Exhibit B: Amendments to Chapter 151 of the Lake County, Illinois Code of Ordinances

Key: Underline and ~~Strikethrough~~ - Combined staff, and ZBA and PBZ&E recommendations

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§ 151.145 SITE DEVELOPMENT PERMITS.

(A) *Purpose.* The regulations of this subchapter are intended to accomplish the following purposes:

(1) Meet the requirements of The Rivers, Lakes and Streams Act, 615 ILCS 5/18g;

(2) Prevent additional harm due to periodic flooding including loss of life and property and threats and inconveniences to public health, safety, and welfare;

(3) Assure that new development does not increase flood and drainage hazards to others, or create unstable conditions susceptible to erosion;

(4) Create no new financial burden on the taxpayer for flood control projects, repairs to flood damaged public facilities and utilities, and for flood rescue and relief operations;

(5) Protect, conserve, and promote the orderly development of land and water resources;

(6) Protect buildings and improvements to buildings from flood damage to the greatest extent possible;

(7) Conserve the natural hydrologic, hydraulic, water quality and other beneficial functions of flood-prone areas, regulatory floodplains;

(8) Prevent additional disruption of the economy and governmental services due to stormwater and flood drainage;

(9) Maintain eligibility for the county in the National Flood Insurance Program by meeting or exceeding its requirements and thus make federally subsidized flood insurance available at reduced rates. Comply with the rules and regulations of the National Flood Insurance Program codified as 44 C.F.R. parts 59 through 79, as amended; and

(10) Conserve the natural hydrologic, hydraulic, water quality and other beneficial functions of wetlands by having, at a minimum, no net loss of wetlands in the county, and further these beneficial functions wetlands by having an objective of a net gain of wetland functions as specified in the Wetland Preservation and Restoration Plan component of the Lake County Comprehensive Stormwater Management Plan.

(B) *Applicability.* A site development permit is required for any development that meets any one of the following criteria:

COMMENTARY:
In order to prevent "phasing" of development to circumvent the intent of these regulations, when a proposed development activity will occur on a lot or parcel of land that has contiguous lots or parcels of lands owned in whole or in part by the same property owner, then the criteria as defined in the "Applicability" section will be applied to the total land area compiled from aggregate ownership parcels. If this aggregate ownership land area is greater than the minimum area requirements defined in the "Applicability" section, then a site development permit will be required.

(1) Is located on a property containing a regulatory floodplain;

(2) Is located in a flood-prone area with 100 acres of tributary drainage area or more;

(3) Is located in a depressional storage area with a surface area of one-fourth acre or more, or with a storage volume of 0.75 acre-feet or more for the base flood;

(4) Creates a wetland impact within an area defined as waters of the United States or isolated waters of Lake County;

(5) Modifies the flood-prone area of a water body where the tributary drainage area is 20 or more acres;

(6) Includes the total land area of an ownership parcel that results in:

(a) More than one acre of new impervious area; or

(b) More than three acres of hydrologically disturbed area, unless the total new impervious surface area is less than one-half acre; or

(c) An impervious surface area ratio of 50% or greater, unless the total new impervious surface area is less than one-half acre. The term "new", as used in this subsection (B)(6), refers to impervious or hydrologically disturbed area created after the original effective date of the Watershed Development Ordinance (October 13, 1992). Redevelopment of previously developed sites shall maintain existing storage volume and shall not increase the rate of runoff from the site. The applicant shall provide supporting data and calculations to the satisfaction of the Planning, Building and Development Director to ensure the site design either provides a watershed benefit or meets the requirements of § 151.146(C)(2). New development on partially developed sites shall meet the release rate criteria in § 151.146(C) for the new development, if the new development exceeds the thresholds in subsections (B)(6)(a), (B)(6)(b), or (B)(6)(c) above.

(7) Any site disturbance on any undeveloped parcel, or the undeveloped portion of any parcel that consists of any of the following:

(a) Any excavation, filling, or combination of excavation or filling that will exceed 500 cubic yards;

(b) Any excavation, filling, or combination of excavation or filling that will exceed three feet in vertical depth or height at its deepest point measured from the natural ground surface; any excavation, filling, or combination of excavation or filling that will exceed an area of 1,000 square feet;

(c) Removal of plant cover from an area exceeding 1,000 square feet; or

(d) Any development within an area previously identified by the county as posing a unique drainage concern. For proposed developments within those areas, an inspection of the site shall be conducted and the Planning, Building and Development Director shall determine whether a site development permit is required based on the site conditions.

(8) For all nonresidential development, with the exception of interior alterations, a site development permit shall be required unless, following an inspection of the site, the Planning, Building and Development Director determines that, based on the site conditions, no permit is warranted.

(9) Any activity to a building in a special flood hazard area (SFHA) as described in FEMA publication 480 National Flood Insurance Program Flood Management Requirements.

(C) *Exempted development.*

(1) All development shall comply with minimum federal, state, and local regulations. No development is exempt from the floodplain, floodway, wetland, and soil erosion and sediment control provisions of this chapter. An exemption request under subsection (C)(2) below shall be submitted in writing by the applicant to the Planning, Building and Development Director for an exemption from specific performance standards of this chapter. The applicant's exemption request shall itemize each chapter provision that is requested for exemption. After review and verification by the Planning, Building and Development Director that subsection (C)(2) below is met, the specific chapter provision exemptions may be granted.

(a) Final plats, site development permits, or current building permits approved prior to October 18, 1992 if the stormwater management facilities are installed and functioning and in compliance with all applicable stormwater regulations then in effect. This item is applicable to § 151.146(H)(5) (buffer areas) only.

(b) Final plats, planned unit developments, site development permits or current building permits approved between October 18, 1992 and April 13, 2021, if the approved plans and designs are in conformance with the pre-October 13, 2020, ordinance provisions. That portion of any final plat, planned unit development, site development permit, or current building permit which is amended after the effective date of this chapter and which affects the stormwater management system is not exempt from the provisions of this chapter.

(c) Re-subdivision of commercial or industrial subdivisions identified under subsection (C)(1)(a) above, provided that the stormwater management facilities are installed and functioning and there is no increase in impervious surface area permitted. Re-subdivision of commercial or industrial subdivisions identified under subsection (C)(1)(b) above, provided there is no increase in impervious surface area beyond that which was originally approved.

(d) Public road development on county highways and township roads, provided that plans will be submitted to the Lake County Stormwater Management Commission to ensure compliance with applicable stormwater management, soil erosion and sediment control and floodplain and wetland requirements.

(e) The maintenance of existing buildings and facilities such as resurfacing of roadways when the road elevation is not increased.

(2) If eligible under subsections (C)(1)(a), (C)(1)(b), or (C)(1)(c) above, the applicant may submit a written request to the Planning, Building and Development Director for an exemption from specific performance standards of this chapter. The applicant's exemption request shall itemize each ordinance provision that is requested for exemption.

(3) A site development permit shall not be required for any of the following:

(a) The maintenance of existing buildings and facilities such as resurfacing of roadways when the road elevation is not increased;

(b) Gardening, plowing, and similar agricultural practices that do not involve filling, grading, or construction of levees;

(c) Agricultural practices outside of the regulatory floodplain that involve filling or grading, including but not limited to the construction of levees, terraces, and surface water diversions that are a part of a Natural Resource Conservation Service designed and approved conservation project; or

(d) Fence installation, pole placement, drilling, or other minor auxiliary construction as long as the development activity is not located in a regulatory floodway, wetland, or water body.

(D) *Classification of development.* All activities requiring a site development permit shall be classified as "major" or "minor" developments, in accordance with the following definitions.

(1) *Major development.* A "major" development is any development subject to site development permit requirements that meets any one of the following criteria:

(a) Is located in any portion of a regulatory floodway or floodplain, with compensatory storage requirement, is located in any depressional storage area that has a surface area of one-fourth acre or more, or that has a volume larger than 0.75 acre-feet;

(b) Creates a wetland impact to waters of the United States or isolated waters of Lake County exceeding the isolated wetland impact mitigation thresholds in § 151.146(M)(4);

(c) Modifies a water body where the tributary drainage area is greater than 100 acres, with compensatory storage requirement; or

(d) Requires detention per § 151.146(C).

(2) *Minor development.* A "minor" development is any development subject to site development permit requirements that is not a "major" development, provided that the Planning, Building and Development Director may classify any development as a "major" development if that the Planning, Building and Development Director determines that the nature of the proposed work warrants the "major" development classification.

(E) *Review and approval procedure.*

(1) *Relationship to development review procedures of §§ 151.045 through 151.058.* The "general" procedural requirements and standards of § 151.045 shall apply to the review and approval procedures of this section.

(2) *Application.* Applications for site development permits shall be made in person in the Planning, Building and Development Department.

(3) *Staff review and action.* Planning, Building and Development Department staff shall review each site development permit application and, within 30 days of receipt of a complete application, act to approve, approve with conditions, or deny the application. Failure of the Planning, Building and Development Director to act within the 30-day period shall constitute a denial of the application, unless the applicant agrees to an extension of time. If the applicant fails to provide information requested by the Planning, Building and Development Director within three months of the request, the application shall be void, unless the time is extended by the Planning, Building and Development Director.

(4) *Other approvals required; permit issuance before final approval.*

(a) No site development permit shall be issued by the Planning, Building and Development Director unless the development, including but not limited to subdivisions and planned unit developments, has been approved by all applicable county agencies. However, in the following instances, a site development permit may be issued prior to final approval provided that:

1. The final engineering plans are approved by the appropriate county agencies, and the development demonstrates compliance with applicable application requirements and performance standards; and

2. All applicable application requirements and performance standards have been met, except for obtaining any required state and federal approvals.

(b) A request for commencement of grading activities may be made for a development site prior to the issuance of a site development permit. The proposed grading activity may commence with written approval from the Planning, Building and

Development Director of the earth change approval plan that delineates the activities specifically allowed including appropriate soil erosion and sediment control measures. The written approval will be in the form of a permit. The permit application will state the conditions and limitations of the proposed grading activities. No permit may be issued and no development activity may occur in a regulatory floodplain, except for excavations outside of the regulatory floodway and which do not require an Illinois Department of Natural Resources, Office of Water Resources permit, wetland, or in those portions of the site for which this chapter requires that state and federal permits be issued, except for Illinois Environmental Protection Agency sewer and water extension permits. (See Appendix G for a partial list of agencies from which permits may be required.)

(5) *Financial assurances.*

(a) For nonresidential development that meets the criteria of § 151.145(B)(6) and for any development where the Planning, Building and Development Director requires, the applicant shall file with the county a performance assurance satisfactory to the Lake County State's Attorney for an amount equal to one 130% of the total cost of improvements including the cost of landscaping, soil erosion and sediment control measures, and all engineering costs and inspection fees, based upon the consulting engineer's estimate of cost. Government entities such as townships, schools, park districts, and the like are exempt from this requirement.

(b) A maintenance assurance if required by the county, shall be deposited with the county prior to the release of any performance assurance held by the county for the time period and in the amount specified by the Planning, Building and Development Director to cover the cost of failure or repair of improvements installed on the site, including landscaping, wetland restoration/mitigation, and soil erosion and sediment control measures.

(c) A letter certifying the as-built conditions shall be submitted by the consulting engineer prior to the release of any performance assurance. In addition, the Planning, Building and Development Director may require deed restrictions, covenants, easements, or any other documents to ensure proper enforcement of the site development regulations.

(d) The assurance may be drawn at any time the permittee fails to comply with the requirements of this or any other county ordinance or with the approved site development plans or with the approved timeframe for site development activities.

(6) *As-built drawings.* As-built drawings, signed and sealed by a Licensed Professional Engineer, shall be required for all major developments, public road developments, and other types of development as determined by the Planning. Building and Development Director (such as those developments that affect stormwater runoff rates or volume, impact wetlands or wetland buffers, or are adjacent to floodplains). As-built drawings and supporting information shall clearly show all as-built conditions, including, but not limited to:

(a) Topographic spot elevations and contours for overland flow paths, detention ponds, storage facilities, and building pads;

(b) Detention pond restrictor size, invert elevation, emergency overflow size, and elevation;

(c) Verification of required native vegetation planted (seed tags, invoices);

(d) Storm sewer sizes, inverts;

(e) Drain tile information provided from the Subsurface Drainage Inventory, or identified during construction as follows: location, connection, size, material, and inverts for those drain tiles that are part of the stormwater management system;

(f) Other information required under this chapter;

(g) Applicable calculations or other information verifying conformance with the permitted plan set;

(h) Low floor and low opening elevations of structures. Low opening sizes where vents are required; and

(i) Benchmark information.

(j) Elevation of the bottom of the lowest horizontal structural member of the lowest floor, and whether the structure has a basement, for structures located in a coastal high hazard area.

(7) *Inspections.* The Planning, Building and Development Director may inspect site development at any stage in the construction process. For major developments, the Planning, Building and Development Director shall conduct site inspections, at a minimum, at the end of the construction stages (E)(7)(a)1. through 7. listed below. Construction plans approved by the Planning, Building and Development Director shall be maintained at the site during progress of the work. In order to obtain inspections in accordance with the following schedule, the permittee shall notify the Planning, Building and Development Director at least two full working days before the inspection is to be made. The Designated Erosion Control Inspector shall conduct inspections and document as described below, at a minimum, at the intervals in subsections (E)(7)(a)1. and (E)(7)(a)6. listed below, for those developments that require a Designated Erosion Control Inspector, until permanent stabilization and Planning, Building and Development Director approval of appropriate as-built documentation and drawings.

(a) Recommended inspection intervals are listed below:

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

~~2. After stripping and clearing;~~

~~3. After rough grading;~~

~~4. After final grading;~~

~~5. After seeding and landscaping deadlines;~~

~~6~~2. After every seven calendar days or storm event with greater than one-half inch of rainfall or liquid equivalent precipitation;

~~7~~3. After final stabilization and landscaping, prior to removal of sediment and erosion controls;

~~8~~4. After removal of erosion and sediment controls;

~~9~~5. Designated Erosion Control Inspector inspections may be performed at a reduced frequency, at the discretion of the Planning, Building and Development Director, for projects with a valid Site Development Permit, that are permanently stabilized, ~~have submitted a Notice of Termination to Illinois Environmental Protection Agency,~~ and are entering a prolonged period of inactivity. Designated Erosion Control Inspector~~DECI~~ inspections shall only be required after storm events with greater than 0.5 inch of rainfall or liquid equivalent precipitation.

~~10~~6. If a wetland mitigation area is constructed as part of the site development permit, the Lake County Stormwater Management Commission or Isolated Water of Lake County-Certified Community's Certified Wetland Specialist shall, at a minimum, perform the following inspections:

a. Inspection by a certified wetland specialist after mitigation areas have been final graded and before seeding or plant installation;

b. Inspection by a certified wetland specialist after seeding or plant installation; and

c. At a minimum, annual inspections by a certified wetland specialist during the five-year monitoring and maintenance period for wetland mitigation areas.

(b) Minimum inspection documentation shall include: site observations and a sufficient number of photos depicting the conditions of the entire site, inspector's name, date and time of the inspection, status of perimeter control, and site outlet observations.

(8) *Special precautions.*

(a) If at any stage of the grading of any development site the Planning, Building and Development Director determines 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 Planning, Building and Development Director may require, as a condition of allowing the work to be done, that reasonable special precautions be taken as is considered advisable to avoid the likelihood of the peril. "Special precautions" may include but shall not be limited to a more level exposed slope, construction of additional drainage facilities, berms, terracing, compaction, cribbing, installation of plant materials for erosion control, and recommendations of a ~~l~~Licensed ~~soils~~ Geotechnical ~~e~~Engineer and/or Licensed ~~engineering~~Professional ~~g~~Geologist which may be made requirements for further work.

(b) Where the Planning, Building and Development Director determines that storm damage may result or has resulted because the grading on any development site is not complete, work may be stopped and the permittee required to install temporary

structures or take any other measures as may be required to protect adjoining property or the public safety. On large developments or where unusual site conditions prevail, the Planning, Building and Development Director may require that the operations be conducted in specific stages so as to ensure completion of protective measures or devices prior to the advent of seasonal rains.

(c) In the event that a stormwater detention or conveyance facility fails to function as designed because of improper or inadequate maintenance, the Planning, Building and Development Director shall inspect the facility and compel corrective action. To compel corrective action, the Planning, Building and Development Director shall provide written notification to the property owner indicating: (1) corrective actions required to return the facility to functional order; or (2) additional engineering plans, reports or calculations required to identify the problem or engineer a solution, and that the plans, reports, or calculations shall be submitted for review and approval.

(9) *Permit expiration.*

(a) A site development permit shall be issued for a time period of not more than two years and shall expire by limitation. The Planning, Building and Development Director may grant an extension of time, not to exceed one year, if the Planning, Building and Development Director determines, based on information provided by the permit holder, that unusual difficulties have prevented work being started or completed within the specified time limits. A written extension request and permit extension fee (revised May 9, 2006) must be filed by a permit holder before expiration of the permit. If the work authorized by such permit has not been commenced within six months of permit issuance, the permit shall lapse and be of no further effect unless a start work extension request has been filed within six months of permit issuance (revised May 9, 2006). If the permit expires, a new permit application review and fees shall be required for the completion of the project and the applicant shall comply with the current ordinance requirements.

