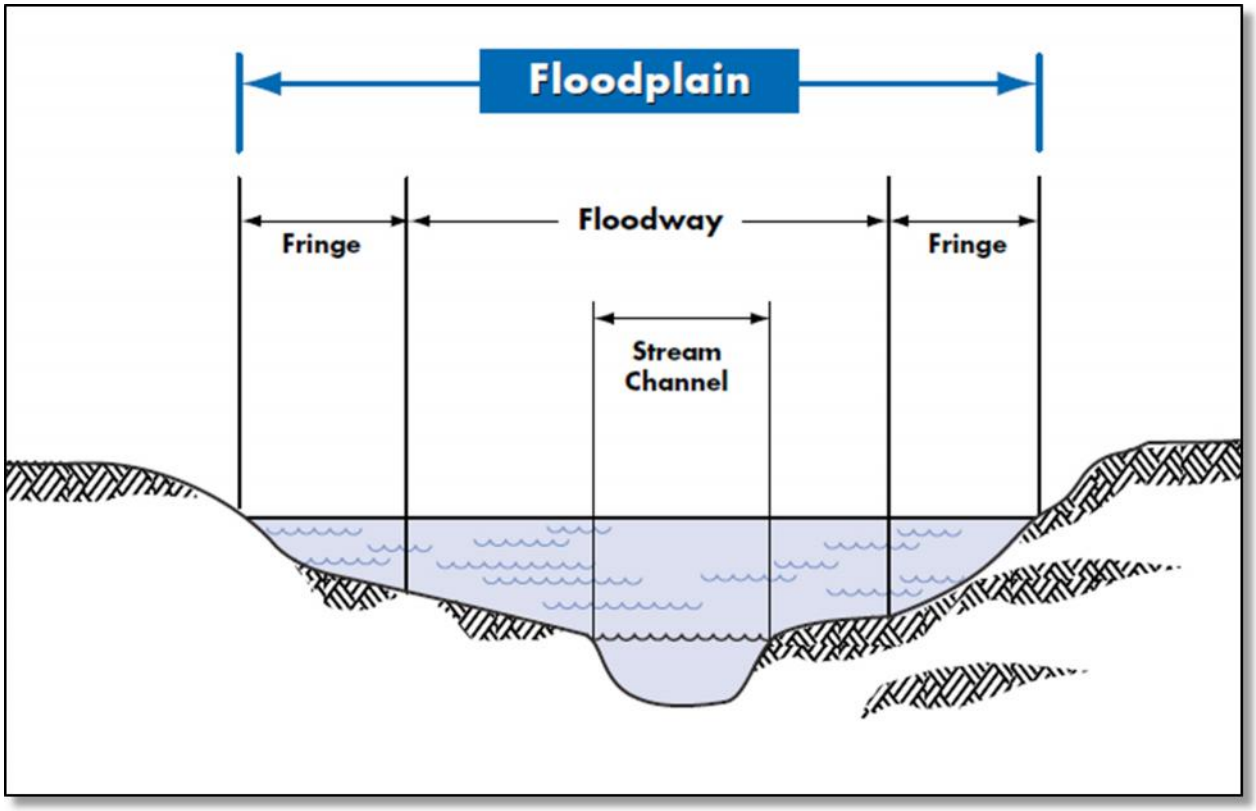
flood protection elevation (FPE): The BFE plus 2 feet of freeboard, except in the case of attached garages and small accessory buildings, where the FPE is the BFE plus 0.5 foot of freeboard.

Refer to Appendix 12 for the definition of underlined terms or to Appendix 13 for a list of acronyms.
Refer to Appendix 1 for permitting flowcharts.

floodplain: Those lands within the jurisdiction of McHenry County and its municipalities that are subject to inundation by the base flood. The floodplains of McHenry County are identified on the FIRMs of McHenry County prepared by FEMA. The effective dates of the FIRMs in McHenry County are listed in Appendix 11. The effective FIRMs may be amended or revised by a LOMC. The floodplain includes areas identified on the FIRMs as Zones A, AO, AH, AE, A99, AR, AR/AE, AR/AO, AR/AH, or AR/A.

FIGURE 6

Understanding the Riverine Floodplain
(IDNR *Floodplain Management in Illinois Quick Guide*, 2001)



floodplain management: An overall program of corrective and preventive measures for avoiding or reducing future flood damage.

floodproofing: Any combination of structural and non-structural measures, changes or adjustments to buildings or property which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, buildings and their contents. (See also dry floodproofing and wet floodproofing.)

floodproofing certificate: A form published by FEMA that is used to certify that a non-residential building has been designed and constructed to be structurally dry floodproofed up to the FPE.

floodway: See designated floodway and non-designated floodway.

freeboard: An increment of height added to the BFE or a design high water elevation to provide a factor of safety for uncertainties in calculations, unknown local conditions, wave actions and unpredictable effects such as those caused by ice or debris jams.

functional assessment: An assessment of a wetland's flood storage, water quality and other beneficial functions.

