

WATER RESOURCE ORDINANCES

Amended May 20, 1999

**FLOOD DAMAGE PREVENTION ORDINANCE
RESOLUTION NO. 98-22 (Zoning Ordinance Section 10)**

Approved February 19, 1998

Amended May 20, 1999

**SOIL EROSION AND SEDIMENTATION CONTROL ORDINANCE
RESOLUTION NO. 98-23 (Zoning Ordinance Section 9)**

Approved February 19, 1998

Amended October 15, 1998; May 20, 1999

**STORMWATER DRAINAGE AND DETENTION ORDINANCE
RESOLUTION NO. 98-24**

Approved February 19, 1998

Amended October 15, 1998

**STREAM AND WETLAND PROTECTION ORDINANCE
RESOLUTION NO. 98-25**

Approved March 19, 1998



**WATER RESOURCE ORDINANCES
WILL COUNTY, ILLINOIS**

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Soil Erosion and Sedimentation	Resolution No. 99-157	Approved 05/20/99

**FLOOD DAMAGE PREVENTION ORDINANCE
WILL COUNTY, ILLINOIS**

**RESOLUTION 98-22
ZONING ORDINANCE – Section 10**

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**FLOOD DAMAGE PREVENTION ORDINANCE
WILL COUNTY, ILLINOIS**

**RESOLUTION 98-22
ZONING ORDINANCE – Section 10**

10.1 PURPOSE

The purpose of this Ordinance is to maintain this County’s eligibility in the National Flood Insurance Program; to minimize potential losses due to periodic flooding including loss of life, loss of property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affects the public health, safety and general welfare; and to preserve and enhance the quality of surface waters, conserve economic and natural values and provide for the wise utilization of water and related land resources. This Ordinance is adopted in order to accomplish the following specific purposes:

1. To meet the requirements of 615 ILCS 5/18g Rivers, Lakes and Streams Act.
2. To assure that new development does not increase the flood or drainage hazards to others, or create unstable conditions susceptible to erosion;
3. To protect new buildings and major improvements to buildings from flood damage;
4. To protect human life and health from the hazards of flooding;
5. To lessen the burden on the taxpayer for flood control projects, repairs to flood-damaged public facilities and utilities, and flood rescue and relief operations;
6. To make federally subsidized flood insurance available for property in the County by fulfilling the requirements of the National Flood Insurance Program.
7. To comply with the rules and regulations of the National Flood Insurance Program codified as 44 CFR 59-79, as amended.
8. To protect, conserve and promote the orderly development of land and water resources; and,
9. To preserve the natural characteristics and functions of watercourses and floodplains in order to moderate flood and storm water impacts, improve water quality, reduce soil erosion, protect aquatic and riparian habitat, provide recreational opportunities, provide aesthetic benefits and enhance community and economic development.

10.2 (RESERVED)

10.3 DEFINITIONS

For the purposes of this ordinance, the following definitions are adopted:

Act: "An act in relation to the regulation of the rivers, lakes and streams of the State of Illinois," 615 ILCS 5/4.9 et seq.

Applicant: Any person, firm, corporation, or agency, which submits an application.

Appropriate Use: Only uses of the designated floodway that are permissible and will be considered for permit issuance. The only uses that will be allowed are as specified in Section 10.8-2 of this Ordinance.

Base Flood: The flood having a one percent (1%) probability of being equaled or exceeded in any given year. The base flood is also known as the 100-year frequency flood event. Application of the base flood elevation at any location is as defined in Section 10.6 of this Ordinance.

Building: A structure having a roof, supported by columns or walls for the shelter, support, or enclosure of persons, animals, or chattel; and when separated by division walls from the ground up and without openings, each portion of such building shall be deemed as a separate building.

Channel: Any river, stream, creek, brook, branch, natural or artificial depression, ponded area, flowage, slough, ditch, conduit, culvert, gully, ravine, wash, or natural or man-made drainage way, which has a definite bed and banks or shoreline, 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 native vegetation from the bottom or banks. Channel modification does not include the clearing of dead or dying vegetation, debris, or trash from the channel.

Compensatory Storage: An artificially excavated, hydraulically equivalent volume of storage within the Special Flood Hazard Area (SFHA) used to balance the loss of natural flood storage capacity when artificial fill or structures are placed within the floodplain. The uncompensated loss of natural floodplain storage can increase off-site floodwater elevations and flows.

Conditional Approval of a Designated Floodway Map Change: Pre-construction approval by Illinois Department of Natural Resources/Office of Water Resources (IDNR/OWR) and Federal Emergency Management Agency (FEMA) of a proposed change to the floodway map. This pre-construction approval, pursuant to this Part, gives assurances to the property owner that once an Appropriate Use is constructed according to permitted plans, the floodway map can be changed, as previously agreed, upon review and the acceptance of as-built plans.

Conditional Letter of Map Revision (CLOMR): A letter which indicates that FEMA will revise base flood elevations, flood insurance rate zones, flood boundaries or floodway as shown on an effective Flood Hazard Boundary Map or Flood Insurance Rate Map, once the as-built plans are submitted and approved.

Control Structure: A structure designed to control the rate of flow that passes through the structure, given a specific upstream and downstream water surface elevation.

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.

Designated Floodway: The channel, including on-stream lakes, and that portion of the floodplain adjacent to a stream or watercourse as designated by INDR/OWR 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 ten percent (10%) increase in velocities.

1. The floodways are designated for unincorporated Will County on the Flood Boundary and Floodway Map prepared by FEMA (or the Department of Housing and Urban Development) and dated.
2. To locate the designated floodway boundary on any site, the designated floodway boundary should be scaled off the designated floodway map and located on a site plan, using reference marks common to both maps. Where interpretation is needed to determine the exact location of the designated floodway boundary, IDNR/OWR should be contacted for the interpretation.

Development: Any human change to real estate, including:

1. Construction, reconstruction, repair, or placement of a building or any addition to a building.
2. Installing a manufactured home on a site, preparing a site for a manufactured home, or installing a travel trailer or recreational vehicle on a site for more than one hundred and eighty (180) days. If the travel trailer or recreational vehicle is on site for less than one hundred and eighty (180) days, it must be fully licensed and ready for highway use.
3. Drilling, mining, installing utilities, construction of roads, bridges, or similar projects.

4. Demolition of a structure or redevelopment of a site.
5. Clearing of land as an adjunct of construction.
6. Construction or erection of levees, walls, fences, dams, or culverts; channel modification; filling, dredging, grading, excavating, paving, or other alterations of the ground surface; storage of materials; deposit of solid or liquid waste.

7. Any other human activity that might change the direction, height, or velocity of flood or surface water, including extensive vegetation removal.

Development does not include maintenance of existing buildings and facilities such as re-roofing or re-surfacing of roads when there is no increase in elevation, or gardening, plowing, and similar agricultural practices that do not involve filling, grading, or construction of levees.

Elevation Certificates: A form published by FEMA that is used to certify the elevation to which a building has been elevated.

Erosion: The general process whereby soils are moved by flowing water or wave action.

Exempt Organization: Organizations, which are exempt from this Ordinance per Illinois Compiled Statutes (ILCS) including state, federal, or local units of government.

Existing Manufactured Home Park or Subdivision: A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) has been completed before January 23, 1996.

Expansion to an Existing Manufactured Home Park or Subdivision: The preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

FEMA: Federal Emergency Management Agency and its regulations at 44 CFR 59-79 effective as of September 29, 1989. This incorporation does not include any later editions or amendments.

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 or runoff of surface waters from any source.

Flood Frequency: A period of years, based on a statistical analysis, during which a flood of a stated magnitude may be expected to be equaled or exceeded.

Flood Fringe: That portion of the floodplain outside of the designated floodway.

Flood Insurance Rate Maps (FIRM): Map prepared by FEMA that depicts the Special Flood Hazard Area (SFHA) within a community. This map includes insurance rate zones and floodplains and may or may not depict floodways.

Floodplain: Typically adjacent to a body of water with ground surface elevations at or below the base flood or the 100-year frequency flood elevation. Floodplains may also include detached Special Flood Hazard Areas, ponding areas, etc. The floodplain is also known as the Special Flood Hazard Area (SFHA).

1. The floodplains are those lands within the jurisdiction of the County that are subject to inundation by the base flood or 100-year frequency flood. The SFHA's of the County are generally identified as such on the Flood Insurance Rate Map of the County prepared by the Federal Emergency Management Agency (or the U.S. Department of Housing and Urban Development) and dated per Appendix "A."

Floodproofing: Any combination of structural and non-structural additions, changes or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

Floodproofing Certificate: A form published by FEMA that is used to certify that a building has been designed and constructed to be structurally dry and flood proofed to the flood protection elevation.

Flood Protection Elevation (FPE): The elevation of the base flood or 100-year frequency flood plus two (2) feet of freeboard at any given location in the SFHA.

Freeboard: An increment of elevation added to the base flood elevation to provide a factor of safety for uncertainties in calculations, future watershed development, unknown localized conditions, wave actions and unpredictable effects such as those caused by ice or debris jams.

Historic Structure: Any structure that is:

1. Listed individually in the National Register of Historic Places or preliminary determination by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;

2. Certified or preliminary determination 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;
3. Individually listed on the State inventory of historic places by the Illinois Historic Preservation Agency;
4. Individually listed on a local inventory of historic places that has been certified by the Illinois Historic Preservation Agency;

Hydrological and Hydraulic Calculations: Engineering analysis that determines expected flood flows and flood elevations based on land characteristics and rainfall events.

IDNR/OWR – Illinois Department of Natural Resources, Office of Water Resources.

Letter of Map Amendment (LOMA): Official determination by FEMA that a specific structure is not in a 100-year flood zone; amends the effective Flood Hazard Boundary Map (FHBM) or FIRM.

Letter of Map Revision (LOMR): Letter that revises base flood or 100-year frequency flood elevations, flood insurance rate zones, flood boundaries or floodways as shown on an effective FHBM or FIRM.

Manufactured 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 attached 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 or Subdivision: A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

Mitigation: Mitigation includes those measures necessary to minimize the negative effects which floodplain development activities might have on the public health, safety and welfare. Examples of mitigation include compensatory storage, soil erosion and sedimentation control, and channel restoration. Mitigation may also include those activities taken to reduce a structure’s susceptibility to flooding.

National Geodetic Vertical Datum of 1929 (NGVD): Reference surface set by the National Geodetic Survey deduced from a continental adjustment of all existing adjustments in 1929.

Natural: When used in reference to channels means those channels formed by the existing surface topography of the earth prior to changes made by humans. A natural stream tends to follow a meandering path; its floodplain is not constrained by levees; the area near the bank has not been cleared, mowed or cultivated; the stream flows over soil and geologic materials typical of the area with no substantial alteration of the course or cross-section of the stream caused by filling or excavating. A modified channel may regain some natural characteristics over time as the channel

meanders and vegetation is re-established. Similarly, a modified channel may be restored to more natural conditions by humans through re-grading and re-vegetation.

New Manufactured Home Park or Subdivision: Manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) has been completed on, or after, January 23, 1996.

Ordinary High Water Mark (OHWM): The point on the bank or shore up to which the presence and action of surface water is so continuous so as to leave a distinctive mark such as by erosion, destruction or prevention of terrestrial vegetation, predominance of aquatic vegetation or other easily recognized characteristics.

Public Bodies of Waters: All open public streams and lakes capable of being navigated by watercraft, in whole or in part, for commercial uses and purposes, and all lakes, rivers, and streams 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, and submerged lands that are open to the main channel or body of water 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, which includes a hydrologic and hydraulic study 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.

Recreational Vehicle or Travel Trailer: A vehicle, which is:

1. Built on a single chassis;
2. Four hundred square (400) feet or less when measured at the largest horizontal projection;
3. Designed to be self-propelled or permanently tow-able by a light duty truck; and,
4. Designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel or seasonal use.

Registered Land Surveyor: A land surveyor registered in the State of Illinois, under the Illinois Land Surveyors Act. (225 ILCS 330/1, et seq.)

Registered Professional Engineer: An engineer registered in the State of Illinois, under The Illinois Professional Engineering Practice Act. (225 ILCS 325/1, et seq.)

Repair, Remodeling, or Maintenance: Development activities which do not result in any increases in the outside dimensions of a building or any changes to the dimensions of a structure.

Retention/Detention Facility: A retention facility stores storm-water runoff without a gravity release. A detention facility provides for storage of storm water runoff and controlled release of this runoff during and after a flood or storm.

Riverine (SFHA): Any SFHA subject to flooding from a river, creek, intermittent stream, ditch, on-stream lake system, or any other identified channel. This term does not include areas subject to flooding from lakes, ponding areas, areas of sheet flow, or other areas not subject to over-bank flooding.

Runoff: The water derived from melting snow or rain falling on the land surface, flowing over the surface of the ground or collected in channels or conduits.

Sedimentation: The processes that deposit solid, debris, and other materials either on other ground surfaces or in bodies of water or watercourses.

Special Flood Hazard Area (SFHA): Any base flood area subject to flooding from a river, creek, intermittent stream, ditch, or any other identified channel or ponding, and shown on a Flood Hazard Boundary Map or Flood Insurance Rate Map as Zone A, A0, A1-30, AE, A99, or AH with existing elevations less than the BFE.

Structure: The results of a human change to the land constructed on or below the ground, including the construction, reconstruction or placement of a building or any addition to a building; installing a manufactured home on a site; preparing a site for a manufactured home or installing a travel trailer on a site for more than one hundred and eighty (180) days unless they are fully licensed and ready for highway use.

Substantial Damage: A building is considered substantially damaged when it sustains damage from any cause (fire, flood, earthquake, etc.), whereby the cost of fully restoring the structure would equal or exceed fifty percent (50%) of the pre-damage market value of the structure, regardless of the actual repair work performed.

Substantial Improvement:

1. Any repair, reconstruction or improvement of a structure, the cost of which equals or exceeds fifty percent (50%) of the market value of the structure either, (a) before the improvement or repair is started, or (b) if the structure has been damaged, and is being restored, before the damage occurred.
2. For the purposes of this definition, “substantial improvement” is considered to occur 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 structure.
3. The term does not, however, include either (a) any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions or (b) any alteration of a “historic structure,” provided that the alteration will not preclude the structure’s continued designation as a historic structure.

Transition Section: Reaches of the stream or floodway where water flows from a narrow cross-section to a wide cross-section or vice versa.

10.4 HOW TO USE THIS ORDINANCE

The Chief Subdivision Engineer shall be responsible for fulfilling all of the duties listed in Section 10.5.

To fulfill those duties, the Chief Subdivision Engineer, who must be a Professional Engineer (P.E.), first should use the criteria listed in Section 10.6, Base Flood Elevations, to determine whether the development site is located within a floodplain.

Once it has been determined that a site is located within a floodplain, the Chief Subdivision Engineer must determine whether the development site is within a flood fringe, a designated floodway, or within a SFHA or floodplain for which no floodway has been identified.

1. If the site is within a flood fringe, the Chief Subdivision Engineer shall require that the minimum requirements of Section 10.7 be met in addition to other applicable requirements of this Zoning Ordinance.
2. If the site is within a floodway, the Chief Subdivision Engineer shall require that the minimum requirements of Section 10.8 be met in addition to other applicable requirements of this Zoning Ordinance.

3. If the site is located within a SFHA or floodplain for which no detailed study has been completed and approved, the Chief Subdivision Engineer shall require that the minimum requirements of Section 10.9 be met.

In addition, the general requirements of Section 10.10 shall be met for all developments meeting the requirements of Section 10.7, 10.8, or 10.9.

The Chief Subdivision Engineer shall assure that all subdivision proposals shall meet the requirements of Section 10.11

In order to assure that property owners obtain permits as required in this Ordinance, the County of Will may take any and all actions as outlined in Section 10.14.

10.5 DUTIES OF THE ENFORCEMENT OFFICIAL(S)

The Chief Subdivision Engineer shall be responsible for the general administration and enforcement of this Ordinance which shall include the following:

10.5-1 Determining the Floodplain Designation

1. Check all new development sites to determine whether they are in a Special Flood Hazard Area (SFHA).
2. If they are in a SFHA, determine whether they are in a floodway, flood fringe or in a floodplain for which a detailed study has not been conducted and which drains more than one (1) square mile in an urban or urbanizing area, or more than ten (10) square miles in a rural area.

10.5-2 Professional Engineer Review

1. If the development site is within a floodway or in a floodplain for which a detailed study has not been conducted and which drains more than one square mile, the permit shall be referred to a registered professional engineer under the employ or contract of the County for review to ensure that the development meets Sections 10.8-10.9.
2. In the case of an Appropriate Use, the P.E. shall state in writing that the development meets the requirements of Section 10.8.

10.5-3 Dam Safety Requirements

1. Ensure that an IDNR/OWR permit has been issued or a letter indicating no permit is required, if the proposed development activity includes construction of a dam as defined previously.

2. Regulated dams may include weirs, restrictive culverts or impoundment structures.

10.5-4 Other Permit Requirements

1. Ensure that any and all required federal, state and local permits are received prior to the issuance of a site development permit, including the issuance of a special use permit for floodplain development if required.

10.5-5 Plan Review and Permit Issuance

1. Ensure that all development activities within the SFHAs of the jurisdiction of the County meet the requirements of this Ordinance, and;
2. Issue a site development permit in accordance with the provisions of this Ordinance and other regulations of this community when the development meets the conditions of this Ordinance.

10.5-6 Development Review

Ensure all development projects have reviews completed before, during and after construction to assure proper elevation of the structure and to ensure compliance with the provisions of this Ordinance.

10.5-7 Elevation and Flood proofing Certificates

Maintain permit files including:

1. An Elevation Certificate certifying the elevation of the lowest floor (including basement) of a residential or non-residential building subject to Section 10.10 of this Ordinance, and/or;
2. The elevation to which a non-residential building has been flood proofed, using a Flood proofing Certificate, for all buildings subject to Section 10.10 of this Ordinance for public inspection and provide copies of the same.

10.5-8 Records for Public Inspection

Maintain for public inspection and furnish upon request base flood data, SFHA and designated floodway maps, copies of federal or state permit documents, site development permit documentation, special use permit for floodplain development documentation, variance documentation, Conditional Letter of Map Revision, Letter of Map Revision, Letter of Map Amendment and “as-built” elevation and flood proofing and/or elevation certificates for all buildings constructed subject to this Ordinance.

10.5-9 State Permits

Ensure that construction authorized has been granted by IDNR/OWR, for all development projects subject to Sections 10.8 and 10.9 of this Ordinance, unless enforcement responsibility has been delegated to the County. Upon acceptance of this Ordinance by IDNR/OWR and FEMA, responsibility is hereby delegated to the County per 92 IL Administrative Code 708 (See Appendix 18.3) for construction in the designated floodway and floodplain when floodways have not been defined in Section 10.8 and 10.9 for this Ordinance. However, the following review approvals are not delegated to the County and shall require review or permits from IDNR/OWR:

- 10.5-9-1 Projects, which are undertaken by Organizations which are exempt from this Ordinance, as per the Illinois Compiled Statutes;
- 10.5-9-2 IDNR/OWR projects, dams or impoundment structures as defined in Section 10.3 and all other state, federal or local unit of government projects, including projects of the County;
- 10.5-9-3 An engineer's determination that an existing bridge or culvert crossing is not a source of flood damage and the analysis indicating the proposed flood profile, per Section 10-8-2-3(E);
- 10.5-9-4 An engineer's determination that a proposed bridge affected by backwater from a downstream receiving stream may be built with a smaller opening Section 10.8-2-3 (D);
- 10.5-9-5 Review and approval of Alternate transition section and hydraulically equivalent compensatory storage as indicated in Section 10.8-2-3 (A, B, H);
- 10.5-9-6 Permit issuance of structures within, under, or over publicly navigable rivers, lakes and streams;
- 10.5-9-7 Any changes in the Base Flood Elevation or floodway locations; and,
- 10.5-9-8 Base Flood Elevation determinations where none now exist.
- 10.5-9-9 Cooperation with Other Agencies
 - 1. Cooperate with the state and federal floodplain management agencies to improve base flood or 100-year frequency flood and floodway data and to improve the administration of this Ordinance;
 - 2. Submit data to IDNR/OWR and FEMA for proposed revisions of a regulatory map;

3. Submit reports as required for the National Flood Insurance Program; and,
4. Notify FEMA of any proposed amendments to this Ordinance.

10.5-10 Promulgate Regulations

Promulgate rules and regulations as necessary to administer and enforce the provisions of this Ordinance, subject however to the review and approval of IDNR/OWR and FEMA for any changes to Section 10 of this Ordinance.

10.6 **BASE FLOOD ELEVATION**

This Ordinance's protection standard is based on the Flood Insurance Study for the County.

1. If a base flood elevation or 100-year frequency flood elevation is not available for a particular site, then the protection standard shall be according to the best existing data available in the Illinois State Water Survey's Floodplain Information Repository that has been approved by IDNR/OWR and FEMA.
2. When a party disagrees with the best available data, he/she may finance the detailed engineering study needed to replace existing data with better data and submit it to IDNR/OWR and FEMA.

10.6-1 The base flood or 100-year frequency flood elevation for the SFHAs of unincorporated Will County shall be as delineated on the 100-year flood profiles in the Flood Insurance Study of the County prepared by FEMA (or the Department of Housing and Urban Development) and dated per Appendix 'A,' and such amendments to such study and maps as may be prepared from time to time.

10.6-2 The base flood or 100-year frequency flood elevation for the SFHAs of those parts of unincorporated Will County shall be as delineated on the 100-year flood profiles in the most recent Flood Insurance Study of Will County prepared by FEMA (or Department of Housing and Urban Development), and such amendments or revisions to such study and maps as may be prepared from time to time.

10.6-3 The base flood or 100-year frequency flood elevation for each SFHA delineated as an "AE Zone," "AH Zone," or "AO Zone" shall be that elevation (or depth) delineated on the Flood Insurance Rate Map of the County.

10.6-4 The base flood or 100-year frequency flood elevation for each of the remaining SFHAs delineated as an "A Zone" on the Flood Insurance Rate Map of the County shall be according to the best existing data available in the Illinois State Water Survey Floodplain Information Repository.

1. When no base flood or 100-year frequency flood elevation exists, the base flood or 100-year frequency flood elevation for a riverine SFHA shall be determined from a backwater model, such as HEC-II, WSP-2, or a dynamic model such as HIP.
2. The flood flows used in the hydraulic models shall be obtained from a hydrologic model, such as HEC-I, TR-20, or HIP, or by techniques presented in various publications prepared by the United States Geological Survey for estimating peak flood discharges.
3. Along any watercourses draining more than one (1) square mile in an urban or urbanizing area, or more than ten (10) square miles in a rural area, the above analyses shall be submitted to IDNR/OWR for approval. Once approved it must be submitted to the Illinois State Water Survey Floodplain Information Repository for filing.
4. For a non-riverine SFHA, the Base Flood Elevation shall be the historic Flood of Record plus three feet, unless calculated by a detailed engineering study and approved by IDNR/OWR for drainage areas greater than one (1) square mile.

10.7 OCCUPATION AND USE OF FLOOD FRINGE AREAS

Development in and/or filling of the flood fringe will be permitted if protection is provided against the base flood or 100-year frequency flood by proper elevation, and compensatory storage, and other applicable provisions of this Ordinance. No use will be permitted which adversely affects the capacity of drainage facilities or systems. Developments located within the flood fringe shall meet the requirements of this Section, along with the requirements of Section 10.10.