(b) A permit that includes a structure located within the regulatory floodplain, or will be located within the regulatory floodplain, shall be terminated without the possibility of an extension, if the start of construction is not commenced within 180 days of the permit issuance date unless the structure is compliant with the following:

1. Any modification to National Flood Insurance Program regulations after permit issuance; or

2. Any modification to a Federal Emergency Management Agency Flood Insurance Rate Map or Flood Insurance Study after permit issuance.

(c) For the purposes of this subsection, “start of construction” means the commencement of any repair, reconstruction, rehabilitation, addition, or improvement of a structure; or the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of

streets and/or walkways: nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure.

(10) *Revocation of permit.* In the event any person holding a site development permit violates the terms of the permit, or conducts or carries on the site development in a manner that adversely affects the health, welfare, or safety of persons residing or working in the vicinity of the subject property, or conducts or carries on the site development in a manner that is materially detrimental to the public welfare or injurious to property or improvements in the vicinity, the Planning, Building and Development Director shall revoke or suspend the site development permit in accordance with the provisions of § 151.253.

(11) *Refunds.* Refunds of site development application and permit fees are granted in accordance with the Planning, Building and Development Department fee refund policy. (County Board approved.)

(12) *Retention of plans.* Plans, specifications, and reports for all site development permits shall be retained by the Planning, Building and Development Department.

(F) *Application requirements.* The site development permit application requirements of this section establish different application requirements for major and minor developments.

(1) *Applications for minor developments.* The Planning, Building and Development Director shall determine what information is required to ensure compliance with the purpose and intent of this chapter. This information may include but shall not be limited to the following:

(a) A completed site development permit application signed by the property owner or owner's agent and, when required a licensed professional engineer and certified wetland specialist.

(b) A topographic survey and/or grading plan showing proposed (min. 1% grade) and existing contours, and the limits of grading prepared, signed and sealed by an Illinois Licensed Land Surveyor or Licensed Professional Engineer.

(c) A brief drainage report describing the characteristics of the existing and proposed drainage systems including all discharge points, collection, conveyance, and storage facilities, and any calculations used to determine stormwater quantities, flow rates and/or storage volumes.

(d) A site drainage plan, which depicts drainage features, overland flow paths, stormwater management system components, flood-prone areas, regulatory floodplains, wetland boundaries, buffer areas, existing and proposed septic systems and wells. A capacity analysis of the above stormwater system components may be required by the Planning, Building and Development Director.

(e) An area drainage plan locating the proposed development in the watershed.

(f) A description and depiction of measures to be taken to control erosion (sedimentation and erosion control plan).

(g) Existing and proposed typical cross-sections and profiles of all components of the stormwater management system including, but not limited to swales, berms, and detention ponds.

(h) For all proposed temporary soil stockpiles, the location, dimensions, and a schedule for removal.

(i) All plans and calculations that are prepared by a ~~registered~~ licensed professional engineer pursuant to this section shall be signed and sealed by the engineer.

(j) A description of the anticipated dates of initiation and completion of activity.

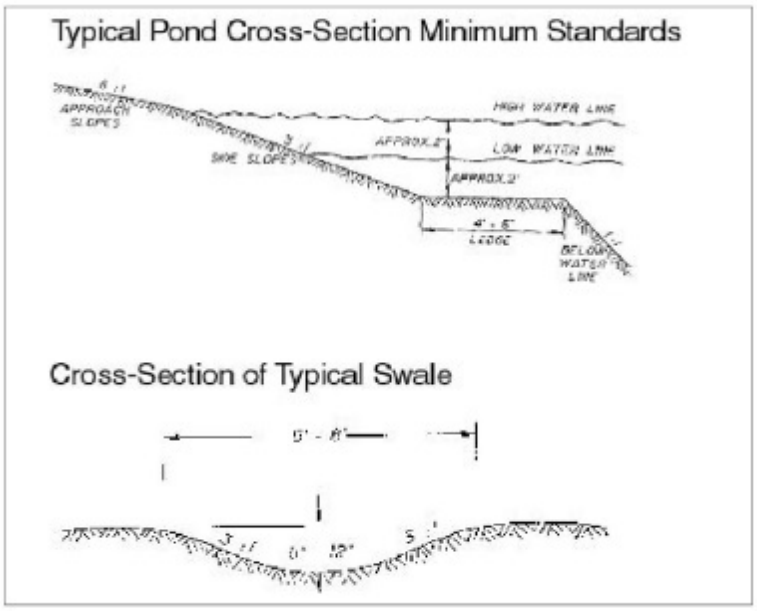
(k) An exhibit for review that displays all deed or plat restrictions of record or to be recorded for the stormwater management system.

(l) The federal, state, and local permit requirements of subsections (F)(2)(h) and (F)(2)(i) are required when applicable to the development site and subsections (F)(2)(f)3. and (F)(2)(g) shall be required when requested by the Planning, Building and Development Director.

(m) A wetland submittal, if required, under § 151.146(M).

(n) For permits required only in accordance with subsection (B)(9) above documentation shall be submitted towards the determination of a substantial improvement. Other submittal requirements may be waived.

Figure 151.145(F): Typical Pond and Swale Cross-sections



(2) *Applications for major developments.* The following application requirements shall be met unless the Planning, Building and Development Director determines that an item is unnecessary to ensure compliance with the purpose and intent of this chapter:

(a) Name and legal address of the applicant. Common address, legal description, and/or the parcel identification numbers for the property where the development will take place. Mailing address of the property owner;

(b) The name, company name, title, address, phone and fax numbers of all consultants involved in the design and engineering of the proposed development;

(c) A vicinity map depicting the location of the subject development in relation to major roads, natural features, municipalities, and the like along with the parcel identification numbers of all parcels comprising the proposed development;

(d) A map showing the location of the subject development in its watershed as depicted on U.S. Geologic Survey maps. The extent and area of each watershed affecting the design of stormwater detention and conveyance facilities within the subject development;

(e) Site development plans: the information required by this subsection (F)(2) shall be presented at any normal scale up to and including one inch equals 100 feet (1:100) that is convenient to portray the required information on a sheet size not to exceed 24 by 36 inches and shall be bound into a package that includes the following sheets:

1. A topographic survey of the existing conditions of the development site which includes the following information:

a. Existing contour lines at not greater than one-foot intervals. The reference benchmark shall be cited on the plan. Spot elevations shall be provided at all breaks in grade and where necessary to indicate grade changes in areas of shallow topography. The source and/or preparer of the topographic survey shall be recognized on the plan. All elevations shall be referenced to North American Vertical Datum of 1988 (NAVD 88), which supersedes the NGVD 29 datum used prior to September 18, 2013;

b. The existing layout of all lots, parcels, road rights-of-way, and easements, including lot numbers and street names, on the subject site and on all adjoining parcels;

c. The location of streams, drainageways, and other floodwater runoff channels, their normal channels, and extent of the floodplains at the established high-water elevation, and the limits of the floodway, all properly identified;

d. The normal shoreline of lakes, ponds, and detention basins, their easements, floodplains, and lines of inflow and outflow, if any;

e. The location, size, and flowline elevation of all existing storm and sanitary sewers, and water mains, if any, of record;

f. The location of field tiles and their sizes which are on file with the Soil and Water Conservation District of Lake County or are known by the developer;

g. The location of all existing individual sewage disposal systems, if any, of record;

h. The location of all existing wells, if any, of record;

i. Natural and other groundwater sources such as seeps, springs, flowing, and other artesian wells, that are visible or are of record;

j. The soil conditions as indicated in the Soil Survey, Lake County, Illinois, or as determined by an on-site soil survey. The soil boundaries shall be drawn on the plan and the soil designation numbers shall be shown in the area where each soil mapping unit exists; and

k. The location, boundaries and type of predominate vegetation on the development site.

2. A drainage plan prepared as an overlay of the topographic survey described above, and including the following information:

a. Proposed contour lines at not greater than one-foot intervals. Proposed spot elevations shall be provided at all breaks in grade and where necessary to indicate grade changes in areas of low relief;

b. The limits of all watershed boundaries, drainage areas, points of discharge, velocity of flow, and flow quantities;

c. An indication of the direction of water flow in all proposed and existing swales and drainageways, including the slope of channel and existing and proposed typical cross-sections and profiles;

d. The location of all existing streams and floodplains to be maintained, and proposed channels to be constructed, including specification and dimensions of proposed channel modifications, locations and orientation or cross-sections and profiles;

e. (i) Typical cross-sections of all existing detention basins to be maintained, enlarged, or otherwise altered and proposed basins and their design, showing the following:

(I) Length, width, dimension;

(II) Berm elevation;

(III) Water elevation - normal and high;

(IV) Bottom slope elevation; and

(V) Control structure details (outlets, restrictors, spillways, and the like).

(ii) The typical cross-sections also shall show the elevation of the existing land surface and the proposed changes thereto, together with the calculated high water elevations expected from stormwater overland flow depth and path, and the relationship of structures, streets, and other utilities.

f. Plans and profiles of all proposed street storm sewers and other storm drains including their slope, type, size, outfall and outlet locations, and elevations, receiving streams or channels and their high water elevations;

g. Proposed culverts and bridges to be built, their materials, elevations, waterway openings; and

h. Cross-sections of all existing and proposed channels or other open drainage facilities, showing the elevation of the existing land and the proposed changes thereto, together with the calculated high water elevations expected from stormwater overland flow depth and path, and the relationship of structures, streets, and other utilities. The elevations of lowest floor or lowest adjacent grade for structures shall be included on the development plan as applicable. Refer to the UDO sections on overland flow paths (§ 151.146(H)(3)), floodplain building protection requirements (§ 151.149(H)) and flood table land development (§ 151.153), for elevation requirements of structures within or adjacent to floodprone areas.

3. A soil erosion and sediment control plan showing all measures appropriate for the development as approved by the Planning, Building and Development Director, to meet the objectives of this chapter throughout all phases of construction and permanently after completion of development of the site, including:

a. Location and description, including standard details, of all sediment control measures and design specifics of sediment basins and traps, including outlet details. The drainage area tributary to each sediment control measure shall be delineated on the soil erosion and sediment control plan;

b. 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;

c. Location and description of all runoff control measures, including diversions, waterways, and outlets;

d. Location and description of methods to prevent tracking of sediment off-site, including construction entrance details, as appropriate;

e. Description of dust and traffic control measures;

f. Locations of stockpiles and description of stabilization methods;

g. Description of off-site fill or borrow volumes, locations, and methods of stabilization;

h. Provisions for maintenance of control measures, including type and frequency of maintenance, easements, and estimates of the cost of maintenance;

i. 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; and

j. A written narrative description of the proposed phasing (construction sequencing) 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 Planning, Building and Development Director of any significant changes which occur in the site development schedule after the initial erosion and sediment control plan has been approved.

(f) Site development report: the information required by this subsection (F)(2) shall be presented on eight and one-half by 11-inch paper and shall be bound into a report which includes the following:

1. A drainage report describing the hydrologic and hydraulic analyses performed for the subject development, which includes the following information:

a. A brief description of the proposed development including the purpose of the proposed development activities and the anticipated initiation and completion dates of proposed activities;

b. A brief description of the methodology, assumptions, and sources used in the hydrologic and hydraulic analyses of site drainage;

c. The extent and area of each tributary watershed to the drainage channels in the development, and the names of all streams and other bodies of water affected by the development;

d. A section in the hydrologic and hydraulic analysis report describing how the Runoff Volume Reduction requirements (as described in § 151.146(D)) are incorporated into the development site plan. The section shall include the rationale for not selecting approaches with higher preference. The section shall also provide supporting calculations for meeting the runoff volume reduction requirements;

e. The percentages of existing and proposed areas of impervious surface, the existing and proposed amount of runoff, and the existing rate of stormwater release. This shall include documentation of the design volumes and rates of the proposed runoff for each portion of the tributary watershed to the drainage system and the effects the improvements will have upon the receiving channel and high water elevations. Runoff calculations shall include all discharges entering the site from upstream areas;

f. For detention facilities, a section that includes a plot or tabulation of storage volumes and water surface areas with corresponding water surface elevations, stage-discharge or outlet rating curves, and design hydrographs of inflow and outflow for the two-year, 24-hour and the 100-year, 24-hour storm events under existing and developed conditions; and

g. If the soil mapping submitted for the development indicates the soils classified as a hydric soil (USDA/NRCS Soil Classification), then the applicant shall provide site- specific soil mapping performed by a certified soil classifier or geotechnical investigation for the development. No buildings or parking lots shall be constructed on these soils unless appropriate building methods, such as pilings, caissons or removal and replacement of unsuitable soils, as approved by the Planning, Building and Development Director, are used to provide and protect a suitable building foundation.

Development that is exempted from this requirement is any development activity not resulting in the construction of a building or parking lots.

2. A soil erosion and sediment control report which includes the following information:

a. A statement which names the party legally responsible for maintenance of erosion control measures during and after construction. The statement shall include the responsible party's name, address and telephone number;

b. A narrative description of the sequencing of grading and soil disturbance and construction activities, the temporary and permanent sediment and erosion control measures to be implemented to mitigate any negative effects of grading including: supporting calculations; estimated schedule for installing, maintaining and removing both temporary and permanent structures; and the final stabilization and re-vegetation measures;

c. A construction schedule which indicates the start and finish dates for:

(i) Installation and maintenance of erosion control measures;

(ii) The clearing of vegetation and stripping and stockpiling of topsoil;

(iii) Rough grading and construction of stormwater detention and conveyance facilities;

(iv) Topsoil respreading, final grading and site restoration; and

(v) Maintenance of improvements.

d. A schedule for the removal of all proposed temporary soil stockpiles.

3. A maintenance plan for the ongoing maintenance of all stormwater management system components, including wetlands, is required prior to plan approval. The plan shall be referenced in the recorded deed or plat restriction document associated with the stormwater management system. The plan shall include:

a. Maintenance tasks and the type and frequency of maintenance of all components of the stormwater management system, including existing and replaced drain tiles within the ownership parcel which are part of the stormwater management system;

b. The party responsible for performing the maintenance tasks;

c. A description of all permanent public or private access deed- or plat-restricted areas for all stormwater management system components for the development;

d. A description of dedicated sources of funding for the required maintenance; and

e. Measures to prohibit the dumping, depositing, dropping, throwing, discarding, or leaving of construction material debris and all other illicit discharges into the stormwater management system and measures to be in continued compliance with IEPA NPDES Permit No. ILR40.

(g) The application form, development plans, and stormwater reports shall meet the requirements of this section. All plans, calculations and other documentation shall be signed and sealed by a ~~registered~~ licensed professional engineer. Additionally, the engineer shall provide a letter, bearing his or her seal and signature, which certifies that all plans, calculations and other documentation submitted by him or her have been prepared and are in full compliance with all applicable county ordinances. However, public trail and park facility projects that do not involve the placement of structures or fill can be submitted without the certification or seal of a ~~registered~~ licensed professional engineer;

(h) A copy of a Natural Resource Inventory (NRI) shall be submitted by the applicant to the Planning, Building and Development Director for development that is required to obtain a NRI performed by the McHenry-Lake County Soil and Water Conservation District pursuant to state statute 70 ILCS 405/22.02a;

(i) For all development sites requiring a National Pollutant Discharge Elimination System permit, the applicant shall submit a notice of intent (NOI) to the Illinois Environmental Protection Agency to comply with the National Pollutant Discharge Elimination System Stormwater Permit. The approved erosion control plan created pursuant to the requirements of this chapter and the Watershed Development Ordinance shall fulfill the plan requirements in the National Pollutant Discharge Elimination System permit;

(j) A copy of the consultation application to the Illinois Department of Natural Resources shall be submitted by the applicant to the Planning, Building and Development Director for development that is required to comply with the consultant process of the Illinois Endangered Species Protection Act (520 ILCS 10/11) and the Illinois Natural Areas Preservation Act (525 ILCS 30/17);

(k) A wetland submittal, if required, under § 151.146(M); and

(l) A copy of the building plans and cost estimates in accordance with Federal Emergency Management Agency National Flood Insurance Program standards shall be submitted for modifications to existing structures in the Regulatory Floodplain.

1. A copy of building plans shall be submitted for modifications to existing structures in the Regulatory Floodplain: the building plans shall include a comprehensive materials list of all items directly associated with the structure. At the

discretion of the Planning, Building and Development Director, the building plans and comprehensive materials list shall be signed and sealed by an Illinois Licensed Architect or Licensed Professional Engineer.

2. A minimum of two cost estimates shall be submitted for modifications to existing structures in the regulatory floodplain, The cost estimates shall reflect the fair market value of all materials and labor directly associated with the structure, including construction management, overhead, and profit costs: the estimates shall correlate with the comprehensive materials list and building plans. At the discretion of the Planning, Building and Development Director, additional supporting cost estimate information shall be submitted.