General Permit: A stormwater management permit pertaining to a specific type of regulated development, which may be issued by MCSC or a Certified Community in order to streamline the permit process for a routine project. Each General Permit specifies the terms and conditions for a specific type of regulated development to assure compliance with the purpose and intent of this Ordinance. Valid General Permits are listed in Article III of this Ordinance.

HEC-1: Hydrograph producing hydrologic computer model created by the USACE in the Hydrologic Engineering Center.

HEC-2: Hydraulic step backwater computer model created by the USACE in the Hydrologic Engineering Center.

HEC-RAS: Windows" based hydraulic step backwater computer model created by the USACE in the Hydrologic Engineering Center.

High Functional Value Wetland (HFVW): Any WOTUS or IWMC identified as such on the ADID Maps or any WOTUS or IWMC that, through a functional assessment, meets the criteria defined in that Study for determining high functional value, related specifically to hydrological and water quality functions.

High Quality Aquatic Resource (HQAR): WOTUS or IWMC that are determined to be critical due to their uniqueness, scarcity, function and/or value. The following types of WOTUS or IWMC are considered HQAR.

A. ADID wetland and aquatic sites.

B. Bog: A low nutrient peat land, usually in a glacial depression, that is acidic in the surface stratum and dominated by the genus Sphagnum.

C. Ephemeral pool: A seasonally inundated depression within forested or open areas, usually located on a moraine, glacial outwash plain, or in an area shallow to bedrock; also known locally as a "vernal pool." These areas may or may not be permanently vegetated.

D. Fen: An herbaceous or wooded peat land created and maintained by the constant surface water flow of cold mineralized (calcareous) groundwater flow.

E. Forested wetland: A wetland, including wooded seeps, shrub swamps, and floodplain forests, dominated by shrubs or trees growing on soils that are inundated or saturated much of the year, but that do dry out at the surface.

F. Sedge meadow: Saturated, sometimes flooded open wetlands dominated by grasses and sedges, including hummock forming Tussock Sedge (Carex stricta).

G. Seep: A wetland, herbaceous or wooded, with saturated soil or inundation resulting from the diffuse flow of groundwater to the surface stratum.

H. Streams: Perennial and intermittent streams, provided that the stream is not WOTUS and that the IBI is greater than 35, or that the stream is classified as Class A or Class B in the Biological Stream Characterization System of the IEPA.

I. Streamside marsh: A wetland that is within a 100 year riverine floodplain and dominated by herbaceous species.

J. Wet prairie: A wetland dominated by native graminoid species with a diverse indigenous forb component that is seasonally saturated and/or temporarily inundated.

K. Wetlands supporting Federal or Illinois endangered or threatened species.

L. Wetlands with a FQI of 20 or greater or a mean C-value of 3.5 or greater, as determined by the methodology described in *Plants of the Chicago Region* (Swink, F. and G. Wilhelm, 1994, 4th Edition, Indianapolis: Indiana Academy of Science).

M. Wetlands that are within a designated Illinois Natural Areas Inventory Site or McHenry County Natural Areas Inventory Site.

High Quality Habitat Sites (HQHS): WOTUS or IWMC that are identified as having high quality wildlife habitat, high floristic quality or high quality aquatic habitat based on the ADID Maps; or meets the criteria defined in the ADID Study through a functional assessment.

highest adjacent grade: The highest natural ground elevation in an area of interest, such as next to the proposed walls of a building.

historic structure: A structure that is:

A. Listed individually in the National Register of Historic Places or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;

B. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;

C. Individually listed on the State inventory of historic places by the Illinois Historic Preservation Agency; or

D. Individually listed on a local inventory of historic places that has been certified by the Illinois Historic Preservation Agency.

HY-8: Culvert hydraulic analysis program created by the Federal Highway Administration.

hydraulically equivalent compensatory storage: Compensatory storage that can be shown by hydrologic and hydraulic calculations to offset the loss of existing flood storage volume. The storage volume displaced below the existing 10 year frequency flood elevation must be replaced below the proposed 10 year frequency flood elevation. The storage volume displaced above the existing 10 year frequency flood elevation must be replaced above the proposed 10 year frequency flood elevation.

hydrologic and hydraulic calculations: An engineering analysis which determines expected flood flows and flood elevations based on land characteristics, sub-surface drainage characteristics, and rainfall events.

hydrologically disturbed: An area where the land surface has been cleared, grubbed, compacted, graded, excavated, filled or otherwise modified in a manner that changes runoff volumes, rates, or direction.

impervious surface, impervious area: Any hard-surfaced, compacted area that does not readily absorb or retain water, including but not limited to building roofs, asphalt and concrete surfaces, and graveled areas.

in-kind replacement: A replacement culvert, storm sewer, or drain tile that has an equivalent cross-sectional area and shape, with the same material or a smoother material. In-kind replacement of a culvert, storm sewer, or drain tile includes minor adjustment of pipe invert elevations to correct an adverse slope.