10.7-1 Development Permit

1. No person, firm, corporation, or governmental body not exempted by state law shall commence any development in the SFHA without first obtaining a Site Development Permit from the County of Will. Failure to obtain a site development permit prior to the initiation of any development activities is a violation of this Ordinance.
2. Any person, firm, corporation or governmental body not exempted by state law that commences any development in the SFHA without first obtaining a site development permit from the County shall be required to obtain an after the fact site development permit as a cost that is double the normal fee.
3. Application for a site development permit shall be made on a form provided by the Will County Land Use Department – Engineering Division.
 - A. The application shall be accompanied by drawings of the site, drawn to scale, showing property line dimensions and legal description for the property and sealed by a licensed engineer, architect or land surveyor; existing grade elevations in M.S.L., 1929 adj. Datum or N.G.V.D. and all changes in grade resulting from excavation or filling; the location and dimensions of all buildings and additions to buildings.

- B. For all proposed buildings, the elevation of the lowest floor (including basement) and lowest adjacent grade shall be shown on the submitted plans and the development will be subject to the requirements of Section 10.10 of this Ordinance.
4. Upon receipt of a site development permit application, the Chief Subdivision Engineer shall compare the elevation of the site to the base flood or 100-year frequency flood elevation.
 - A. Any development located on land that can be shown to be higher than the base flood elevation of the current Flood Insurance Rate Map and which has not been filled after the date of the site's first Flood Insurance Rate Map without a site development permit as required by this Ordinance is not in the SFHA and, therefore, not subject to the requirements of this Ordinance.
 - B. The Chief Subdivision Engineer shall maintain documentation of the existing ground elevation at the development site and certification that this ground elevation existed prior to the date of the site's first Flood Insurance Rate Map identification.
 5. A soil erosion and sediment control plan for disturbed areas shall be submitted. This plan shall include a description of the sequence of grading activities and the temporary sediment and erosion control measures to be implemented to mitigate their effects. This plan shall also include a description of final stabilization and re-vegetation measures, and the identification of a responsible party to ensure post-construction maintenance.
 6. The applicant shall be responsible for providing the Chief Subdivision Engineer copies of all other federal, state, and local permits, approval or permit-not-required letters that may be required for this type of activity. The Chief Subdivision Engineer shall not issue a permit unless all other federal, state, and local permits have been obtained.

10.7-2 Preventing Increased Damages

No development in the flood fringe shall create a threat to public health and safety.

1. If fill is being used to elevate the site above the base flood or 100-year frequency flood elevation, the applicant shall submit sufficient data and obtain a letter of map revision (LOMR) from FEMA for the purpose of removing the site from the floodplain.
2. Compensatory Storage.

- A. Whenever any portion of a floodplain is authorized for use, the volume of space which will be occupied by the authorized fill or structure below the base flood or 100-year frequency flood elevation shall be compensated for and balanced by a hydraulically equivalent volume of excavation taken from below the base flood or 100-year frequency flood elevation.
- B. The excavation volume shall be at least equal to 1.25 times the volume of storage lost due to the fill or structure.
- C. In the case of streams and watercourses, such excavation shall be made opposite or adjacent to the areas so filled or occupied.
- D. All floodplain storage lost below the existing 10-year flood elevation shall be replaced below the proposed 10-year flood elevation. All floodplain storage lost above the proposed 10-year flood elevation shall be replaced above the proposed 10-year flood elevation.
- E. All such excavations shall be constructed to drain freely and openly to the watercourse.

10.8 OCCUPATION AND USE OF DESIGNATED FLOODWAYS

This Section applies to proposed development, redevelopment, site modification or building modification within a designated floodway. The designated floodway for unincorporated Will County shall be as delineated on the designated floodway maps designated by IDNR/OWR according to and referenced in Section 10.3. Only those uses and structures will be permitted which meet the criteria in this Section. All floodway modifications shall be the minimum necessary to accomplish the purpose of the project. The development shall also meet the requirements of Section 10.10.

10.8-1 Development Permit

No person, firm, corporation or governmental body not exempted by state law shall commence any development in a floodway without first obtaining a Site Development Permit from the Chief Subdivision Engineer and IDNR/OWR. Failure to obtain a site development permit prior to the initiation of any development activities is a violation of this Ordinance.

- 1. Any person, firm, corporation or governmental body not exempted by state law that commences any development in the SFHA without first obtaining a site development permit from the County and who has been issued a stop work order shall be required to obtain an after the fact site development permit at a cost that is double the normal fee.

2. Application for a site development permit shall be made on a form provided by the Land Use Department. The application shall include the following information:
 - A. Name and address of applicant;
 - B. Site location (including legal description) of the property, drawn to scale, on the designated floodway map, indicating whether it is proposed to be in an incorporated or unincorporated area;
 - C. Name of stream or body of water affected;
 - D. Description of proposed activity;
 - E. Statement of purpose of proposed activity;
 - F. Anticipated dates of initiation and completion of activity;
 - G. Name and mailing address of the owner of the subject property if different from the applicant;
 - H. Signature of the applicant or the applicant's agent;
 - I. If the applicant is a corporation, the president or other authorized officer shall sign the application form;
 - J. If the applicant is a partnership, each partner shall sign the application form; and,
 - K. If the applicant is a land trust, the trust officer shall sign the name of the trustee by him/her as trust officer. A disclosure affidavit shall be filed with the application, identifying each beneficiary of the trust by name and address and defining the respective interests therein.
 - L. Plans of the proposed activity shall be provided which include as a minimum:
 - i. A vicinity map showing the site of the activity, name of the waterway, boundary lines, names of roads in the vicinity of the site, graphic or numerical scale, and north arrow;
 - ii. A plan view of the project and engineering study reach showing existing and proposed conditions including principal dimensions of the structure or work, elevations in mean sea level (1929 adjustment) datum or NGVD or North American Vertical Datum, adjacent property lines and ownership, drainage and flood control easements, location of any channels and any existing or future access roads, distance between proposed activity and navigation channel (when the proposed construction is near a commercially navigable body of water), designated floodway limit, floodplain limit, specifications

and dimensions of any proposed channel modifications, location and orientation of cross-sections, north arrow, and a graphic or numerical scale;

- iii. Cross-section views of the project and engineering study reach showing existing and proposed conditions including principal dimensions of the work as shown in plan view, existing and proposed elevations, normal water elevation, 10-year frequency flood elevation, 100-year frequency flood elevation, and graphic or numerical scales (horizontal and vertical);
 - iv. A soil erosion and sediment control plan for disturbed areas. This plan shall include a description of the sequence of grading activities and the temporary sediment and erosion control measures to be implemented to mitigate their effects. This plan shall also include a description of final stabilization and re-vegetation measures, and the identification of a responsible party to ensure post-construction maintenance.
 - v. A copy of the designated floodway map, marked to reflect any proposed change in the designated floodway location.
- M. Any and all other federal, state, and local permits or approval letters that may be required for this type of development.
- N. Engineering calculations and supporting data shall be submitted showing that the proposed work will meet the permit criteria of Section 10.8-2.
- O. If the designated floodway delineation, base flood or 100-year frequency flood elevation will change due to the proposed project, the application will not be considered complete until IDNR/OWR has indicated conditional approval of the designated floodway map change. No structures may be built until a Letter of Map Revision has been approved by FEMA.
- P. The application for a structure shall be accompanied by drawing of the site, drawn to scale showing property line dimensions and existing ground elevations and all changes in grade resulting from any proposed excavation or filling, and floodplain and floodway limits; sealed by a registered professional engineer, licensed architect or registered land surveyor; the location and dimensions of all buildings and additions to buildings; and the elevation of the lowest floor (including basement) of all proposed buildings subject to the requirements of Section 10.10 of this Ordinance.

- Q. If the proposed project involves a channel modification, the applicant shall submit the following information:
- i. A discussion of the purpose of and need for the proposed work;
 - ii. A discussion of the feasibility of using alternative locations or methods (see 10.8-2-3(i.)) to accomplish the purpose of the proposed work;
 - iii. An analysis of the extent and permanence of the impacts each feasible alternative identified in 10.8-2-3 (i) of this Section would have on the physical and biological conditions of the body of water affected; and,
 - iv. An analysis of the impacts of the proposed project, considering cumulative effects on the physical and biological conditions of the body of water affected.
3. The applicant shall be responsible for submitting to the Chief Subdivision Engineer copies of all other federal, state, and local permits and approvals that may be required for this type of activity.
- A. The Chief Subdivision Engineer shall not issue the site development permit unless all required federal and state permits have been submitted.
 - B. A Registered Professional Engineer, under the employ or contract of the County shall review and approve applications submitted under this Section.

10.8-2 Preventing Increased Damages and a List of Appropriate Uses.

1. The only development in a floodway which will be allowed are Appropriate Uses, which will not cause a rise in the base flood elevation, and which will not create a damaging or potentially damaging increase in flood heights or velocity or be a threat to public health and safety and welfare or impair the natural hydrologic and hydraulic functions of the floodway or channel, or permanently impair existing water quality or aquatic habitat. Construction impacts shall be minimized by appropriate mitigation methods as called for in this Ordinance. Only those Appropriate Uses listed in 92 Ill. Adm. Code Part 708 will be allowed. The approved Appropriate Uses are as follows:
 - A. Public flood control structures, dikes, dams and other public works or private improvements relating to the control of drainage, flooding of existing structures, erosion, or water quality or habitat for fish and wildlife;
 - B. Structures or facilities relating to the use of, or requiring access to, the water or shoreline, such as in stream aeration and similar treatment facilities. Facilities and improvements related to recreational boating, and commercial shipping and other functionally water dependent uses;

- C. Storm and sanitary sewer outfalls;
- D. Underground and overhead utilities;
- E. Public open space and recreational facilities such as playing fields and trail systems including any related fencing (at least fifty percent (50%) open when viewed from any one direction) built parallel to the direction of flood flows, and including open air pavilions;
- F. Detached garages, storage sheds, or other non-habitable structures without toilet facilities to existing buildings that will not block flood flows, nor reduce floodway storage;
- G. Bridges, culverts, and associated roadways, sidewalks, and railways, necessary for crossing over the floodway or for providing access to other appropriate uses in the floodway and any modification thereto;
- H. Parking lots and any modification thereto (where depth of flooding at the 100-year frequency flood event will not exceed one foot (1.0') and aircraft parking aprons built at or below ground elevation);
- I. Regulatory floodway re-grading, without fill, to create a positive non-erosive slope toward a watercourse;
- J. Flood proofing activities to protect previously existing lawful structures including the construction of water tight window wells, elevating structures, or construction of floodwalls around residential, commercial or industrial principal structures where the outside toe of the floodwall shall be no more than ten (10) feet away from the exterior wall of the existing structure, and, which are not considered substantial improvements to the structure.
- K. The replacement, reconstruction or repair of a damaged building, provided that the outside dimensions of the building are not increased, and provided that, if the building is damaged to fifty percent (50%) or more of the building market value before it was damaged, or if the building requires a substantial improvement, the building will be protected from flooding to the Flood Protection Elevation.
- L. Modifications to an existing building that would not increase the enclosed first floor area of the building below the 100-year frequency flood elevation, and which will not block flood flows including, but not limited to, fireplaces, bay windows, decks, patios, and second story additions. If the building is improved to fifty percent (50%) or more of the building market value before modification occurred, the building will be protected from flooding to the Flood Protection Elevation.

2. Appropriate uses do not include the construction or placement of any new structures, fill, building additions, buildings on stilts, excavation or channel modifications done to accommodate otherwise non-appropriate uses in the floodway, fencing (including landscaping or planting designed to act as a fence) and storage of materials except as specifically defined above as an Appropriate Use.
3. Within the designated floodway as identified on the floodway maps designated by IDNR/OWR, the construction of an Appropriate Use, will be considered permissible provided that the proposed project meets the following engineering and mitigation criteria and is so stated in writing with supporting plans, calculations and data by a registered professional engineer and provided that any structure meets the protection requirements of Section 10.10 of this Ordinance:

A. Preservation of Flood Conveyance, so as Not to Increase Flood Stages Upstream

For appropriate uses other than bridge or culvert crossings, on-stream structures or dams, all effective designated floodway conveyance lost due to the project will be replaced for all flood events up to and including the 100-year frequency flood. In calculating effective designated floodway conveyance, the following factors shall be taken into consideration:

- i. Designated floodway conveyance, $"K" = (1.486/n)(AR^{2/3})$ where "n" is Manning's roughness factor, "A" is the effective flow area of the cross-section, and "R" is the ration of the area to the wetted perimeter. (See Open Channel Hydraulics, Ven Te Chow, 1959, McGraw-Hill Book Company, New York)
- ii. The same Manning's "n" value shall be used for both existing and proposed conditions unless a recorded maintenance agreement with a federal, state, or local unit of government can assure the proposed conditions will be maintained or the land cover is changing from a vegetative to a non-vegetative land cover.
- iii. Transition sections shall be provided and used in calculations of effective designated floodway conveyance. The following expansion and contraction ratios shall be used unless an applicant's engineer can prove to IDNR/OWR through engineering calculations or model tests that more abrupt transitions may be used with the same efficiency:
 - a. When water is flowing from a narrow section to a wider section, the water should be assumed to expand no faster than at a rate of one foot horizontal for every four feet of the flooded stream's length.

- b. When water is flowing from a wide section to a narrow section, the water should be assumed to contract no faster than at a rate of one (1) foot horizontal for every one foot of the flooded stream's length.
- c. When expanding or contracting flows in a vertical direction, a minimum of one-foot vertical transition for every ten feet of stream length shall be used.
- d. Transition sections shall be provided between cross-sections with rapid expansions and contractions and when meeting the designated floodway delineation on adjacent properties.
- e. All cross-sections used in the calculations shall be located perpendicular to flood flows.

B. Preservation of Floodway Storage so as Not to Increase Downstream Flooding.

- i. Compensatory storage shall be provided for any designated floodway storage lost due to the proposed work from the volume of fill or structures placed and the impact of any related flood control projects.
- ii. Compensatory storage for fill or structures shall be equal to at least 1.25 times the volume of floodplain storage lost.
- iii. Artificially created storage lost due to a reduction in head loss behind a bridge shall not be required to be replaced.
- iv. The compensatory designated floodway storage shall be placed between the proposed normal water elevation and the proposed 100-year flood elevation. All designated floodway storage lost below the existing 10-year flood elevation shall be replaced below the proposed 10-year flood elevation. All designated floodway storage lost above the existing 10-year flood elevation shall be replaced above the proposed 10-year flood elevation. All such excavations shall be constructed to drain freely and openly to the watercourse.
- v. If the compensatory storage will not be placed at the location of the proposed construction, the applicant's engineer shall demonstrate to IDNR/OWR through a determination of flood discharges and water surface elevations that the compensatory storage is hydraulically equivalent.
- vi. There shall be no reduction in floodway surface area as a result of a floodway modification, unless such modification is necessary to reduce flooding at an existing structure.

- C. Preservation of Floodway Velocities so as Not to Increase Stream Erosion or Flood Heights.
- i. For all Appropriate Uses, except bridges or culverts or on stream structures, the proposed work will not result in an increase in the average channel or designated floodway velocities or stage for all flood events up to and including the 100-year frequency event.
 - ii. In the case of bridges or culverts or on stream structures built for the purpose of backing up water in the stream during normal or flood flows, velocities may be increased at the structure site if scour, erosion and sedimentation will be avoided by the use of rip-rap or other design measures.
- D. Construction of New Bridges or Culvert Crossings and Roadway Approaches.
- i. The proposed structure shall not result in an increase of upstream flood stages greater than 0.1 foot when compared to the existing conditions for all flood events up to and including the 100-year frequency event; or the upstream flood stage increases will be contained within the channel banks (or within existing vertical extensions of the channel banks) such as within the design protection grade of existing levees or flood walls or within recorded flood easements.
 - ii. If the proposed construction will increase upstream flood stages greater than 0.1 feet, the developer must contact IDNR/OWR to obtain a permit for a dam or waiver.
 - a. The engineering analysis of upstream flood stages must be calculated using the flood study flows, and corresponding flood elevations for tail water conditions for the flood study specified in Section 10.6 of this Ordinance. Culverts must be analyzed using the U.S. DOT, FHWA Hydraulic Chart for the Selection of Highway Culverts. Bridges must be analyzed using the U.S. DOT/Federal Highway Administration Hydraulics of Bridge Waterways' calculation procedures.
 - b. Lost floodway storage must be compensated for per Section 10.8-2-3 (b).
 - c. Velocity increases must be mitigated per Section 10.8-2-3 (c).
 - d. If the crossing is proposed over a public water that is used for recreational or commercial navigation, an IDNR/OWR permit must be received.

- e. The hydraulic analysis for the backwater caused by the bridge showing the existing condition and proposed regulatory profile must be submitted to IDNR/OWR for concurrence that a CLOMR is not required by Section 10.8-2.
 - f. All excavations for the construction of the crossings shall be designed per Section 10.8-2-3 (h).
- E. Reconstruction or Modification of Existing Bridges, Culverts, and Approach Roads.
- i. The bridge or culvert and roadway approach reconstruction or modification shall be constructed with no more than 0.1 foot increase in backwater over the existing flood profile for all flood frequencies up to and including the 100-year event, if the existing structure is not a source of flood damage.
 - ii. If the existing bridge or culvert and roadway approach is a source of flood damage to buildings or structures in the upstream floodplain the applicant's engineer shall evaluate the feasibility of redesigning the structure to reduce the existing backwater, taking into consideration the effects on flood stages on upstream and downstream properties.
 - iii. The determination as to whether or not the existing crossing is a source of flood damage and should be redesigned must be prepared in accordance with 92 Ill Adm. Code Part 708 (Floodway Construction in Northeastern Illinois) and submitted to IDNR/OWR for review and concurrence before a permit is issued.
- F. On-stream Structures Built for the Purpose of Backing Up Water.
- i. Any increase in upstream flood stages greater than 0.0 foot when compared to the existing conditions, for all flood events up to and including the 100-year frequency event shall be contained within the channel banks (or within existing vertical extensions of the channel banks) such as within the design protection grade of existing levees or flood walls or within recorded flood easements.
 - ii. A permit or letter indicating a permit is not required must be obtained from IDNR/OWR for any structure built for the purpose of backing up water in the stream during normal or flood flow.
 - iii. All dams and impoundment structures as defined in Section 10.3 shall meet the permitting requirements of 92 Ill. Adm. Code Part 702 (Construction and Maintenance of Dams). If the proposed activity involves a modification of the channel or floodway to accommodate an impoundment, it shall be demonstrated that:

- a. The impoundment is determined to be in the public interest by providing flood control, public recreation, or regional storm water detention;
- b. The impoundment will not prevent the migration of indigenous fish species, which require access to upstream areas as part of their life cycle, such as for spawning;
- c. The impoundment will not cause or contribute to degraded water quality or habitat conditions. Impoundment design should include gradual bank slopes, appropriate bank stabilization measures, and a pre-sedimentation basin;
- d. A non-point source control plan has been implemented in the upstream watershed to control the effects of sediment runoff as well as minimize the input of nutrients, oil and grease, metals, and other pollutants. If there is more than one municipality in the upstream watershed, the municipality in which the impoundment is constructed should coordinate with upstream municipalities to ensure comprehensive watershed control;
- e. The project otherwise complies with the requirements of Section 10.8.

G. Flood Proofing of Existing Habitable, Residential and Commercial Structures.

- i. If construction is required beyond the outside dimensions of the existing building, the outside perimeter of the flood proofing construction shall be placed no further than ten (10) feet from the outside of the building.
- ii. Compensation for lost storage and conveyance will not be required for flood proofing activities.

H. Excavation in the Floodway.

- i. When excavation is proposed in the design of bridges and culvert openings, including the modifications to and replacement of existing bridge and culvert structures, or to compensate for lost conveyance or other appropriate uses, transition sections shall be provided for the excavation.
- ii. The following expansion and contraction ratios shall be used unless an applicant's engineer can prove to IDNR/OWR through engineering calculations or model tests that more abrupt transitions may be used with the same efficiency:

- a. When water is flowing from a narrow section to a wider section, the water should be assumed to expand no faster than at a rate of one (1) foot horizontal for every four (4) feet of the flooded stream's length;
 - b. When water is flowing from a wide section to a narrow section, the water should be assumed to contract no faster than at a rate of one (1) foot horizontal for every one (1) foot of the flooded stream's length; and,
 - c. When expanding or contracting flows in a vertical direction, a minimum of one-foot vertical transition for every ten feet of stream length shall be used.
 - d. Erosion/scour protection shall be provided inland upstream and downstream of the transition sections.
- I. If the proposed activity involves a channel modification, it shall be demonstrated that:
- i. There are no practicable alternatives to the activity, which would accomplish its purpose with less impact to the natural conditions of the body of water affected. Possible alternatives include levees, bank stabilization, flood proofing of existing structures, removal of structures from the floodplain, clearing the channel, high flow channel, or the establishment of a streamside buffer strip or green belt. Channel modification is acceptable if the purpose is to restore natural conditions and improve water quality and fish and wildlife habitat;
 - ii. Water quality, habitat, and other natural functions would be significantly improved by the modification and no significant habitat area may be destroyed, or the impacts are offset by the replacement of an equivalent degree of natural resource values;
 - iii. The activity has been planned and designed and will be constructed in a way which will minimize its adverse impacts on the natural conditions of the body of water affected, consistent with the following criteria:
 - a. The physical characteristics of the modified channel shall match as closely as possible those of the existing channel in length, cross section, slope and sinuosity. If the existing channel has been previously modified, restoration of more natural physical conditions should be incorporated into channel modification design, where practical.
 - b. Hydraulically effective transitions shall be provided at both the upstream and downstream ends of the project, designed such that they will prevent erosion.

- c. One-sided construction of a channel shall be used when feasible. Removal of streamside (riparian) vegetation should be limited to one side of the channel, where possible, to preserve the shading and stabilization effects of the vegetation.
- d. Clearing of stabilizing vegetation shall be limited to that which is essential for construction of the channel.
- e. Channel banks shall be constructed with a side slope no steeper than 3:1 horizontal to vertical, wherever practicable. Native vegetation and gradual side slopes are the preferred methods for bank stabilization. Where high velocities or sharp bends necessitate the use of alternative stabilization measures, soil bioengineering techniques, natural rock or riprap are preferred approaches. Artificial materials such as concrete, gabions, or construction rubble should be avoided unless there are no practicable alternatives.
- f. All disturbed areas associated with the modification shall be seeded or otherwise stabilized as soon as possible upon completion of construction. Erosion blanket or an equivalent material shall be required to stabilize disturbed channel banks prior to establishment of the vegetative cover.
- g. If the existing channel contains considerable bottom diversity such as deep pools, riffles, and other similar features, such features shall be provided in the new channel. Spawning and nesting areas and flow characteristics compatible with fish habitat shall also be established, where appropriate.
- h. A sediment basin shall be installed at the downstream end of the modification to reduce sedimentation and degradation of downstream water quality.
- i. New or relocated channels should be built in the dry and all items of construction, including vegetation, should be completed prior to diversion of water into the new channel.
- j. There shall be no increases in stage or velocity as the channel enters or leaves the project site for any frequency flood unless necessitated by a public flood control project or unless such an increase is justified as part of a habitat improvement or erosion control project.
- k. Unless the modification is for a public flood control project, there shall be no reduction in the volume of floodwater storage outside the floodway as a result of the modification.

iv. The project otherwise complies with the requirements of Section 10.8.

J. Seeding and Stabilization Plan.

For all activities located in a floodway, a seeding and stabilization plan shall be submitted by the applicant.