(3) *Dam safety permits.* The applicant shall obtain and provide, when applicable to the proposed development, a copy of an Illinois Department of Natural Resources (IDNR), Office of Water Resources (OWR), dam safety permit or a letter stating that a dam safety permit is not required before the applicant requests or obtains a site development permit (see Appendix H for dam safety permit requirements).

(4) *Federal, state, and local permits and approvals.*

(a) The applicant shall obtain and provide copies of any and all required federal, state, and local permits for development in the regulatory floodplain before the applicant requests or obtains a site development permit. (See Appendix G for a partial list of agencies from which permits may be required.)

(b) Lake County Division of Transportation approval is required prior to the issuance of a site development permit when the property's access is proposed or existing from a collector or arterial road. (See Appendix B for collector and arterial roads.)

(5) *Proposed revisions to base flood elevation or regulatory floodplain boundary.* The applicant shall submit, to the Planning, Building and Development Department, the Lake County Stormwater Management Commission, and the Federal Emergency Management Agency, the data required for proposed revisions to the base flood elevation of a regulatory floodplain study or relocation of a regulatory floodway boundary. The applicant shall also submit this data to Illinois Department of Natural Resources, Office of Water Resources, when the tributary area is greater than one square mile.

(6) *Ground elevations.* The applicant shall provide, when applicable to the development an affidavit or documentation to prove the location of the development relative to the base flood elevation prior to the effective date of the first regulatory floodplain map; and certification that the current ground elevation existed prior to the effective date of the first regulatory floodplain map.

(7) *Subsurface drainage tiles.* The applicant shall submit a subsurface drainage inventory. The inventory shall include locations of existing farm and storm drainage tiles by means of silt trenching and other appropriate methods performed by a qualified subsurface drainage consultant. All existing drain tile lines damaged during the investigation shall be repaired to their previous working status.

(a) The applicant shall provide a topographical map of the development site showing:

1. Location and depth of each trench and identified to correspond with the tile investigation report and surveyed points where the tile was field staked at approximately 50-foot intervals;

2. Location of each drain tile with a flow direction arrow, tile size, and any connection to adjoining properties;

3. A summary of the tile investigation report showing trench identification number, tile size, material and quality, percentage of the tile filled with water, percentage of restrictions caused by silting, depth of groundwater, and working status; and

4. Name, address, and phone number of person or firm conducting tile location investigation.

(b) Information collected during the Subsurface Drainage Inventory shall be used as part of the design and construction of a stormwater management system that meets the requirements of this chapter.

COMMENTARY:
The *Technical Reference Manual* prepared by the Lake County Stormwater Management Commission and the "Procedures and Standards for Urban Soil Erosion and Sedimentation Control" prepared by the Northeastern Illinois Soil Erosion and Sedimentation Control Steering Committee are references to be used in the preparation of the documents required for submission.

(Ord., § 8.1, passed 10-13-2009; Ord. passed 10-9-2012; Ord. passed - - ; Ord. 22-1060, passed 8-9-2022)

§ 151.146 PERFORMANCE STANDARDS FOR ALL DEVELOPMENT.

Development subject to the site development regulations shall comply with all applicable performance standards of this section. The performance standards for all development shall be considered in site planning and appropriately addressed in the drainage plan component of subdivisions, annexation agreements, preliminary plats, final plats, re-plats, manufactured home parks and planned unit developments. All plans, reports, and calculations required pursuant to these regulations shall fully demonstrate a proposed development's compliance with the following performance standards.

(A) *Plat and site plans.*

(1) To address the runoff volume reduction requirements of subsection (D), all streets, blocks, lots, deed- or plat-restricted areas, parks, and other public grounds shall be located and designed in such a manner as to preserve and utilize natural wetlands, flood-prone areas, channels, and best management practices and undisturbed native soil/plant areas utilized to meet the runoff volume reduction requirements.

(2) All plats and engineering plans shall show the base flood elevation and regulatory floodway limits, if applicable. They shall also include a signed statement by a ~~registered~~ licensed professional engineer that accounts for changes in the drainage of surface waters in accordance with the Plat Act (765 ILCS 205/2).

(3) All plats and site plans that border on or include public bodies of water as defined by the Illinois Department of Natural Resources, Office of Water Resources and listed in Appendix I shall be submitted by the applicant to the Illinois Department of Natural Resources, Office of Water Resources for review and approval.

(4) Soil erosion and sediment control measures and stormwater management facilities shall be functional before general construction begins. Where development of a site is to proceed in phases, the soil erosion and sediment control measures needed for each phase shall be functional before the construction of that phase begins.

(5) All stormwater management systems within the ownership parcel shall be contained within an appropriately sized and located deed restriction or plat restriction. Stormwater management systems that service a single parcel or two parcels of property may be exempted from this requirement upon approval of the Planning, Building and Development Director.

(6) Modifications to a deed or plat restriction for the stormwater management system shall be approved by the Planning, Building and Development Director. Lot line modifications shall require Plat Committee approval.

(7) Pursuant to state law, a property owner of a parcel being subdivided adjacent to a state or county road right-of-way shall notify the proper highway authority in writing of the proposed subdivision, and request that the proper highway authority provide the amount of additional capacity in any stormwater detention facility to be constructed in the subdivision for the future availability of the highway authority for meeting stormwater detention requirements of any future public construction on the highway.

(B) *Runoff calculations.*

(1) For tributary drainage areas of 100 acres or more in area and for the determination of detention and depressional storage requirements, a Lake County Stormwater Management Commission-approved hydrograph-producing runoff calculation method shall be used. Appendix J also may be used, when appropriate and upon approval of the Planning, Building and Development Director, for determination of detention storage volumes.

(2) The Rational Method may be used to calculate discharges for areas of less than 100 acres. The Rational Method shall not be used to determine detention or depressional storage requirements.

(3) Rainfall data obtained from the Lake County Stormwater Management Commission (presented in Appendix K) shall be used for rainfall volume, storm distribution, return frequency, and event duration.

(4) Runoff calculations for all off-site drainage areas shall be based on anticipated future land use conditions or existing land use conditions, whichever yields the greater runoff. Anticipated future land use conditions will be based on future land use and existing storage facilities. Future detention facilities may be used for anticipated future land use conditions if approved by the Lake County Stormwater Management Commission Chief Engineer or, for tributary drainage areas less than 100 acres if approved by the Planning, Building and Development Director. Existing land use conditions will be based on existing land use and existing storage facilities. For each frequency storm event, runoff calculations will be based on the critical duration, for all durations presented in Appendix K.

(5) Existing depressional storage volume shall be maintained and the volume of detention storage provided to meet the requirements of this chapter shall be in addition to the existing storage.

(6) For determination of soil runoff characteristics, areas of the development that are hydrologically disturbed and compacted shall be changed to the next higher hydrologic soil classification e.g., B to C, C to D, or as approved by the Planning, Building and Development Director. Soil groups that are not hydrologically disturbed will retain their current runoff characteristics.

(7) Areas that are deed or plat restricted for native planting areas may be determined to have lower runoff characteristics, and may be taken into account when meeting the runoff volume reduction requirements of this chapter. The Planning, Building and Development Director may determine these areas can be excluded from the required detention volume calculation.

(C) *Release rates and discharges.*

(1) Unless otherwise specified in a county-adopted basin plan, floodplain study, or Appendix L, the detention volume required shall be calculated using a rating curve based on maximum release rates of 0.04 cubic feet per second, per acre for the two-year, 24-hour storm event, nor 0.15 cubic feet per second, per acre for the 100-year,

24-hour storm event. The release rate requirements shall apply to the hydrologically disturbed area of the ownership parcel unless the Planning, Building and Development Director determines that specific locations of the ownership parcel have unique circumstances such that the release rate shall apply to a broader or smaller area. The release rate requirements shall only apply to the developments listed in § 151.145(B)(6).

(2) All concentrated stormwater discharges must be conveyed into a maintainable outlet with adequate downstream stormwater capacity (as defined in § 151.271) and will not result in increased flood and drainage hazard. An existing channel, storm sewer or overland flow path is said to have adequate downstream capacity when it can be shown to accommodate up to and including the 100-year stormwater runoff without increasing property damage to the adjacent property or to a point downstream known to be a restriction causing significant backwater.

(3) The design of stormwater drainage systems shall not result in the interbasin transfer of drainage, unless no reasonably feasible alternative exists. The Planning, Building and Development Director may also allow interbasin transfer if the transfer relieves a known drainage hazard and there is adequate downstream stormwater capacity.

(4) There shall be a minimum of one foot of freeboard above the base flood elevation on all detention/retention basins.

(5) Watershed-specific release rates are tabulated in Appendix L.

(6) The combined release from the detention facility outlet and the outlet designed to meet wetland hydrology requirements of subsection (M)(7) shall not exceed either the two- or 100-year allowable release rates, respectively. The wetland hydrology requirement or minimum outlet restrictor size may take precedence over the allowed release rate, provided there is adequate downstream capacity as determined by the Planning, Building and Development Director.

(7) The applicant shall prohibit illicit discharges generated during the development process from entering into the stormwater management system. Discharges of stormwater from a development site shall be in conformance with the soil erosion and sediment control practices contained in §§ 151.145 through 151.154 of this chapter.

(D) *Runoff volume reduction (RVR).*

(1) Applicants shall choose a strategies that minimize stormwater runoff volumes and addresses water quality impairments. The site development plan shall incorporate stormwater infiltration, evapotranspiration, reuse, or other methods, into the project. The applicant shall use appropriate green infrastructure techniques and best management practices to reduce runoff volume, according to the following hierarchy, in order of preference, in preparing a stormwater management plan:

(a) Preservation and enforcement of the stormwater management benefits of the natural resource features of the development site (e.g., areas of Hydrologic Soil Groups

A and B, floodplains, waters of the United States, isolated waters of Lake County, channels, drainageways, prairies, savannas, and woodlands);

(b) Minimization or disconnection of impervious surfaces;

(c) Enhancement of the infiltration and storage characteristics of the development site using appropriate best management practices;

(d) The use of open channels with native vegetation to convey stormwater runoff;

(e) Structural measures that provide water quality and volume reduction;

(f) Structural measures that provide only volume reduction or other rainwater harvesting practices;

(g) Measures that provide water quality and quantity control; and

(h) Measures that provide only quantity control.

(2) (a) Runoff volume reduction (RVR), Quantitative Standard. The minimum RVR quantitative standard shall be the volume achieved utilizing applicable RVR Credits, as determined by the applicant and approved by the Planning, Building and Development Director, based on the maximum extent practicable, for the following development. The term “new” for the RVR Quantitative Standard refers to impervious surface created after April 1, 2009.

(b) Minor and Major Development that result in at least one acre hydrologic disturbance and more than 0.5 acre of new impervious surface area; Redevelopment of previously developed sites that result in at least one acre hydrologic disturbance:

1. *RVR implementation criteria.*

a. Runoff volume reduction quantity shall be implemented with appropriate methods, as approved by the Planning. Building and Development Director, which may include the following: best management practices: green infrastructure: detention facilities: and preservation or enhancement of natural streams, wetlands, and areas with deed restricted native vegetation.

b. Best management practices, and the portion of the detention facility designed to meet this provision, shall be designed to dewater the RVR quantity in no greater than 96 hours. The applicant shall provide infiltration rate information for each RVR practice. The use of an under drain system may be incorporated into the design in order to achieve the required draw down time. Under drain systems shall be designed to dewater the RVR quantity in not less than 48 hours.

2. *RVR credits.* The following credits may be used alone or in combination to meet the RVR quantity requirement:

a. *Detention facility credit.* Up to 50% of the RVR quantity may be provided within the portion of the detention facilities that have been designed to meet this standard. The volume provided to meet this provision shall be below the elevation of the primary outlet for the RVR portion of the facility.

b. *Native vegetation cover credit.* Up to 100% of the reduced two-year, 24-hour runoff volume achieved with native vegetation in deed or plat restricted areas (e.g., compensatory storage and buffer areas) as described in Soil Runoff Characteristics (subsection (B)(6) above) and Linear Water Bodies (subsection (H)(6) below).

c. *Isolated wetland hydrology credit.* A maximum of 100% of the existing two-year. 24-hour runoff volume to a preserved IWLC if the Wetland Hydrology (subsection (M)(7) below) and Water Quality Treatment (subsection (H)(4) below) requirements are met.

d. *Water quality treatment credit.* Up to 100% of the volume utilized to meet the Water Quality Treatment Volume (subsection (H)(4) below).

e. *Off-site RVR credit.* RVR practices may be provided on off-site, localized properties that are within the same basin. Deed or plat restrictions shall be obtained and recorded on off-site properties to assure perpetual operation and maintenance of RVR facilities.

f. *Best management practice and green infrastructure credits.* Up to 100% of the volume within the practices designed to meet this standard.

(E) *New stormwater facilities.* The design of all new stormwater facilities shall comply with the following standards:

(1) All new stormwater infiltration, retention and detention basins shall be provided with an emergency overflow structure capable of passing the critical duration base flood inflow rate without damages to downstream structures or property;

(2) (a) New stormwater infiltration, retention and detention basins required to meet a development's discharge requirements shall be designed to bypass off-site tributary flow from channels unless approved by the Planning, Building and Development Director;

(b) All parcels within the established flood table land's elevation criteria of a detention facility design high water level shall be protected from flooding as follows:

1. For detention facilities with less than 100 acres of tributary area, all structures in parcels containing or adjoining the facility shall have a lowest adjacent grade a minimum of one foot above the design high water elevation within the emergency overflow structure.

2. For detention facilities with greater than or equal to 100 acres of tributary area, all structures in parcels containing or adjoining the facility shall meet the requirements of § 151.149(H) at an elevation two feet above the design high water elevation within the emergency overflow structure. New residential structures may have the lowest floor below this elevation if structurally dry flood-proofed to at least two feet above the design high-water elevation within the emergency overflow structure.

(3) Single pipe outlets shall have a minimum inside diameter of 12 inches. If design release rates call for smaller outlets, a design that minimizes the possibility of clogging shall be used. Minimum outlet restrictor size shall be four inches, provided there is

adequate downstream capacity. Detention volumes and corresponding high water level required for a development shall be determined by using the appropriate release rates specified in subsection (C) regardless of a minimum outlet restrictor size;

(4) Outlet control structures shall be designed as simply as possible and shall operate automatically. They will be designed to limit discharges into existing or planned downstream channels or conduits so as not to exceed predetermined safe capacities and not in excess of flows which would have occurred with the land in its natural, undeveloped condition.

(5) The approach slopes of the basin shall conform as closely as possible to natural land contours. Regrading is preferable if necessary to keep the slopes under 10%. Erosion control measures shall be provided as well as devices or measures to ensure public safety;

(6) Any work involving the construction, modification or removal of a dam as defined in 17 Ill. Adm. Code 3702 (Rules for Construction of Dams) shall obtain an Illinois Department of Natural Resources, Office of Water Resources Dam Safety permit, or a letter stating that a permit is not required, prior to the start of the activity;

(7) With the approval of the Planning, Building and Development Director, stormwater retention and detention basins may be constructed in the regulatory floodplain. Lost floodplain storage volume due to fill, structures, and detention storage shall be replaced with compensatory storage in accordance with § 151.149. No credit may be taken for storage volume below the base flood elevation. (See also § 151.147.);

(8) No new stormwater detention or retention basin shall be located closer than ten feet plus one and one-half times the depth of the basin to the ultimate right-of-way of any public road, without the written permission of the highway authority having jurisdiction over the right-of-way. Likewise, the toe of any berm used to create a basin shall be a minimum of ten feet from the ultimate right-of-way;

COMMENTARY:
Best management practices are presented in the Lake County Stormwater Management Commission's *Technical Reference Manual.*

(9) For basins designed without permanent pools (dry bottom type), provisions must be incorporated to facilitate interior drainage, to include positive grades to outlet structures (bottom of basins must be a minimum of 2% grade), longitudinal and transverse grades to perimeter drainage facilities, or the installation of sub-surface drains. Wherever practical the interior drainage shall be provided over non-erosive vegetative surfaces. When vegetation cannot be established, a rip-rap or concrete swale or underdrain shall be provided from the inlet structure to the outlet structure. Multi-purpose features may be designed as part of dry bottom detention facilities; however, the features must be designed to serve only secondary purposes for recreation, open space, or other uses which will not be adversely affected by occasional or intermittent flooding;

(10) For basins designed with permanent pools (wet bottom type):

(a) The minimum normal depth of water before the introduction of excess stormwater shall be four feet;

(b) If fish are stocked, at least one-fourth of the area of the permanent pool must have a minimum depth of 12 feet;

(c) For emergency purposes, cleaning or shoreline/buffer maintenance, facilities shall be provided or plans prepared for the use of auxiliary equipment to permit emptying and drainage;

(d) Approach slopes shall be at least 6:1 but not more than 3:1 and shall be at least four feet wide and shall slope towards the basin. A minimum eight-foot wide safety shelf with a maximum depth of three feet below normal water level sloped back towards the shoreline. The side slopes shall be of non-eroding material with a slope of 1:1 or less. Alternate designs for side slopes may be considered under special circumstances and when approved by the Planning, Building and Development Director; and

(e) Sediment storage shall be provided in all detention/retention basins. The amount of sediment storage capacity shall be determined by the Planning, Building and Development Director based on size of the development, soil types, construction methods, basin design, and other relevant factors.