Index of Biotic Integrity (IBI): Ecologically based water quality score calculated from multiple types of fish data utilized to classify streams. An initial IBI may be obtained from the biannual IEPA Illinois Water Quality Report, but a site specific IBI assessment may override the initial IBI.

individual permit: Any stormwater management permit which does not meet the terms and conditions of a General Permit.

infiltration facility (infiltration pond/infiltration basin): A facility designed to completely retain a specified amount of stormwater runoff without release except by means of infiltration. A rain garden shall not be considered an infiltration facility.

initial construction: The date the first building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was within 180 days of the permit date.

inspect: To check or to review a site for compliance with this Ordinance, permitted plans and permit conditions.

Intermediate Development: Regulated development that:

A. Consists of hydrologic disturbance between 20,000 square feet and 1 acre; and
B. Is not a Public Road Development or Mining Development.

intermittent stream: A stream that has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow. Intermittent streams are depicted on the USGS Quadrangle Maps with a dashed blue line.

Isolated Waters of McHenry County (IWMC): All waters such as rivers, lakes, ponds, streams (including intermittent streams), farmed wetlands, and wetlands that are not under USACE jurisdiction.

A. The limits of the IWMC extend to the ordinary high water mark or the delineated wetland boundary.

B. IWMC exclude excavations created for such purposes as stormwater conveyance, detention/retention areas constructed as part of a stormwater management system, recreation, mining, stock watering, irrigation, settling basins or wastewater

treatment systems and roadside ditches, provided that the excavation has been permitted or that no permit was required at the time of the excavation.

C. Mitigation sites where wetlands or waters were created to meet the requirements of this Ordinance or Section 404 of the Clean Water Act are not excluded.

IWMC impact: IWMC that are disturbed or otherwise adversely affected, whether temporarily or permanently, by development. Trenchless installation of utilities beneath IWMC does not constitute a IWMC impact, provided that no soil is disturbed within the limits of the wetland, the installation does not drain the IWMC, and no drilling fluids are discharged into the IMWC.

IWMC mitigation: Compensation for impacts to IWMC through the restoration, creation, enhancement of wetlands or waters.

lake: A body of water encompassing an area of 2 or more acres which retains a normal water level throughout the year.

Letter of Map Amendment (LOMA): An official determination by FEMA that a specific building or parcel of land is above the BFE and was inadvertently included in a floodplain provided that the natural ground elevation has not been altered. A LOMA amends the effective floodplain limits on a FIRM. A LOMA does not modify a floodway limit or the BFE.

Letter of Map Change (LOMC): A LOMA or LOMR.

Letter of Map Revision (LOMR): Letter issued by FEMA or IDNR/OWR that revises BFEs, flood insurance rate zones, flood boundaries or floodways as shown on an effective FIRM.

licensed land surveyor: A surveyor licensed in the State of Illinois, under the Illinois Professional Land Surveyor Act of 1989 225 ILCS 330/1, et seq.(1994 State Bar Edition).

licensed professional engineer: An engineer licensed in the State of Illinois, under the Professional Engineering Practice Act of 1989 225 ILCS 325/1, et seq. (1994 State Bar Edition).

low opening elevation: The elevation at which water could enter a building through any non-watertight opening such as a doorway threshold, a window sill, the top-of-foundation, or a basement window well.

lowest adjacent grade: The lowest finished grade adjacent to a building, not including the bottom of window wells.

lowest floor: The lowest floor of the lowest enclosed area, including a basement. An unfinished or wet floodproofed enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area, is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the building in violation of the applicable non-elevation design requirements of this Ordinance.

maintainable outlet: A new storm sewer or overland flow path that discharges to an existing stormwater management system or channel.

maintenance of existing buildings: Re-roofing, replacement of windows, re-siding, carpeting, painting, installing a new water heater, installing a new electric service, and maintenance tasks that do not require a building permit.

maintenance of existing roads and trails: Rehabilitative maintenance, such as milling and overlaying, that does not increase the impervious area and does not increase the surface elevation. Maintenance of existing roads and trails also includes increasing the surface elevation with the following limitations:

A. Resurfacing outside flood hazard areas;
B. Resurfacing within flood prone areas;
C. Resurfacing within the flood fringe, provided the difference between the elevation of the road surface after resurfacing and the elevation of the road surface on the effective date of this Ordinance is not more than two inches.

maintenance plan: A plan for the perpetual maintenance of the stormwater management system, including wetlands, waters, and buffer areas. A maintenance plan shall include the following:

A. Planned maintenance tasks and the frequency of each task such as removal of sediment, debris, mowing and pruning of vegetation, and restoration of eroded areas;
B. Identification of the party responsible for performing each task; and
C. A description of applicable deed or plat restrictions.