K. Soil Erosion and Sedimentation Measures.

For all activities in the floodway, including grading, filling, and excavation, in which there is potential for erosion of exposed soil, soil erosion and sedimentation control measures shall be employed consistent with the following criteria:

- i. The construction area shall be minimized to preserve the maximum vegetation possible. Construction shall be scheduled to minimize the time soil is exposed and unprotected. In no case shall the existing natural vegetation be destroyed, removed, or disturbed more than fifteen (15) days prior to the initiation of improvements.
- ii. Temporary and/or permanent soil stabilization shall be applied to denuded areas as soon as possible. As a minimum, soil stabilization shall be provided within fifteen (15) days after final grade is reached on any portion of the site, and within fifteen (15) days to denuded areas, which may not be at final grade but will remain undisturbed for longer than sixty (60) days.
- iii. Sedimentation control measures shall be installed before any significant grading or filling is initiated on the site to prevent the movement of eroded sediments off site or into the channel. Potential sediment control devices include filter fences, straw bale fences, check dams, diversion ditches, and sediment traps and basins.
- iv. A vegetated buffer strip of at least twenty-five (25) feet in width shall be preserved and/or re-established, where possible, along existing channels (See 10.8-2-3 (p)). Construction vehicle use of channels shall be minimized. Temporary stream crossings shall be constructed, where necessary, to minimize erosion. Necessary construction in or along channels shall be restabilized immediately.
- v. Soil erosion and sedimentation control measures shall be designed and implemented consistent with "Procedures and Standards for Urban Soil Erosion and Sedimentation Control in Illinois" (1998) and "The Illinois Urban Manual" (NRCS, 1995).

- L. Public Flood Control Projects. For public flood control projects, the permitting requirements of this Section will be considered met if the applicant can demonstrate to IDNR/OWR through hydraulic and hydrologic calculations that the proposed project will not singularly or cumulatively result in increased flood heights outside the project right-of-way or easements for all flood events up to and including the 100-year frequency event.
- M. General Criteria for Analysis of Flood Elevations.
- i. The flood profiles, flows and floodway data in the designated floodway study, referenced in Section 10.6, must be used for analysis of the base conditions. If the study data appears to be in error or conditions have changed, IDNR/OWR shall be contacted for approval and concurrence on the appropriate base conditions data to use.
 - ii. If the 100-year designated floodway elevation at the site of the proposed construction is affected by backwater from a downstream receiving stream with a larger drainage area, the proposed construction shall be shown to meet:
 - a. The requirements of this Section for the 100-year frequency flood elevations of the designated floodway conditions; and,
 - b. Conditions with the receiving stream at normal water elevations.
 - iii. If the applicant learns from IDNR/OWR, local governments, or a private owner that a downstream restrictive bridge or culvert is scheduled to be removed, reconstructed, modified, or a regional flood control project is scheduled to be built, removed, constructed or modified within the next five years, the proposed construction shall be analyzed and shown to meet the requirements of this Section for both the existing conditions and the expected flood profile conditions when the bridge, culvert or flood control project is built.
- N. Conditional Letter of Map Revision.
- i. If the Appropriate Use would result in a change in the designated floodway location or the 100-year frequency flood elevation, the applicant shall submit to IDNR/OWR and FEMA all information, calculations and documents necessary to be issued a conditional designated floodway map revision and receive from IDNR/OWR a conditional concurrence of the designated floodway change before a permit is issued.
 - ii. The final designated floodway map will not be changed by FEMA until as-built plans or record drawings of initial filling, grading, dredging, or excavating activities are submitted and accepted by FEMA and IDNR/OWR.

- iii. In the case of non-government projects, the municipality in incorporated areas and the county in unincorporated areas shall concur with the proposed conditional designated floodway map revision before IDNR/OWR approval can be given.
- iv. No filling, grading, dredging or excavating shall take place until a conditional approval is issued.
- v. After initial filling, grading, dredging or excavating, no activities shall take place until a final Letter of Map Revision (LOMR) is issued by FEMA with concurrence from IDNR/OWR.

O. Professional Engineer's Supervision.

All engineering analyses shall be performed by or under the supervision of a registered professional engineer.

P. For all activities in the floodway involving construction within twenty-five (25) feet of the channel, the following criteria shall be met:

- i. A natural vegetation buffer strip shall be preserved within at least twenty-five (25) feet of the ordinary high water mark of the channel.
- ii. Where it is impossible to protect this buffer strip during the construction of an Appropriate Use, a vegetated buffer strip shall be established upon completion of construction.

Q. After receipt of conditional approval of the designated floodway change and issuance of a permit and a Conditional Letter of Map Revision, construction as necessary to change the floodway designation may proceed but no buildings or structures or other construction that is not an Appropriate Use may be placed in that area until the designated floodway map is changed and a final Letter of Map Revision is received. The designated floodway map will be revised upon acceptance and concurrence by IDNR/OWR and FEMA of the "as-built" plans.

10.8-2-4 Development Activities In Delegated Communities Requiring State Review

For those projects listed below located in a designated floodway, the following criteria shall be submitted to IDNR/OWR for their review and concurrence prior to the issuance of a permit by the County, which is the delegated state permitting authority in the floodway.

- 1. An engineer's analysis of the flood profile due to a proposed bridge pursuant to Section 10.8-2-3 (d).

2. An engineer's determination that an existing bridge or culvert crossing is not a source of flood damage and the analysis indicating the proposed flood profile, pursuant to Section 10.8-2-3 (e).
3. Alternative transition sections and hydraulically equivalent storage pursuant to Section 10.8-2-3 (a, b, h).
4. The construction of any IDNR/OWR projects, dams (as defined in Section 10.3) and all other state, federal, or local units of government projects, including projects of the municipality or county.
5. An engineer's determination that a proposed bridge affected by backwater from a downstream receiving stream may be built with a smaller opening.
6. Projects which revise the floodway and/or flood profiles.
7. Projects in public bodies of water.

10.8-2-5 Other Permits

1. In addition to the other requirements of this Ordinance, a development permit for a site located in a floodway shall not be issued unless the applicant first obtains a permit or written documentation that a permit is not required from IDNR/OWR, issued pursuant to 615 ILCS 5/4.9 et seq.
2. No permit from IDNR/OWR shall be required if IDNR/OWR has delegated this responsibility to the County.

10.8-2-6 Permits for Dams

1. Any work involving the construction, modification or removal of a dam as defined in Section 10.3 per 92 Ill. Adm. Code Part 702 (Rules for Construction of Dams) shall obtain an IDNR/OWR permit prior to the start of construction of a dam.
2. If the Chief Subdivision Engineer finds a dam that does not have an IDNR/OWR permit, the Chief Subdivision Engineer shall immediately notify the IDNR/OWR Schaumburg office.
3. If the Chief Subdivision Engineer finds a dam, which is believed to be in unsafe condition, the Chief Subdivision Engineer shall immediately notify the owner of the dam, the IDNR/OWR Schaumburg office, and the Illinois Emergency Management Agency (IEMA).

10.8-2-7 Activities That Do Not Require A Registered Professional Engineer's Review

The following activities may be permitted without a registered professional engineer's review. Such activities shall still meet the other requirements of this Ordinance, including the mitigation requirements.

1. Underground and overhead utilities that:
 - A. Do not result in any increase in existing ground elevations, or
 - B. Do not require the placement of above ground structures in the floodway, or
 - C. In the case of underground stream crossings, the top of the pipe or encasement is buried a minimum of three feet (3') below the existing streambed, and
 - D. Overhead utility lines shall be constructed above the estimated 100-year frequency flood elevation or attached above the low chord of an existing bridge (with the permission of the bridge owner). No supporting towers shall be placed in the watercourse and shall be designed so as to not catch debris.
 - E. Disturbance of streamside vegetation shall be kept to a minimum during construction to prevent erosion and sedimentation. All disturbed floodway areas, including the stream banks shall be restored to their original contours and seeded or otherwise stabilized upon completion of construction.
 - F. A utility crossing carrying material which may cause water pollution as defined by the Environmental Protection Act 415 ILCS 5 (1992 State Bar Edition) shall be provided with shut off valves on each side of the body of water to be crossed.
 - G. All Illinois Commerce Commission, National Electric Safety Codes, and federal requirements for clearance must be met.
2. Storm and sanitary sewer relief outfalls that:
 - A. Do not extend riverward or lake ward of the existing adjacent natural bank slope,
 - B. Do not result in an increase in ground elevation, and
 - C. Are designed so as not to cause stream erosion at the outfall location.
3. Construction of sidewalks, athletic fields (excluding fences), properly anchored playground equipment and patios at grade.

4. Construction of shoreline and stream bank protection that:
 - A. Does not exceed one thousand feet (1,000') in length.
 - B. Materials are not placed higher than the existing top of bank.
 - C. Materials are not placed so as not to reduce the cross-sectional area of the stream channel or bank of the lake.
 - D. Stabilization utilizing native vegetation and gradual side slopes are the preferred mitigation methods for existing erosion problems. Where high channel velocities, sharp bends or wave action necessitate the use of alternative stabilization measures, soil bioengineering techniques, natural rock or riprap are preferred materials. Artificial materials such as concrete, construction rubble, and gabions should be avoided unless there are no practicable alternatives.
 - E. Temporary stream crossings in which:
 - i. The approach roads will be one-half (1/2) foot or less above natural grade.
 - ii. The crossing will allow stream flow to pass without backing up the water above the stream bank vegetation line or above any drainage tile or outfall invert.
 - iii. The top of the roadway fill in the channel will be at least two feet (2') below the top of the lowest bank. Any fill in the channel shall be non-erosive material, such as riprap or gravel.
 - iv. All disturbed stream banks will be seeded or otherwise stabilized as soon as possible upon installation and again upon removal of construction.
 - v. The access road and temporary crossings will be removed within one year after authorization.

10.9 **OCCUPATION AND USE OF SFHA AREAS WHERE FLOODWAYS ARE NOT IDENTIFIED**

In SFHA or floodplains (including AE, AH, AO and Unnumbered A Zones) where no floodways have been identified and no base flood or 100-year frequency flood elevations have been established by FEMA, and draining more than a square mile, no development shall be permitted unless the cumulative effect of the proposals, when combined with all other existing and anticipated uses and structures, shall not significantly impede or increase the flow and passage of the floodwaters nor significantly increase the base flood or 100-year frequency flood elevation.

10.9-1 Site Development Permit

1. No person, firm, corporation, or governmental body, not exempted by state law, shall commence any development in a SFHA or floodplain without first obtaining a Site Development Permit from the Will County Land Use Department. Failure to obtain a site development permit is a violation of this Ordinance.
2. Any person, firm, corporation or governmental body not exempted by state law that commences any development in the SFHA without first obtaining a site development permit from the County shall be required to obtain an after the fact site development permit at a cost that is double the normal fee.
3. Application for a site development permit shall be made on a form provided by the Will County Land Use Department.
 - A. The application shall be accompanied by drawings of the site, drawn to scale showing property line dimensions, existing grade elevations, and all changes in grade resulting from excavation or filling, sealed by a licensed engineer, architect or surveyor; the location and dimensions of all buildings and additions to buildings; and the elevations of the lowest floor (including basement) of all proposed buildings subject to the requirements of Section 10.10 of this Ordinance.
 - B. The application for a development permit shall also include the following information:
 - i. A detailed description of the proposed activity, its purpose, and intended use;
 - ii. Site location (including legal description) of the property, drawn to scale, on the designated floodway maps, indicating whether it is proposed to be in an incorporated or unincorporated area;
 - iii. Anticipated dates of initiation and completion of activity;
 - iv. Plans of the proposed activity shall be provided which include as a minimum:
 - a. A vicinity map showing the site of the activity, name of the waterway, boundary lines, names of roads in the vicinity of the site, graphic or numerical scale, and north arrow;
 - b. A plan view of the project and engineering study reach showing existing and proposed conditions including principal dimensions of the structure or work, elevations in mean sea level (1929 adjustment) datum or N.G.V.D., adjacent property lines and ownership, drainage and flood control easements, distance between proposed activity and navigation channel (when the proposed construction is in or near a commercially

navigable body of water), floodplain limit, location and orientation of cross-sections, north arrow, and a graphical or numerical scale;

- c. Cross-section views of the project perpendicular to the flow of floodwater and engineering study reach showing existing and proposed conditions including principal dimensions of the work as shown in plan view, existing and proposed elevations, normal water elevation, 10-year frequency flood elevation, 100-year frequency flood elevation, and graphical or numerical scales (horizontal and vertical); and,
 - d. A soil erosion and sedimentation control plan for disturbed areas. This plan shall include a description of the sequence of grading activities and the temporary sediment and erosion control measures to be implemented to mitigate their effects. This plan shall also include a description of final stabilization and re-vegetation measures, and the identification of a responsible party to ensure post-construction maintenance.
- C. Engineering calculations and supporting data shall be submitted showing that the proposed work will meet the criteria of Section 10.9-2.
- D. Any and all other federal, state, and local permits or approvals that may be required for this type of development.
4. Based on the best available existing data according to the Illinois State Water Survey's Floodplain Information Repository, the Chief Subdivision engineer shall compare the elevation of the site to the base flood or 100-year frequency flood elevation.
- A. Should no elevation information exist for the site, the developer's engineer shall calculate the elevation according to Section 10.6-4.
 - B. Any development located on land that can be shown to have been higher than the base flood elevation of the current Flood Insurance Rate Map Identification is not in the SFHA and, therefore, not subject to the requirements of this Ordinance.
 - C. The Chief Subdivision Engineer shall maintain documentation of the existing ground elevation at the development site and certification that this ground elevation existed prior to the date of the site's first Flood Insurance Rate Map identification.
5. The applicant shall be responsible for submitting to the Chief Subdivision Engineer copies of all other federal, state, and local permits, approvals or permit-not-required letters that may be required for this type of activity. The Chief Subdivision Engineer shall not issue the development permit unless all required federal, state, and local permits have been submitted.

10.9-2 Preventing Increased Damages

1. No development in the SFHA, where a floodway has not been determined shall create a damaging or potentially damaging increase in flood heights or velocity or threat to public health, safety and welfare, impair the natural hydrologic and hydraulic functions of the floodway or channel, or impair existing water quality or aquatic habitat. Construction impacts shall be minimized by appropriate mitigation methods as called for in this Ordinance.
2. Within all riverine SFHAs where the floodway has not been determined, the following standards shall apply:
 - A. The developer shall have a Registered Professional Engineer state in writing and show through supporting plans, calculations, and data that the project meets the engineering requirements of Section 10.8-2-3 (a) through (l) for the entire floodplain as calculated under the provisions of Section 10.6-4 of this Ordinance.
 - i. As an alternative, the developer should have an engineering study performed to determine a floodway and submit that engineering study to IDNR/OWR for acceptance as a designated floodway.
 - ii. Upon acceptance of the floodway by IDNR/OWR, the developer shall then demonstrate that the project meets the requirements of Section 10.8 for the designated floodway. The floodway shall be defined according to the definition in Section 10.3 of this Ordinance.
 - B. A development permit shall not be issued unless the applicant first obtains a permit from IDNR/OWR.
 - C. No permit from IDNR/OWR shall be required if IDNR/OWR has delegated permit responsibility per 92 Ill. Adm. Code Part 708 for designated floodways.
 - D. Permits for Dams
 - i. Any work involving the construction, modification or removal of a dam as defined in Section 10.3-0 per 92 Ill. Adm. Code Part 702 (Rules for Construction of Dams) shall require the applicant to obtain an IDNR/OWR permit prior to the start of construction of a dam.
 - ii. If the Chief Subdivision Engineer finds a dam that does not have an IDNR/OWR permit, the Chief Subdivision Engineer shall immediately notify the IDNR/OWR Schaumburg office.

- iii. If the Chief Subdivision Engineer finds a dam which is believed to be in unsafe condition, the Chief Subdivision Engineer shall immediately notify the owner of the dam, the IDNR/OWR Schaumburg office, and the Illinois Emergency Management Agency (IEMA).
3. A site development permit may be issued for the following activities without a Registered Professional Engineer's review or calculation of a base flood elevation and designated floodway. Such activities shall still meet the other requirements of this Ordinance:
- A. Underground and overhead utilities that:
 - i. Do not result in any increase in existing ground elevations, or
 - ii. Do not require the placement of above ground structures in the floodway, or
 - iii. In the case of underground stream crossings, the top of the pipe or encasement is buried a minimum of three feet (3') below the existing streambed, and
 - iv. Overhead utility lines shall be constructed above the estimated 100-year frequency flood elevation or attached above the low chord of an existing bridge (with the permission of the bridge owner). No supporting towers shall be placed in the watercourse and shall be designed so as to not catch debris.
 - v. Disturbance of streamside vegetation shall be kept to minimum during construction to prevent erosion and sedimentation.
 - vi. A utility crossing carrying material which may cause water pollution as defined by the Environmental Protection Act 415 ILCS 5 (1992 State Bar Edition) shall be provided with shut-off valves on each side of the body of water to be crossed.
 - vii. All Illinois Commerce Commission, National Electric Safety Codes, and federal requirements for clearance must be met.
 - B. Storm and sanitary sewer relief outfalls that:
 - i. Do not extend riverward or lake ward of the existing adjacent natural bank slope, and
 - ii. Do not result in an increase in ground elevation, and
 - iii. Are designed so as not to cause stream erosion at the outfall location.

- C. Construction of shoreline and stream bank protection that:
- i. Does not exceed one thousand feet (1,000') in length.
 - ii. Materials are not placed higher than the existing top of bank.
 - iii. Materials are placed so as not to reduce the cross-sectional area of the stream channel by more than ten percent (10%).
 - iv. Stabilization utilizing native vegetation and gradual side slopes are the preferred mitigation methods for existing erosion problems. Where high channel velocities, sharp bends or wave action necessitate the use of alternative stabilization measures, soil bioengineering techniques, natural rock or riprap are preferred materials. Artificial materials such as concrete, construction rubble, and gabions should be avoided unless there are no practicable alternatives.
- D. Temporary stream crossings in which:
- i. The approach roads will be one half foot ($\frac{1}{2}$ ') or less above natural grade.
 - ii. The crossing will allow stream flow to pass without backing up the water above the stream bank vegetation line or above any drainage tile or outfall invert.
 - iii. The top of the roadway fill in the channel will be at least 2' below the top of the west bank. Any fill in the channel shall be non-erosive material, such as riprap or gravel.
 - iv. All disturbed stream banks will be seeded or otherwise stabilized as soon as possible upon installation and again upon removal of construction.
 - v. The access road and temporary crossings will be removed within one year after authorization.
- E. The construction of light poles, signposts and similar structures;
- F. The construction of sidewalks, driveways, athletic fields (excluding fences), patios and similar surfaces, which are built at grade;
- G. The construction of properly anchored, un-walled, open structures such as playground equipment, pavilions, and carports built at or below existing grade that would not obstruct the flow of flood waters;

- H. The placement of properly anchored buildings not exceeding seventy (70) square feet in size, nor ten (10) feet in any one dimension (e.g., animal shelters and tool sheds);
 - I. The construction of additions to existing buildings which do not increase the first floor area by more than twenty percent (20%), which are located on the upstream or downstream side of the existing building, and which do extend beyond the sides of the existing building that are parallel to the flow of flood waters;
 - J. Minor maintenance dredging of a stream channel where:
 - i. The affected length of stream is less than one thousand feet (1,000').
 - ii. The work is confined to reestablishing flows in natural stream channels, or
 - iii. The cross-sectional area of the dredged channel conforms to that of the natural channel upstream and downstream of the site.
4. The flood-carrying capacity within any altered or relocated watercourse shall be maintained.
5. Compensatory Storage
- A. Whenever any portion of a floodplain is authorized for use, the volume of space which will be occupied by the authorized fill or structure below the base flood or 100-year frequency flood elevation shall be compensated for and balanced by a hydraulically equivalent volume of excavation taken from below the base flood or 100-year frequency flood elevation.
 - B. The excavation volume shall be at least equal to 1.25 times the volume of storage lost due to the fill or structure.
 - C. In the case of streams and watercourses, such excavation shall be made opposite or adjacent to the areas so filled or occupied.
 - D. All floodplain storage lost below the existing 10-year flood elevation shall be replaced below the proposed 10-year flood elevation. All floodplain storage lost above the existing 10-year flood elevation shall be replaced above the proposed 10-year flood elevation. All such excavations shall be constructed to drain freely and openly to the watercourse.

10.10 PERMITTING REQUIREMENTS APPLICABLE TO ALL FLOODPLAIN AREAS

In addition to the requirements found in Sections 10.7, 10.8, and 10.9 for development in flood fringes, designated floodways, and SFHA or floodplains where no floodways have been identified (Zones A, AO, AH, AE, A1-A30, A99, the following requirements shall be met.

10.10-1 Public Health Standards

1. No developments in the SFHA shall include locating or storing chemicals, explosives, buoyant materials, animal wastes, fertilizers, flammable liquids, pollutants, or other hazardous or toxic materials below the flood protection elevation (FPE).
2. New and replacement water supply systems, wells, sanitary sewer lines and on-site waste disposal systems may be permitted providing all manholes or other above ground openings located below the FPE are watertight.

10.10-2 Carrying Capacity and Notification

1. For all projects involving channel modification, fill, or stream maintenance (including levees), the flood carrying capacity of the watercourse shall be maintained.
2. In addition, the County shall notify adjacent communities in writing thirty (30) days prior to the issuance of a permit for the alteration or relocation of the watercourse.

10.10-3 Protecting Buildings

1. All buildings located within a 100-year floodplain also known as SFHA shall be protected from flood damage below the flood protection elevation. This building protection criteria may be met by one of the following methods in Sections 2 through 6 below and applied to the following situations:
 - A. Construction or placement of a new building;
 - B. A structural alteration to an existing building that either increases the first floor area or the building's market value by more than fifty percent (50%);
 - C. Installing manufactured home on a new site or a new manufactured home on an existing site. This building protection requirements does not apply to returning a mobile home to the same site it lawfully occupied before it was removed to avoid flood damage; and
 - D. Installing a travel trailer on a site for more than one hundred and eighty (180) days.

2. A residential or non-residential building, when allowed, may be constructed on permanent land fill in accordance with the following:
 - A. The lowest floor (including basement) shall be at or above the flood protection elevation.
 - B. Fill Requirements
 - i. The fill shall be placed in layers no greater than one (1) foot deep before compaction and should extend at least ten (10) feet beyond the foundation of the building before sloping below the flood protection elevation.
 - ii. The top of the fill shall be above the flood protection elevation. However, the ten (10) foot minimum may be waived if a structural engineer certifies an alternative method to protect the building from damages due to hydrostatic pressures.
 - iii. The fill shall be protected against erosion and scour.
 - iv. The fill shall not adversely affect the flow or surface drainage from or onto neighboring properties.
3. A residential or non-residential building may be elevated in accordance with the following:
 - A. The building or improvements shall be elevated on crawl space, stilts, piles, walls, or other foundation that is permanently open to flood waters and not subject to damage by hydrostatic pressures of the base flood or 100-year frequency flood. The permanent openings shall be no more than one (1) foot above the existing grade, and consist of a minimum of two openings. The openings must have a total net area of not less than one (1) square inch for every one (1) square foot of enclosed area subject to flooding below the Base Flood Elevation.
 - B. 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.
 - C. All areas below the flood protection elevation shall be constructed of materials resistant to flood damage.
 - i. The lowest floor (including basement) and all electrical, heating, ventilating, plumbing, and air conditioning equipment and utility meters shall be located at or above the flood protection elevation.