(11) For basins designed as a wetland type basin, provisions must be incorporated to facilitate interior drainage, to include positive grades to outlet structures, longitudinal and transverse grades to perimeter drainage facilities, or the installation of sub-surface drains. A basin plan shall be prepared for the establishment and maintenance of the wetland vegetation. Multi-purpose features may be designed as part of dry bottom detention facilities; however, the features must be designed to serve only secondary purposes for recreation, open space, or other uses which will not be adversely affected by occasional or intermittent flooding;

(12) Detention storage may be met in total or in part by detention on flat roofs. Details of designs to be included in the building permit application shall include the depth and volume of storage, details of outlet devices and downdrains, elevation of overflow scuppers, design loadings for the roof structure and emergency overflow provisions. Direct connection of roof drains to sanitary sewers is prohibited;

(13) Paved parking lots may be designed to provide temporary detention storage of stormwater on all or a portion of their surfaces. Outlets will be designed so as to slowly empty the stored waters, and the depth of storage must be limited to not greater than six inches so as to prevent damage to parked vehicles;

(14) All or a portion of the required detention storage may be provided in underground facilities with the approval of the Planning, Building and Development Director. No detention storage may be provided in or under the ultimate right-of-way of any public road;

(15) On-stream detention.

(a) All on-stream detention shall provide a Detention Volume Safety Factor as follows:

1. The Detention Volume Safety Factor is applied to the volume of on-stream detention necessary to meet the Watershed Development Ordinance site requirements.

2. The Detention Volume Safety Factor is equal to one plus 0.05 times the ratio of off-site tributary area to on-site tributary area.

3. The maximum Detention Volume Safety Factor shall be 1.5.

(b) No on-stream detention shall be allowed with an off-site to on-site tributary area greater than 10:1 except for development providing a watershed benefit.

(c) On-stream detention shall not be permissible if the tributary drainage area is greater than 640 acres except for detention that provides a watershed benefit.

(d) The release rate shall be 0.04 cubic feet per second per acre of the total tributary (on-site and off-site) at the elevation created by impoundment of the on-site two-year storm volume plus the Detention Volume Safety Factor, and 0.15 cubic feet per second per acre of the total tributary area (on-site and off-site) at the elevation created by impoundment of the on-site 100-year storm volume plus the Detention Volume Safety Factor. The release rate shall be calculated using the 24-hour storm event. This release rate calculation shall be used unless other site conditions warrant further analysis and modification from this standard or unless watershed specific release rates have been adopted as listed in Appendix L.

(e) On-stream detention shall provide water quality treatment. One of the following two methods shall be used:

1. A wet detention facility with a minimum permanent pool volume equal to the calculated sediment volume accumulated over a one-year period for the entire upstream watershed and an average normal water depth of at least four feet. The facility shall also have a live storage volume that, at a minimum, equals the water quality treatment standards of subsection (H)(4) for the development site; or

2. A separate off-line siltation basin with a volume meeting the water quality treatment standards of subsection (H)(4) for the tributary drainage area to the sediment basin.

(f) Impoundment of the stream as part of on-stream detention shall be designed to allow the migration and movement of present or potentially present indigenous species, which require access to upstream areas as part of their life cycle. The impoundment shall not cause or contribute to the degradation of water quality or stream aquatic habitat.

(g) Compensatory storage require-ments shall be satisfied.

(h) No on-stream detention shall be allowed in areas designated as an exceptional functional value wetland.

(16) Fee-in-lieu of on-site stormwater storage.

(a) The Planning, Building and Development Department may require, as part of an adopted basin plan or floodplain study, the payment of a fee-in-lieu of on-site stormwater storage to fulfill all or part of the on-site stormwater storage requirement for development. The adoption of a floodplain study or basin plan is per § 151.032(A)(17)(c) of this chapter.

(b) The following fee-in- lieu of on-site stormwater storage procedures apply:

1. The Planning, Building and Development Director may require, or the applicant may submit, a written request for the payment of a fee-in-lieu of on-site stormwater storage to fulfill all or part of the on-site detention requirement below the detention threshold minimum limit set by this chapter in division (B)(6) of this section and for compensatory storage requirements for streambank and shoreline restoration fills of less than 200 cubic yards. A request for fee-in-lieu of on-site stormwater storage shall be either rejected or approved within 45 days of the written request unless additional engineering studies are required.

2. Approval of a request for fee-in-lieu of on-site stormwater storage on a development site below the detention threshold in division (B)(6) of this section and for compensatory storage requirements for streambank and shoreline restoration fills of less than 200 cubic yards shall be determined by the Planning, Building and Development Director.

3. Fee-in-lieu of on-site stormwater storage shall be the lesser of:

A. The fee computed for each acre-foot or cubic yard or part thereof of stormwater storage; or

B. The estimated construction cost of the applicant's proposed and approved on-site stormwater storage, including land costs.

4. A fund will be maintained for each of the four major Lake County watersheds for the purpose of identifying and controlling all revenues and expenditures resulting from fee-in-lieu of on-site stormwater storage approvals. All fee-in-lieu of on-site stormwater storage revenues received from each watershed shall be deposited in these funds for use within that watershed.

5. The following requirements must be met before a fee-in-lieu of on-site stormwater storage will be approved:

A. The downstream stormwater management system has adequate downstream stormwater capacity (see § 151.271 Terms Defined); and

B. The Planning, Building and Development Department has an adopted fee-in-lieu of on-site stormwater storage program.

6. Fee-in-lieu of on-site stormwater storage revenues may be used to plan, design, or construct an upgrade to existing or future stormwater management systems if the upgrade is consistent with a basin plan, floodplain study, or stormwater system improvement.

(c) The following fee-in-lieu of on-site stormwater storage procedures shall be authorized for all developments permitted after October 13, 2020:

1. The Planning, Building and Development Director may require, or the applicant may submit, a written request for the payment of a fee-in-lieu of on-site stormwater storage to fulfill all or part of the on-site detention requirement above the 50-year, 24-hour detention volume using Appendix K: Rainfall Depth Duration Frequency Tables for Lake County. A request for fee-in-lieu of on-site stormwater storage shall be either rejected or approved within 45 days of the written request unless additional engineering studies are required.

2. Approval of a request for fee-in-lieu of on-site stormwater storage on a development site above the 50-year, 24-hour detention volume shall be determined by the Lake County Planning, Building and Development Director.

3. Fee-in-lieu of on-site stormwater storage shall be the fee computed for each acre-foot or part thereof of stormwater storage.

4. A fund will be maintained for each of the four major Lake County watersheds for the purpose of identifying and controlling all revenues and expenditures resulting from fee-in-lieu of on-site stormwater storage approvals. All fee-in-lieu of on-site stormwater storage revenues received from each watershed shall be deposited in these funds for use within that watershed.

5. The following requirements must be met before a fee-in-lieu of on-site stormwater storage will be approved:

A. The downstream stormwater management system has adequate downstream stormwater capacity (see § 151.271 Terms Defined); and

B. The Planning, Building and Development Department has an adopted fee-in-lieu of on-site stormwater storage program.

6. Fee-in-lieu of on-site stormwater storage revenues shall be used to design, maintain, or construct an upgrade to existing or future stormwater management systems if the upgrade is consistent with a basin plan, floodplain study, or stormwater system improvement.

(17) An access easement wide enough to allow the passage of construction traffic must be provided to any detention basin not adjacent to a public right-of-way;

(18) Impounding berms or walls for stormwater retention and detention facilities shall be designed and constructed to withstand all expected forces, including but not limited to erosion, pressure and uplift. The applicant shall submit material and compaction design specifications for earthen impoundments and provide as-built information verifying that the construction condition meets the design requirements. Impounding berms or walls shall be represented on the design plans and signed and sealed by a ~~registered~~ licensed professional or structural engineer;

(19) The top of the impounding structure shall be a minimum of one foot above the design high water level within the emergency overflow structure based on subsection (E)(1) above; and

(20) All stormwater facilities, when determined applicable by the Planning, Building and Development Director, shall be provided with features for maintenance and emergency ingress and egress capability.

(F) *Existing stormwater facilities.*

(1) Existing lakes, ponds or stormwater basins may be utilized to provide for the stormwater detention required by this section, provided that the storage capacity of the existing basin and its ability to function to provide for the intent of the regulations of this section shall be verified to the satisfaction of the Planning, Building and Development Director. In these cases, the existing basin shall comply with all of the design and engineering standards for new stormwater basins, as established in subsection (E), except when the Planning, Building and Development Director finds that the modification of the existing basin to comply with the standards of this section would not be practical nor desirable, and provided that the deviation from the standards of this section will not serve to compromise the overall intent of this section.

(2) Wetlands may be utilized to provide for the stormwater detention required by this section, provided that the existing depressional storage volume of the wetland is maintained and that the volume of detention storage provided to meet the requirements of this section is in addition to the existing storage volume. The use of wetlands for stormwater detention purposes is subject to the following standards.

(a) If the wetland will be excavated or if the proposed outlet structure elevation is set above the existing normal water elevation of the wetland, the proposed basin shall comply with all of the design and engineering standards for new stormwater basins established in subsection (E) (except when the Planning, Building and Development Director finds that the modification of the wetland to comply with the standards of this section would not be practical nor desirable, and provided that the deviation from the standards of this section will not serve to compromise the overall intent of this section). The use of wetlands for stormwater detention purposes may require U.S. Army Corps of Engineers approval (see subsection (M)(1) below).

(b) If the wetland will not be excavated and if the proposed outlet structure elevation is set at the existing normal water elevation of the wetland, the proposed basin shall not be required to comply with the design and engineering standards for new stormwater basins, as established in subsection (E) above. The use of wetlands in this manner may require U.S. Army Corps of Engineers approval.

(c) A management plan for maintaining the existing storage volume shall be prepared.

(G) *Joint development/use of stormwater management facilities.*

(1) Stormwater management facilities may be planned in coordination by two or more developments or land owners as long as flood and/or stormwater hazards are not

increased at intervening locations, and shall be encouraged by the county wherever feasible. In these cases, a maintenance agreement, approved by the Planning, Building and Development Director, shall be established between the developments or land owners and recorded with the Lake County Recorder (see subsection (I) below).

(2) In the event that an existing stormwater management facility is, in whole or in part, under the sole and exclusive control of a separate individual or governmental agency, the Planning, Building and Development Director shall not permit the use of the existing facility unless the individual or governmental agency having the sole and exclusive control grants its permission for the use of the existing facility. Permission granting the use of the stormwater management facility shall be in writing and must be presented to the Planning, Building and Development Director.

(H) *Stormwater conveyance systems.*

(1) *Storm sewers and swales.*

(a) The ten-year design storm shall be used as a minimum for the design of storm sewers, swales, and appurtenances. Storm sewers shall have a minimum diameter of 12 inches, with the exception that storm sewers servicing a single parcel may be excused from this requirement upon approval of the Planning, Building and Development Director. Storm sewer design analysis shall be calculated under full flow conditions, unless prior approval from the Planning, Building and Development Director is received for an alternate flow condition (e.g., pressure flow).

(b) The development shall not connect to sanitary sewers or to existing agricultural stormwater management systems (tiles) as an outflow for the stormwater management system. Field tile systems disturbed during the process of land development must be reconnected by those responsible for their disturbance unless the approved drainage plan includes provisions for their relocation.

(c) All storm sewers shall be located in a public road right-of-way or drainage easement of sufficient size to maintain or reconstruct the sewer. A covenant, running with the land, shall be recorded with the easements describing the maintenance responsibilities in the easements (see subsection (I) below). Prior to the construction of any storm sewer within an existing public road right-of-way, written permission must be obtained from the highway authority having jurisdiction over the right-of-way.

(d) All on-site stormwater management systems shall be designed and constructed to withstand the expected velocity of flow from all events up to the base flood without erosion. Stabilization adequate to prevent erosion shall be provided at the inlets and outlets of all pipe transitions and paved channels.

(e) All swales utilized as part of the stormwater management system for a development shall be located within a deed-restricted or plat-restricted area of sufficient size to maintain or reconstruct the swale.

(f) All swales must be a minimum 2% grade unless the Planning, Building and Development Director determines that the existing site conditions will prohibit that grade.

(g) Surface outflows onto adjoining properties shall be designed to release as sheet flow using level spreader trenches unless alternative designs are approved by the Planning, Building and Development Director.

(h) For agricultural drain tiles (tiles) the following provisions shall apply.

1. Field tile systems disturbed during the process of development shall be reconnected by those responsible for their disturbance unless the approved drainage plan includes provisions for these.

2. Observation structures, or similar maintenance and inspection access structures, shall be installed within the development at the suitable points of ingress and egress.

3. The applicant shall notify adjoining downstream property owners in writing of any proposed stormwater facility outlet location and design. The development design shall utilize, where practical and approved by the Planning, Building and Development Director, outflow locations that have an existing tile leaving the development site. A subsurface connection to the tile shall be constructed as a low flow outlet. A surface outlet shall be designed for the development site outflows based on the assumption the downstream tile will cease to function.

4. Drain tiles within the disturbed portions of the ownership parcel shall be replaced or intercepted and connected into the proposed stormwater management system or a bypass. The system or bypass shall be of an equivalent size.

5. Drain tiles located within an ownership parcel may be removed or disabled provided that a maintainable outlet exists or is installed to prevent flood damages to off-site properties.

6. If the development stormwater management system depends on existing drain tiles for stormwater conveyance or water surface elevation control, a maintainable outlet is required.

7. The locations for existing drain tiles within the ownership parcel shall be defined using the Subsurface Drainage Inventory. Recorded deed or plat restrictions shall be provided for all existing and replaced drain tiles within the ownership parcel which are part of the stormwater management system. Drain tiles that service a single parcel of property may be excused from this requirement upon approval of the Planning. Building and Development Director.

8. The maintenance plan per § 151.145(F)(2)(f)3. shall include the type and frequency of maintenance for all existing and replaced drain tiles within the ownership parcel which are part of the stormwater management system.

(2) *Sump pump and drain tile discharges.*

(a) The connection of sump pumps, roof drain tile systems or any other new drain tile line, or the discharge of groundwater or stormwater into sanitary sewers shall not be permitted.

(b) Sump pumps, roof drain tile systems or any other new drain tile line shall discharge into any channel that has adequate downstream capacity, other than the open drainage system (e.g., a roadside ditch) of a public road right-of-way. When there exists no channel with adequate downstream capacity, other than the open drainage system of a public road right-of-way, sump pumps, roof drain tile systems, or any other new drain tile line may discharge into the open drainage system of a public road right-of-way. When existing conditions permit, however, the discharge point shall be no closer than 20 feet from the road right-of-way and water from the discharge point shall flow to the right-of-way via a non-channelized, non-erosive, non-impervious surface (i.e., sheet flow over grass). The discharge from a sump pump, roof drain tile system, or any other new drain tile line shall be conveyed in a manner which does not impact adjoining property owners.

(c) The direct connection of sump pumps, roof drain tile systems, or any other new drain tile line into a closed drainage system (e.g., a storm sewer), designed to accommodate the stormwater or groundwater discharges, is encouraged within new developments. The connection of sump pumps, roof drain tile systems, or any other new drain tile line into an existing closed drainage system shall only be permitted when the ability of the existing drainage system to accommodate the stormwater or groundwater discharges is verified by the applicant.

(3) *Overland flow paths.*

(a) *Generally.* All areas of development must provide an overland flow path that will pass the base flood flow without damage to structures or property. If the upstream drainage area is less than 20 acres, a storm sewer pipe and inlet systems sized for the base flood can be constructed in lieu of providing an overland flow path.

(b) *Flow rate.* The flow rate for the base flood shall establish overland flow path limits, and it shall include all on-site and off-site tributary areas in accordance with subsection (B) above.

(c) *Deed of plat - restricted area.* All proposed overland flow paths shall be located within a deed-restricted or plat-restricted area of sufficient size to maintain or reconstruct the overland flow path. The overland flow path shall be protected from any activity, such as fencing, landscaping, or storage shed placement, which could impair its function. This protection shall be established through a properly recorded deed or plat restriction.

(d) *Less than 20 acres.* For overland flow paths with less than 20 acres tributary area, all structures on a parcel containing or adjoining to an overland flow path or other high water level designation shall have a lowest adjacent grade a minimum of one-half foot above the design high water.

(e) *Over 20 acres.* For overland flow paths with greater than or equal to 20 acres tributary drainage area but less than 100 acres, all structures on parcels containing or adjoining to an overland flow path or other high water level designation shall have a lowest adjacent grade a minimum of one foot above the design high water elevation.