Major Development: Regulated development that is not classified as a Minor Development, Intermediate Development, Public Road Development, or Mining Development.

major stormwater system: The portion of a stormwater management system needed to store and convey flows for the base flood event.

manufactured home (or mobile home): A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. The term manufactured homes also includes park trailers, travel trailers and other similar vehicles placed on site for more than 180 consecutive days. The term manufactured home does not include a recreational vehicle.

manufactured home park (mobile home park, trailer park): A parcel (or contiguous parcels) of land on which two or more manufactured homes are harbored, either free of charge, for rent or for sale.

McHenry County Stormwater Management Commission (MCSC): The Commission established and existing under 55 ILCS 5/5 1062 (1994 State Bar Edition) for the purposes of developing, revising and implementing a countywide stormwater management plan and ordinance.

MCSC Chief Engineer: A licensed professional engineer representing the MCSC as the Enforcement Officer of this Ordinance.

Mining Development: Regulated development that:

A. Consists of extracting and/or mining mineral or aggregate resources; and
B. Is conducted upon a recorded parcel of land exceeding 2 acres; and
C. Involves the removal of 10 feet or more of overburden.

Minor Development: Regulated development that:

A. Consists of hydrologic disturbance of less than 20,000 square feet; and

B. Is not a Public Road Development or a Mining Development.

minor stormwater system: All infrastructure including curb, gutter, culverts, roadside ditches and swales, storm sewers, drain tiles, subsurface drainage systems, and other practices intended to convey or capture stormwater runoff from storm events less than the base flood event.

mitigation: Measures taken to offset negative impacts from development activities, such as construction in wetlands, waters, and flood hazard areas. Wetland mitigation typically involves wetland restoration or enhancement. Floodplain and flood prone area mitigation typically involves compensatory storage and created conveyance capacity.

mitigation plan: A plan to mitigate IWMC impacts.

multi-county municipalities: A municipality containing corporate area within both McHenry County and an Illinois county located contiguously adjacent to McHenry County.

mobile home: See manufactured home

National Flood Insurance Program (NFIP): The requirements of the NFIP are codified in Title 44 of the Code of Federal Regulations.

National Geodetic Vertical Datum of 1929 (NGVD29): Reference surface set by the National Geodetic Survey deduced from a Continental adjustment of all existing sea level adjustments in 1929. Mean Sea Level for 1929 (MSL adj. 1929), is an equivalent. Refer to the FIS for conversion between NGVD29 and NAVD88.

native vegetation: Generally, all warm season, deep rooted, grass and forb species believed to have grown naturally in the pre-settlement landscape of northern Illinois and southern Wisconsin.

natural ground elevation: The elevation of the ground on September 30, 1981, which was the effective date of the first FIRM in McHenry County.

natural streams and channels: Streams and channels formed prior to changes made by man. A modified stream or channel which has regained natural characteristics over time as it meanders and re-establishes vegetation may be considered natural.

new construction: buildings for which the initial construction commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such buildings.

new impervious area: Impervious surface area created after the effective date of this Ordinance.

non-designated floodway: The channel, including on-stream lakes, and that portion of the floodplain adjacent to a stream or watercourse, not specifically identified as a floodway on the FEMA FIRM, but which has a tributary area of 640 acres or more in an urban area or a tributary area of 6,400 acres or more in a rural area. The urban area or rural area designations shall be determined by IDNR/OWR.

non-residential building: A commercial or industrial building. An accessory building is not considered a non-residential building.

non-riverine: Areas not associated with a stream or river, such as isolated depressional storage areas, ponds and lakes.

North American Vertical Datum of 1988 (NAVD88): A datum that supersedes the NGVD29. Refer to the FIS for conversion between NGVD29 and NAVD88.

online detention: Any detention facility that receives runoff from an offsite area or from an onsite area that is not hydrolgically disturbed.

ordinary high water mark: The point on the bank or shore at which the presence and movement of surface water are continuous so as to leave a distinctive mark, such as by erosion, destruction or prevention of terrestrial vegetation, predominance of aquatic vegetation, or other such recognized characteristics.

other maintenance activity: Rehabilitative maintenance that is not maintenance of existing buildings or maintenance of existing roads and trails, including but not limited to:

A. Repair or replacement of existing driveways or parking lots within the same footprint and outside flood hazard areas;

B. Repair or replacement of existing driveways or parking lots within the same footprint and within flood prone areas;

C. Repair or replacement of existing driveways or parking lots within the same footprint and within the flood fringe, provided the difference between the elevation of the paved surface after repair or replacement and the elevation of the paved surface on the effective date of this Ordinance is not more than two inches;