- ii. Water and sewer pipes, electric and telephone lines, submersible pumps, and other waterproofed service facilities may be located below the flood protection elevation.
- D. The areas below the flood protection elevation may only be used for the parking of vehicles, building access or storage in an area other than a basement.
- E. Manufactured homes, and travel trailers to be installed on a site for more than one hundred and eighty (180) days, shall be elevated to or above the flood protection elevation; 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. In addition, all manufactured homes shall meet the following elevation requirements:
 - i. In the case of manufactured homes placed or substantially improved (1) outside of a manufactured home park or subdivision, (2) in a new manufactured home park or subdivision, (3) in an expansion to an existing manufactured home park or subdivision, or (4) in an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage from a flood, the top of the lowest floor shall be elevated to or above the flood protection elevation.
 - ii. In the case of manufactured homes placed or substantially improved in an existing manufactured home park or subdivision, the manufactured home shall be elevated so that either the top of the lowest floor is above the base flood elevation or the chassis is at least thirty six (36) inches in height above grade and supported by reinforced piers or other foundations of equivalent strength, whichever is less.
- F. Recreational vehicles or travel trailers shall be required to meet the elevation and anchoring requirements of Subsection 10.3.3 (E) above unless:
 - i. They are on site for fewer than one hundred and eighty (180) consecutive days; and,
 - ii. They are fully licensed and ready for highway use. A recreational vehicle 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.
- 4. Only a non-residential building may be structurally dry flood proofed (in lieu of elevation) provided that:

- A. A registered professional engineer shall certify that the building has been structurally dry flood proofed below the flood protection elevation, the structure and attendant utility facilities are watertight and capable of resisting the effects of the base flood or 100-year frequency flood.
 - B. 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.
 - C. Flood proofing measures shall be operable without human intervention and without an outside source of electricity (levees, berms, floodwalls and similar works are not considered flood proofing for the purpose of this subsection).
5. Tool sheds and detached garages on an existing single-family platted lot, may be constructed with the lowest floor below the flood protection elevation in accordance with the following:
- A. The building is not used for human habitation.
 - B. All areas below the base flood or 100-year frequency flood elevation shall be constructed with waterproof material. Structures located in a designated floodway shall be constructed and placed on a building site so as not to block the flow of flood waters and shall also meet the Appropriate Use criteria of Section 10.8. In addition, all other requirements of Section 10.7, 10.8, and 10.9 must be met.
 - C. The structure shall be anchored to prevent flotation.
 - D. Service facilities such as electrical and heating equipment shall be elevated or flood proofed to the flood protection elevation.
 - E. The building shall be valued at less than seven thousand five hundred (\$7,500) dollars and be less than six hundred (600) square feet in floor size.
 - F. The building shall be used only for the storage of vehicles or tools and may not contain other rooms, workshops, greenhouses, or similar uses.
 - G. The building shall meet the permanent opening criteria of Section 10.10-3-3(a).
6. Existing buildings located within a designated floodway shall also meet the more restrictive Appropriate Use standards included in Section 10.8. Non-conforming structures located in a designated floodway may remain in use and may only be enlarged, replaced or structurally altered in accordance with Section 10.8-2.

10.11 OTHER DEVELOPMENT REQUIREMENTS

The Will County Board of Commissioners shall take into account flood hazards, to the extent that they are known in all official actions related to land management, use and development.

- 10.11-1 New structures, subdivisions, manufactured home parks, annexation agreements, and Planned Unit Developments (PUDs) within the SFHA shall be reviewed to assure that the proposed developments are consistent with Sections 10.7, 10.8, 10.9 and 10.10 of this Ordinance and the need to minimize flood damage.

Plats or plans for new subdivisions, mobile home parks and Planned Unit Developments (PUDs) shall include a signed statement by a Registered Professional Engineer that the plat or plans account for changes in the drainage of surface waters in accordance with the Plat Act (765 ILCS 205/2).

- 10.11-2 Proposals for new subdivisions, manufactured home parks, travel trailer parks, planned unit developments (PUDs) and additions to manufactured home parks and additions to subdivisions shall include base flood or 100-year frequency flood elevation data and floodway delineations.

1. Where this information is not available from an existing study filed with the Illinois State Water Survey, the applicant's engineer shall be responsible for calculating the base flood or 100-year frequency flood elevation per Section 10.6-4 and the floodway delineation per the definition in Section 10.3.
2. The applicant's engineer shall submit the data to IDNR/OWR for review and approval as best available regulatory data and then send it to the State Water Survey. The applicant's engineer shall also submit the data to FEMA for a Letter of Map Revision (LOMR).

- 10.11-3 Streets, blocks, lots, parks and other public grounds shall be located and laid out in such a manner as to preserve and utilize natural streams and channels. Wherever possible, the floodplains shall be included within parks or other public grounds.

- 10.11-4 The County Board of Commissioners shall not approve any special use permit for a Planned Unit Development (PUD) and the Plat Committee of the County Board shall not approve any plat of subdivision located in unincorporated Will County unless such agreement or plat is in accordance with the provisions of this Ordinance.

10.12 **VARIANCES**

10.12-1 The applicant may, in accordance with the procedures and standards found in Section 14 of this Zoning Ordinance, apply for the following authorized variations from the regulations of this Section:

- A. The Flood Protection Elevation (FPE) may be at or above the Base Flood Elevation (BFE) for an existing structure.

For any variations from the regulations of this Section not specifically stated above, the procedures and standards found in Section 14 of this Zoning Ordinance shall be met and also forwarded to the Full County Board for their approval or denial.

10.12-2 In addition to the standards found in Section 14 of this Zoning Ordinance, no variation from the regulations of this Section shall be granted unless the applicant also demonstrates that:

1. The development activity cannot be located outside the SFHA;
2. An exceptional hardship would result if the variance were not granted;
3. The relief requested is the minimum necessary;
4. There will be no additional threat to public health, safety, beneficial stream uses and functions, especially aquatic habitat, or creation of a nuisance;
5. There will be no additional public expense for flood protection, lost environmental stream uses and functions, rescue or relief operations, policing, or repairs to streambeds and banks, roads, utilities, or other public facilities;
6. The provisions of Sections 10.7-2 and 10.9-2 of this Ordinance shall still be met;
7. The activity will not violate the applicable regulations as set forth by FEMA and IDNR.
8. The applicant's circumstances are unique and do not represent a general problem, and;
9. The granting of the variance will not alter the essential character of the area involved including existing stream uses.

10.12-3 The Chief Subdivision Engineer shall notify an applicant in writing that a variance from the requirements of Section 10.10 that would lessen the degree of protection to a building will:

1. Result in increased premium rates for flood insurance up to amounts as high as twenty-five dollars (\$25) for one hundred dollars (\$100) of insurance coverage;
2. Increase the risks to life and property; and,
3. Require that the applicant proceed with knowledge of these risks and the applicant will acknowledge in writing that he assumes the risk and liability.

10.12-4 Variances requested in connection with restoration of a historic site or historic structure as defined in 10.3 “Historic Structures,” may be granted using criteria more permissive than the requirements of Sections 10.12-2 and 10.12-3, subject to the conditions that:

1. The repair or rehabilitation is the minimum necessary to preserve the historic character and design of the structure; and,
2. The repair or rehabilitation will not result in the structure being removed as a certified historic structure.

10.13 **DISCLAIMER OF LIABILITY**

10.13-1 The degree of flood protection required by this Ordinance is considered reasonable for regulatory purposes and is based on available information derived from engineering and scientific methods of study.

10.13-2 Larger floods may occur or flood heights may be increased by man-made or natural causes.

10.13-3 This Ordinance does not imply that development, either inside or outside of the SFHA, will be free from flooding or damage.

10.13-4 This Ordinance does not create liability on the part of the County or any officer or employee thereof for any flood damage that results from reliance on this Ordinance or any administrative decision made lawfully there under.

10.14 **PENALTY**

Failure to comply with the requirements of this Ordinance or failure to comply with the requirements of a site development permit or conditions of a variance or a special use permit for floodplain development shall be deemed to be a violation of this Ordinance. Upon due investigation, the Chief Subdivision Engineer may determine that a violation of the minimum standards of this Ordinance exists. The Chief Subdivision Engineer shall notify the owner in writing of such violation.

10.14-1 If such owner fails after ten (10) days notice to correct the violation:

1. The County may make an application to the Circuit Court for an injunction-requiring conformance with this Ordinance or make such other order, as the Court deems necessary to secure compliance with the Ordinance.
2. Any person who violates any provision of Section 10 of this Ordinance shall, upon conviction thereof, be fined not less than one hundred dollars (\$100.00) or more than one thousand dollars (\$1,000.00) for each offense.
3. A separate offense shall be deemed committed upon each day during or on which a violation occurs or continues.
4. The County of Will may record a notice of violation on the title to the property.

10.14-2 The Chief Subdivision Engineer shall inform the owner that any such violation is considered a willful act to increase flood damages and, therefore, may cause coverage by a Standard Flood Insurance Policy to be suspended.

1. The Chief Subdivision Engineer is authorized to issue an order requiring the suspension of the subject development. The stop-work order shall be in writing, shall indicate the reason for the issuance, and shall order the action, if necessary, to resolve the circumstances requiring the stop-work order. The stop-work order constitutes a suspension of the site development permit, if a site development permit was issued, or a suspension of work that was started without having obtained the required permits. Failure to comply with a stop-work order is a violation of this Ordinance.
2. No site development permit shall be permanently suspended or revoked until a hearing is held by the Land Use and Zoning Committee. Written notice of such hearing shall be served on the permittee and shall state: (1) the grounds for complaint or reasons for suspension or revocation; and (2) the time and place of the hearing. At such hearing, the permittee shall be given an opportunity to present evidence on his/her behalf. At the conclusion of the hearing, the Land Use and Zoning Committee shall determine whether the permit shall be suspended or revoked.

10.14-3 Nothing herein shall prevent the County of Will from taking such other lawful action to prevent or remedy any violations. All costs connected therewith shall accrue to the person or persons responsible for the disturbance of ground in the SFHA.

10.15 **ABROGATION AND GREATER RESTRICTIONS**

10.15-1 This Ordinance is not intended to repeal, abrogate or impair any existing easements, covenants, or deed restrictions.

10.15-2 Where this Ordinance and other ordinance, easements, covenants, or deed restrictions conflict or overlap, whichever imposes the more stringent restrictions shall prevail. Adoption of this Ordinance effectively supersedes and thereby repeals and replaces Section 10 of the Will County Zoning Ordinance.

10.15-3 This Ordinance is intended to repeal the original Ordinance or resolution (Flood Damage Prevention Ordinance) which was adopted to meet the National Flood Insurance Program regulations, but is not intended to repeal the resolution which the County of Will passed in order to establish initial eligibility for the program.

10.16 **SEPARABILITY**

The provisions and Sections of this Ordinance shall be deemed separable and the invalidity of any portion of this Ordinance shall not affect the validity of the remainder.

10.17 **EFFECTIVE DATE**

This Ordinance shall be in full force and effect from and after its passage and approval and publication, as required by law. (Resolution 98-22, Approved February 19, 1998)

Appendix A: Section 10 – Flood Damage Prevention Ordinance
FEMA FIRM MAPS EFFECTIVE AS OF MAY 20, 1999

Panel Number	Community Number	Effective Date	Panel Number	Community Number	Effective Date
17197C0010 E	170695	09/06/1995	17197C0270 E	170695	09/06/1995
17197C0017 E	170695	09/06/1995	17197C0280 E	170695	09/06/1995
17197C0030 E	170695	09/06/1995	17197C0285 E	170695	09/06/1995
17197C0031 E	170695	09/06/1995	17197C0286 E	170695	09/06/1995
17197C0032 E	170695	09/06/1995	17197C0290 E	170695	09/06/1995
17197C0033 F	170695	09/22/1999	17197C0295 E	170695	09/06/1995
17197C0034 E	170695	09/06/1995	17197C0303 E	170695	09/06/1995
17197C0036 E	170695	09/06/1995	17197C0305 E	170695	09/06/1995
17197C0037 E	170695	09/06/1995	17197C0310 E	170695	09/06/1995
17197C0038 E	170695	09/06/1995	17197C0311 E	170695	09/06/1995
17197C0039 E	170695	09/06/1995	17197C0315 E	170695	09/06/1995
17197C0045 F	170695	09/22/1999	17197C0320 E	170695	09/06/1995
17197C0052 E	170695	09/06/1995	17197C0326 E	170695	09/06/1995
17197C0053 E	170695	09/06/1995	17197C0327 E	170695	09/06/1995
17197C0054 E	170695	09/06/1995	17197C0331 E	170695	09/06/1995
17197C0056 E	170695	09/06/1995	17197C0350 E	170695	09/06/1995
17197C0058 E	170695	09/06/1995	17197C0351 F	170695	11/06/2000
17197C0061 E	170695	09/06/1995	17197C0353 E	170695	09/06/1995
17197C0062 E	170695	09/06/1995	17197C0354 F	170695	11/06/2000
17197C0065 F	170695	09/22/1999	17197C0358 F	170695	11/06/2000
17197C0070 E	170695	09/06/1995	17197C0359 F	170695	11/06/2000
17197C0090 E	170695	09/06/1995	17197C0361 E	170695	09/06/1995
17197C0095 E	170695	09/06/1995	17197C0362 E	170695	09/06/1995
17197C0110 E	170695	09/06/1995	17197C0365 E	170695	09/06/1995
17197C0126 E	170695	09/06/1995	17197C0366 E	170695	09/06/1995
17197C0127 E	170695	09/06/1995	17197C0367 E	170695	09/06/1995
17197C0130 E	170695	09/06/1995	17197C0370 E	170695	09/06/1995
17197C0134 E	170695	09/06/1995	17197C0378 F	170695	11/06/2000
17197C0135 F	170695	09/22/1999	17197C0379 E	170695	09/06/1995
17197C0137 E	170695	09/06/1995	17197C0385 E	170695	09/06/1995
17197C0139 E	170695	09/06/1995	17197C0386 E	170695	09/06/1995
17197C0140 E	170695	09/06/1995	17197C0390 E	170695	09/06/1995
17197C0141 E	170695	09/06/1995	17197C0395 E	170695	09/06/1995
17197C0142 E	170695	09/06/1995	17197C0405 E	170695	09/06/1995
17197C0143 E	170695	09/06/1995	17197C0408 E	170695	09/06/1995
17197C0144 E	170695	09/06/1995	17197C0409 E	170695	09/06/1995
17197C0153 E	170695	09/06/1995	17197C0410 E	170695	09/06/1995
17197C0154 E	170695	09/06/1995	17197C0415 E	170695	09/06/1995
17197C0155 E	170695	09/06/1995	17197C0416 E	170695	09/06/1995
17197C0156 E	170695	09/06/1995	17197C0417 E	170695	09/06/1995
17197C0157 E	170695	09/06/1995	17197C0420 E	170695	09/06/1995
17197C0158 E	170695	09/06/1995	17197C0430 E	170695	09/06/1995
17197C0159 E	170695	09/06/1995	17197C0440 E	170695	09/06/1995
17197C0161 E	170695	09/06/1995	17197C0450 E	170695	09/06/1995
17197C0162 E	170695	09/06/1995	17197C0475 E	170695	09/06/1995
17197C0163 E	170695	09/06/1995	17197C0500 E	170695	09/06/1995
17197C0164 E	170695	09/06/1995	17197C0505 E	170695	09/06/1995
17197C0170 E	170695	09/06/1995	17197C0507 E	170695	09/06/1995
17197C0180 E	170695	09/06/1995	17197C0509 E	170695	09/06/1995
17197C0185 E	170695	09/06/1995	17197C0510 E	170695	09/06/1995
17197C0190 E	170695	09/06/1995	17197C0515 E	170695	09/06/1995
17197C0195 E	170695	09/06/1995	17197C0520 E	170695	09/06/1995
17197C0211 E	170695	09/06/1995	17197C0526 E	170695	09/06/1995
17197C0212 F	170695	11/06/2000	17197C0528 E	170695	09/06/1995
17197C0213 E	170695	09/06/1995	17197C0530 E	170695	09/06/1995
17197C0214 E	170695	09/06/1995	17197C0535 E	170695	09/06/1995
17197C0216 F	170695	11/06/2000	17197C0540 E	170695	09/06/1995
17197C0218 E	170695	09/06/1995	17197C0545 E	170695	09/06/1995
17197C0255 E	170695	09/06/1995	17197C0560 E	170695	09/06/1995
17197C0260 E	170695	09/06/1995	17197C0580 E	170695	09/06/1995
17197C0265 E	170695	09/06/1995	17197C0585 E	170695	09/06/1995

**SOIL EROSION AND SEDIMENTATION CONTROL ORDINANCE
WILL COUNTY, ILLINOIS**

**RESOLUTION NO. 98-23
ZONING ORDINANCE – Section 9**

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**SOIL EROSION AND SEDIMENTATION CONTROL ORDINANCE
WILL COUNTY, ILLINOIS**

**RESOLUTION NO. 98-23
ZONING ORDINANCE – Section 9**

9.1 PURPOSE

The purpose of this Ordinance is to safeguard persons, protect property, prevent damage to the environment, and promote the public welfare by guiding, regulating and controlling the design, construction, use and maintenance of any development or other activity which disturbs or breaks the topsoil or otherwise results in the movement of earth on land situated in unincorporated portions of the County.

It is the intention of this Ordinance that the delivery of sediment from sites affected by land disturbing activities is limited, as closely as practicable, to that which would have occurred if the land had been left in its natural undisturbed state. The following are particular concerns related to improper controls over soil erosion and sedimentation:

1. Excessive quantities of soil may erode from areas undergoing development for certain non-agricultural uses including but not limited to the construction of dwelling units, commercial buildings and industrial plants, the building of roads and highways, the modification of stream channels and drainage ways, the creation of recreational facilities;
2. The washing, blowing, and falling of eroded soil across and upon roadways endangers the health and safety of users thereof, by decreasing vision and reducing traction of road vehicles;
3. Soil erosion necessitates the costly repairing of gullies, washed-out fills, and embankments;
4. Sediment from soil erosion tends to clog sewers and ditches and to pollute and silt rivers, streams, lakes, wetlands, and reservoirs;
5. Sediment limits the use of water and waterways for most beneficial purposes, promotes the growth of undesirable aquatic weeds, destroys fish and other desirable aquatic life, and is costly and difficult to remove; and,
6. Sediment reduces the channel capacity of waterways and storage capacity of floodplains and natural depressions, resulting in increased chances of flooding at risk to public health and safety.

9.2 DEFINITIONS

For the purpose of this ordinance, certain terms used herein are defined as set forth below:

Building Permit: A permit issued by the County of Will for the construction, erection, or alteration of a structure or building.

Certify or Certification: Formally attesting that the specific inspections and tests where required have been performed, and that such tests comply with the applicable requirements of this Ordinance.

Clearing: Any activity, which removes vegetative ground cover.

County: The County of Will, Illinois.

Cubic Yards: The amount of material in excavation and/or fill measured by the method of "average end areas."

Excavation: Any act by which the organic matter, earth, sand, gravel, rock, or any other similar material is cut into, dug, quarried, uncovered, removed, displaced, relocated, or bulldozed and shall include the conditions resulting there from.

Existing Grade: The vertical location of the existing ground surface prior to excavation or filling.

Fill: Any act by which earth, sand, gravel, rock or any other material is deposited, placed, replaced, pushed, dumped, pulled, transported, or moved by man to a new location and shall include the conditions resulting there from.

Final Grade: The vertical location of the ground or pavement surface after the grading work is completed in accordance with the site development plan.

Grading: Excavation or fill or any combination thereof and shall include the conditions resulting from any excavation or fill.

Land Use Department: County authority responsible for issuing permits, inspecting work in progress, and taking enforcement action if necessary.

Natural Drainage: Channels formed in the existing surface topography of the earth prior to changes made by unnatural causes.

Parcel: All contiguous land in one ownership.

Permittee: Any person to whom a site development permit is issued.

Person: Any individual, firm, or corporation, public or private, the State of Illinois and its agencies or political subdivisions, and the United States of America, its agencies and instrumentalities, and any agent, servant, officer or employee of any of the foregoing.

Removal: Cutting vegetation to the ground or stumps, complete extraction, or killing by spraying.

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

Site Development: Altering terrain and/or vegetation and construction improvements.

Site Development Permit: A permit issued by the County for the construction or alteration of ground improvements and structures for the control of erosion, runoff, and grading, or for the clearing, grading, stripping, excavating, or filling of land.

Stream: Any river, creek, brook, branch, flowage, ravine, or natural or man-made drainage way which has a definite bed and banks or shoreline, in or into which surface or groundwater flows, either perennially or intermittently.

Stripping: Any activity which removes the vegetative surface cover including tree removal, clearing, and storage or removal of topsoil

Vacant: Land on which there are no structures or only structures which are secondary to the use or maintenance of the land itself.

Wetlands: Areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, and are subject to the regulations of the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act.

9.3 GENERAL GUIDELINES

It is the objective of this Section to control soil erosion and sedimentation caused by development activities, including clearing, grading, stripping, excavating, and filling of land, in the unincorporated portions of the County. Measures taken to control soil erosion and offsite sediment runoff should be adequate to assure that sediment is not transported from the site by a storm event of ten-year frequency or less.

The following principles shall apply to all development activities within the County and to the preparation of the submissions required under Section 9.4 of this Ordinance:

1. Development should be related to the topography and soils of the site so as to create the least potential for erosion. Areas of steep slopes where high cuts and fills may be required should be avoided wherever possible, and natural contours should be followed as closely as possible.
2. Natural vegetation should be retained and protected wherever possible. Areas immediately adjacent to natural watercourses, lakes, ponds, and wetlands should be left undisturbed wherever possible. Temporary crossings of watercourses, when permitted, must include appropriate stabilization measures.
3. Special precautions should be taken to prevent damages resultant from any necessary development activity within or adjacent to any stream, lake, pond, or wetland. Preventive measures should reflect the sensitivity of these areas to erosion and sedimentation.
4. The smallest practical area of land should be exposed for the shortest practical time during development.
5. Sediment basins or traps, filter barriers, diversions, and any other appropriate sediment or runoff control measures should be installed prior to site clearing and grading and maintained to remove sediment from runoff waters from land undergoing development.
6. The selection of erosion and sedimentation control measures should be based on assessment of the probable frequency of climatic and other events likely to contribute to erosion, and on evaluation of the risks, costs, and benefits involved.
7. In the design of erosion control facilities and practices, aesthetics and the requirements of continuing maintenance should be considered.
8. Provisions should be made to accommodate the increased runoff caused by changed soil and surface conditions during and after development. Drainage ways should be designed so that their final gradients and the resultant velocities and rates of discharge will not create additional erosion onsite or downstream.
9. Permanent vegetation and structures should be installed and functional as soon as practical during development. Native vegetation is preferred for developments near, or adjacent to high quality natural areas, wetlands, and streams.
10. Those areas being converted from agricultural purposes to other land uses should be vegetated with an appropriate protective cover prior to development.
11. All waste generated as a result of site development activity should be properly disposed of and should be prevented from being carried off the site by either wind or water.

12. All construction sites should provide measures to prevent sediment from being tracked onto public or private roadways.

9.4 **SITE DEVELOPMENT PERMIT**

9.4-1 Permit Required

Except as otherwise provided in this Ordinance, no person shall commence or perform any clearing, grading, stripping, excavating, or filling of land without having first obtained a site development permit from the Engineering Division of the Will County Land Use Department. Failure to obtain a site development permit is a violation of this Ordinance.