(f) *Public health protection.*

1. No development in or adjacent to an overland flow path shall include locating or storing chemicals, explosives, buoyant materials, animal wastes, fertilizers, flammable liquids, pollutants, or other hazardous or toxic materials below one foot above the design high water elevation of the overland flow path.

2. New and replacement water supply systems, wells, and sanitary sewer lines may be permitted providing all manholes or other above-ground openings located below the design high water elevation of the overland flow path are watertight.

3. On-site individual sewage disposal systems in or adjacent to an overland flow path shall be designed to avoid inundation by the base flood.

(4) *Water quality treatment.* Water quality treatment standards can be achieved by combining the Runoff Volume Reduction requirements in subsection (D) above and the following requirements. The following water quality requirements apply to developments that result in at least 0.5 acre of new impervious surface area, where "new" is defined in § 151.145(B)(6). The volume of runoff kept on-site to meet the Runoff Volume Reduction requirements of this chapter (subsection (D)(1) above) may be deducted from the required water quality treatment volume.

COMMENTARY: Best management practices are presented in the Lake County Stormwater Management Commission's *Technical Reference Manual.*

(a) Prior to discharging to waters of the United States, isolated waters of Lake County or adjoining property, development shall divert and detain at least the first 0.01 inch of runoff for every 1% of impervious surface for the "development with a minimum volume equal to 0.2 inches of runoff (e.g., 20% or less impervious = 0.2, 50% impervious = 0.5, 90% impervious = 0.9); or provide a similar level of treatment of runoff as approved by the Planning, Building and Development Director and consistent with best management practices.

(b) Where practical, stormwater shall discharge into the buffer area of a wetland, or water body rather than directly into the wetland, lake, or pond. The discharges shall enter the buffer as unconcentrated flow with appropriate energy dissipation measures to prevent erosion.

(c) A buffer shall be established between design normal and high water levels around stormwater management facilities constructed for water quality treatment to enhance treatment effectiveness. The buffer area planting plan shall use the *Native Plant Guide for Streams and Stormwater Facilities in Northeastern Illinois*, NRCS, et al., (as amended) as a minimum standard.

(d) Hydrocarbon (e.g., oil and grease) removal technology shall be required using a volume of one-half inch of runoff for the new impervious surface tributary area to each treatment device and meeting a minimum 70% removal rate for all development classified as follows:

1. Vehicle fueling and servicing facilities; and

2. Parking lots with more than 25 new stalls.

(5) *Buffer areas.*

(a) Buffer areas shall be required for all areas defined as either “waters of the United States” or “isolated waters of Lake County”. Buffer areas are divided into two types, linear buffers and water body buffers.

1. Linear buffers shall be designated along both sides of all linear water bodies meeting the definition of “waters of the United States”.

a. When the linear water body has a watershed greater than 20 acres but less than one square mile, the minimum buffer width shall be 50 feet on each side of the linear water body.

b. When the linear water body has a watershed greater than one square mile, the minimum buffer width shall be 30 feet on each side of the linear water body.

c. Linear exceptional functional value wetlands and streams with an Index of Biotic Integrity greater than 40 shall have a minimum buffer width of 100 feet on each side of the linear water body. (Initial IBI based on the Illinois Environmental Protection Agency’s *Illinois Water Quality Report,* biannual. A site specific IBI assessment may override this report.)

2. Water body buffers shall encompass all nonlinear bodies of water meeting the definition of either waters of the United States or isolated waters of Lake County. The buffer width shall be determined as follows:

a. For all water bodies or wetlands with a total surface area greater than one-third acre but less than one acre, a minimum buffer width of 30 feet shall be established;

b. For all water bodies or wetlands with a total surface area greater than or equal to one acre but less than two and one–half acres, a minimum buffer width of 40 feet shall be established; and

c. For all water bodies or wetlands with a total surface area greater than or equal to two and one-half acres, a minimum buffer width of 50 feet shall be established.

3. A buffer shall be established between design normal and high water levels around stormwater management facilities constructed for water quality treatment to enhance treatment effectiveness. The buffer area planting plan shall use the *Native Plant Guide for Streams and Stormwater Facilities in Northeastern Illinois,* NRCS, et al. (as amended) as a minimum standard.

(b) Nonlinear high-quality aquatic resources shall have a minimum buffer width of 100 feet.

(c) Areas having state or federal threatened and endangered species present or for Illinois Natural Area Inventory Sites, buffer widths may be modified upon approval of the Planning, Building and Development Director, to meet the terms and conditions

specified during consultation with the Illinois Department of Natural Resources or United States Fish and Wildlife Service pursuant to state and federal laws and regulations.

(d) The buffer area for all water bodies meeting the definition of waters of the United States or isolated waters of Lake County shall extend from the ordinary high water mark. The buffer area for wetlands shall extend from the edge of the delineated wetland. A property may contain a buffer area that originates from waters of the United States or isolated waters of Lake County on another property.

(e) Features of the stormwater management system approved by the Planning, Building and Development Director may be within the buffer area of a development.

(f) Access through buffer areas shall be provided, when necessary, for maintenance purposes.

(g) All roadside drainage ditches, and excavated detention facilities in existence on August 10, 1999, borrow pits, quarries, and improvements to existing public road developments or alignments are exempt from buffer requirements.

(h) Stormwater discharges that enter a buffer shall have appropriate energy dissipation measure to prevent erosion and scour.

(i) All buffer areas shall be maintained free from development including disturbance of the soil, dumping or filling, erection of structures and placement of impervious surfaces except as follows.

1. A buffer area may be used for passive recreation (e.g., birdwatching, walking, jogging, bicycling, horseback riding and picnicking) and it may contain pedestrian, bicycle, or equestrian trails.

2. Structures and impervious surfaces (including trails, paths) may occupy a maximum of 20% of the buffer area, provided the runoff from the facilities is diverted away from the waters of the United States or Isolated Waters of Lake county or the runoff is directed to enter the buffer area as unconcentrated flow.

3. Utility maintenance, construction of stormwater facilities, and maintenance of stormwater facilities shall be allowed.

4. Boat docks, boathouses, and piers ~~shall~~ may be allowed and the provisions of subsection (H)(5)(i)2. above shall not apply.

5. Buffer areas hydrologically disturbed by allowed construction or as part of a re-vegetation plan shall be re-vegetated using the *Native Plant Guide for Streams and Stormwater Facilities in Northeastern Illinois,* NRCS et al. (as amended), as a minimum standard.

(j) A minimum of a one-foot temporary construction buffer from the limits of the waters of the United States or isolated waters of Lake County shall be required unless the adjacent wetland is considered impacted or enhanced. The one-foot temporary construction buffer shall be marked by construction fencing (Illinois Department of Transportation Standard) and installed prior to the start of all other construction

activities. All other construction activities, including soil erosion and sediment control features, shall take place on the non-wetland side of the construction fencing.

(k) Buffer averaging: the buffer width for a development site may be varied to a minimum of one-half of the buffer width required, upon approval of the Planning, Building and Development Director, provided that the total buffer area required is achieved adjacent to the waters of the United States or isolated waters of Lake County being buffered. The consultation process of the Illinois Department of Natural Resources or U.S. Fish and Wildlife Service may override the ability to average buffer areas upon approval of the Planning, Building and Development Director.

(l) Preservation of buffer areas shall be provided by deed or plat restriction.

(m) The buffer area of a development site may be subtracted from the water quality volume required.

(6) *Linear water bodies.*

(a) Linear water bodies are to be conserved (see § 151.071(G)).

(b) Appropriate uses:

1. For linear water bodies with a tributary drainage area of less than 20 acres, the establishment of any use permitted by the underlying zoning district is permitted in the linear water body, provided that provisions are made to pass the base flood flow without damage to structures or property.

2. For linear water bodies with a tributary drainage area of 20 acres or more, only the construction, modification, repair, or replacement of the uses listed below will be allowed in the linear water body, and provided that the uses will not cause an increase in flood heights for all flood events up to and including the base flood. The placement of any new structures, fill, building additions, fencing (including landscaping or plantings designed to act as a fence), and storage of materials is not permitted in the linear water body except as specifically permitted for the following uses:

a. Public flood control structures and private improvements relating to the control of drainage and flooding of existing buildings, erosion, water quality, or habitat for fish and wildlife;

b. Structures or facilities relating to functionally water dependent uses such as facilities and improvements relating to recreational boating, and as modifications or additions to existing wastewater treatment facilities;

c. Storm and sanitary sewer outfalls;

d. Underground and overhead utilities if sufficiently flood-proofed;

e. Bridges, culverts, and associated roadways, sidewalks, and railways, necessary for crossing over the linear water body; and

f. Linear water body regrading, without fill, to create a positive non-erosive slope toward a linear water body.

(c) Linear water body modification:

1. All development or modification of a linear water body with a tributary drainage area of 640 acres or more is subject to compliance with the standards for regulatory floodway development contained in § 151.147. All development or modification of a linear water body with a tributary drainage area of 100 acres or more is subject to compliance with the standards for flood-prone area development contained in § 151.147.

2. All linear water body modification is subject to compliance with the following standards.

a. Stormwater velocities at the discharge point of a modified linear water body shall not exceed those of the existing linear water body at the same point.

b. If a stream or linear water body meeting the definition of waters of the United States or isolated waters of Lake County is modified, a stream or linear water body mitigation plan shall be submitted for review and approval to the Planning, Building and Development Director. The plan shall show how the physical characteristics of the modified linear water body shall, at a minimum, meet the existing linear water body in length, cross-section, slope, sinuosity, and carrying capacity of the original linear water body. The plan shall also reestablish vegetation within the stream and overbanks using the *Native Plant Guide for Streams and Stormwater Facilities in Northeastern Illinois,* NRCS, et al. (as amended), as a minimum standard for the re-vegetation plan.

c. All disturbed areas associated with a linear water body modification, including the buffer or setback area, shall be seeded or otherwise stabilized in accordance with subsection (J) below.

d. Prior to the commence-ment of linear water body modification, an approved and effective means to reduce sedimentation and degradation of downstream water quality shall be installed. The measures and practices utilized to reduce sedimentation and degradation of downstream water quality shall be maintained throughout the construction period.

e. New or relocated linear water bodies shall be built in the dry. All items of construction, including vegetation, shall be completed prior to diversion of water into the new linear water body.

f. New or relocated linear water bodies with a tributary drainage area of 20 acres or more shall be built no closer than 30 feet to the ultimate rights-of-way of any public collectors, arterials, or freeways; buildings; structures or other impervious surface areas (e.g., driveways and parking areas) except when the Planning, Building and Development Director finds that existing conditions, such as the exceptional narrowness of a platted lot, will prohibit the reasonable use of a property if the 30-foot setback is imposed. The buffer requirements of subsection (H)(5) above shall also be met. In no event shall relocated water bodies be located closer than ten feet to the ultimate right-of-way of public roads.

g. Linear water bodies shall be expected to withstand all flood events up to the base flood without increased erosion. The use of armoring of banks using bulkheads, rip-rap and other materials shall be avoided. Armoring shall only be used where erosion cannot be prevented in any other way such as use of vegetation or gradual slopes. The armoring shall have minimal impact on other properties, linear water bodies, and the existing land configuration.

h. All new or relocated linear water bodies shall be located within a drainage easement. For new or relocated linear water bodies draining 20 or more acres, the drainage easement shall extend at least 12 feet from top of bank along at least one side of the linear water body. All drainage easements shall be accessible to vehicular equipment. No drainage easement shall be on or within the ultimate right-of-way of any public road.

i. Construction vehicles shall cross linear water bodies by means of existing bridges or culverts. Where an existing crossing is not available, a temporary crossing shall be constructed that complies with all of the following standards:

(i) The approach roads will be six inches or less above natural grade;

(ii) The crossing will allow linear water body flow to pass without backing up the water above the stream bank vegetation line or above any drainage tile or outfall;

(iii) The top of the roadway fill in the linear water body will be at least two feet below the top of the lowest bank. Any fill in the linear water body shall be non-erosive material, such as rip-rap or gravel;

(iv) All disturbed linear water body banks will be seeded or otherwise stabilized as soon as possible, in accordance with subsection (J), upon installation and again upon removal of construction; and

(v) The access road and temporary crossings will be removed within one year after installation, unless an extension of time is granted by the Planning, Building and Development Director.

(d) 1. All proposed public road rights-of-way, buildings, structures, driveways, and parking areas shall be set back at least 30 feet from the ordinary high water mark with a tributary drainage area of 20 acres or more except for the following:

a. Fences that are a maximum of four feet in height and that are at least 50% open (e.g., chain link, split rail, picket, and the like) in subdivisions approved prior to October 12, 1992, are exempt from setback requirements. (Note: fences may begin at the shoreline.);

b. The setback for decks shall not be less than 20 feet in subdivisions approved prior to October 12, 1992; and

c. The Planning, Building and Development Director shall be authorized to reduce these required setbacks when it is determined that existing conditions, such as the exceptional narrowness of a platted lot, will prohibit the reasonable use of the

property if the setback is imposed. The determinations shall be reported to the Planning, Building and Zoning Committee in accordance with the provisions of § 151.032(A)(16).

2. The buffer requirements of subsection (H)(5) above shall also be met for all subdivisions approved after August 1999.

(e) Public health protection standards:

1. No development in a linear water body 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.

2. New and replacement water supply systems, wells, and sanitary sewer lines may be permitted, providing all manholes or other above-ground openings located below the flood protection elevation are watertight.

3. On-site individual sewage disposal systems shall be designed to avoid inundation by the base flood.

(I) *Maintenance of stormwater management systems.* All improvements required by this section shall be maintained in perpetuity and cannot be developed for any other use which would limit or cause to limit the intended function and/or use of the improvements. To ensure continued maintenance of all stormwater management systems all development shall comply with the following standards.

(1) For new developments not involving a plat of subdivision or plat of condominium, but for which the provisions of this section are applicable, maintenance responsibilities assigned by this section shall be those of the property owner. In these cases, a covenant approved by the Planning, Building and Development Director providing for perpetual maintenance of required facilities shall be recorded with the Lake County Recorder prior to issuance of any certificate of occupancy for the development.

(2) For new developments that involve a plat of subdivision or plat of condominium, a property owners' association or condominium association shall be formed in perpetuity for the maintenance of the improvements required by this section. Membership in the association shall be mandatory for all owners. Articles of agreement of and providing for the association must be approved by the Planning, Building and Development Director before recording of a plat. Furthermore, the association shall be chartered by this state prior to the release of any final maintenance guarantee held by the county for the relevant development.

(3) Improvements required by this section shall be maintained by the association of the development and each owner shall bear his or her proportionate responsibility for continued maintenance. A special note shall appear on any final plat of subdivision or any plat of condominium and their declarations.

(4) However, the developer shall be responsible for the maintenance of all improvements until the time that 80% of the lots or units in the development have been sold. The developer shall not transfer these improvements for the purpose of maintenance until all maintenance assurances held for required improvements have been released by the county.

(5) In new residential developments consisting of five or fewer dwelling units, the provision of an association may be waived, provided that other parts of this section have been met, and that covenants providing for shared maintenance responsibilities have been approved by the Planning, Building and Development Director and recorded with the Lake County Recorder.

(J) *Soil erosion and sediment control.* Soil erosion and sediment control related measures are required to be constructed and maintained for any regulated land disturbance activity, in accordance with the standards of this section. All temporary measures and permanent erosion and sediment control shall be maintained continuously in an effective, working condition.

(1) Soil disturbance shall be conducted in such a manner as to minimize erosion. Areas of the development site that are not to be graded shall be protected from construction traffic or other disturbance until final seeding is performed. Soil stabilization shall consider the time of year, site conditions, and the use of temporary or permanent measures.

(2) Properties and linear and nonlinear water bodies adjoining development sites shall be protected from erosion and sedimentation. At points where concentrated flow leaves a development site, energy dissipation devices shall be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity of flow from the structure to the watercourse so that the natural physical and biological characteristics and functions are maintained and protected.

(3) Sediment control measures shall be constructed prior to the commencement of hydrologic disturbance of upland areas.

(4) Disturbed areas shall be stabilized with temporary or permanent measures within seven calendar days following the end of active hydrologic disturbance, or redisturbance, consistent with the following criteria or using an appropriate measure as approved by the Planning, Building and Development Director:

(a) Appropriate temporary or permanent stabilization measures shall include seeding, mulching, sodding, and/or non-vegetative measures.

(b) Disturbance to areas or embankments having slopes equal to or steeper than 3H:1V shall be minimized; disturbed slopes shall be stabilized with staked-in-place sod, appropriately specified mat, or blanket, or other appropriate measure(s) in combination with seeding.

(c) Erosion control blanket shall be required on all interior detention basin side slopes between normal water level and high water level. The seven calendar day stabilization requirement may be precluded by snow cover or where land disturbing activities will resume within 14 calendar days from when the active hydrologic disturbance ceased, provided that the disturbed portion of the development site has appropriate erosion and sediment controls.