D. Repair of existing underground and overhead utilities, provided the repair does not result in any IWMC impact;

E. Repair or in-kind replacement of existing culverts, storm sewers, or drain tiles, provided the culverts, storm sewers, or drain tiles are outside the designated floodway and have a cross-sectional area less than 12.6 square feet;

F. Repair, not including in-kind replacement, of an existing bridge outside the designated floodway;

G. Maintenance of drainage ditches (i.e. dredging and the removal of obstructive, invasive, dead, or dying vegetation), outside the designated floodway, provided that spoil materials: are removed from the flood hazard area and are spread thinly and incorporated into existing cultivated areas; or are hauled away from the development site; and provided that appropriate soil erosion and sediment control practices are utilized. Maintenance of drainage ditches does not include ditch straightening, ditch widening, flood hazard area fill, soil stockpiles or the construction of any new channel or water body;

H. Dredging of ponds, outside the designated floodway, provided that spoil materials: are removed from the flood hazard area and are spread thinly and incorporated into existing cultivated areas; or are hauled away from the development site; and provided that appropriate soil erosion and sediment control practices are utilized. Dredging of ponds does not include the construction of any new pond or water body;

I. Removal of any obstruction from a channel, culvert, or storm sewer to restore its original design or permitted condition. Removal of obstruction does not include

channel straightening, channel widening, flood hazard area fill, soil stockpiles, or the construction of any new channel or water body; and

J. Maintenance to restore an existing stormwater management facility to its original design or permitted condition (the Enforcement Officer may also allow minor modifications to an existing stormwater management facility to reduce the need for future maintenance).

overland flow path: The route that stormwater will travel based on the topography of the land. Overland flow paths are typically viewed without consideration of infiltration, evaporation or underground drainage structures.

oversight committee: A decision-making authority designated by a Certified Community or McHenry County. For a Certified Community, the oversight committee may be comprised of the corporate authorities or any committee thereof, plan commission, zoning board of appeals, or other existing body, or the corporate authorities may, according to their own rules and procedures, establish a separate oversight committee. The Natural and Environmental Resources Committee of the McHenry County Board shall act as the oversight committee for McHenry County.

parcel identification number (PIN): Permanent index number used to identify properties.

perennial stream: A water course which intersects the groundwater table and flows throughout the year, depicted on the USGS Quadrangle Maps with a solid blue line.

performance guarantee: A bond, surety, letter of credit, or other instrument used to ensure regulated development conforms with the requirements of this Ordinance and the terms and conditions of the stormwater management permit.

permanent erosion control: Permanent features of a development site designed to control soil erosion and sedimentation.

permeable pavement: Porous asphalt, pervious concrete, permeable pavers and similar paving materials designed to promote stormwater infiltration. Permeable pavement is not considered an impervious surface, provided that it is constructed over soil which can be shown by development site specific soil data to be sufficiently permeable to allow infiltration without a system of underdrains and provided that the full depth of the pavement cross-section is above the seasonal high groundwater elevation.

pond: A body of water of less than 2 acres which retains a normal water level year round.

precipitation: Any form of water, such as rain, snow, sleet or hail that falls to the earth's surface.

pre-treatment: BMPs used to remove pollutants from stormwater prior to infiltration.

public bodies of water: All open public rivers, streams, and lakes specifically designated by IDNR/OWR. The IDNR/OWR designated public bodies of water are listed in Appendix 8. Generally, public bodies of water are capable of being navigated by watercraft, in whole or in part, for commercial uses and purposes, or which in their natural condition were capable of being improved and made navigable, or that are connected with or discharge their waters into navigable lakes or rivers within, or upon, the borders of the State of Illinois, together with all

bayous, sloughs, backwaters, submerged lands and lakes that are open to the main channel or body of water and directly accessible thereto.

public flood control project: A flood control project which will be operated and maintained by a public agency to reduce flood damages to existing buildings and structures, including hydrologic and hydraulic calculations of the existing and proposed conditions of the watershed. Nothing in this definition shall preclude the design, engineering, construction or financing, in whole or in part, of a flood control project by persons or parties who are not public agencies.

Public Road Development: Regulated development that:

A. Takes place in a public right-of-way or part thereof; and
B. Does not include the construction of a building; and
C. Consists of culverts, bridges, roadways, sidewalks, bike paths and related construction. Public recreational trails and linear railroad developments shall be considered Public Road Development with respect to the requirements of this Ordinance, even if the public recreational trail or linear railroad development is not located within a public right-of-way.

qualified inspector: A person knowledgeable in the principles and practices of erosion and sediment control measures, such as a licensed professional engineer, a Certified Professional in Erosion an Sediment Control (CPESC), a Certified Erosion, Sediment and Storm Water Inspector (CESSWI) or other knowledgeable person who possesses the skills to assess conditions at the development site that could impact stormwater quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of stormwater discharges from the construction activities.

rain garden: A small, shallow depression planted with flowers, grasses or other vegetation that is designed to collect stormwater runoff from surrounding areas. Rain gardens are typically less than 300 square feet in size with a depth less than 12 inches.