9.4-2 Exceptions

The provisions of this Section shall not apply to any one of the following construction activities unless the property is in a floodplain. For the purposes of this Section, tennis courts, parking areas, in-ground swimming pools and other similar paved areas shall be considered accessory structures. If the construction activity meets any one of the following, it shall be considered an exception:

1. Clearing, grading, stripping, excavating or filling associated with the construction of a single-family residence on a site equal to or greater than five (5) acres.
2. Clearing, grading, stripping, excavating or filling associated with the construction of a single-family accessory structure on a site equal to or greater than two and one-half (2.5) acres provided that the structure is equal to or less than three thousand (3,000) square feet in area.
3. Clearing, grading, stripping, excavating or filling associated with the construction of an addition to an existing residential building or the construction of a single-family residential accessory structure. The footprint of either being equal to or less than one thousand (1,000) square feet in area.
4. Clearing, grading, stripping, excavating or filling associated with the Agricultural use of land, including the implementation of conservation practices included in a farm conservation plan approved by the Will/South Cook Soil and Water Conservation District, and including the construction of structures used for agricultural purposes.
5. Clearing, grading, stripping, excavating or filling associated with the installation, renovation, or replacement of a septic system to serve an existing dwelling or structure.

6. Excavation, fill, or any combination thereof which is equal to or less than one hundred (100) cubic yards in volume on a site less than two and one half (2.5) acres in size when structures are not involved and the proposed construction activity is not within twenty (20) feet of a property line.
7. Excavation, fill, or any combination thereof which is equal to or less than two hundred (200) cubic yards in volume on a site equal to or greater than two and one half (2.5) acres when structures are not involved and the proposed construction activity is not within twenty (20) feet of the property line.
8. Removal of plant cover equal to or less than five thousand (5,000) square feet in an area when structures are not involved.

9.4-3 Application for Permit

Application for a site development permit shall be made by the owner of the property or his/her authorized agent to the County of Will Land Use Department on a form furnished for that purpose. Each application shall bear the name(s) and address (es) of the owner or developer of the site and of any consulting firm retained by the applicant together with the name of the applicant's principal contact at such firm. Each application shall include certification that any land clearing, construction, or development involving the movement of earth shall be in accordance with the plans approved upon issuance of the permit.

9.4-4 Submission

Each application for a site development permit shall be accompanied by the following information depending on use and bear the seal and signature of a registered Illinois Professional Engineer (P.E.):

1. Single-family residential and accessory structures including mobile homes shall require a Basic Drainage Plan (Site Plan) as defined by Section 401.0 of the Storm water Drainage and Detention Ordinance, and shall also include the following:
 - A. Location of silt fence, hay bales, and other erosion control measures and the note "Erosion Control to be applied per the latest edition of Illinois Procedures for Urban Soil Erosion and Sedimentation Control and the Illinois Urban Manual;"
 - B. Location of residence, other buildings, and planned accessory uses;
 - C. Elevation of proposed top of foundation and garage floor elevation;
 - D. Percent grade of driveways and swales;

- E. Elevation of all top of foundations within one hundred (100) feet of site;
 - F. Plan scale and north arrow;
 - G. Benchmark description and datum;
 - H. Legal description of lot and Permanent Index Number (P.I.N.);
 - I. Easements;
 - J. Calculations to support ditch sizing, culvert sizing, and other design aspects;
 - K. A development plan of existing topography of the site and adjacent land within approximately one hundred (100) feet of the boundaries, drawn at no greater than one (1) foot contour intervals and clearly portraying the conformation and drainage pattern of the area; and,
 - L. The location of existing buildings, structures, utilities, streams, lakes, floodplains, wetlands and depressions, drainage facilities, vegetative cover, paved areas, and other significant natural or man-made features on the site and adjacent land within one hundred (100) feet of the boundary.
2. All site development permits not included in Section 9.4-4; #1 above shall require the following:
- A. A general description of the predominant soil types on the site, their location, and their limitations for the proposed use;
 - B. Proposed use of the site, including present development and planned utilization; areas of clearing, stripping, grading, excavation and filling; proposed contours, finished grades, and street profiles; provisions for storm drainage, including storm sewers, swales, detention basins and any other measures to control the rate of runoff, with a drainage area map, indications of flow directions and computations; kinds and locations of utilities; and areas and acreages proposed to be paved, covered, sodded or seeded, vegetative stabilized, or left undisturbed;
 - C. A copy of the development plan on a computer diskette, compatible with the County's Geographic Information System (GIS).
 - D. An erosion and sediment control plan showing all measures necessary to meet the objectives of this Ordinance throughout all phases of construction and permanently after completion of development of the site, including:

- i. Location and description, including standard details, of all sediment control measures and design specifics of sediment basins and traps, including outlet details;
 - ii. Location and description of all soil stabilization and erosion control measures, including seeding mixtures and rates, types of sod, method of seedbed preparation, expected seeding dates, type and rate of lime and fertilizer application, kind and quantity of mulching for both temporary and permanent vegetative control measures, and types of non-vegetative stabilization measures;
 - iii. Location and description of all runoff control measures, including diversions, waterways, and outlets;
 - iv. Location and description of methods to prevent tracking of sediment offsite, including construction entrance details, as appropriate;
 - v. Description of dust and traffic control measures;
 - vi. Locations of stockpiles and description of stabilization methods;
 - vii. Description of off-site fills or borrow volumes, locations, and methods of stabilization;
 - viii. Provisions for maintenance of control measures, including type and frequency of maintenance, easements, and estimates of the cost of maintenance;
 - ix. Identification (name, address, and telephone) of the person(s) or entity, which will have legal responsibility for maintenance of erosion control structures and measures during development and after development, is completed.
- E. The proposed phasing of development of the site, including stripping and clearing rough grading and construction, and final grading and landscaping. Phasing should identify the expected date on which clearing will begin, the estimated duration of exposure of cleared areas, and the sequence of installation of temporary sediment control measures (including perimeter controls), clearing and grading, installation of temporary soil stabilization measures, installation of storm drainage, paving streets and parking areas, final grading and the establishment of permanent vegetative cover, and the removal of temporary measures.

It shall be the responsibility of the applicant to notify the County of any significant changes, which occur in the site development schedule after the initial erosion, and sediment control plan has been approved.

These submissions shall be prepared in accordance with the requirements of this Ordinance and the standards and requirements contained in the Illinois Urban Manual: A Technical Manual Designed for Urban Ecosystem Protection and Enhancement prepared in 1995 by the Natural Resources Conservation Service for the Illinois Environmental Protection Agency and the Illinois Procedures and Standards for Urban Soil Erosion and Sedimentation Control prepared by the Northeastern Illinois Soil Erosion and Sedimentation Control Steering Committee and adopted by the Will/South Cook Soil and Water Conservation District, which standards and requirements are hereby incorporated into this Ordinance by reference.

The Chief Subdivision Engineer may waive specific requirements for the content of submissions upon finding that the information submitted is in his/her best professional judgment sufficient to show that the work will comply with the objectives and principles of this Ordinance.

9.4-5 Guarantees

The applicant, except for individual residential lot owners, school districts, park districts, and township entities who apply for buildings permits, is required to file with the Chief Subdivision Engineer, payable to the County of Will, a letter of credit in an amount deemed sufficient by the Land Use Department to cover all costs for required drainage improvements, landscaping, maintenance of improvements and landscaping, and soil erosion and sediment control measures for such period as specified by the County, and engineering and inspection costs to cover the cost of failure or repair of improvements on the site.

9.4-6 Review and Approval

Each application for a site development permit shall be reviewed and acted upon according to the following procedures:

1. The Land Use Department will review each application for a site development permit to determine its conformance with the provisions of this Ordinance. The County may also refer any application to the Will/South Cook Soil and Water Conservation District/Natural Resources Conservation Service and/or any other local government or public agency within whose jurisdiction the site is located for review and comment. Within thirty (30) days after receiving an application, the Land Use Department shall in writing:

- A. Approve the site development permit application if it is found to be in conformance with the provisions of this Ordinance, and issue the site development permit;
 - B. Approve the site development permit application subject to such reasonable conditions as may be necessary to secure substantially the objectives of this Ordinance, and issue the site development permit subject to these conditions; or,
 - C. Disapprove the site development permit application, indicating the deficiencies and the procedure for submitting a revised application and/or submission.
2. No site development permit shall be issued for an intended development site unless:
- A. The development, including but not limited to subdivisions and planned unit development, has been approved by the County where applicable, or
 - B. Such site development permit is accompanied by or combined with a valid building permit issued by the County, or
 - C. The proposed earth moving is coordinated with any overall development program previously approved by the County for the area in which the site is situated;
 - D. All relevant local, federal and state permits (i.e., for floodplains and wetlands) have been received for the portion of the site subject to soil disturbance;
 - E. Proper zoning is obtained for the proposed use.
3. Failure of the Land Use Department to act on an original application within thirty (30) days of receipt shall authorize the applicant to proceed in accordance with the plans as filed unless such time is extended by agreement between the Land Use Department and the applicant. Pending preparation and approval of a revised plan, development activities shall be allowed to proceed in accordance with conditions established by the Land Use Department.

9.4-7 Expiration of Permit

Every site development permit shall expire and become null and void if the work authorized by such permit has not been commenced within one hundred and eighty (180) days, or is not completed within one (1) year; except that the Land Use Department may, if the permittee presents satisfactory evidence that unusual difficulties have prevented work being commenced or completed with the specified time limits, grant a reasonable extension of time if written

application is made before the expiration date of the permit. The Land Use Department may require modification of the erosion control plan to prevent any increase in erosion or offsite sediment runoff resulting from any extension.

9.4-8 Appeals

The applicant, or any person or agency which received notice of the filing of an application, may appeal the decision of the Land Use Department as provided in Section 9.4-6 to the Planning and Zoning Commission. Upon receipt of an appeal, the Planning and zoning Commission shall schedule and hold a public hearing, after giving fifteen (15) days notice thereof. The Planning and Zoning Commission shall render a decision within thirty (30) days after the hearing. Factors to be considered on review shall include, but need not be limited to:

- (a) The effects of the proposed development activities on the surface water flow to tributary and downstream lands;
- (b) Any comprehensive watershed management plans, or the use of any retention facilities;
- (c) Possible saturation of fill and unsupported cuts by water, both natural and domestic;
- (d) Runoff surface waters that produce erosion and silting of drainage ways;
- (e) Nature and type of soil or rock which when disturbed by the proposed development activities may create earth movement and produce slopes that cannot be landscaped; and,
- (f) Excessive and unnecessary scarring of the natural landscape through grading or removal of vegetation.

9.4-9 Retention of Plans

Plans, specifications, and reports for all site developments shall be retained in original form or on microfilm by the Land Use Department.

9.5 **DESIGN AND OPERATION STANDARDS AND REQUIREMENTS**

9.5-1 Applicability

All clearing, grading, stripping, excavating and filling which is subject to the permit requirements of this Ordinance shall be subject to the applicable standards and requirements set forth in this Section 9.5.

9.5-2 Responsibility

The permittee shall not be relieved of responsibility for damage to persons or property otherwise imposed by law, and the County or its officers or agents will not be made liable for such damage by (1) the issuance of a permit under this Ordinance, (2) compliance with the

provisions of that permit or with conditions attached to it by the Land Use Department, (3) failure of County officials to observe or recognize hazardous or unsightly conditions, (4) failure of County officials to recommend denial of or to deny a permit, or (5) exemptions from the permit requirements of this Ordinance.

9.5-3 Site Design Requirements

1. On-site sediment control measures, as specified by the following criteria, shall be constructed and functional prior to initiating clearing, grading, stripping, excavating or fill activities on the site.
 - A. For disturbed areas draining less than one (1) acre, filter barriers (including filter fences, straw bales, or equivalent control measures) shall be constructed to control all offsite runoff as specified in referenced handbooks. Vegetated filter strips, with a minimum width of twenty-five (25) feet, may be used as an alternative only where runoff in sheet flow is expected.
 - B. For disturbed areas draining more than one (1) but less than five (5) acres, a sediment trap or equivalent control measure shall be constructed at the down slope point of the disturbed area in conjunction with other filter barriers.
 - C. For disturbed areas draining more than five (5) acres, a sediment basin or equivalent control measure shall be constructed at the down slope point of the disturbed area in conjunction with other filter barriers.
 - D. Sediment basins and sediment traps designs shall provide for both detention storage and sediment storage. The detention storage shall be composed of equal volumes of “wet” detention storage and “dry” detention storage and each shall be sized for the two-year, 24-hour runoff from the site under maximum runoff conditions during construction. The release rate of the basin shall be that rate required to achieve minimum detention times of at least ten (10) hours. The elevation of the outlet structure shall be placed such that it only drains the dry detention storage.
 - E. The sediment storage shall be sized to store the estimated sediment load generated from the site over the duration of the construction period with a minimum storage equivalent to the volume of sediment generated in one (1) year. For construction periods exceeding one (1) year, the one-year sediment load and sediment removal schedule may be substituted.
2. Storm water conveyance channels, including ditches, swales, and diversions, and the outlets of all channels and pipes shall be designed and constructed to withstand the expected flow velocity from the ten (10)-year frequency storm without erosion. All

constructed or modified channels shall be stabilized within forty-eight (48) hours consistent with the following standards:

- A. Sod or seeding in combination with mulch, erosion blanket, or an equivalent control measure shall be applied. Sod or erosion blanket or mat shall be applied to the bottom of the channel. Temporary straw bales shall be installed until the seeding is established.
 - B. For grades parallel to the channel flow and greater than eight percent (8%), rock, rip-rap, or an equivalent control measure shall be applied, or the grade shall be effectively reduced using drop structures.
3. Disturbed areas shall be stabilized with temporary or permanent measures within seven (7) calendar days following the end of active disturbance, or re-disturbance, consistent with the following criteria:
- A. Appropriate temporary or permanent stabilization measures shall include seeding, mulching, sodding, and/or non-vegetative measures.
 - B. Areas having slopes greater than twenty percent (20%) shall be stabilized with sod, mat or blanket in combination with seeding, or equivalent.
4. Land disturbance activities in stream channels shall be avoided, where possible. If disturbance activities are unavoidable, the following requirements shall be met:
- A. Construction vehicles shall be kept out of the stream channel to the maximum extent practicable. Where construction crossings are necessary, temporary crossings shall be constructed of non-erosive material such as rip-rap or gravel.
 - B. The time and area of disturbance of stream channels shall be kept to a minimum. The stream channel, including bed and banks, shall be re-stabilized within forty-eight (48) hours after channel disturbance is completed, interrupted, or stopped.
 - C. Whenever channel relocation is necessary, the new channel shall be constructed in the dry and fully stabilized area before flow is diverted.
5. Storm sewer inlets and culverts shall be protected by sediment traps or filter barriers meeting accepted design standards and specifications.
6. Soil storage piles containing more than ten (10) cubic yards of material shall not be located with a down slope drainage length of less than twenty-five (25) feet to a roadway or drainage channel. Filter barriers, including straw bales, filter fence, or equivalent, shall be installed immediately to the down slope side of the piles.

7. If de-watering devices are used, discharge locations shall be protected from erosion. All pumped discharges shall be routed through appropriately designed sediment traps or basins, or equivalent.
8. Each site shall have graveled (or equivalent) entrance roads, access drives, and parking areas of sufficient length and width to prevent sediment from being tracked onto public or private roadways. Any sediment reaching a public or private road shall be removed by shoveling or street cleaning (not flushing) before the end of each workday and transported to a controlled sediment disposal area.
9. All temporary and permanent erosion and sediment control practices must be maintained and repaired as needed to assure effective performance of their intended function.
10. All temporary erosion and sediment control measures shall be disposed of within thirty (30) days after final site stabilization is achieved with permanent soil stabilization measures. Trapped sediment and other disturbed soils resulting from the disposition of temporary measures should be permanently stabilized to prevent further erosion and sedimentation.

9.5-4 Handbooks Adopted by Reference

The standards and specifications contained in Illinois Urban Manual: A Technical Manual Designed for Urban Ecosystem Protection and Enhancement and the Illinois Procedures and Standards for Urban Soil Erosion and Sedimentation Control cited in Section, are hereby incorporated into this Section 9.5 and made a part hereof by reference for the purpose of delineating procedures and methods of operation under site development and erosion and sedimentation control plans approved under Section 9.4. In the event of conflict between provisions of said manuals and of this Ordinance, the Ordinance shall govern.

9.5-5 Maintenance of Control Measures

All soil erosion and sediment control measures necessary to meet the requirements of this Ordinance shall be maintained periodically by the applicant or subsequent land owner during the period of land disturbance and development of the site in a satisfactory manner to ensure adequate performance. Failure to maintain working soil erosion control may result in forfeiture of letter of credit and is a violation of this Ordinance.

9.5-6 Inspection

The Will County Land Use Department has the right to inspect property periodically to ensure compliance with this Ordinance.

9.5-7 Special Precautions

1. If at any stage of the grading of any development site the Land Use Department determines by inspection that the nature of the site is such that further work authorized by an existing permit is likely to imperil any property, public way, stream, lake, wetland, or drainage structure, the Land Use Department may require, as a condition of allowing the work to be done, that such reasonable special precautions to be taken as is considered advisable to avoid the likelihood of such peril. "Special Precautions" may include, but shall not be limited to, a more level exposed slope, construction of additional drainage facilities, berms, terracing, compaction, or cribbing, installation of plant materials for erosion control, and recommendations of a registered soils engineer and/or engineering geologist which may be made requirements for further work.
2. Where it appears that storm damage may result because the grading on any development site is not complete, work may be stopped and the permittee required to install temporary structures or take such other measures as may be required to protect adjoining property or the public safety. On large developments or where unusual site conditions prevail, the Land Use Department may specify the time of starting grading and time of completion, or may require that the operations be conducted in specific stages so as to insure completion of protective measures or devices prior to the advent of seasonal rains.

9.5-8 Amendment of Plans

Major amendments of the site development or erosion and sedimentation control plans shall be submitted to the Land Use Department and shall be processed and approved or disapproved in the same manner as the original plans. Field modifications of a minor nature may be authorized by the Land Use Department in writing to the permittee.

9.6 **ENFORCEMENT**

9.6-1 Variations or Special Use Permits

The applicant may, in accordance with the procedures found in Section 14 of this Ordinance, apply for a variation or special use permit as appropriate and in conformance with the Section 14 regulations.

9.6-2 Stop-Work Order: Revocation of Permit

In the event any person has not obtained a site development permit and work controlled by Section 9 of this Zoning Ordinance has been initiated, a stop work order shall be issued to prevent further violations of this Ordinance. Continuing to work at a site after a stop work order has been issued is a violation of this Ordinance.

Any person, firm, corporation or governmental body not exempted by state law that commences any clearing, grading, stripping, excavating, or filling of land without first obtaining a site development permit from the County shall be required to obtain an after-the-fact site development permit at a cost that is double the normal fee.

In the event that any person holding a site development permit pursuant to this Ordinance violates the terms of the permit, or carries on-site development in such a manner as to materially adversely affect the health, welfare or safety of persons residing or working in the neighborhood of the development site or so as to be materially detrimental to the public welfare or injurious to property or improvements in the neighborhood, the Land Use Department may suspend or revoke the site development permit.

1. Suspension of a permit shall be by a written stop-work order issued by the Land Use Department and delivered to the permittee or his/her agent or the person performing the work. The stop-work order shall be effective immediately, shall state the specific violations cited, and shall state the conditions under which work may be resumed. A stop-work order shall remain in effect until the next regularly scheduled meeting of the planning and Zoning Commission, at which the conditions of sub-paragraph #2 below can be met.
2. No site development permit shall be permanently suspended or revoked until a hearing is held by the Planning and Zoning Commission. Written notice of such hearing shall be served on the permittee, either personally or by registered mail, and shall state:
 - A. The grounds for complaint or reasons for suspension or revocation, in clear and concise language; and,
 - B. The time and the place where such hearing will be held.

Such notice shall be served on the permittee at least five (5) days prior to the date set for the hearing. At such hearing, the permittee shall be given an opportunity to be heard and may call witnesses and present evidence on his/her behalf. The Planning and Zoning Commission shall determine within ten (10) days of the conclusion of the hearing whether the permit shall be suspended or revoked.

9.6-3 Violations and Penalties

No person shall construct, enlarge, alter, repair, or maintain grading, excavation or fill, or cause the same to be done, contrary to or in violation of any terms of this Ordinance. Any person violating any of the provisions of this Ordinance shall be deemed guilty of a misdemeanor, and each day during which any violation of any of the provisions of this Ordinance is committed, continued, or permitted shall constitute a separate offense. Upon conviction of any such violation, such person, partnership, or corporation shall be assessed fines and penalties as stated in Section 14.14 of this Zoning Ordinance.

In addition to any other penalty authorized by this Ordinance, any person, partnership, or corporation convicted of violating any of the provisions of this Ordinance shall be required to restore the site to the condition existing prior to commission of the violation, or to bear the expense of such restoration.

Nothing herein shall prevent the County of Will from taking such other lawful action to prevent or remedy any violations. All costs connected therewith shall accrue to the person or persons responsible for the violations.

Where this Ordinance and other ordinances, easements, covenants, or deed restrictions conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

9.6-4 Separability

The provisions and Sections of this Ordinance shall be deemed to be separable, and the invalidity of any portion of this Ordinance shall not affect the validity of the remainder.

9.7 **EFFECTIVE DATE**

This Ordinance shall be in full force and effect from and after its passage and approval and publication, as required by law.

(Res. No. 98-23 Approved February 19, 1998.)

*Soil Erosion and Sedimentation Control Ordinance, Resolution No. 98-23, Approved February 19, 1998
Resolution No. 98-269 Approved October 15, 1998 Amending Resolution No. 98-23
Resolution No. 99-157 Approved May 20, 1000 Amending Zoning Ordinance Section 9 (Resolution No. 98-23)*

**STORMWATER DRAINAGE AND DETENTION ORDINANCE
WILL COUNTY, ILLINOIS
RESOLUTION NO. 98-24**

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**STORMWATER DRAINAGE AND DETENTION ORDINANCE
WILL COUNTY, ILLINOIS
RESOLUTION NO. 98-24**

An Ordinance Regulating Stormwater Drainage and Detention.

Be it ordained by the Board of Commissioners of the County of Will, Illinois, as follows:

100.0 Authority and Purpose

This Ordinance is enacted pursuant to the police powers granted to this County by 55 ILCS 5/5-1041, 5/5-1042, 5/5-1062, and 5/5-1063.

The purpose of this Ordinance is to diminish threats to public health, safety, and welfare caused by runoff of excessive stormwater from new development and redevelopment. This excessive stormwater could result in the inundation of damageable properties, the erosion and destabilization of downstream channels, and the pollution of valuable stream and lake resources. The cause of increases in stormwater runoff quantity and rate and impairment of quality is the development and improvement of land, and as such, this ordinance regulates these activities to prevent adverse impacts.

This Ordinance is adopted to accomplish the following objectives:

1. To assure that new development does not increase the drainage or flood hazards to others, or create unstable conditions susceptible to erosion;
2. To protect new buildings and major improvements to buildings from flood damage due to increased stormwater runoff;
3. To protect human life and health from the hazards of increased flooding on a watershed basis;
4. To lessen the burden on the taxpayer for flood control projects, repairs to flood-damaged public facilities and utilities, correction of channel erosion problems, and flood rescue and relief operations caused by increased stormwater runoff quantities from new development;
5. To protect, conserve, and promote the orderly development of land and water resources;
6. To preserve the natural hydrologic and hydraulic functions of watercourses and floodplains and to protect water quality and aquatic habitats;

7. To preserve the natural characteristics of stream corridors in order to moderate flood and stormwater impacts, improve water quality, reduce soil erosion, protect aquatic and riparian habitat, provide recreational opportunities, provide aesthetic benefits and enhance community and economic development.