(5) Land disturbance activities in streams shall be avoided, where possible. If disturbance activities are unavoidable, the following requirements shall be met:

(a) Where stream construction crossings are necessary, temporary crossings shall be constructed of non-erosive material; and

(b) The time and area of disturbance of a stream shall be kept to a minimum. The stream, including bed and banks, shall be restabilized within 48 hours after channel disturbance is completed or interrupted.

(6) Soil erosion and sediment control measures shall be appropriate with regard to the amount of tributary area to the measure as follows.

(a) Disturbed areas draining greater than 1,000 square feet but less than one acre shall, at

a minimum, be protected by a filter barrier (including filter fences, which at a minimum, meet the applicable sections of the AASHTO *Standard Specification* to 288-00, or equivalent control measures) to control all off-site runoff. Vegetated filter strips, with a minimum width of 25 feet, in the direction of flow, may be used as an alternative only where runoff in sheet flow is expected.

(b) Disturbed areas draining more than one but fewer than five acres shall, at a minimum, be protected by a sediment trap or equivalent control measure at a point downslope of the disturbed area.

(c) Disturbed areas draining more than five acres, shall, at a minimum, be protected by a sediment basin with a perforated filtered riser pipe or equivalent control measure at a point downslope of the disturbed area.

(d) Sediment basins shall have both a permanent pool (dead storage) and additional volume (active storage) with each volume equal to the runoff amount of a two-year, 24-hour event over the on-site hydrologically disturbed tributary area to the sediment basin. Two-year storm runoff volumes vs. site runoff curve numbers are shown in Appendix J. The available sediment volume below normal water level, in addition to the dead storage, shall be sized to store the estimated sediment load generated from the site over the duration of the construction period. For construction periods exceeding one year, the one-year sediment load and a sediment removal schedule may be substituted. If the detention basin for the proposed developed condition of the site is used for sediment basin, the above volume requirements will be explicitly met. Until the site is finally stabilized, the basin permanent pool of water shall meet the above volume requirements and have a filtered perforated riser protecting the outflow pipe.

(7) All storm sewers that are or will be functioning during construction shall be protected by an appropriate sediment control measure.

(8) If dewatering services are used, adjoining properties and discharge locations shall be protected from erosion and sedimentation. Discharges shall be routed through an approved anionic polymer dewatering system or similar measure as approved by the Planning, Building and Development Director. The Planning, Building and Development Director, or approved representative, must be present at the commencement of dewatering activities.

(9) All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization is achieved or after the temporary measures are no longer needed. Trapped sediment and other disturbed soil areas shall be permanently stabilized with a uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a minimum density of 70% or higher, at the discretion of the Planning, Building and Development Director, on all unpaved areas and areas not covered by permanent structures or equivalent permanent stabilization measures.

(10) A stabilized mat of crushed stone meeting Illinois Department of Transportation gradation CA-1 underlain with filter fabric and in accordance with the Illinois Urban Manual, or other measure(s) as approved by the Planning, Building and Development Director shall be located at any point where traffic will be entering or leaving a development site to or from a public right-of-way, street, alley, or parking area. Pollutants from equipment and vehicle washing, wheel wash water, and other wash waters shall be treated in a sediment basin or other appropriate measure(s) designed to minimize the discharge of pollutants, as approved by the Planning, Building and Development Director. Any sediment or soil reaching an improved public right-of-way, street, alley, or parking area shall be removed by scraping or street cleaning as accumulations warrant and transported to a controlled sediment disposal area. The Planning, Building and Development Director may require additional stabilized construction entrance methods.

(11) The applicant shall minimize the discharge of pollutants from the exposure of building materials, building products, landscape materials (e.g. fertilizers, pesticides, herbicides), detergents, sanitary waste, and other on-site materials to precipitation and stormwater runoff.

(12) If the installed soil erosion and sediment controls do not minimize sediment leaving the development site, additional measures such as anionic polymers or filtration systems may be required by the Planning, Building and Development Director.

(13) If stripping, clearing, grading, or landscaping are to be done in phases, the permitee shall plan for appropriate erosion control measures to be in place after each stage listed in § 151.145(E)(7).

(14) Earthen embankments shall be constructed with side slopes no steeper than 3H:1V. Steeper slopes may be constructed with appropriate stabilization as approved by the Planning, Building and Development Director.

(15) Stormwater 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-year frequency storm without erosion. All constructed or modified channels shall be stabilized within 48 hours.

(16) Temporary diversions shall be constructed as necessary to direct all runoff from hydrologically disturbed areas to the appropriate sediment trap or basin.

(17) Soil stockpiles shall not be located in a flood-prone area or designated buffer protecting waters of the United States or isolated waters of Lake County. Soil stockpiles are defined as having greater than 100 cubic yards of soil and will remain in place for

more than seven days. Soil stockpile locations shall be shown on the soil erosion and sediment control plan and shall have the appropriate measures to prevent erosion of the stockpile.

(18) Standards and specifications contained in the *Illinois Urban Manual,* as amended, and the planning and procedures sections of the *Illinois Procedures and Standards for Urban Soil Erosion and Sedimentation Control,* as amended, provide guidance for presenting soil erosion and sediment control plan specifications and delineating procedures and methods of operation under site development for sediment and erosion control. In the event of conflict between provisions of the manuals and of this chapter, this chapter shall govern.

(19) The applicant shall provide adequate receptacles for the deposition of all construction material debris generated during the development process. The applicant shall not cause or permit the dumping, depositing, dropping, throwing, discarding or leaving of construction material debris upon or into any development site, channel, waters of the United States, or isolated waters of Lake County. The applicant shall maintain the development site free of construction material debris.

(20) Designated Erosion Control Program standards and Inspector requirements.

(a) *Standards.*

1. A Designated Erosion Control Inspector, hired or employed by the applicant, shall be required for development in (a) and (b), and may be required by the Planning, Building and Development Director for (c):

a. Exceeds ten acres of hydrologic disturbance; or

b. Exceeds one acre of hydrologic disturbance and has a regulatory floodplain, isolated waters of Lake County or waters of the United States on-site or on a downstream adjoining property; or

c. Is less than or equal to one acre of hydrologic disturbance and has a regulatory floodplain, isolated waters of Lake County, or waters of the United States on-site or on a downstream adjoining property.

2. Subsection (J)(20)(b) and § 151.145(E)(7) contains inspection requirements for development meeting the above thresholds for program inclusion and Designated Erosion Control Inspector requirements.

3. Subsection (J)(17)(b) below contains inspection requirements for development meeting the above threshold for program inclusion and Designated Erosion Control Inspector requirements.

4. The applicant shall submit the name of the Designated Erosion Control Inspector to the Planning, Building and Development Director before issuance of site development permit.

(b) *Designated Erosion Control Inspector requirements.* The Designated Erosion Control Inspector shall inspect the development site as specified below and, at a minimum, perform the following:

1. Keep a copy of the Planning, Building and Development Director-approved soil erosion and sediment control plans at the development site at all times;

2. Keep a written log of all inspections that shall contain, at a minimum, conditions of the soil erosion and sediment control measures and any corrective actions that need to be taken. The Designated Erosion Control Inspector log shall be kept at the development site at all times and shall be made available for inspection upon request of the Planning, Building and Development Director;

3. Notify the Planning, Building and Development Director within 24 hours when the development site is determined to be not in compliance with this chapter or the approved soil erosion and sediment control plans and the proposed corrective measures to be taken; and

4. Recommend to the applicant additional soil erosion and sediment control prevention measures, if necessary, to reduce sediment leaving a development.

(K) *Landscape features.* All landscape features including, berms, planters, walls, fences and the like shall be placed or constructed in such a manner as not to interfere with the natural drainage pattern, so as not to obstruct a clear view at street intersections (see § 151.172), and so that the features do not cause a drainage nuisance. In addition, the placement and construction of all landscape berms shall conform to all of the following standards:

(1) The slope of any berm embankment shall not exceed, at its steepest point, a slope of 3:1;

(2) The height of any berm embankment, measured from the toe to the top, shall not exceed 20 feet;

COMMENTARY:
For purposes of measuring the height of a berm in instances involving grade changes on both sides of a berm, the berm height shall be measured on the side of the berm whose toe is located at a higher elevation.

(3) The toe of any berm embankment shall be no closer than ten feet from any property line or ultimate right-of-way line;

(4) The top of all berms shall be graded to be smoothly convex and the toe of all berms shall be graded to be smoothly concave;

(5) All erosive surfaces on any berm shall be permanently stabilized in accordance with subsection (J) above;

(6) In addition to meeting the erosion control standards contained in subsection (J) above, all berms not required in a perimeter landscape transition area shall comply with the berm landscaping requirements of § 151.167(E)(2)(f); and

(7) A conceptual land use plan shall be submitted in conjunction with an application for any berm in excess of ten feet in height.

(L) *Temporary soil stockpiles.*

(1) Temporary soil stockpiles shall be placed no closer than ten feet from any property line, road right-of-way and no closer than 30 feet from natural resource protection areas (e.g., buffers, woodlands). Temporary soil stockpiles shall not be located within the regulatory floodplain, regulatory floodway, flood-prone area, linear water body, overland flow path, or any other natural resource protection area.

(2) The location and size of a temporary soil stockpile shall not interfere with the natural drainage pattern or obstruct a clear view at street intersections (see § 151.172).

(3) Temporary soil stockpiles shall be removed completely and the soil surface permanently stabilized within two years of establishment, except when otherwise approved by the Planning, Building and Development Director.

(4) Adequate measures and practices shall be utilized to control erosion of the stockpile (see subsection (J) above).

(5) Temporary soil stockpiles shall not exceed a maximum height of 20 feet.

(M) *Wetlands.*

(1) *Applicability.* The standards of this subsection (M) apply when waters of the Unites States or isolated waters of Lake County are located wholly or partially within the development site.

(2) *Wetland submittal requirements.* In addition to all other Watershed Development Ordinance provisions of this chapter, wetland permit submittal requirements depend upon whether the development site contains waters of the United States or isolated waters of Lake County as provided below.

(a) The applicant shall provide a valid written jurisdictional determination from the U.S. Army Corps of Engineers or a Corps-approved agency as to which wetlands on the development site are isolated waters of Lake County or waters of the United States. A copy of the jurisdictional determination shall be included with the wetland submittal.

(b) For development containing waters of the United States or isolated waters of Lake County, but with no proposed impacts, the following information is required for a Letter of No Impact (LONI):

1. A cover letter describing the proposed activity:

2. Development plan(s) as specified in § 151.145(F);

3. A wetland hydrology analysis meeting the requirements of subsection (M)(7) when there is a modification of tributary drainage area or surface runoff volume to isolated waters of Lake County;

4. A letter from the U.S. Army Corps stating that the proposed development will not impact waters of the United States, if required by the Lake County Stormwater Management Commission or the isolated wetland certified community.

(c) For wetland impacts to waters of the United States, the following information is required:

1. Wetland delineation and wetland determination report as specified in subsection (M)(3) of this section;

2. A U.S. Army Corps permit for the proposed development or a letter from the Corps stating that the proposed development does not require Corps authorization;

3. Buffer area requirements as specified in subsection (H)(5) of this section; and

4. All wetland impacts occurring in county that exceed the mitigation threshold of the Corps regulatory program shall be mitigated for in county at the mitigation ratio specified by the Corps for that development impact.

(d) For wetland impacts to isolated waters of Lake County, the following information is required:

1. A cover letter signed by a certified wetland specialist, that provides a clear project purpose and need statement, a description of the proposed activity, area (in acres) of wetland impact and a statement on the category to be used as follows:

a. Category I: Wetland impacts less than or equal to one acre and does not impact high-quality aquatic resources;

b. Category II: Wetland impacts greater than one acre and less than two acres and does not impact high-quality aquatic resources;

c. Category III: Wetland impacts greater than or equal to two acres or impacts high-quality aquatic resources; and

d. Category IV: Wetland impacts for the restoration, creation, and enhancement of wetlands, provided that there are net gains in aquatic resource function. Category IV activities include shoreline and streambank erosion restoration described in § 151.149(E)(3).

2. A completed watershed development permit application form signed by a certified wetland specialist;

3. A delineation of the wetlands consistent with the requirements provided in subsection (M)(3) of this chapter;

4. Development site plan(s) meeting the requirements of § 151.145(F) showing the boundaries of all existing wetlands or water bodies on the ownership parcel, including the development site and the areas of proposed wetland impacts.

5. Current documentation on the occurrence of any high-quality aquatic resource on or adjoining the development;

6. For developments involving state funding or pass-through funding, documentation that the development is in compliance with the intra-agency Wetland

Policy Act of 1989 [20 ILCS 830] as administered by the Illinois Department of Natural Resources;

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

8. A mitigation plan meeting the requirements of subsection (M)(4);

9. A copy of the natural resources information report (NRI) for development that is required to obtain a NRI performed by the McHenry-Lake County Soil and Water Conservation District pursuant to state statute 70 ILCS 405/22.02a;

10. A narrative of the alternative measures taken to avoid, minimize, or mitigate for wetland impacts to isolated waters of Lake County (Category II requirement only);

11. Category III wetland impacts:

a. A narrative of the measures taken, in sequence, to avoid and minimize wetland impacts to isolated waters of Lake County before mitigation is considered;

b. Upon concurrence of the Planning, Building and Development Director, and the Lake County Stormwater Management Commission or the Isolated Waters of Lake County-Certified Community's Certified Wetland Specialist that a site development permit application meets all other wetland submittal requirements of this chapter, the Lake County Stormwater Management Commission or the Isolated Waters of Lake County-Certified Community's Certified Wetland Specialist shall issue a technical notification to the U.S. Army Corps of Engineers, Illinois Department of Natural Resources, Illinois Environmental Protection Agency, U.S. Fish and Wildlife Service, and the Lake County Stormwater Management Commission requesting comments with respect to the proposed wetland impacts within 15 working days. The Lake County Stormwater Management Commission or the Isolated Waters of Lake County-Certified Community's Certified Wetland Specialist shall receive the comments and copies of the comments shall be forwarded to the applicant for response. Full consideration of the comments and applicant's response shall be evaluated by the Lake County Stormwater Management Commission or the Isolated Waters of Lake County-Certified Community's Certified Wetland Specialist for compliance with § 151.145(A)(10) prior to approval of wetland provisions and permit issuance; and

c. The Lake County Stormwater Management Commission shall review and issue Category III wetland authorizations for development sites occurring in more than one local unit of government jurisdiction.

12. Category IV wetland impacts:

a. A narrative on the benefits to the aquatic environment of the proposed development.

b. Shoreline and streambank erosion restoration that meet the requirements contained in § 151.149(E)(3) are exempt from submittal requirements contained in this section.

c. isolated waters of Lake County that are used for detention and not for mitigation credit per subsection (M)(6) shall be exempt from the submittal requirements of subsection (M)(2)(d)8. above.

(3) *Requirements for wetland delineation.*

(a) The applicant shall identify the boundaries, extent, function, and quality of all wetland areas on the development site and prepare a wetland determination report. The presence and extent of wetland areas shall be determined by, or under the supervision of, a certified wetland specialist using an on-site wetland procedure within three years of the initial permit application date in accordance with the methodology contained in the 1987 Corps of Engineers Wetland Delineation Manual (as amended, including applicable supplements) or as otherwise noted below.

(b) *Wetland determination report.* The following are minimum requirements for the wetland determination report:

1. A plan showing the location of wetlands within the development site and the approximate boundaries of offsite wetlands per subsection (M)(3)(b)6 below. The wetland boundary within the development site shall be flagged in the field and surveyed;

2. An aerial photograph delineating the wetland and the development boundary;

3. A copy of the following maps (most recent) delineating the development boundary;

a. U.S. Geological Survey quadrangle map;

b. Lake County wetland inventory map (including ADID sites);

c. Federal Emergency Management Agency floodplain map;

d. Lake County soil survey; and

e. Hydrologic atlas (U.S.G.S. Flood of Record map).

4. U.S. Army Corps of Engineers data sheets (Midwest Region, most recent version) with color photographs provided for representative upland and wetland data points;

5. A written description of the wetland(s) that includes a floristic quality assessment as determined using the Chicago Region Floristic Quality Assessment Calculator (U.S. Army Corps of Engineers, Chicago District, most recent version). Floristic quality assessments shall generally be conducted between May 15 and October 1 which approximates the growing season. Non-growing season assessments may require additional sampling during the growing season to satisfy this requirement;

6. The approximate location, extent, and relative quality of off-site wetlands on properties within the maximum buffer requirements adjoining the development shall be identified by using the first of the following documents or procedures pertaining at the time of development:

a. Site-specific delineation according to the 1987 federal wetland delineation manual. If this delineation is not available, use subsection (M)(3)(b)6.b. below; or

b. Wetlands identified in county wetland inventory maps (most current Lake County Wetland Inventory map).

7. A farmed wetland determination for development sites in accordance with the current U.S. Natural Resources Conservation Service methodology. The farmed wetland boundaries shall be shown on the plan and aerial photograph in subsections (M)(3)(b)1. and (M)(3)(b)2. above. A report for the development site indicating the presence of cropland wetlands as defined by the *National Food Security Act Manual* (most recent edition).