Rational Method: An empirical formula that relates stormwater runoff to rainfall intensity, surface area and surface characteristics.

recreational vehicle or travel trailer: A vehicle which is built on a single chassis; 400 square feet or less when measured at the largest horizontal projection; designed to be self-propelled or permanently towable by a light duty truck; and designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

redevelopment: The process of developing land previously developed.

regulated development: Development that meets any of the criteria listed in Article II, Section B of this Ordinance, unless the development is specifically exempted in Article II, Section C of this Ordinance.

repair or remodeling: Development activities which do not result in any changes in the outside dimensions of a building, any changes to the dimensions of a structure or increase in impervious area.

repetitive loss: Flood-related damages sustained by a building on two separate occasions during a 5 year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the building before the damaged occurred.

retention facility (retention pond/retention basin): See infiltration facility.

riverine: Relating to, formed by, or resembling a stream (including creeks and rivers).

runoff: See stormwater runoff.

Runoff Curve Number: An empirical parameter developed by the NRCS and used for predicting direct runoff or infiltration from excess rainfall.

sediment basin: A permanent, wet-bottom basin created to detain sediment-laden stormwater runoff long enough for sediment or other water-based debris to settle to the bottom.

sediment trap: A temporary structure formed by construction of an embankment or excavation of a basin in order to detain sediment-laden stormwater runoff from a disturbed area of 5 acres or less long enough for sediment or other water-based debris to settle to the bottom.

sedimentation: The processes that deposit soils, sediment, debris, and other materials.

silt fence: A temporary barrier of entrenched geotextile fabric (filter fabric) stretched across and attached to supporting posts used to intercept sediment laden runoff from small tributary areas of disturbed soil.

small accessory building: An accessory building that:

A. Is less than 600 square feet in size; and
B. Is less than $22,150 in value; and
C. Is only used for the storage of vehicles and/or tools; and
D. Is accessory to a residential building.

soil stockpiles: 100 cubic yards or more of soil that remains in place for 7 or more days.

start of construction: The date on which a regulated development commenced.

stormwater management: A set of actions taken to control stormwater runoff with the objectives of providing controlled surface drainage, flood control and pollutant reduction in runoff.

stormwater management facility: A detention facility or infiltration facility.

stormwater management permit: A permit established by this Ordinance which signifies conformance with the provisions of this Ordinance. A stormwater management permit may be issued as a General Permit or as an individual permit.

stormwater management permit application: A form provided my McHenry County or a Certified Community that includes the following information:

A. The name and legal address of the applicant;
B. The PIN or legal description of each parcel comprising proposed development;
C. A written description of the proposed development;
D. The proposed hydrologically disturbed area;

E. The existing and proposed impervious area and the impervious area that existed at the development site prior to the effective date of this Ordinance;
F. Approximate start and end dates of the proposed development; and
G. A statement of intent to comply with the requirements of this Ordinance, signed by the applicant.

stormwater management system: The major and minor stormwater system for a development.

stormwater runoff: Precipitation that flows off of permeable and impermeable surfaces.

stormwater storage: Temporary detention or retention of stormwater with a controlled release rate or with release by means of infiltration.

stream: A course of running water flowing in a channel (includes creeks and rivers).

StreamStats: A web-based Geographic Information System developed by the USGS that delineates the watershed boundary and estimates stream flow statistics for a user selected site.

structural dry floodproofing: Building protection measures designed to make the building and its attendant utilities watertight and capable of resisting the effects of the base flood. The building design shall take into account flood velocities, duration, rate of rise, hydrostatic and hydrodynamic forces, the effects of buoyancy, and impacts from debris or ice. Structural dry floodproofing measures shall be operable without human intervention and without an outside source of electricity. Levees, berms, floodwalls, and similar building protection measures are forms of dry floodproofing which are not structural dry floodproofing.

substantial damage: Damage of any origin sustained by a building in a floodplain whereby the cumulative percentage of damage during a 5 year period equals or exceeds 50 percent of the market value of the building before the damage occurred, regardless of actual repair work performed. The market value of volunteer labor and materials must be included in this determination.

substantial improvement: Any repair, reconstruction, rehabilitation, addition, or other activity to a building in a floodplain taking place during a 5 year period in which the cumulative project cost equals or exceeds 50 percent of the market value of the building before the improvement or repair is started.

Substantial improvement is considered to begin when the first alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the building.