200.0 Definitions

Adverse Impacts: Any deleterious impact on water resources or wetlands affecting their beneficial uses including recreation, aesthetics, aquatic habitat, quality, and quantity.

Applicant: Any person, firm, or governmental agency who executes the necessary forms to procure official approval of a development or permit to carry out construction of a development from the County of Will.

Base Flood Elevation: The elevation at all location delineating the level of flooding resulting from the 100-year frequency flood event.

Best Management Practice (BMP): A measure used to control the adverse stormwater-related effects of development. BMPs include structural devices (e.g., swales, filter strips, infiltration trenches, and detention basins) designed to remove pollutants, reduce runoff rates and volumes, and protect aquatic habitats. BMPs also include non-structural approaches, such as public education efforts to prevent the dumping of household chemicals into storm drains.

Bypass Flows: Stormwater runoff from upstream properties tributary to a property's drainage system but not under its control.

Channel: Any river, stream, creek, brook, branch, natural or artificial depression, ponded area, flowage, slough, ditch, conduit, culvert, gully, ravine, wash, or natural or manmade drainageway, which has a definite bed and bank or shoreline, 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, riprapping (or other armoring), widening, deepening, straightening, relocating, lining, and significant removal of bottom or woody rooted vegetation. Channel modification does not include the clearing of debris or removal of trash.

Compensatory Storage: An artificially excavated, hydraulically-equivalent volume of storage within the floodplain used to balance the loss of natural flood storage capacity when fill or structures are placed within the floodplain.

Conduit: Any channel, pipe, sewer or culvert used for the conveyance or movement of water, whether open or closed.

Designated Floodway: The channel, including on-stream lakes, and that portion of the floodplain adjacent to a stream or watercourse as designed by the IDNR/DWR which is needed to store and convey the existing and anticipated future 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 ten percent (10%) increase in velocities. The designated floodways are designed for unincorporated Will County on the Flood Boundary and Floodway Map prepared by FEMA (or the Department of Housing and Urban Development) and dated September 6, 1995, and such amendments to such study and maps as may be prepared from time to time.

To locate the designated floodway boundary on any site, the designated floodway boundary should be scaled off the designated floodway map and located on a site plan, using reference marks common to both maps. Where interpretation is needed to determine the exact location of the designated floodway boundary, the IDNR/OWR should be contacted for interpretation.

Detention Basin: A facility constructed or modified to provide for the temporary storage of stormwater runoff and the controlled release by gravity of this runoff at a prescribed rate during and after a flood or storm.

Detention Time: The mean residence time of stormwater in a detention basin.

Development: Any human change to real estate, including:

1. Preparation of a plot of subdivision;
2. Construction, reconstruction, or placement of a building or any addition to a building;
3. Installation of a manufactured home on a site, preparing a site for a manufactured home, or installing a travel trailer on a site for more than 180 days;
4. Construction of roads, bridges, or similar projects;
5. Redevelopment of a site;
6. Filling, dredging, grading, clearing, excavating, paving, or other non-agricultural alterations of the ground surface;
7. Storage of materials or deposit of solid or liquid waste;
8. Any other activity that might alter the magnitude, frequency, deviation, direction, or velocity of stormwater flows from a property.

Drainage Plan: A plan, signed and sealed by a professional engineer, including engineering drawings and supporting calculations, which describes the existing stormwater drainage system and environmental features, as well as the drainage system and environmental features which are proposed after development of a property.

Dry Basin: A detention basin designed to drain completely after temporary storage of stormwater flows and to normally be dry over the majority of its bottom area.

Erosion: The general process whereby earth is removed by flowing water or wave action.

Excess Stormwater Runoff: The volume and rate of flow of stormwater discharged from an urbanized drainage area which is or will be in excess of that volume and rate which pertained before urbanization.

Floodplain: The land adjacent to a body of water with ground surface elevation at or below the base flood or the 100-year frequency flood elevation. The floodplain is also known as the Special Flood Hazard Area (SFHA).

Flood Fringe: That portion of the floodplain outside of the designated floodway.

Floodway: The channel and that portion of the floodplain adjacent to a stream or watercourse which is needed to store and convey the anticipated existing and future 100-year frequency flood discharge with no more than a 0.1 foot increase in stage due to any loss of flood conveyance or storage and no more than a ten percent (10%) increase in velocities.

Hydrograph: A graph showing for a given location on a stream or conduit, the flow-rate with respect to time.

Infiltration: The passage or movement of water into the soil surfaces.

Major Drainage System: That portion of a drainage system needed to store and convey flows beyond the capacity of the minor drainage system.

Minor Drainage System: That portion of a drainage system designed for the convenience of the public. It consists of storm sewers designed to handle the 10-year runoff event or less.

Mitigation: Mitigation includes those measures necessary to minimize the negative effects which stormwater drainage and development activities might have on the public health, safety and welfare. Examples of mitigation include compensatory storage, soil erosion and sedimentation control, and channel restoration.

Natural: Conditions resulting from physical, chemical, and biological processes without intervention by humans.

One-Hundred Year Event: A rainfall, runoff, or flood event having a one percent (1%) chance of occurring in any given year.

Positive Drainage: Provision for overland paths for all areas of a property including depressional areas that may also be drained by storm sewer.

Peak Flow: The maximum rate of flow of water at a given point in a channel or conduit.

Property: A parcel of real estate.

Retention Basin: A facility designed to completely retain a specified amount of stormwater runoff without release except by means of evaporation, infiltration, emergency bypass or pumping.

Sedimentation: The process that deposits soils, debris, and other materials either on other ground surfaces or in bodies of water or stormwater drainage systems.

Stormwater Drainage System: All means, natural, or human-made, used for conducting stormwater to, through, or from, a drainage area to the point of final outlet from a property. The stormwater drainage system includes but is not limited to any of the following: conduits, appurtenance features, canals, channels, ditches, streams culverts, streets, storm sewers, detention basins, swales and pumping stations.

Stormwater Runoff: The waters derived from melting snow or rain falling within a tributary drainage basin which are in excess of the infiltration capacity of the soils of that basin, which flow over the surface of the ground or are collected in channels or conduits.

Storm Sewer: A closed conduit for conveying collected stormwater.

Time of Concentration: The elapsed time for stormwater to flow from the most hydraulically remote point in a drainage basin to a particular point of interest in that watershed.

Tributary Watershed: All of the land surface area that contributes to runoff to a given point.

Two-Year Event: A runoff, rainfall, or flood event having a fifty percent (50%) chance of occurring in any given year.

Urban Runoff Pollutants: Contaminants commonly found in urban runoff which have been shown to adversely affect uses in receiving waterbodies. Pollutants of concern include sediment, heavy metals, petroleum-based organic compounds, nutrients, oxygen-demanding organics (BOD), pesticides, salt, and pathogens.

Wet Basin: A detention basin designed to maintain a permanent pool of water after the temporary storage of stormwater runoff.

Wetland Basin: A detention basin designed with all or a portion of its bottom area as a wetland.

300.0 Applicability

This ordinance shall apply to all development in the County of Will.

301.0 Exceptions

The provisions of this section shall not apply to any one of the following construction activities unless the property is in a floodplain. For the purposes of this section, tennis courts, parking areas, in-ground swimming pools and other similar paved areas shall be considered accessory structures. (If the construction activity meets any one of the following it shall be considered an exception).

1. Clearing, grading, stripping, excavating or filling associated with the construction of a single-family residence on a site equal to or greater than five (5) acres.
2. Clearing, grading, stripping, excavating or filling associated with the construction of single-family accessory structures on a site equal to or greater than two and one-half (2.5) acres provided that the structure is equal to or less than three thousand (3,000) square feet in area.
3. Clearing, grading, stripping, excavating or filling associated with the construction of an addition to an existing residential building or the construction of a single-family residential accessory structure. The footprint of either being equal to or less than one thousand (1,000) square feet in area.
4. Clearing, grading, stripping, excavating or filling associated with the Agricultural use of land, including the implementation of conservation practices included in a farm conservation plan approved by the Will/South Cook Soil and Water Conservation District, and including the construction of structures used for agricultural purposes.
5. Clearing, grading, stripping, excavating or filling associated with the installation, renovation, or replacement of a septic system to serve an existing dwelling or structure.
6. Excavation, fill, or any combination thereof which is equal to or less than one hundred (100) cubic yards in volume on a site less than two and one half (2.5) acres in size when structures are not involved and the proposed construction activity is not within twenty (20) feet of a property line.
7. Excavation, fill, or any combination thereof which is equal to or less than two hundred (200) cubic yards in volume on a site equal to or greater than two and one half (2.5) acres when structures are not involved and the proposed construction activity is not within twenty (20) feet of a property line.
8. Removal of plant cover equal to or less than five thousand (5,000) square feet in an area when structures are not involved.

302.0

Sections 500, 600, 700, 800, 900 and 1000 shall apply only to manufactured home parks, and/or subdivisions, and/or like projects any of which represent densities greater than one (1) unit per 2.5 acres or new lot sizes less than 2.5 acres, and to any development on non-residential parcels or of non-residential nature.

400.0 Drainage Plan Submittal Requirements

Each applicant shall submit the following information, depending on development size, to ensure that the provisions of this ordinance are met. The submittal shall include sufficient information to evaluate the environmental characteristics of the property, the potential adverse impacts of the development on water resources both on-site and downstream, and the effectiveness of the proposed drainage plan in managing stormwater runoff. The applicant shall certify on the drawings that all clearing, grading, drainage, and construction shall be accomplished in strict conformance with the drainage plan. The following information shall be submitted for both existing and proposed property conditions.

401.0 Drainage Plan

1. Topographic Map: A topographic survey of the property at one-foot (1') contours under existing and proposed conditions, and areas upstream and downstream, necessary to determine off-site impacts of the proposed drainage plan. The map shall be keyed to a consistent datum specified by the County of Will.

2. Drainage System: Mapping and descriptions, where relevant, of existing and proposed drainage system features of the property and immediate vicinity including:

- a) the banks and centerline of streams and channels;
 - b) shoreline of lakes, ponds, and detention basins;
 - c) farm drains and tiles;
 - d) sub-watershed boundaries within the property;
 - e) watershed soils classifications;
 - f) the property's location within the larger watershed;
 - g) location, size and slope of stormwater conduits and drainage swales;
 - h) sanitary or combined sewers, wells and septic systems;
 - I) depressional storage areas;
 - j) delineation of upstream and downstream drainage features and watershed which might be affected by the development;
 - k) detention facilities;
 - l) roads, streets, other paved areas, and associated stormwater inlets;
 - m) base flood elevation, and designated floodway where identified for the property;
- and,

- n) basis of design for the final drainage network components.

3. Environmental features: A depiction of environmental features of the property and immediate vicinity including the following:

- a) the limits of wetland areas;
- b) any designated natural areas;
- c) any proposed environmental mitigation features.

4. In addition to the information required in Section 401.0, the following information for the minor drainage system and the 100-year runoff event of critical duration shall be provided for any manufactured home park and/or subdivision, and/or any like project, or for any development on non-residential parcels or of any non-residential nature.

- a) elevations and maps of 100-year flooding;
- b) cross-section data for open channel flow paths and designated overland flow paths;
- c) direction of stormflows;
- d) flow rates and velocities at representative points in the drainage system; and,
- e) a statement by the design engineer of the drainage systems provisions for handling events greater than the 100-year event's runoff.

500.0 Minimization of Increases in Runoff Volumes and Rates

In the selection of a drainage plan for a development, the applicant shall evaluate and implement, where practicable, site design features which minimize the increase in runoff volumes and rates from the site. The applicant's drainage plan submittal shall include evaluations of site design features which are consistent with the following hierarchy:

- 1) Minimize the project need for impervious surface on the property.
- 2) Attenuate flows by use of open vegetated swales and natural depressions and preserve existing natural stream channels;
- 3) Infiltrate runoff on-site;
- 4) Provide stormwater retention structures;
- 5) Provide stormwater detention structures;
- 6) Construct storm sewers.

600.0 Water Quality and Multiple Uses

The drainage system should be designed to minimize adverse water quality impacts downstream and on the property itself. Detention basins shall incorporate design features to capture stormwater runoff pollutants. In particular, designers should give preference to wet bottom and wetland designs and all flows from the developments shall be routed through the basin (i.e., low flows shall not be bypassed). Retention and infiltration of stormwater shall be promoted

throughout the property's drainage system to reduce the volume of stormwater runoff and to reduce the quantity of runoff pollutants.

The drainage system should incorporate multiple uses where practicable. Uses considered compatible with stormwater management include open space, aesthetics, aquatic habitat, recreation (boating, trails, playing fields), wetlands and water quality mitigation. The applicant should avoid using portions of the property exclusively for stormwater management.

700.0 Design Criteria, Standards, and Methods

701.0 Release Rates: the drainage system for a property shall be designed to control the peak rate of discharge from the property for the two-year, 24-hour and 100-year, 24-hour events to levels which will not cause an increase in flooding or channel instability downstream when considered in aggregate with other developed properties and downstream drainage capacities. The peak discharge from events less than or equal to the two-year event shall not be greater than 0.04 cfs per acre of property drained. The peak 100-year discharge shall not be greater than 0.15 cfs per acre of property drained.

In the event the downstream creeks or channels are inadequate to receive the release rate herein above provided, then the allowable release rate shall be reduced to that rate permitted by the receiving downstream sewers, streams, and channels; and additional detention, as determined by the Chief Subdivision Engineer, shall be required to store that portion of the runoff exceeding the capacity of the receiving sewers, streams, and channels.

701.1 Detention Basin Outlet Design: Backwater on the outlet structure from the downstream drainage system shall be evaluated when designing the outlet.

702.0 Detention Storage Requirements: design maximum storage to be provided in a detention basin shall be based on the runoff from the 100-year, 24-hour event and reservoir (also called modified puls or level pool) routing or equal. Detention storage shall be computed using hydrograph methods as described in this section.

703.0 Drainage System Design and Evaluation: Storm sewers shall be designed to convey the 10-year storm. Inlets shall have capacity to allow the inflow of the 10-year storm with no more than three (3) inches of ponding. Pitches shall be designed to carry the 10-year storm without encroachment onto the shoulder of the road. Where storm sewer pipes are used, they shall be sized to convey the 10-year storm. The underlying objective is to provide capacity to pass the 10-year peak flow in the minor drainage system and an overland flow path for flows in excess of the design capacity.

703.1 Design Methodologies: Major and minor conveyance systems for tributary areas up to ten (10) acres may be designed using the rational formula. The rational formula may also be used in

sizing the minor drainage system for larger sites. Runoff hydrograph methods as described in Section 704.0 must be used for major drainage system design for all systems with greater than ten (10) acres of drainage area and for the design of all detention basins.

703.2 Positive Drainage: Whenever practicable, all areas of the property must be provided an overland flow path that will pass the 100-year flow at a stage at least one foot (1') below the lowest foundation grade in the vicinity of the flow path. Overland flow paths designed to handle flows in excess of the minor drainage system capacity shall be provided drainage easements. Street ponding and flow depths shall not exceed twelve- inch (12") depth at the gutter flow line. Rear yard ponding must not exceed twelve inches (12").

704.0 Methods for Generating Runoff Hydrographs: Runoff hydrographs shall be developed incorporating the following assumptions of rainfall amounts and antecedent moisture. The following hydrologic design procedures are considered acceptable for generation of hydrographs: Corps of Engineers HEC-1, Soil and Water Conservation Service TR-20 (and TR-55, subject to rainfall distribution modifications), Illinois State Water Survey ILLUDAS, U.S. EPA's SWMM, and continuous simulation (e.g., HSPF).

704.1 Rainfall: Unless a continuous simulation approach to drainage system hydrology is used, all design rainfall events shall be based on the Illinois State Water Survey's Bulletin 70. The first quartile point rainfall distribution shall be used for the design and analysis of conveyance systems with critical durations less than or equal to twelve (12) hours. The third quartile point rainfall distribution shall be used for the design and analysis of detention basins and conveyance system with critical durations greater than twelve (12) and less than or equal to twenty-four (24) hours. The fourth quartile distribution shall be used in the design and analysis of systems with durations greater than twenty-four (24) hours. The first, third, and fourth quartile distributions described by Huff are presented in Table 37 of Bulletin 70. The SCS Type II distribution may be used as an alternate to the Huff distributions.

704.2 Antecedent Moisture: Computations of runoff hydrographics which do not rely on a continuous accounting of antecedent moisture conditions shall assume a conservative wet antecedent moisture condition of two (2).

705.0 Wet Detention Basin Design: Wet detention basins shall be designed to remove stormwater pollutants, to be safe, to be aesthetically pleasing, and as much as feasible to be available for recreational use.

705.1 Wet Basin Depths: Wet basins shall be at least three feet (3') deep, excluding nearshore banks and safety ledges. If fish habitat is to be provided, they shall be at least ten feet (10') deep over twenty-five percent (25%) of the bottom area to prevent winter freezeout.

705.2 Permanent Pool Volume: The permanent pool volume in a wet basin at normal depth shall be equal to the runoff volume from its watershed for the two-year event.

705.3 Inlet and Outlet Orientation: To the extent feasible, the distance between detention inlets and outlets shall be maximized. If possible, they should be at opposite ends of the basin.

706.0 Wetland and Dry Detention Basin Design: In addition to the other requirements of this ordinance, wetland and dry basins shall be designed to remove stormwater pollutants, to be safe, to be aesthetically pleasing, and as much as feasible to be available for multiple uses.

706.1 Wetland and Dry Basin Drainage: Dry basins shall be designed so that the portion of their bottom area which is intended to be dry shall have standing water no longer than seventy-two (72) hours for any runoff event less than the 100-year event. Underdrains directed to the outlet may be used if necessary to accomplish this requirement. Grading plans shall clearly distinguish the wet/wetland portion of the basin bottom from the dry portion. Grades shall not be less than one percent (1%) slope on basin floor.

706.2 Velocity Dissipation: Velocity dissipation measures shall be incorporated into dry basin designs to minimize erosion at inlets and outlets and to minimize the resuspension of pollutants.

706.3 Inlet and Outlet Orientation: To the extent feasible, the distance between detention inlets and outlets shall be maximized. If possible, they should be at opposite ends of the basin. There should be no low flow bypass between the inlet and outlet and paved low flow channels shall not be used.

706.4 Sideslopes: below the water level maximum of 3:1, above water 4:1. Safety shelf required.

707.0 Minimum Detention Outlet Size: Where a single pipe outlet or orifice plate is to be used to control discharge, it shall have a minimum diameter of four inches (4"). If this minimum orifice size permits release rates greater than those specified in this section, and regional detention is not a practical alternative, alternative outlet designs shall be utilized which incorporate self-cleaning flow restrictors.

708.0 Detention in Floodplains: The placement of detention basins within the floodplain is strongly discouraged because of questions about their reliable operation during flood events. However, the stormwater detention requirements of this ordinance may be fulfilled by providing detention storage within flood fringe areas on the project site provided the following provisions are met.

708.1 Detention in Flood Fringe Areas: The placement of a detention basin in a flood fringe area shall require compensatory storage for 1.25 times the volume below the base flood elevation occupied by the detention basin including any berms. The release from the detention storage provided shall still be controlled consistent with the requirements of this section. The applicant shall demonstrate its operation for all streamflow and floodplain backwater conditions.

Excavations for compensatory storage along watercourses shall be opposite or adjacent to the area occupied by detention. All floodplain storage lost below the ten-year flood elevation shall be replaced below the ten-year flood elevation. All floodplain storage lost above the existing ten-year flood elevation shall be replaced above the proposed ten-year flood elevation. All compensatory storage excavations shall be constructed to drain freely and openly to the watercourse.

708.2 Detention in Floodways: Detention basins shall not be placed in the floodway.

708.3 On-Stream Detention: On-stream detention basins are discouraged but allowable if they provide regional public benefits and if they meet the other provisions of this ordinance with respect to water quality and control of the two-year and 100-year, 24-hour events from the property. Further criteria are presented in Section 800.0 of this Ordinance. If on-stream detention is used for watersheds larger than one square mile, it is recommended that the applicant use dynamic modeling to demonstrate that the design will not increase stage for any properties upstream or downstream of the property. Also, impoundment of the stream as part of on-stream detention:

- a) shall not prevent the migration of indigenous fish species, which require access to upstream areas as part of their lifecycle, such as for spawning;
- b) shall not cause or contribute to the degradation of water quality or stream aquatic habitat;
- c) shall include a design calling for gradual bank slopes, appropriate bank stabilization measures, and a pre-sedimentation basin;
- d) shall not involve any stream channelization or the filling of wetlands;
- e) shall require the implementation of an effective non-point source pollution management program throughout the upstream watershed which shall include at a minimum: runoff reduction BMPs consistent with Section 500.0 of this Ordinance; 2-year detention/sedimentation basins for all development consistent with Section 709.4; and a program to control nonpoint sources at the source for prior developments constructed without appropriate stormwater BMPs.
- f) shall not occur downstream of a wastewater discharge; and,
- g) shall comply with 92 Illinois Administrative Code Parts 702 and 708 and the Floodplain Ordinance of Will County.

709.0 Protection of Wetlands and Depressional Storage Areas: Wetlands and other depressional storage areas shall be protected from damaging modifications and adverse changes in runoff quality and quantity associated with land developments. In addition to the other requirements of this ordinance, the following requirements shall be met for all developments whose drainage flows into wetlands and depressional storage areas (as appropriate)

709.1 Detention in Wetlands and Depressional Storage Areas: Existing wetlands shall not be modified for the purposes of stormwater detention unless it is demonstrated that the existing

wetland is low in quality and the proposed modifications will maintain or improve its habitat and ability to perform beneficial functions. Existing storage and release rate characteristics of wetlands and other depressional storage areas shall be maintained and the volume of detention storage provided to meet the requirements of this section shall be in addition to this existing storage.

709.2 Sediment Control: The existing wetland shall be protected during construction by appropriate soil erosion and sediment control measures and shall not be filled.

709.3 Alteration of Drainage Patterns: Site drainage patterns shall not be altered to substantially decrease or increase the existing area tributary to the wetland.

709.4 Detention/Sedimentation: All runoff from the development shall be routed through a preliminary detention/sedimentation basin designed to capture the two-year, 24-hour event and hold it for at least twenty-four (24) hours before being discharged to the wetland. This basin shall be constructed before property grading begins. In addition, the drainage hierarchy defined in Section 500.0 should be followed to minimize runoff volumes and rates being discharged to the wetland.

709.5 Vegetated Buffer Strip: A buffer strip of at least twenty-five feet (25') in width, preferably vegetated with native plant species, shall be maintained or restored around the periphery of the wetland.

710.0 Street, Parking Lot, and Culvert Drainage

710.1 Streets: If streets are to be used as part of the minor or major drainage system, ponding depths shall not exceed curb heights by more than one inch (1") and shall not remain flooded for more than eight (8) hours for any event less than or equal to the 100-year event. Street detention should only be allowed in non-residential developments.

710.2 Parking Lots: The maximum stormwater ponding depth in any parking area shall not exceed nine inches (9"). The maximum storage elevation shall not be maintained for more than four (4) hours.

710.3 Culvert Road and Driveway Crossings: Sizing of culvert crossings shall consider entrance and exit losses as well as tailwater conditions on the culvert.