(4) *Isolated Waters of Lake County mitigation requirements.*

(a) Mitigation is required within the county for:

1. Wetland impacts greater than one-tenth acre of isolated waters of Lake County including those that are high-quality aquatic resources.

2. For single-lot, single-family residences provided the activity is a single and complete project: wetland impacts greater than 0.25 acre of isolated waters of Lake County or 0.10 acre of isolated waters of Lake County that are high-quality aquatic resources.

(b) Mitigation shall provide for the replacement of the wetland environment lost to development at the following proportional rates (i.e., creation acreage to wetland impact acreage):

1. For wetland impacts to areas that are not high quality aquatic resources under Categories I, II, and III, a minimum of 1.5:1 mitigation ratio shall be required or a minimum 1:1 mitigation ratio for fully certified wetland mitigation bank credits;

2. A minimum of 3:1 for wetland impacts that are high-quality aquatic resources;

3. A minimum of 6:1 for wetland impacts that are high-quality forested wetlands as defined in Appendix N; and

4. For wetland impacts to open waters that are not high-quality aquatic resources under Categories I, II, and III, a minimum of 1:1 mitigation ratio shall be required.

(c) Mitigated isolated waters of Lake County shall be designed to duplicate or improve the hydrologic and biologic features of the original wetland impact area.

(d) A project mitigation document (PMD) shall be submitted for all mitigation projects in conformance with Appendix S. Appendix S contains requirements for performance standards, monitoring, and completion standards.

(e) Creation of wetlands for the mitigation of wetland impacts shall not take place within detention facilities. Enhancement of farmed wetlands meeting the size criterion in subsection (M)(5)(a) may be used for up to 80% of the mitigation requirement.

(f) Enhancement of existing non-farmed wetlands may be credited at up to 25% of the enhanced wetland acreage completed, provided that the wetland impact acreage created is at a minimum 1:1 ratio and the mitigation hierarchy in §§ 151.145 through 151.154 is followed.

(g) A five-year wetland mitigation surety for 110% of mitigation cost shall be submitted prior to obtaining a permit. The mitigation surety shall include the costs for construction, monitoring, and management activities during the five-year performance period.

(h) A wetland mitigation management and monitoring plan indicating the legally responsible parties for long-term operation and maintenance and dedicated funding sources.

(i) The developer shall provide annual monitoring reports on the status of the constructed mitigation measures. The developer shall undertake all necessary remedial action to bring the area into compliance with the wetland mitigation plan.

(j) Wetland impacts occurring prior to issuance of a Watershed Development Ordinance permit shall presume the wetland disturbed was a high-quality aquatic resource requiring mitigation at a minimum rate of 3:1, except 6:1 for wetland impacts that are forested wetlands as defined in Appendix N.

(k) Mitigation areas shall have the same buffer area requirements and mitigation credit for established buffer areas as described in Appendix S for Lake County Stormwater Management Commission-approved wetland mitigation banks.

(l) Mitigation areas shall be protected by a deed or plat restriction for that purpose.

(5) *Mitigation hierarchy.*

(a) *Size requirements.* If the required mitigation acreage is less than one and one-half acres, mitigation requirements shall follow the mitigation hierarchy (b)1. through 4. below. If on-site mitigation increases an existing on-site wetland size to greater than or equal to one and one-half acres, the applicant may use mitigation hierarchy (b)1. If the required mitigation acreage is one and one-half acres or greater, mitigation requirements shall follow mitigation hierarchy (b)1. through 4.

(b) *Hierarchy.* All mitigation shall occur in the county. Mitigation shall use the following hierarchy. Allowance to the next lower step is permitted only when justified through sequencing specified in subsections (M)(2)(d)10. and (M)(2)(d)11. or when the higher step is not available or as specified in subsection (M)(5)(b)4. below:

1. On-site wetland mitigation meeting the requirements of the project mitigation document;

2. In the same watershed as wetland impact: a U.S. Army Corps approved wetland mitigation bank; or a Lake County Stormwater Management Commission approved wetland mitigation bank; or off-site wetland mitigation meeting the requirements of the project mitigation document;

3. Outside of the watershed (at double the required mitigation acreage): a U.S. Army Corps approved wetland mitigation bank; or a Lake County Stormwater Management Commission approved wetland mitigation bank; or off-site wetland mitigation meeting the requirements of the project mitigation document; or

4. Lake County Stormwater Management Commission Wetland Restoration Fund. This mitigation option may only be used for wetland impacts where there are no available mitigation credits within the watershed and the corresponding fees and mitigation ratios shall be charged at the in-watershed rate.

(6) *Detention in isolated waters of Lake County.*

(a) Detention shall only be allowed in the following isolated waters of Lake County and may not be considered a wetland impact, subject to provisions of subsections (M)(6)(b) and (M)(6)(c):

1. Farmed wetlands;

2. Non-farmed wetlands that are not high quality aquatic resources when the existing vegetated wetland acreage (not including open water area) is either:

a. Covered by a minimum of 85% of one or more of the following species:

i. Reed canary grass (Phalaris arundinacea);

ii. Purple loosestrife (Lythrum salicaria);

iii. Common reed (Phragmites australis); or

iv. Buckthorn (Rhamnus spp.).

b. Has an FQI of seven or less.

3. An isolated waters of Lake County comprised of open water that is not a high quality aquatic resources;

4. Non-farmed wetlands not meeting subsection (M)(6)(a)2. that are not high quality aquatic resources and wholly located within a deed or plat restriction may be utilized for detention greater than the required two-year, 24-hour volume. The outlet design shall maintain or replicate the existing hydrologic condition of the wetland, unless changes are proposed to enhance the wetland function. Excavation or grading shall be considered an impact under the appropriate impact Category I, II, or III.

(b) The following shall apply when using isolated waters of Lake County for detention and not for wetland enhancement mitigation credit:

1. The applicant shall use a “wetland detention basin” design, and shall reestablish vegetation within the detention basin using the Native Plant Guide for

Streams and Stormwater Facilities in Northeastern Illinois, NRCS, et al. (as amended) as a minimum standard for the re-vegetation plan.

2. Reduction of wetland area within the existing delineated wetland boundary from existing to proposed conditions shall be reviewed as an impact under the appropriate impact Category I, II, or III.

3. Excavation of existing wetland as part of the proposed wetland detention basin design shall be reviewed under Category IV meeting the criteria of subsections (M)(6)(a)1., (M)(6)(a)2., and (M)(6)(a)3.

4. The wetland hydrology thresholds of subsection (M)(7) shall apply for isolated waters of Lake County meeting the criteria of subsections (M)(6)(a)1. and (M)(6)(a)4.

5. The requirements for water quality treatment of subsection (H)(4) shall apply upstream of the isolated waters of Lake County.

6. The maintainable outlet requirements of subsection (C)(2) shall apply.

(c) The following shall apply when using isolated waters of Lake County for detention and for wetland enhancement mitigation credit:

1. Isolated waters of Lake County meeting the criteria of subsection (M)(6)(a) may be used for wetland enhancement mitigation credit.

2. Wetland enhancement within the proposed detention basin shall be reviewed under Category IV requirements, and the performance standards listed in Appendix S, Section H, shall apply.

3. Reduction of wetland area within the existing delineated wetland boundary from existing to proposed conditions shall be reviewed as an impact under the appropriate impact Category I, II, or III.

4. The mitigation requirements of subsection (M)(4) shall apply.

5. The wetland hydrology thresholds of subsection (M)(7) shall apply.

6. The requirements for water quality treatment of subsection (H)(4) shall apply upstream of the isolated waters of Lake County.

(7) *Wetland hydrology requirement.* The following hydrology requirement applies to isolated waters of Lake County located wholly or partially within the ownership parcel, including the development site. The runoff volume reduction requirements (subsection (D)(2)) may be modified to satisfy the wetland hydrology requirement for the portion of the development site tributary to the wetland.

(a) The development design shall maintain between 80% and 150% of the existing condition, two-year, 24-hour storm event runoff volumes from the on-site tributary drainage area to the preserved isolated water of Lake County. The following minimum information shall be submitted to address this provision:

1. An exhibit illustrating the existing condition and with-project drainage areas;

2. Existing condition and with-project runoff volume calculations (including land use and soil type documentation);

3. Existing condition and with-project runoff volume determination. For proposed development that will change the size of an isolated waters of Lake County, the proposed to existing conditions runoff volume ratio shall be adjusted according to the change in wetland size, to determine if the hydrology threshold has been met; and

4. The development shall include a design for the stormwater management system that maintains or replicates the existing hydrologic condition of the wetland, unless changes are proposed to enhance the wetland function.

(b) A wetland impact to isolated waters of Lake County shall be assumed and the mitigation requirements of subsection (M)(4) shall apply if the development does not meet provisions of subsection (M)(7)(a) above. The hydrologic wetland impact shall be in addition to other wetland impacts to isolated waters of Lake County (e.g., filling, excavation, drainage, and the like). The amount of wetland impact shall be determined as follows:

1. For isolated waters of Lake County wholly on-site: the total area of the impacted isolated waters of Lake County not meeting the above provisions; and

2. For isolated waters of Lake County located partially on-site: the ratio of on-site tributary drainage area to total tributary drainage area multiplied by the with project area of the impacted isolated waters of Lake County.

(8) *Resource protected area.* Wetlands shall be protected and set aside as open space in accordance with § 151.072.

(9) *Wetland development or disturbance.* Development or disturbance of wetlands shall be allowed only if reviewed and approved in accordance with the wetland development standards of division (M) above and with the following standards:

(a) A permit approving the proposed wetland development shall be received from the U.S. Army Corps of Engineers;

(b) The establishment of any permitted use, construction of any permitted structure, excavation or filling of any wetland may be permitted only if:

1. The parcel, use, and/or structure would conform to all other standards of this chapter if the wetland were not present; and

2. The location, amount, or configuration of a site's buildable area precludes the construction of any permitted principal structure or establishment of any reasonable permitted use of land.

(c) In addition to the above standards, all applications for the development of exceptional functional value wetlands shall demonstrate that the proposed use is so location dependent that it can not practically be established outside of the wetland.

(Ord., § 8.2, passed 10-13-2009; Ord. passed 10-9-2012; Ord. 22-1060, passed 8-9-2022)

§ 151.147 REGULATORY FLOODPLAIN, REGULATORY FLOODWAY, FLOOD TABLE LAND AND FLOOD-PRONE AREAS.

(A) *Applicability.* This section shall apply to all man-made changes to improved or unimproved real estate lying in the regulatory floodplain, the regulatory floodway or on flood table land and flood-prone area, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation, or drilling operations. This section shall not apply to normal maintenance activities undertaken on existing structures and facilities.

(B) *Regulatory floodplain.*

(1) *Determination and delineation.* The elevation and location of the regulatory floodplain shall be determined as follows.

COMMENTARY:
Current Federal Emergency Management Agency maps can be obtained from the Planning, Building and Development Department or online (http://maps.lakecountyil.gov/mapsonline).

(a) The regulatory floodplain is delineated within a development by projecting the base flood elevation onto the site topography~~best available topographic information.~~, unless the area is shown to be within a coastal high hazard area.

(b) The base flood elevation shall be obtained from the 100-year flood profiles, as indicated in the floodplain studies listed below:

1. Lake County Stormwater Management Commission regulatory floodplain profiles;

2. Should no Lake County Stormwater Management Commission-approved regulatory floodplain profile exist for the subject site, the “Flood Insurance Study, County of Lake, Illinois, Unincorporated Areas”, including all flood profiles and elevations contained therein, published by the Federal Emergency Management Agency, including the Federal Insurance Rate Map (see Appendix M, as may be amended by FEMA);

3. In the case of Federal Emergency Management Agency-delineated “AH Zones”, the elevation noted on the map shall be the base flood elevation. In the case of Federal Emergency Management Agency-delineated “AO Zones”, the base flood elevation shall be the depth number shown on the map added to the highest adjacent grade, or at least two feet above the highest adjacent grade if no depth number is provided; or

4. When no base flood elevation information exists, the base flood elevation shall be determined by a ~~registered~~ licensed professional engineer using an appropriate model or technique as approved by the Lake County Stormwater Management Commission or Illinois Department of Natural Resources, Office of Water Resources. For riverine flood-prone areas with greater than 100 acres of tributary drainage area,

non-riverine flood-prone areas with greater than 20 acres of tributary drainage area, and all mapped Special Flood Hazard Areas regardless of drainage area, the base flood elevation determination shall be submitted to the Lake County Stormwater Management Commission for approval prior to issuance of a watershed development permit. The base flood elevation determination for non-riverine depressional floodplains with less than 20 acres of tributary drainage area shall be reviewed and approved by the Planning, Building and Development Director. Base flood elevation determinations shall be based on the critical duration event.

a. Where a linear water body has a tributary drainage area of 640 acres or more, the above analyses shall be submitted to the Lake County Stormwater Management Commission for approval by the Illinois Department of Natural Resources, Office of Water Resources.

b. For a non-riverine regulatory floodplain, the historic flood of record (as determined by the Planning, Building and Development Director according to subsection (B)(1)(b)4. above plus three feet), may be used for the base flood elevation instead of performing a detailed hydrologic and hydraulic study. However, a detailed hydrologic and hydraulic study may result in a lower base flood elevation. This Base Flood Elevation ~~BFE~~ option cannot be used within a FEMA mapped SFHA for proposed development greater than 50 lots or 5 acres.

c. Nothing contained herein shall prohibit the application of these regulations to land that can be demonstrated by engineering survey to lie within any regulatory floodplain. Conversely, any lands (except for those located in a regulatory floodway) that can be demonstrated by a topographic survey certified by a ~~registered~~ licensed professional engineer or ~~registered~~ licensed land surveyor to lie beyond the regulatory floodplain, and to the satisfaction of the Planning, Building and Development Director, to have been higher than the base flood elevation as of the date of the first floodplain mapping denoting the site to be in a Special Flood Hazard Area and as of the date of the current effective map shall not be considered to be located in the SFHA.

5. The base flood elevation for a Regulatory Floodplain subject to flooding effects from Lake Michigan shall be the elevation (or in zone AO, the depth) identified on the FIRM for the site, or the 1% annual chance still water elevation of Lake Michigan identified in the Flood Insurance Study, whichever elevation is higher.

(2) *Permitted uses.*

(a) Only those uses listed in § 151.148 are permitted by right within a regulatory floodplain regardless of the regulations of any zoning district. All uses permitted by § 151.148 are permitted subject to compliance with the all applicable performance standards of § 151.149.

(b) All other structures and uses that are permitted by the underlying zoning district but are not listed in § 151.148 may be permitted in the regulatory floodplain only pursuant to § 151.148(B).

(c) Nothing herein shall prevent the rebuilding or extension of any existing structures permitted by the underlying zoning district, provided that the rebuilding or extension complies with all applicable performance standards of § 151.149.

(3) *Additional application requirements.* In addition to other submittal requirements, all of the following additional information shall be provided for all development in the regulatory floodplain:

(a) Site location of the property, drawn to scale on the regulatory floodplain map;

(b) Plans, cross-sections and profiles of the project showing all of the following:

1. The regulatory floodplain limit, including if applicable, the navigation channels for work in public bodies of water as defined by the Illinois Department of Natural Resources, Office of Water Resources;

2. Cross-section views of the project for the impacted reach showing existing and proposed conditions including principal dimensions of the work as shown in plan view, existing and proposed elevations, normal water elevation, ten-year frequency flood elevation, 100-year frequency flood elevation and graphic or numerical scales (horizontal and vertical);

3. A copy of the regulatory floodplain map with the project site delineated and marked to reflect any proposed change in the regulatory floodplain location; and

4. All changes in grade resulting from any proposed excavation or filling; the location and dimension 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 this chapter.

(c) Engineering calculations and supporting data showing that the proposed work will meet the performance standards outlined in § 151.149;

(d) Elevation certificates of the lowest floor (elevation including basements) for all existing buildings in the regulatory floodplain;

(e) Flood-proofing certificates for all existing buildings, or portions thereof, located below the flood protection elevation; and

(f) Evidence that all required federal, state, and local permits have been obtained. (See Appendix G for a partial list of permits that may be required.)

(C) *Regulatory floodways.*

(1) *Determination and delineation.* The location of the regulatory floodway and the location of the Coastal High Hazard Area shall be as delineated on the ~~Illinois Department of Natural Resources, Office of Water Resources designated regulatory floodway~~ maps listed in Appendix M, as may be amended by the Federal Emergency Management Agency. Where interpretation is needed to determine the exact location of the regulatory floodway boundary, the Illinois Department of Natural Resources, Office of Water Resources shall be contacted. A site located in the regulatory floodway that is higher than the base flood elevation is subject to the regulations of § 151.150 until such

time as a Letter of Map Amendment or Letter of Map Revision is received from the Illinois Department of Natural Resources, Office of Water Resources and Federal Emergency Management Agency.