Substantial improvement includes:

A. The cost to repair a building that has incurred repetitive loss or substantial damage, regardless of the actual repair work performed; and

B. The cost of proposed maintenance of existing buildings;

but Substantial improvement does not include:

C. The cost of any maintenance of existing buildings completed within the previous 5 year period as a stand-alone project that did not require a building permit; or

D. The cost of any project to improve a building to comply with existing State or local health, sanitary, or safety code specifications, which are solely necessary to assure safe living conditions; or

E. The cost of any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure.

sub-watershed: A sub-section of a larger watershed. For the purpose of this Ordinance, sub-watersheds would include the tributary areas of named streams and lakes within a given watershed (i.e. Rush, Lawrence, and Mokeler Creeks are sub-watersheds within the Piscasaw Watershed).

temporary erosion control: Erosion control measures used to control soil erosion and sedimentation during the construction phase of a development.

temporary IWMC impact: An IWMC impact that would result in a short-term loss of IWMC function. Temporary IWMC impacts shall not result in a permanent conversion of wetland to non-wetland. Temporary IWMC impacts shall not include relocation of an IWMC, or conversion of a vegetated community to open water. Additionally, for the IWMC impact to be considered temporary: soil profiles shall be restored to a similar pre-disturbance condition and elevation; vegetative communities shall be restored to the same or higher quality and function; and the restoration must be completed within 1 year of the disturbance. The Enforcement Officer shall make the determination as to whether an IWMC impact is considered a temporary IWMC impact.

TR-20: Technical Release 20 is a hydrograph producing hydrology computer model created by the NRCS.

TR-55: Technical Release 55 (NRCS, June 1986) is a document that presents simplified procedures for estimating runoff and peak discharges in small watersheds.

transition section: Reaches of the stream where water flows from a narrow cross-section to a wide cross-section and vice-versa.

travel trailer: See recreational vehicle.

tributary area: All of the land surface that contributes runoff to a given point.

USGS Regression Equations: Equations developed by the USGS and approved by IDOT for estimating the peak runoff from a watershed for a given flood frequency.

Refer to Appendix 12 for the definition of underlined terms or to Appendix 13 for a list of acronyms.
Refer to Appendix 1 for permitting flowcharts.

variance: A grant of relief by a community from the requirements of this Ordinance.

violation: The failure of a structure or other regulated development to be fully compliant with this Ordinance. A structure or other regulated development without the elevation certificate, other certifications, or other required evidence of compliance is presumed to be in violation until such time as that documentation is provided.

water dependent facilities: Structures or facilities relating or requiring access to the water or shoreline. Examples include shoreline protection, pumping and boating facilities and improvements.

waters: A subset of the definitions of the WOTUS and IWMC. Waters are areas that are normally inundated by surface water, such as lakes, ponds, and streams (including intermittent streams).

Waters of the United States (WOTUS): Those areas that are under the regulatory jurisdiction of the USACE.

watershed: A geographic area that collects, concentrates and contributes stormwater runoff to a given point on a waterway. The major watersheds in McHenry County, which are shown in Appendix 9, are:

A. Piscasaw Creek,
B. Nippersink Creek,
C. Kishwaukee River,
D. Upper Fox River,
E. Lower Fox River, and
F. Coon Creek.

watershed benefit: A decrease in flood damages created by installation of the stormwater management system. The benefit must be beyond the benefit provided by meeting the minimum requirement of this Ordinance.

watershed plan: A study and evaluation of the stormwater management and/or floodplain management needs and capabilities of a watershed or sub-watershed.

Watershed Specific Area Development: Regulated development that is partially or completely located in a watershed or sub-watershed, for which additional or more restrictive standards have been adopted by MCSC or a Certified Community, based on the recommendations of a watershed plan.

wet bottom detention facility: A wet detention facility is designed to maintain a permanent pool of water after the temporary storage of stormwater runoff.

wet floodproofing: Protection from flood damage according to current FEMA guidelines by using flood damage-resistant materials below the FPE and elevating other items above the FPE. Wet floodproofing measures are among the floodproofing measures described in the following FEMA publications: *Wet Floodproofing Requirements for Structures Located in Special Flood Hazard Areas* (FEMA TB 7-93), *Engineering Principles and Practices for Retrofitting Flood-Prone Residential Structures* (FEMA P-259), *Homeowner's Guide to Retrofitting* (FEMA P-312), *Selecting Appropriate Mitigation Measures for Floodprone Structures* (FEMA 551), *Protecting Building*

Utilities from Flood Damage (FEMA 348), *Reducing Damage from Localized Flooding* (FEMA 511), *Non-Residential Floodproofing - Requirements and Certification* (FEMA TB 3), and *Floodproofing Non-Residential Structures* (FEMA 102).

wetland: A subset of the definitions of the WOTUS and IWMC. Wetlands are land that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, under normal conditions, a prevalence of vegetation adapted for life in saturated soil conditions (known as hydrophytic vegetation). A wetland is identified based upon the three attributes: 1) hydrology, 2) soils and 3) vegetation as mandated by the current Federal wetland determination methodology.

wetland creation: The introduction of wetlands to an area where none existed historically.