711.0 Infiltration Practices: To effectively reduce runoff volumes, infiltration practices including basins, trenches, and porous pavement should be located on soils in hydrologic soil groups AA@ or AB@ as designated by the U.S. Soil and Water Conservation District. Infiltration basins and trenches designed to recharge groundwater shall not be located within seventy-five (75) feet of a water supply well or a building foundation. A sediment settling basin shall be provided to remove coarse sediment from stormwater flows before they reach infiltration basins

or trenches. Stormwater shall not be allowed to stand more than seventy-two (72) hours over eighty percent (80%) of a dry basin's bottom area for the maximum design event to be infiltrated. The bottom of infiltration facilities shall be a minimum for four feet (4') above seasonally high groundwater and bedrock.

711.1 Vegetated Filter Strips and Swales: To effectively filter stormwater pollutants and promote infiltration of runoff, sites should be designed to maximize the use of vegetated filter strips and swales. Wherever practicable, runoff from impervious surfaces should be directed onto filter strips and swales before being routed to a storm sewer or detention basin.

712.0 Safety Considerations: The drainage system components, especially all detention basins, shall be designed to protect the safety of any children or adults coming into contact with the system during runoff events.

712.1 Side Slopes: The side slopes of detention basins at 100-year capacity shall be as level as practicable to prevent accidental falls into the basin and for stability and ease of maintenance. Side slopes of detention basins and open channels shall not be steeper than 4:1 (horizontal to vertical) above water, 3:1 underwater. At least one foot (1') of freeboard should be provided around the perimeter of the detention area.

712.2 Safety Ledge: All wet detention basins shall have a level safety ledge at least four feet (4') in width, 2.5 to 3.0 feet below the normal water depth.

712.3 Velocity: Velocities throughout the surface drainage system shall be controlled to safe levels taking into consideration rates and depths of flow.

712.4 Overflow Structures: All stormwater detention basins shall be provided with an overflow structure capable of safely passing excess flows at a stage at least two feet (2') below the lowest foundation grade in the vicinity of the detention basin. The design flow rate of the overflow structure shall be equivalent to the 100-year inflow rate.

713.0 Maintenance Considerations: The stormwater drainage system shall be designed to minimize and facilitate maintenance. Turfed sideslopes shall be designed to allow lawnmowing equipment to easily negotiate them. Wet basins shall be provided with alternate outflows which can be used to completely drain the pool for sediment removal. Pumping may be considered if drainage by gravity is not feasible. Pre-sedimentation basins shall be included, where feasible, for localizing sediment deposition and removal. Access for heavy equipment shall be provided. On detention basin sideslopes steeper than 10:1, excelsior blankets or sod shall be used.

Fescue, timothy, or other durable, deep-rooted grasses are recommended on sideslopes. Riprap shall be used for energy dissipation at the inlet and outfall pipes to the basins. Sod, riprap, honeycomb mesh or other methods approved by the Engineering Division shall be used at the water line where erosion due to wave action is greatest.

800.0 Accommodating Flows From Upstream Tributary Areas

Stormwater runoff from areas tributary to the property shall be considered in the design of the property's drainage system. Whenever practicable, flows from upstream areas that are not to be detained should be routed around the basin being provided for the site being developed.

801.0 Upstream Areas Not Meeting Ordinance Requirements: When there are areas not meeting the storage and release rates of this ordinance, tributary to the applicant's property, regionalized detention on the applicant's property shall be explored by the applicant. The following steps shall be followed:

- a) The applicant shall compute the storage volume needed for his property using the release rates of Section 600.0, the applicant's property area, and the procedures described in Section 700.0;
- b) Areas tributary to the applicant's property, not meeting the storage and release rate requirements of this ordinance, shall be identified;
- c) Using the areas determined in 801.b above plus the applicant's property area, total storage needed for the combined properties shall be computed.

Allowable release rates shall be computed using the combined property areas. Storage shall be computed as described in Section 700.0. If tributary areas are not developed, a reasonable fully-

developed land cover, based on local zoning, shall be assumed for the purposes of computing storage.

Once the necessary combined storage is computed, the County may choose to pay for oversizing the applicant's detention basin to accommodate the regional flows. The applicant's responsibility will be limited to the storage for his/her property as computed in Aa@above. If regional storage is selected by the County, then the design produced in Ac@above shall be implemented. If regional storage is rejected by the County, the applicant shall bypass all tributary area flows around the applicant's basin whenever practicable. If the applicant must route upstream flows through his/her basin and the upstream areas exceed one square mile in size, the applicant must meet the provisions of Section 708.30 for on-stream basins.

802.0 Upstream Areas Meeting Ordinance Requirements: When there are areas which meet the storage and release rate requirements of this ordinance, tributary to the applicant's property, the upstream flows shall be bypassed around the applicant's detention basin, or be routed through the applicant's detention basin if this is the only practicable alternative. Storage needed for the applicant's property shall still be computed as described in Section 801.0a. However, if the County decides to route tributary area flows through an applicant's basin, the final design stormwater releases shall be based on the combined total of the applicant's property plus tributary areas. It must be shown that at no time will the runoff rate from the applicant's property exceed the allowable release rate for his/her property alone.

900.0 Early Completion of Detention Facilities

Where detention, retention, or depressional storage areas are to be used as part of the drainage system for a property, they shall be constructed as the first element of the initial earthwork program. Any eroded sediment captured in these facilities shall be removed by the applicant before project completion in order to maintain the design volume of the facilities.

1000.0 Maintenance Responsibility

Maintenance of stormwater drainage facilities located on private property shall be the responsibility of the owner of that property. Maintenance includes mowing, clearing debris, and repairing damaged components.

Before a building permit is obtained from the County, the applicant shall execute a maintenance agreement with the County guaranteeing that the applicant and all future owners of the property will maintain its stormwater drainage system. The maintenance agreement shall also specifically authorize representatives of the County to enter onto the property for the purpose of inspections and maintenance of the drainage system. Such agreement shall be recorded with the Recorder of Deeds of Will County. The maintenance agreement shall include a schedule for regular maintenance of each aspect of the property's stormwater drainage system and shall provide for access to the system for inspection by authorized personnel of the County. The maintenance agreement shall also stipulate that if the Will County Land Use Department notifies the property owner in writing of maintenance problems which require correction, the property owner shall make such corrections with thirty (30) calendar days of such notification. If the corrections are not made within this time period the County may have the necessary work completed and assess the cost to the property owner.

The County has the option of requiring a bond to be filed by the property owner for maintenance of the stormwater drainage system.

1100.0 Administration

1101.0 Inspections

1101.10 Inspections During Construction: General site grading shall not begin until the applicant's consulting engineer provides record drawings and certifies that necessary detention facilities are in place and operational. The Chief Subdivision Engineer or his/her representative may also conduct periodic inspections of the work in progress to be certain that the drainage system is being built as designed. If any violations of the provisions or requirements of this ordinance are noted during such inspections, the Chief Subdivision Engineer shall notify the property owner in writing of the items needing correction. The property owner shall have ten (10) calendar days to make such corrections unless given a specific extension of time in writing by the Chief Subdivision Engineer.

Failure to complete such corrections within the specified time period shall constitute a violation of this ordinance.

1101.20 Final Inspection: Upon notification by the applicant that the drainage system is completed, the Chief Subdivision Engineer or his/her representative shall conduct a final inspection. If the drainage system is found to contain deficiencies which require correction, the Chief Subdivision Engineer or his/her representative shall notify the property owner of the necessary corrections. The property owner shall correct such deficiencies within ten (10) calendar days unless given a specific extension of time in writing by the Chief Subdivision Engineer. Failure to make necessary corrections within the specified time period shall constitute a violation of this ordinance. Upon finding that the drainage system meets the provisions and requirements of this ordinance the Chief Subdivision Engineer shall issue in writing a notice of drainage system completion to the property owner.

1102.0 Enforcement: The administration and enforcement of this ordinance shall be the responsibility of the Land Use Department of the County or its representatives.

1103.0 Appeals: All appeals of the Director of the Land Use Department's decisions regarding the interpretation of this ordinance shall be heard by the Will County Board of Commissioners.

1200.0 Severability

If any section, clause, provision or portion of this ordinance is judged unconstitutional or invalid by a court of competent jurisdiction, the remainder of this ordinance shall remain in force and not be affected by such judgment.

1300.0 Penalties

Any person convicted of violating any of the provisions or requirements of this ordinance shall be guilty of a misdemeanor and shall be subject to a fine of not more than one thousand dollars (\$1,000.00). Each day the violation continues shall be considered a separate offense.

1400.0 Effective Date

This Ordinance shall be in full force and effect from and after its passage and approval and publication, as required by law. (Resolution No. 98-24 approved February 19, 1998.)

*Stormwater Drainage and Detention Ordinance, Resolution No. 98-24, Approved February 19, 1998
Resolution No. 98-268 Approved October 15, 1998 Amending Resolution No. 98-24*

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**STREAM AND WETLAND PROTECTION ORDINANCE
FOR THE CREATION OF A LOWLAND CONSERVANCY OVERLAY DISTRICT
WILL COUNTY, ILLINOIS
RESOLUTION NO. 98-25**

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**STREAM AND WETLAND PROTECTION ORDINANCE
FOR THE CREATION OF A LOWLAND CONSERVANCY OVERLAY DISTRICT
WILL COUNTY, ILLINOIS
RESOLUTION NO. 98-25**

An Ordinance Protecting Streams and Wetlands.

Be it ordained by the Board of Commissioners of the County of Will, Illinois, as follows:

100.0 Authority

The Lowland Conservancy Overlay District is adopted by the Board of Commissioners of Will County, Illinois under the authority granted to this County by the 55 ILCS 5/5-1041, 5/5-1042, 5/5-1062, and 5/5-1063.

200.0 Short Title

This ordinance shall be known and may be cited as the Will County Lowland Conservancy Overlay District Ordinance.

300.0 Purpose and Intent

It is the purpose and intent of this ordinance to promote the health, safety, and general welfare of the present and future residents of Will County and downstream drainage areas by providing for the protection, preservation, proper maintenance, and use of Will County watercourses, lakes, ponds, floodplain and wetland areas. The ordinance is more specifically adopted:

1. to prevent flood damage by preserving storm and flood water storage capacity;
2. to maintain the normal hydrologic balance of streams, floodplains, ponds, lakes, wetlands, and groundwater by storing and providing for infiltration of wet-period runoff in floodplains and wetlands, and releasing it slowly to the stream to maintain in-stream flow;
3. to manage stormwater runoff and maintain natural runoff conveyance systems, and minimize the need for major storm sewer construction and drainageway modification;
4. to improve water quality, both by filtering and storing sediments and attached pollutants, nutrients, and organic compounds before they drain into streams or wetlands, and by maintaining the natural pollutant-assimilating capabilities of streams, floodplains, and wetlands;

5. to protect shorelines and streambanks from soil erosion, using natural means and materials wherever possible;
6. to protect fish spawning, breeding, nursery and feeding grounds;
7. to protect native flora and fauna;
8. to preserve areas of special recreational, scenic, or scientific interest, including natural areas and habitats of endangered species;
9. to maintain and enhance the aesthetic qualities of developing areas; and
10. to encourage the continued economic growth and high quality of life of Will County, which depends in part on an adequate quality of water, a pleasing natural environment, and recreational opportunities in proximity to the County of Will.

In order to achieve the purpose and intent of this ordinance, the County of Will hereby designates the Lowland Conservancy Overlay District which shall be considered as an overlay to the zoning districts created by Will County zoning ordinances as amended (See Section 100.0). Any proposed development activity within the District must obtain a **Site Development Permit with Lowlands** as approved by Will County.

400.0 Definitions

Armoring: a form of channel modification which involves the placement of materials (e.g., concrete, riprap, bulkheads, etc.) within a stream channel or along a shoreline to protect property above streams, lakes and ponds from erosion and wave damage caused by wave action and stream flow.

Bulkhead: a retaining wall that protects property along water.

Channel: a natural or artificial watercourse of perceptible extent that periodically or continuously contains moving water, or which forms a connecting link between two bodies of water. It has a definite bed and banks that serve to contain the water.

Channel Modification or Channelization: the alteration of a watercourse by changing the physical dimension or materials of the channel. Channel modification includes damming, riprapping (or other armoring), widening, deepening, straightening, relocating, lining, and significant removal of bottom or woody vegetation. Channel modification does not include the clearing of debris or trash from the watercourse. Channelization is a severe form of channel modification involving a significant change in the channel cross-section and typically involving relocation of the existing channel (e.g., straightening).

Control Structure: a structure designed to control the rate of stormwater runoff that passes through the structure, given a specific upstream and downstream water surface elevation.

Culvert: a structure designed to carry drainage water or small streams below barriers such as roads, driveways, or railway embankments.

Depressional Area: any area which is lower in elevation on all sides than surrounding properties (i.e., it does not drain freely), or whose drainage is severely limited such as by a restrictive culvert. A depressional area will fill with water on occasion when runoff into it exceeds the rate of infiltration into underlying soil or exceeds the discharge through its controlled outlet. Large depressional areas may provide significant stormwater or floodplain storage.

Development: the carrying out of any building, agricultural, or mining operation, or the making of any change in the use or appearance of land. For the purposes of this ordinance, the following activities or uses shall be taken, to involve development as defined herein:

1. any construction, reconstruction, or alteration of a structure to occupy more or less ground area, or the on-site preparation for same;
2. any change in the intensity of use of land, such as an increase in the number of dwelling units on land, or a material increase in the site coverage of businesses, manufacturing establishments, offices, and dwelling units, including mobile homes, campers, and recreational vehicles, on land;
3. any agricultural use of land including, but not limited to, the use of land in horticulture, floriculture, forestry, dairy, livestock, poultry, beekeeping, pisciculture, and all forms of farm products and farm production;
4. the commencement of drilling, except to obtain soil samples, or the commencement of mining, filling, excavation, dredging, grading or other alterations of the topography;
5. demolition of a structure or redevelopment of a site;
6. clearing of land as an adjunct of construction for agricultural, private residential, commercial, or industrial use;
7. deposit of refuse, solid or liquid waste, or fill on a parcel of land, or the storage of materials;
8. construction, excavation, or fill operations relating to the creation or modification of any road, street, parking facility or any drainage canal, or to the installation of utilities or any other grading activity that alters the existing topography;

9. construction or erection of dams, levees, walls, fences, bridges or culverts; and
10. any other activity that might change the direction, height, or velocity of flood or surface waters.

District: the Lowland Conservancy Overlay District as defined in Section 602.0 of this ordinance.

Erosion: the general process whereby soils are moved by flowing water or wave action.

Filtered View: the maintenance or establishment of woody vegetation of sufficient density to screen developments from a stream or wetland, to provide for streambank stabilization and erosion control, to serve as an aid to infiltration of surface runoff, and to provide cover to shade the water. The vegetation need not be so dense as to completely block the view. Filtered view means no clear cutting.

Floodplain: land adjacent to a body of water with ground surface elevations at or below the 100-year frequency flood elevation.

Floodway: means that portion of the floodplain (sometimes referred to as the base floodplain or Special Flood Hazard Area) required to store and convey the base flood. The floodway is the 100-year floodway as designated and regulated by the Illinois Department of Natural Resources/Office of Water Resources (IDNR/OWR). The remainder of the floodplain which is outside the designated floodway is referred to as the flood fringe or floodway fringe.

Hydraulic Characteristics: the features of a watercourse which determine its water conveyance capacity. These features include, but are not limited to, size and configuration of the cross-section of the watercourse and floodway; texture and roughness of materials along the watercourse; alignment of the watercourse; gradient of the watercourse; amount and type of vegetation within the watercourse; and size, configuration, and other characteristics of structures within the watercourse. In low-lying areas the characteristics of the overbank area also determine water conveyance capacity.

Lot: area of land with defined boundaries that is designated in official assessor's records as being one parcel.

Lake or Pond: any inland waterbody, fed by spring or surface water flow.

Natural: in reference to watercourses, those stream channels, grassed waterways, and swales formed by the existing surface topography of the earth prior to changes made by unnatural causes. A natural stream tends to follow a meandering path; its floodplain is not constrained by levees; the area near the bank has not been cleared, mowed or cultivated; the stream flows over

soil and geologic materials typical of the area with no alteration of the course or cross-section of the stream cause by filling or excavating.

Ordinary High Water Mark (OHWM): The point or line on the bank or shore up to which the presence and action of surface water is so continuous as to leave a distinctive mark such as a clear, natural line impressed on the bank, shelving, erosion, destruction, or prevention of terrestrial vegetation, presence of litter or debris, or other easily recognized characteristics.

Qualified Professional: a person trained in natural and/or physical sciences (such as one or more of the disciplines of biology, geology, soil science, engineering, or hydrology) whose training and experience ensure a competent analysis and assessment of stream, lake, pond, and wetland conditions and impacts.

Registered Professional Engineer: a professional engineer registered under the provisions of the *Illinois Professional Engineering Act* and any act amendatory thereof.

Retention/Detention Facility: a facility that provides for storage of stormwater runoff and controlled release of this runoff during and after a flood or storm.

Runoff: the portion of precipitation on the land that is not absorbed by the soil or plant material and which runs off the land.

Sedimentation: the processes that deposit soils, debris, and other materials either on other ground surfaces or in waterbodies or watercourses.

Setback: the horizontal distance between any portion of a structure or any development activity and the ordinary high water mark of a perennial or intermittent stream, the ordinary high water mark of a lake or pond, or the edge of a wetland, measured from the structure or development's closest point to the ordinary high water mark or edge.

Stream: a body of running water flowing continuously or intermittently in a channel on or below the surface of the ground. 7.5 minute topographic maps of the U.S. Geological Survey are one reference for identifying perennial and intermittent streams. For purposes of this ordinance, the term **Stream** does not include storm sewers.

Structure: anything that is constructed, erected, or moved to or from any premise which is located above, on, or below the ground including, but not limited to roads, signs, billboards, and mobile homes. Temporary recreational facilities including, but not limited to tents, camper trailers, and recreational vehicles are not considered structures when used less than 180 days per year and located landward of the minimum setback provided as a natural vegetation strip.

Vegetation: means all plant growth, especially trees, shrubs, mosses, and grasses.

Watercourse: means any river, stream, creek, brook, branch, natural or artificial depression, ponded area, slough, gulch, draw, ditch, channel, conduit, culvert, swale, grass waterway, gully, ravine, wash, or natural or man-made drainageway, which has a definite channel, bed and banks, in or into which stormwater runoff and floodwater flow either regularly or intermittently.

Wetland: Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Classification of areas shall follow the U.S. Army Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1.

500.0 Site Development Permit with Lowlands

To ensure that proposed development activity can be carried out in a manner which is compatible and harmonious with the natural amenities of the Lowland Conservancy Overlay District and with surrounding land uses, a request for a **Site Development Permit with Lowlands** for such development activity must be submitted for approval by the Will County Land Use Department.

No permit shall be issued unless the Will County Land Use Department finds that:

1. the development will not detrimentally affect or destroy natural features such as ponds, streams, wetlands, and forested areas, nor impair their natural functions, but will preserve and incorporate such features into the development's site;
2. the location of natural features and the site's topography have been considered in the designing and siting of all physical improvements;
3. adequate assurances have been received that the clearing of the site of topsoil, trees, and other natural features will not occur before the commencement of building operations; only those areas approved for the placement of physical improvements may be cleared;
4. the development will not reduce the natural retention storage capacity of any watercourse, nor increase the magnitude and volume of flooding at other locations; and that in addition, the development will not increase stream velocities; and
5. the soil and subsoil conditions are suitable for excavation and site preparation, and the drainage is designed to prevent erosion and environmentally deleterious surface runoff.

There shall be no development, including the immediate or future clearing or removal of natural ground cover and/or trees, within the Lowland Conservancy Overlay District for any purpose, unless a permit is granted subject to the provisions of this ordinance or the provisions of the Will County zoning ordinance.

This ordinance is not intended to preclude the removal of vegetation (e.g., removal of exotic species or selective thinning in order to increase sunlight penetration) as part of a management program for maintenance and restoration of natural areas.

Dumping, filling, mining, excavating, dredging, or transferring of any earth material within the district is prohibited unless a permit is granted.

No ponds or impoundments shall be created, nor other alterations or improvements shall be allowed in the district for recreational uses, stormwater management, flood control, agricultural uses, or as scenic features unless a permit is granted.

501.0 Application for Permit

Application for a **Site Development Permit with Lowlands** shall be made by the owner of the property, or his/her authorized agent, to the Will County Land Use Department on a form furnished for that purpose. Each application shall bear the name(s) and address(es) of the owner or developer of the site and of any consulting firm retained by the applicant together with the name of the applicant's principal contact at such firm, and shall be accompanied by a filing fee. Each application shall include certification that any land clearing, construction, or development involving the movement of earth shall be in accordance with the plans approved upon issuance of the permit.

502.0 Submissions

Each application for a **Site Development Permit with Lowlands** shall be accompanied by the following information as specified in the ordinance sections cited:

General provisions:

Site Development Plan	Section 604.0
Geologic and Soil Report	Section 605.0
Drainage Control Plan	Section 606.0
Site Grading and Excavation Plan	Section 607.0
Landscape Plan	Section 608.0

Justification for Watercourse Relocation and Minor Modifications:

Stream Modification/Relocation Plan	Section 702.0
Channel and Bank Armoring	Section 703.0
Culverts	Section 704.0
On-Stream Impoundments	Section 705.0
Impact Assessment	Section 800.0

Where a proposed development activity is less than five (5) acres in area, the Land Use Department, upon approval of the Chief Subdivision Engineer, may waive or simplify any or all of the submission requirements (Section 604.0 - 608.0) provided that the person responsible for any such development shall implement necessary protection measures to satisfy the purpose and intent set forth in Section 300.0 of this ordinance (see Section 1101.0, Variances).

503.0 Guarantee

The applicant may be required to file with the County of Will a letter of credit in an amount deemed sufficient by the County of Will to cover all costs of improvements, landscaping, or maintenance of improvements and landscaping, for such period as specified by the Land Use Department, and engineering and inspection costs to cover the cost of failure or repair of improvements installed on the site.

504.0 Review and Approval

Each application for a **Site Development Permit with Lowlands** shall be reviewed and acted upon according to the following procedures:

1. The Will County Land Use Department will review each application for a **Site Development Permit with Lowlands** to determine its conformance with the provisions of this ordinance. The Will County Land Use Department may also refer for review and comments any application to the Will/South Cook Soil and Water Conservation District and/or any other local government or public agency within whose jurisdiction the site is located. Within sixty (60) days after receiving an application or after approval of any necessary special use permit, the Will County Land Use Department shall, in writing, (a) approve the permit application if it is found to be in conformance with the provisions of this ordinance, and issue the permit; (b) approve the permit application subject to such reasonable conditions as may be necessary to secure substantially the objectives of this ordinance, and issue the permit subject to these conditions; or (c) disapprove the permit application, indicating the deficiencies and the procedure for submitting a revised application and/or submission.
2. No **Site Development Permit with Lowlands** shall be issued for an intended development site unless:
 - A. the development, including, but not limited to, subdivisions and planned unit developments, has been approved by the Will County Board where applicable; or
 - B. such permit is accompanied by or combined with a valid building permit issued by the Will County Land Use Department; or

- C. the proposed development is coordinated with any overall development program previously approved by Will County for the area in which the site is situated.
3. Failure of Will County to act on an original or revised application within sixty (60) days of receipt shall authorize the applicant to proceed in accordance with the plans as filed, unless such time is extended by agreement between the Will County Land Use Department and the applicant. Pending preparation and approval of a revised plan, development activities shall be allowed to proceed in accordance with conditions established by the Will County Land Use Department.

505.0 Permit Exceptions

The provisions of this ordinance shall not apply to:

- 1. emergency work necessary to preserve life or property; when emergency work is performed under this section, the person performing it shall report the pertinent facts relating to the work to the Will County Land Use Department within ten (10) working days after commencement of the work and shall thereafter obtain a permit and shall perform such work as may be determined by the agency to be reasonably necessary to correct any impairment to the watercourse, lake, pond, floodplain or wetland (in terms of the purposes of this ordinance Section 300.0, 1-10);
- 2. work consisting of the operation, repair, or maintenance of any lawful use of land existing on the date of adoption of this ordinance;
- 3. lands adjacent to farm ditches if:
 - A. such lands are not adjacent to a natural stream or river; or
 - B. those parts of such drainage ditches adjacent to such lands were not streams before ditching; or
 - C. such lands are maintained in agricultural uses without buildings and structures.

Where farm ditches are found to contribute to adverse environmental impacts or hazards to persons or property, the Will County Land Use Department may include designated farm ditches in the District. The Will County Land Use Department may also require that linings, bulkheads, dikes and culverts be removed to mitigate hazards or that other mitigating measures be taken, such as the maintenance of a natural vegetation buffer strip.

506.0 Effect on Other Permits

The granting of a **Site Development Permit with Lowlands** under the provisions herein shall in no way affect the owner's responsibility to obtain the approval required by any other statute, ordinance, or regulation of any state agency or subdivision thereof, or to meet other Will County

ordinances and regulations. Where state and/or federal permits are required, a **Site Development Permit with Lowlands** will not be issued until they are obtained.

600.0 General Provisions: Area Affected

This ordinance applies to development in or near streams, lakes, ponds and wetlands within Will County. Streams, lakes, and ponds (including intermittent streams) are those which are shown on the United States Department of the Interior Geological Survey (USGS) 7.5 minute quadrangle maps and those additional streams, lakes, and ponds delineated on maps adopted as part of this ordinance. Those maps are hereby made apart of this ordinance, and two copies thereof shall remain on file in the office of the Will County Land Use Department for public inspection. Within the jurisdiction of Will County, those waterbodies and watercourses that are named and are subject to the provisions of this ordinance are located within the Calumet, Des Plaines, Du Page, and Kankakee watersheds. Wetlands are those designated in the U.S. Fish and Wildlife Service/Illinois Department of Natural Resources wetland inventory and those additional wetlands found in the field. The Special Flood Hazard Areas (SFHA) are those identified on the most recently adopted Flood Insurance Rate Maps (FIRM).

If new drainage courses, lakes, ponds or wetlands are created as part of a development, the requirements for setbacks and uses within setbacks, and the criteria for watercourse relocation and minor modification shall apply. The District shall be amended as appropriate to include these areas.

601.0 The Lowland Conservancy Overlay District

The Lowland Overlay Conservancy District shall be considered as an overlay to the zoning districts created by the Will County zoning ordinance as amended. In addition to the requirements of this ordinance, applicants for a permit within the District shall meet all requirements of the underlying zoning districts. In the event of a conflict between the overlay district requirements and the underlying zoning district requirements, the most restrictive requirements prevail.

602.0 District Boundary

The procedures, standards, and requirements contained in this ordinance shall apply to all lots within wetlands and streams, and all lots lying wholly or in part:

1. within the Special Flood Hazard Area (SFHA) designated by the Federal Emergency Management Agency (FEMA); or
2. within fifty (50) feet of the ordinary high water mark (OHWM) of a perennial stream or intermittent stream, with a tributary area greater than one hundred fifty (150) acres, the

ordinary high water mark of a lake or pond, or the edge of a wetland that is one third (1/3) of an acre or greater in size; or

3. within depressional areas serving as floodplain or stormwater management storage areas, as designated on the Lowland Conservancy District Map.

The District is designated on a map labeled A Lowland Conservancy Overlay District Map,@ which is made to be part of this ordinance and which has the same force and effect as if all the notations, references, and descriptions shown thereon were set forth or described herein. Designated areas are attached as exhibits and additional areas may be approved from time to time and be made exhibits hereto.

603.0 Minimum Setback of Development Activity from Streams, Lakes, Ponds, and Wetlands

Absolutely no development activity (except as provided below) may occur, on parcels created after the date of adoption of this ordinance, within the minimum setback which is defined as 75 feet from the ordinary high water mark of streams, lakes and ponds, or the edge of wetlands that are one third (1/3) of an acre or larger, or within a designated depressional area. No development activity shall occur within the 75 foot setback on parcels created prior to the date of adoption of this ordinance without an approved Site Development Permit with Lowlands and evidence that it cannot be located outside the setback area. In no case shall the setback be less than the boundary of the 100-year floodway as defined by FEMA. These setback requirements do not apply to a stream in a culvert unless the stream is taken out of the culvert as part of development activity. If a culvert functions as a low-flow culvert, where water is intended to periodically flow over it, the setback requirements apply.

The following development activities may be permitted within the minimum setback areas only if, as a practical matter, they cannot be located outside the setback area. Such development activities will only be approved based upon a report, prepared by a qualified professional, which demonstrates that they will not adversely affect water quality; destroy, damage or disrupt significant habitat area; adversely affect drainage and/or stormwater retention capabilities; adversely affect flood conveyance and storage; lead to unstable earth conditions, create erosion hazards, or be materially detrimental to any other property in the area of the subject property or to Will County as whole, including the loss of open space or scenic vistas:

1. minor improvements such as walkways, benches, comfort stations, informational displays, directional signs, foot bridges, observation decks, and docks;
2. the maintenance, repair, replacement, and reconstruction of existing highways and bridges, electrical transmission and telecommunication lines, poles, and towers; and

3. the establishment and development of public and private parks and recreation areas, outdoor education areas, historic natural and scientific areas, game refuges, fish and wildlife improvement projects, game bird and animal farms, wildlife preserves and public boat launching ramps.

Review of the proposed development activity within the minimum setback area will consider the following:

1. only limited filling and excavating necessary for the development of public boat launching ramps, swimming beaches, or the development of park shelters or similar structures is allowed. The development and maintenance of roads, parking lots and other impervious surfaces necessary for permitted uses are allowed only on a very limited basis, and where no alternate location outside of the setback area is available;
2. land surface modification within the minimum setback shall be permitted for the development of stormwater drainage swales between the developed area of the site (including a stormwater detention facility on the site) and a stream, lake or pond or wetland. Detention basins within the setback are generally discouraged, unless it can be shown that resultant modifications will not impair water quality, habitat, or flood storage functions;
3. no filling or excavating within wetlands is permitted except to install piers for the limited development of walkways and observation decks. Walkways and observation decks should avoid high quality wetland areas, and should not adversely affect natural areas designated in the Illinois Natural Areas Inventory or the habitat of rare or endangered species;
4. wetland area occupied by the development of decks and walkways must be mitigated by an equal area of wetland habitat improvement;
5. modification of degraded wetlands for purposes of stormwater management is permitted where the quality of the wetland is improved and total wetland acreage is preserved. Where such modification is permitted, wetlands shall be protected from the effects of increased stormwater runoff by measures such as detention or sedimentation basins, vegetated swales and buffer strips, groundwater infiltration systems and level spreaders, and sediment and erosion control measures on adjacent developments. The direct entry of storm sewers into wetlands shall be avoided. Environmental impact analysis of wetland modification may be required in accordance with Section 800.0 of this ordinance.

An applicant must stabilize areas left exposed after land surface modification with vegetation native to Will County. The planting of native riparian vegetation is recommended as the preferred stabilization measure. Other techniques should be used only when and where vegetation fails to control erosion. The preferred alternative is riprap, using natural rock

materials where practicable, installed on eroding bank areas in a manner that provides interstitial space for vegetative growth and habitat for macroinvertebrates and other stream organisms. Lining of the stream channel bottom is not permitted.

The applicant shall minimize access to the applicant's proposed development activity within all or part of the Lowland Conservancy Overlay District where such access could adversely affect the stream, lake, pond, wetland, or related environmentally sensitive areas.

604.0 Stream and/or Wetland Site Development Plan

A stream and/or wetland site development plan must be prepared for any proposed development within, or partly within, the Lowland Conservancy Overlay District in conjunction with the Development Site Plan Review, and must indicate:

1. dimension and area of parcel, showing also the vicinity of the site in sufficient detail to enable easy location, in the field, of the site for which the site development permit with lowlands is sought, and including the boundary line, underlying zoning, a legend, a scale, and a north arrow. This requirement may be satisfied by the submission of a separate vicinity map;
2. location of any existing and proposed structures;
3. location of existing or proposed on-site sewage systems or private water supply systems;
4. location of any perennial or intermittent stream, lake or pond, and its ordinary high water mark;
5. location and landward limit of all wetlands;
6. location of setback lines as defined in this ordinance;
7. location of the 100-year floodway;
8. location of existing or future access roads;
9. specifications and dimensions of stream, wetland or other water areas proposed for alterations;
10. cross-sections and calculations indicating any changes in flood storage volumes; and
11. such other information as reasonably requested by the Will County Land Use Department.

The applicant shall present evidence, prepared by a qualified professional, that demonstrates that the proposed development activity will not endanger health and safety, including danger from the obstruction or diversion of flood flow. The developer shall also show, by submitting appropriate calculations and resource inventories, that the proposed development activity will not substantially reduce natural floodwater storage capacity, destroy valuable habitat for aquatic or other flora and fauna, adversely affect water quality or ground water resources, increase stormwater runoff velocity so that water levels on other lands are substantially raised or the danger from flooding increased, or adversely impact any other natural stream, floodplain, or wetland functions, and is otherwise consistent with the intent of this ordinance.

605.0 Geologic and Soil Characteristics/Geologic and Soil Report

The site proposed for development shall be investigated to determine the soil and geologic characteristics, including soil erosion potential. A report, prepared by a licensed professional engineer, geoscientist, or soil scientist experienced in the practice of geologic and soil mechanics, shall be submitted with every application for land development within the Lowland Conservancy Overlay District. This report shall include a description of soil type and stability of surface and subsurface conditions. Any area which the investigation indicates as being subject to geologic or soil hazards shall not be subjected to development unless the engineer or soil scientist can demonstrate conclusively that these hazards can be overcome.

606.0 Hydrologic Controls/Drainage Control Plan

A drainage control plan that describes the hydraulic characteristics of on-site and nearby watercourses as well as the proposed drainage plan, prepared by a registered professional engineer experienced in hydrology and hydraulics, shall be submitted with each application for land development within the Lowland Conservancy Overlay District. Unless otherwise noted, the following restrictions, requirements and standards shall apply to all development within the Lowland Conservancy Overlay District:

1. natural open-channel drainageways shall be preserved; and
2. runoff from areas of concentrated impervious cover (e.g., roofs, driveways, streets, patios, etc.) shall be collected and transported to a drainageway (preferably a natural drainageway) with sufficient capacity to accept the discharge without undue erosion or detrimental impact. Vegetated drainage swales are preferred over conveyances constructed of concrete or other manufactured materials.

The drainage control plan shall identify appropriate measures, such as recharge basins and detention/retention basins, which will limit the quantitative and qualitative effects of stormwater runoff to pre-development conditions.

607.0 Site Grading and Excavation Plan

Section 607.0 applies to the extent that grading and excavation and erosion control plans, which satisfy the following requirements, are not already required by a jurisdiction.

A site grading and excavation plan, prepared by a registered professional engineer, trained and experienced in civil engineering, shall be submitted with each application for land development within the Lowland Conservancy District and shall include the following:

1. details of the existing terrain and drainage pattern with one-foot contours;
2. proposed site contours at one-foot intervals;
3. dimensions, elevation and contours of grading, excavation and fill;
4. a description of methods to be employed in disposing of soil and other material that is removed from allowable grading and excavation sites, including location of the disposal site if on the property;
5. a schedule showing when each stage of the project will be completed, including the total area of soil surface to be disturbed during each stage, and estimated starting and completion dates. The schedule shall be prepared so as to limit, to the shortest possible period, the time soil is exposed and unprotected. In no case shall the existing natural vegetation be destroyed, removed, or disturbed more than fifteen (15) days prior to initiation of the improvements; and
6. a detailed description of the revegetation and stabilization methods to be employed, to be prepared in conjunction with the landscape plan per Section 608.0. This description should include locations of erosion control measures such as sedimentation basins, straw bales, diversion swales, etc.

The grading and excavation plan must be consistent with all the provisions of this ordinance.

Unless otherwise provided in this ordinance, the following restrictions, requirements and standards shall apply to all development within the District:

1. every effort shall be made to develop the site in such a manner so as to minimize the alteration of the natural topography;
2. no grading, filling, cleaning, clearing, terracing or excavation of any kind shall be initiated until final engineering plans are approved;

3. the depositing of any excavation, grading, or clearing material within a stream, lake, pond or wetland area (i.e., within the District) shall be prohibited.

In addition to locating all site improvements on the subject property to minimize adverse impacts on the stream, lake, pond, or wetland, the applicant shall install a berm, curb, or other physical barrier during construction, and following completion of the project, where necessary to prevent direct runoff and erosion from any modified land surface into a stream, lake, pond, or wetland. All parking and vehicle circulation areas should be located as far as possible from a stream, lake, pond, or wetland.

The Will County Land Use Department may limit development activity in or near a stream, lake, pond, or wetland to specific months, and to a maximum number of continuous days or hours, in order to minimize adverse impacts. Also, the Will County Land Use Department may require that equipment be operated from only one side of a stream, lake, or pond in order to minimize bank disruption. Other development techniques, conditions, and restrictions may be required in order to minimize adverse impacts on streams, lakes, ponds or wetlands, and on any related areas not subject to development activity.

608.0 Natural Vegetation Buffer Strip Required: Vegetation and Revegetation/Landscape Plan

To minimize erosion, stabilize the streambank, protect water quality, maintain water temperature at natural levels, preserve fish and wildlife habitat, to screen man-made structures, and also to preserve aesthetic values of the natural watercourse and wetland areas, a natural vegetation strip shall be maintained along the edge of the stream, lake, pond, or wetland. The natural vegetation strip shall extend landward a minimum of 25 feet from the ordinary high water mark of a perennial or intermittent stream, lake or pond and the edge of a wetland.

Within the natural vegetation strip, trees and shrubs may be selectively pruned or removed for harvest of merchantable timber, to achieve a filtered view of the waterbody from the principal structure, prevent excess shading that kills groundcover species, and for reasonable private access to the stream, lake, pond, or wetland. Said pruning and removal activities shall ensure that a live root system stays intact to provide for streambank stabilization and erosion control.

A landscape plan, prepared by a professional landscape architect, shall be submitted with each **Site Development Permit with Lowlands** application for development activity within the Lowland Conservancy Overlay District and contain the following:

1. a plan describing the existing vegetative cover of the property and showing those areas where the vegetation will be removed as part of the proposed construction; and
2. a plan describing the proposed revegetation of disturbed areas specifying the materials to be used.

The vegetation must be planned in such a way that access for stream maintenance purposes shall not be prevented.

700.0 Watercourse Relocation and Minor Modifications (including Channelization and Relocation)

Watercourse relocation or modification is not permitted because these activities are not usually consistent with the purposes of this ordinance. Under certain circumstances, relocation and minor modification may be permitted through a permit where certain problems can be mitigated by relocation and/or minor modification, specifically when:

1. off-site hydrologic conditions are causing erosion, flooding and related problems; or
2. on-site soil and geologic conditions are resulting in unstable conditions that pose hazards to life, health, and existing structures or property; or
3. the quality of previously modified or relocated streams can be upgraded or enhanced; or
4. officially-adopted stormwater management plans call for placement of detention or retention facilities in a stream; or
5. public utilities, including sanitary sewers, pipelines, and roadways require stream crossing or relocation where there are not practical alternatives.

Modification of watercourses as a convenience for site design purposes is not permitted.

701.0 Conditions and Restrictions for Permitting Stream Modification

Stream modification, when permitted, is subject to the following conditions and restrictions:

1. water quality, habitat, and other natural functions must be significantly improved by the modification; no significant habitat area may be destroyed;
2. the amount of flow and velocity of a stream is not to be increased or decreased as the stream enters or leaves a subject property, unless this reflects an improvement over previous conditions in terms of reduced flooding, reduced erosion, or enhanced low-flow conditions;
3. prior to diverting water into a new channel, a qualified professional engineer retained by the applicant and approved by the Will County Land Use Department shall inspect the stream modification, and issue a written report to the Will County Land Use Department that the modified stream complies with the requirements in Section 702.0; and

4. stream channel enlargement, or other modifications that would increase conveyance, shall not be permitted if the intended purpose is to accommodate development activities in the floodplain.

702.0 Required Content of Stream Modification/Relocation Plan

Stream relocation may be permitted in accordance with a stream relocation plan which provides for:

1. the creation of a natural meander pattern, pools, riffles, and substrate;
2. the formation of gentle side slopes (at least three feet horizontally per one foot vertically), including installation of erosion control features;
3. the utilization of natural materials wherever possible;
4. the planting of vegetation normally associated with streams, including primarily native riparian vegetation that is deep-rooted and capable of holding banks and soil in place;
5. the creation of spawning and nesting areas wherever appropriate;
6. the re-establishment of the native fish population wherever appropriate;
7. the restoration of water flow characteristics compatible with native fauna habitat areas, wherever appropriate;
8. the filling and revegetation of the prior channel;
9. a proposed phasing plan, specifying time of year for all project phases;
10. plans for sediment and erosion control; and
11. establishment of a low-flow channel which reflects the conditions of a natural stream.

703.0 Criteria for Permitting Armoring of Channels and Banks

Armoring in the form of bulkheads, riprap or other materials or devices is not permitted except in accordance with the following:

1. significant erosion cannot be prevented in any other way and the use of revegetation and gradual bank slopes has not sufficiently stabilized the shoreline or bank;

2. the bulkhead or other device is not placed within a wetland, or between a wetland and a lake or pond;
3. the bulkhead, riprap or other device will minimize the transmittal of wave energy or currents to other properties; and
4. the change in the horizontal or vertical configuration of the land must be kept to a minimum.

Where permission to install bulkheads or other armoring devices is requested as part of the special use permit application, documentation and certification pertaining to the items above must be submitted.

704.0 Criteria for Permitting the Use of Culverts

Culverts are not permitted in streams except in accordance with the following:

1. where a culvert is necessary for creating access to a property; use of culverts as a convenience, in order to facilitate general site design, is not to be considered;
2. the culvert must allow passage of fish inhabiting the stream, and accommodate the 100-year flood event without increasing upstream flooding, except where a restricting culvert is desirable as part of an overall storm and floodwater management plan;
3. the culvert must be maintained free of debris and sediment to allow free passage of water, and if applicable, fish; and
4. the stream bottom should not be significantly widened for the placement of a culvert as this increases siltation; if multiple culverts must be installed, one culvert should be at the level of the bottom of the stream and the others at or above normal water elevation.

705.0 Criteria for Permitting On-Stream Impoundments

Impoundment of streams is not permitted except in accordance with the following:

1. the impoundment is determined to be in the public interest by providing regional stormwater detention, flood control, or public recreation;
2. the impoundment will not prevent the upstream migration of indigenous fish species;
3. a non-point source control plan has been implemented in the upstream watershed to control effects of sediment runoff as well as minimize the input of nutrients, oil and grease, metals, and other pollutants;

4. impoundments without permanent low-flow pools are preferred except where a permanent pool is necessary to achieve the intended benefits of the impoundment (e.g., recreation or water quality mitigation); and
5. impoundment design shall include gradual bank slopes, appropriate bank stabilization measures, and a pre-sedimentation basin.

800.0 Impact Assessment

The Will County Land Use Department may ask an applicant to submit a report prepared by a qualified professional, and approved by the Will County Land Use Department, in order to assess the potential impact of proposed development on a lake, stream or wetland and associated environmentally sensitive areas, including loss of flood storage potential, loss of habitat, changes in species diversity and quantity, impacts on water quality, increases in human intrusion, and impacts on associated streams, lakes, ponds, wetlands or downstream areas.

900.0 Stream Maintenance Easement

The applicant shall grant an access easement for stream maintenance purposes to the Will County Board over twenty-five feet parallel to the stream bank.

1000.0 Nonconforming Uses

Reference Sections 11.1, 11.2, 11.3, and 11.4 of the Will County Zoning Ordinance.

1100.0 Planning and Zoning Commission

Section 14.4-2 of the Will County Zoning Ordinance, as renewed 2/16/95, vests jurisdiction and authority to hear appeals in the Planning and Zoning Commission.

1101.0 Variances

Section 14.8 of the Will County Zoning Ordinance, as renewed 2/16/95, vests jurisdiction and authority to hear variances in the Planning and Zoning Commission

1102.0 Appeals

The Planning and Zoning Commission shall hear and decide appeals from an administrative order, requirement or determination under this Ordinance. The Appeals process is outlined under Section 14.9 of the Will County Zoning Ordinance, renewed 2/16/95.

1200.0 Liability

Prior to issuance of a construction permit, the applicant shall enter into an agreement with the Will County Board. The agreement will run with the property, and be in a form acceptable to the Will County State's Attorney, indemnifying the Will County Board for any damage resulting from development activity on the subject property which is related to the physical condition of the stream or wetland.

1300.0 Separability

Every section, provision, or part of this ordinance is declared separable from every other section, provision, or part; and if any section, provision, or part thereof shall be held invalid, it shall not affect any other section, provision, or part.

1400.0 Retroactivity

The requirements of this ordinance apply to all platted and unplatted lands within the jurisdiction of Will County.

1500.0 Enforcement

Authority for administration of this ordinance resides with the Chief Subdivision Engineer. Appeals regarding decisions of the Chief Subdivision Engineer in granting permits shall be made according to the provisions of Section 1102.0.

1501.0 Stop-Work Order; Revocation of Permit

In the event any person holding a Site Development Permit with Lowlands pursuant to this ordinance violates the terms of the permit, or carries on site development in such a manner so as to materially and adversely affect the health, welfare, or safety of persons residing or working in the neighborhood of the development site, or so as to be materially detrimental to the public welfare or injurious to property or improvements in the neighborhood, the Will County Land Use Department may suspend or revoke the permit.

1. Suspension of a permit shall be by a written stop-work order issued by the Will County Land Use Department and delivered to the permittee, his/her agent or the person performing the work. The stop-work order shall be effective immediately, shall state the specific violations cited, and shall state the conditions under which work may be resumed. A stop-work order shall remain in effect until the next regularly scheduled meeting of the Planning and Zoning Commission, at which the conditions of subparagraph 2 below can be met.

2. No permit shall be permanently suspended or revoked until a hearing is held by the Planning and Zoning Commission. Written notice of such hearing shall be served on the permittee, either personally or by registered mail, and shall state:
 - A. the grounds for complaint or reasons for suspension or revocation, in clear and concise language; and
 - B. the time at which, and place where, such hearing will be held.

Such notice shall be served on the permittee at least five (5) days prior to the date set for the hearing. At such hearing, the permittee shall be given an opportunity to be heard and may call witnesses and present evidence on his/her behalf. At the conclusion of the hearing, the Planning and Zoning Commission shall determine whether the permit shall be suspended or revoked.

1502.0 Violations and Penalties

No person shall undertake or continue any development activity contrary to, or in violation of, any terms of this ordinance. Any person violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor, and each day during which any violation of any of the provisions of this ordinance is committed, continued, or permitted shall constitute a separate offense. Upon conviction of any such violation, such person, partnership, or corporation shall be punished by a fine for each offense. In addition to any other penalty authorized by this section, any person, partnership, or corporation convicted of violating any of the provisions of this ordinance shall be required to restore the site to the condition existing prior to commission of the violation, or to bear the expense of such restoration.

1600.0 Effective Date

This ordinance shall be in full force and effect from and after its passage and approval and publication, as required by law. (Resolution No. 98-25 approved March 19, 1998.)