Wetland and Waters Development: Regulated development located partially or completely within WOTUS or IWMC.

wetland enhancement: The improvement in wetland functional value of an area currently meeting the technical definition of a wetland.

wetland mitigation banking: The process of purchasing "credits" from a financial institution established by a third party to compensate for permitted losses.

wetland restoration: The re-introduction of wetlands to an area where wetlands existed historically, but not prior to the mitigation activity.

wetland restoration activities: Those restoration activities in wetlands or adjacent buffer areas determined to be necessary and beneficial to the preservation, maintenance, or restoration of wetland plant communities, wildlife habitat and ecosystems native to McHenry County.

wetland specialist: A person complying with A, B, and C as follows:

A. Provide a signed statement of qualifications to MCSC demonstrating the minimum requirements of B and C have been met. The signed statement will be considered evidence of qualification.

B. Completion of the USACE Wetland Delineation Certification Program or equivalent course and meet one of the following.

(1) Registered Professional Wetland Scientist (PWS) from the Society of Wetland Scientists; or

(2) Minimum of a Bachelor's Degree in an Earth Science or Biologic Science and at least one of the following:

a. Three years (cumulative) full-time experience in the Upper Midwest region on wetland related projects; or

b. The completion of 100 wetland delineations in the upper Midwest; or

c. A minimum of 300 hours spent in field review of wetlands in the Upper Midwest.

C. A minimum of 24 work-related professional development hours shall be obtained every three years. Documentation shall be self-monitoring and shall be provided to MCSC upon request.

Zone A: Areas subject to inundation by the 1 percent-annual chance flood event generally determined using approximate methodologies. Because detailed hydraulic analyses have not been performed, no BFEs or flood depths are shown. Mandatory flood insurance purchase requirements and Flood Hazard Area Performance Standards apply.

Zone AE: Areas subject to inundation by the 1 percent-annual chance flood event determined by detailed methods. BFEs are shown. Mandatory flood insurance purchase requirements and Flood Hazard Area Performance Standards apply.

Zone AH: Areas subject to inundation by 1 percent-annual-chance shallow flooding (usually areas of ponding) where average depths are between one and three feet. BFEs derived from detailed hydraulic analyses are shown in this zone. Mandatory flood insurance purchase requirements and Flood Hazard Area Performance Standards apply.

Zone AR: Areas that result from the decertification of a previously accredited flood protection system that is determined to be in the process of being restored to provide base flood protection. Mandatory flood insurance purchase requirements and Flood Hazard Area Performance Standards apply.

Zone AO: Areas subject to inundation by 1 percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three feet. Average flood depths derived from detailed hydraulic analyses are shown in this zone. Mandatory flood insurance purchase requirements and Flood Hazard Area Performance Standards apply.

Appendix 13

§15.60.280 Acronyms

The following acronyms shall be used with this Ordinance.

ADID: Advanced Identification Wetland Study

BFE: Base flood elevation

BMP: Best management practice

CESSWI: Certified Erosion, Sediment and Stormwater Inspector

CLOMR: Conditional Letter of Map Revision

CPESC: Certified Professional in Erosion and Sediment Control

FEMA: Federal Emergency Management Agency

FIRM: Flood Insurance Rate Map

FIS: Flood Insurance Study

FPE: Flood protection elevation

HFVW: High Functional Value Wetland

HQAR: High Quality Aquatic Resource

HQHS: High Quality Habitat Sites

IBI: Index of Biotic Integrity

IDNR: Illinois Department of Natural Resources

IDNR/OWR: Illinois Department of Natural Resources/Office of Water Resources

IDOT: Illinois Department of Transportation

IDOT/DOH: Illinois Department of Transportation/Division of Highways

IEPA: Illinois Environmental Protection Agency

IWMC: Isolated Waters of McHenry County

LOMA: Letter of Map Amendment

LOMC: Letter of Map Change

Refer to Appendix 12 for the definition of underlined terms or to Appendix 13 for a list of acronyms. Refer to Appendix 1 for permitting flowcharts.

LOMR: Letter of Map Revision

MCCD: McHenry County Conservation District

MCSC: McHenry County Stormwater Management Committee

NAVD88: North American Vertical Datum of 1988

NFIP: National Flood Insurance Program

NGVD29: National Geodetic Vertical Datum of 1929

NRCS: United States Department of Agriculture - Natural Resource Conservation Service

PIN: Parcel Identification Number

USACE: United States Army Corps of Engineers

USEPA: United States Environmental Protection Agency

USFWS: United States Fish and Wildlife Service

USGS: United States Geological Survey

WOTUS: Waters of the United States