COMMENTARY:
Current Federal Emergency Management Agency maps can be obtained from the Planning, Building and Development Department or online (http://maps.lakecountyil.gov/mapsonline).

(2) *Permitted uses.* No encroachment shall be allowed in the regulatory floodway, except as explicitly permitted by § 151.150.

(3) *Additional application requirements.* In addition to other submittal requirements, the following additional information shall be provided for all development in the regulatory floodway:

(a) Site location of the property, drawn to scale on the regulatory floodway map;

(b) Plans, cross-sections, and profiles of the project showing:

1. The regulatory floodway limit and, if applicable, the navigation channels for work in public bodies of water as defined by the Illinois Department of Natural Resources, Office of Water Resources;

2. Cross-section views of the project for the impacted reach showing existing and proposed conditions including principal dimensions of the work as shown in plan view, existing and proposed elevations, normal water elevation, ten-year frequency flood elevation, 100-year frequency flood elevation and graphic or numerical scales (horizontal and vertical);

3. A copy of the regulatory floodway map with the project site delineated and marked to reflect any proposed change in the regulatory floodway location; and

4. All changes in grade resulting from any proposed excavation or filling; the location and dimension 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 this chapter.

(c) Engineering calculations and supporting data showing that the proposed work will meet the performance standards outlined in § 151.150, and if applicable, § 151.151 and § 151.152;

(d) Elevation certificates of the lowest floor (elevation including basements) for all existing buildings in the regulatory floodway; and

(e) Evidence that all required federal, state, and local permits have been obtained. (See Appendix G for a partial list of permits that may be required.)

(D) *Flood table lands.*

(1) *Determination and delineation.* Flood table land is that land area contiguous to the floodplain, the elevation of which is greater than the base flood elevation by two feet or less.

(2) *Permitted uses.* All uses permitted by the underlying zoning district shall be permitted by right on flood table lands subject to compliance with the standards of § 151.153.

(E) *Flood-prone areas.*

(1) *Determination and delineation.* Flood-prone areas are delineated by projecting the base flood elevation onto the best available topographic information.

(2) *Permitted uses.* All uses permitted by the underlying zoning district shall be permitted by right in flood-prone areas subject to compliance with the standards of § 151.154.

(F) *Other regulations to apply.* In addition to the provisions of this section that apply to regulatory floodplain, regulatory floodway, flood table land and flood-prone areas, the regulations of the Zoning District in which land is located shall continue in full force and effect. Likewise, nothing in this section shall relieve the developer of any responsibility for fully complying with all requirements of the Illinois Department of Natural Resources, Office of Water Resources, the Federal Emergency Management Agency, the U.S. Army Corps of Engineers or any other federal, state, or local agency having jurisdiction over the filling or development of regulatory floodplain or regulatory floodway lands.

(Ord., § 8.3, passed 10-13-2009; Ord. passed 10-9-2012; Ord. passed - -)

§ 151.149 PERFORMANCE STANDARDS FOR REGULATORY FLOODPLAIN DEVELOPMENT.

The standards of this section apply to all regulatory floodplain development except when superseded by more stringent requirements.

(A) *Modification and disturbance.* Modification and disturbance of natural riverine regulatory floodplains shall be avoided to protect existing hydrologic and environmental functions. The disturbances shall be minimized and all negative impacts mitigated as described in a mitigation plan.

(B) *Prohibited development.* No development shall be allowed in the regulatory floodplain that, singularly or cumulatively, creates a damaging or potentially damaging increase in flood heights or velocity, or threat to public health, safety, and welfare, or impairs the natural hydrologic functions of the regulatory floodplain and linear/nonlinear water bodies.

(C) *Maintenance of flood carrying capacity.* For all projects involving linear water body modification or maintenance, fill, or levees, the flood-carrying capacity of the regulatory floodplain shall be maintained.

(D) *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 the Illinois Department of Natural Resources, Office of Water Resources 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 in easements for all flood events up to and including the base flood event.

(E) *Compensatory storage capacity.* When compensatory storage is required for storage lost or displaced in a regulatory floodplain the following standards shall apply.

(1) Hydraulically equivalent compensatory storage requirements for development activity in a riverine regulatory floodplain shall be at least equal to 1.2 times the volume of regulatory floodplain storage lost or displaced. The compensation areas shall be designed to drain freely and openly to the channel and located opposite or adjacent to fill areas. A restrictive covenant or deed or plat restriction running with the land shall be recorded to prohibit any future modification to the compensation area.

(2) (a) Hydraulically equivalent compensatory storage requirements for development activity in a non-riverine regulatory floodplain shall be at least equal to one times the volume of regulatory floodplain storage lost or displaced. Compensation areas shall be designed to access the required volume. A restrictive covenant or deed or plat restriction is required to prohibit any modification to the compensation area. Upon approval of the Planning, Building and Development Director, hydraulic equivalency for non-riverine compensatory storage may be altered, provided that the storage is replaced at or below the existing elevation at which storage is lost or displaced but not below the proposed normal water level.

(b) Hydraulically equivalent compensatory storage requirements for development activity in a non-riverine regulatory floodplain, that is located partially on-site, with more

than 10% of the BFE surface located on-site, shall be at least equal to 1.2 times the volume of regulatory floodplain storage lost or displaced. Such compensation areas shall be designed to access the required volume. A restrictive covenant or deed or plat restriction is required to prohibit any modification to the compensation area. Upon approval of the Planning. Building and Development Director, hydraulic equivalency for non-riverine compensatory storage may be altered, provided that the storage is replaced at or below the existing elevation at which storage is lost or displaced but not below the proposed normal water level.

(3) Upon approval of the Planning, Building and Development Director, shorelines or streambanks that have experienced erosion may be restored to their condition as of the current effective date of the first Flood Insurance Rate Map in that community without the need to provide compensatory storage or pay fee-in-lieu-of for the fill used to restore the eroded area according to the following criteria.

(a) The restoration fill shall meet existing grades and within riverine areas the current effective regulatory floodplain base flood elevation shall not be increased and the regulatory floodway conveyance shall be maintained.

(b) The amount of eroded property being restored shall be documented and submitted by the applicant as part of the permit process. Proper documentation shall be either field survey information or photo documentation of the erosion that has occurred for the property being restored.

(c) For rivers, lakes, and streams where no floodway has been designated, no documentation of past shoreline erosion is required if the applicant does not exceed one cubic yard of fill per lineal foot for a maximum of 200 feet. In this case the placing of the fill shall not significantly alter the alignment of the shoreline with adjoining properties as determined by the Enforcement Officer. Non-documentable fills are a one-time allowance on a per property basis and all fills exceeding 200 cubic yards shall be regulated as specified in subsection (E).

(d) Shoreline protection measures (e.g., sea wall, rip-rap, deep-rooted vegetation) shall be implemented in conjunction with all shoreline filling conducted under this provision.

(4) An above-ground swimming pool shall not be required to provide compensatory storage for the volume displaced within the regulatory floodplain. The pool shall be anchored to resist flotation. No backfilling of the pool walls will be allowed and any material excavated for the installation shall be removed from floodplain limits.

(5) Compensatory storage is not required in Coastal High Hazard Areas.

(F) *Public health protection standards.*

(1) For property located within the regulatory floodplain, no chemicals, explosives, buoyant materials, animal waste, fertilizers, flammable liquids, pollutants, or other hazardous or toxic materials shall be placed or stored below the flood protection elevation.

(2) New and replacement water supply systems, wells, and sanitary sewer lines may be permitted, providing all manholes or other above-ground openings located below the flood protection elevation are watertight.

(3) On-site individual sewage disposal systems shall be designed to avoid inundation by the base flood.

(4) If required to repair an existing individual sewage disposal system serving an existing

structure, either shallow or deep filling shall be permitted as a matter of right to the minimum extent necessary to comply with Lake County Health Department requirements for the repair. Compensatory storage shall be provided to the greatest extent possible.

(G) *Filling.*

(1) Four types of filling of the regulatory floodplain are regulated by this section: shallow filling, deep filling, topdressing erosion, and topdressing subsidence.

(a) Shallow filling is filling to realign contours, protect seawalls, or make yards or lands more useful which does not raise the land surface elevation above the base flood elevation. The placement of fill material so as to constitute shallow filling is permitted by right.

(b) Deep filling is filling which raises the land surface elevation above that of the base flood elevation. The placement of fill material within any regulatory floodplain so as to constitute deep filling shall be permitted only pursuant to § 151.148(B). For the following deep filling activities, all other standards of § 151.149 shall apply.

1. Deep filling required for the construction of a stormwater basin is subject to the standards contained § 151.146(E).

2. Driveway construction to allow access to an attached or detached garage. Maximum allowable are to be deep-filled shall not exceed 1,000 square feet.

3. Fill placed in the floodplain to elevate existing floodtable land where a new structure is being built. Compensatory storage shall be provided. The fill shall not be placed more than ten feet from the foundation of the building.

(c) Topdressing is the placement of not more than four inches of topsoil within the regulatory floodplain for the purposes of stabilizing an existing erosion control problem and establishing vegetative cover. Topdressing shall be allowed by permit on a per-parcel, one-time only allowance, and not damage or alter adjoining property drainage patterns. Upon approval of the Planning, Building and Development Director, floodplain compensatory storage shall not be required. Topdressing fill shall comply with the soil erosion and sediment control standards and wetlands provisions of this chapter (§§ 151.145 through 151.154). This provision shall not be applicable to the design process for new development.

(d) Topdressing is the placement of not more than four inches of topsoil within the regulatory floodplain. For the purposes of restoring pre-subsidence grade to an area

that primarily experiences subsidence due to a documented flood event, topdressing shall be allowed by permit on a per-parcel basis and not damage or alter adjoining property drainage patterns. Upon approval of the Planning, Building and Development Director, floodplain compensatory storage shall not be required. Topdressing fill shall comply with the soil erosion and sediment control standards and wetlands provisions of this chapter (§§ 151.145 through 151.154). This provision shall not be applicable to the design process for new development. A one time allowance of this provision shall be in accordance with (1) through (3) of the following criteria and repeat allowances shall be in accordance with (1) through (4) of the following criteria.

1. The restoration fill shall meet pre-subsidence elevations, and within riverine areas, the pre-subsidence effective Regulatory Floodplain and Regulatory Floodway conveyance shall be maintained.

2. The property being considered for top dressing shall be documented and submitted by the applicant as part of the permit process. Proper documentation shall be either topographic information or photographic documentation of the flooding and subsidence that has occurred on the property.

3. Upon completion of top dressing, the applicant shall provide topographic or photographic documentation of completed work.

4. Repeat top dressing applications are limited to documented flood events with topographic or photographic evidence of subsidence.

(e) Impervious surface rehabilitative maintenance is the placement of not more than four inches of pavement or any other impervious material within the regulatory floodplain. For the purposes of restoring pre-subsidence grades to an area that has experienced subsidence, rehabilitative maintenance of such areas shall be allowed by permit on a per-project basis and not damage or alter adjoining property drainage patterns. Upon approval of the Planning, Building and Development Director, floodplain compensatory storage shall not be required. Rehabilitative maintenance fill shall comply with the Soil Erosion and Sediment Control standards and Wetlands Provisions of this chapter (§ 151.146(J) and (M)). This provision shall not be applicable to the design process for new development. A one-time allowance of this provision shall be in accordance with subsections (G)(1)(e)1. through (G)(1)(e)3. of the following criteria and repeat allowances shall be in accordance with subsections (G)(1)(e)1. through (G)(1)(e)4. of the following criteria:

1. The restoration fill shall meet pre-subsidence elevations, and within riverine areas, the pre-subsidence effective regulatory floodplain and regulatory floodway conveyance shall be maintained,

2. The project being considered for rehabilitative maintenance shall be documented and submitted by the applicant as part of the permit process. Proper documentation shall be either topographic information or photographic documentation of the subsidence that has occurred on the project.

3. Upon completion of rehabilitative maintenance, the applicant shall provide topographic or photographic documentation of completed work.

4. Repeat rehabilitative maintenance applications are limited to documented topographic or photographic evidence of subsidence.

(2) The placement of fill material within any regulatory floodplain so as to constitute either shallow or deep filling shall be subject to the following standards.

(a) Compensatory storage is required for all storage volume lost or displaced due to either shallow or deep filling.

(b) Fill shall be of a material deemed stable enough to remain firm and in place during periods of flooding. Fill shall consist only of soil, rock, or concrete without rebar. Further, all fill areas shall be stabilized with material which will ensure and protect against erosion hazards, undercutting, and undermining. Asphalt shall not be used as a stabilizing material. Runoff and drainage protection shall be provided to adjacent property owners.

(c) All changes in velocity, depth of flood elevation, or storage shall be limited to the property of the owner doing the filling or those property owners who have granted flood or flow easements, provided that in no event shall an increase in flood elevation be permitted if it would affect any existing building or bring any building to within two vertical feet of the flood elevation.

(H) *Building protection requirements* for Regulatory Floodplains not within Coastal High Hazard Areas. No principal or accessory structure shall be located in the regulatory floodplain, below the base flood elevation, with the exception of a road, detached garage, storage shed, swimming pool, boathouse, pump station, lift station, boat launching ramps, boat docks, piers, bridge and bridge approaches, picnic shelters having no permanent walls, and stormwater detention basins. All buildings and structures established in the regulatory floodplain shall conform to the following standards.

(1) Compensatory storage is required for all storage volume lost or displaced due to the placement of any building or structure in the regulatory floodplain.

(2) Building protection requirements for residential structures shall follow applicable FEMA regulations and include the following:

(a) The lowest floor including basements of all new residential structures, including additions, shall be elevated up to at least the Flood Protection Elevation (FPE). The floor of an attached garage for a new structure must be elevated up to at least one-half of one foot above the base flood elevation (BFE).

1. If placed on compacted fill, the top of the fill for a residential structure shall be above the FPE. The top of fill for an attached garage shall be one-half of one foot above the BFE. The fill pad shall be placed at the appropriate elevation and designed to extend a minimum of ten feet out from the building's designed footprint unless the building is certified by a ~~Registered~~ Licensed Structural Engineer to be protected from damages due to hydrostatic pressures. Additionally, the fill pad shall meet 95% of Standard Proctor Density in order to be demonstrated not to settle below the FPE for the residential structure and not below one-half of one foot above the BFE for an

attached garage, and to be adequately protected against erosion, scour, and differential settlement. Foundation excavations shall not extend more than five feet beyond the foundation footprint. Backfill for the over excavated area does not need to meet the compaction requirements.

2. If elevated by means of walls, pilings, or other foundation, the building's supporting structure must be permanently open to flood waters and not subject to damage by hydrostatic pressures of the base flood. The bottom of the permanent openings shall be no more than one foot above the lowest adjacent grade. The total net area shall be provided below the BFE and consist of a minimum of two openings for each enclosed area with each opening of an enclosed area on a different exterior wall. The openings must have a total net area of not less than one square inch for every one square foot of enclosed area subject to flooding below the BFE. Any louvers, screens, or other opening covers must not block or impede the automatic flow of floodwaters into and out of the enclosed area. 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. All areas below the FPE shall be constructed with materials resistant to flood damage. The lowest floor (including basement) for the residential structure and all electrical, heating, ventilation, plumbing, air conditioning equipment, and utility meters shall be located at or above the FPE. Waterproofed service facilities, including, but not limited to, water and sewer pipes, electrical and telephone lines, and submersible pumps, may be located below the FPE. No area less than one foot above the BFE shall be used for storage of items or materials.

(b) The lowest floor, including basements, of an existing residential structure with a substantial improvement shall be elevated to at least one foot above the BFE.

1. If placed on compacted fill, the top of the fill for a substantially improved residential structure shall be at least one foot above the BFE. The fill pad shall be placed at the appropriate elevation and designed to extend a minimum of 10 feet out from the building's designed footprint unless the building is certified by a ~~Registered~~ Licensed Structural Engineer to be protected from damages due to hydrostatic pressures. Additionally, the fill pad shall meet 95% of Standard Proctor Density in order to be demonstrated not to settle below one foot above the BFE for the substantially improved residential structure, and to be adequately protected against erosion, scour, and differential settlement. Foundation excavations shall not extend more than five feet beyond the foundation footprint. Backfill for the over excavated area does not need to meet the compaction requirements.

2. If elevated by means of walls, pilings, or other foundation, the building's supporting structure must be permanently open to flood waters and not subject to damage by hydrostatic pressures of the base flood. The bottom of the permanent openings shall be no more than one foot above the lowest adjacent grade. The total net area shall be provided below the BFE, and consist of a minimum of two openings for each enclosed area with each opening of an enclosed area on a different exterior wall. The openings must have a total net area of not less than one square inch for every one square foot of enclosed area subject to flooding below the BFE. Any louvers, screens,

or other opening covers must not block or impede the automatic flow of floodwaters into and out of the enclosed area. 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. All areas lower than one foot above the BFE shall be constructed with materials resistant to flood damage. The lowest floor (including basement) for the substantially improved residential structure and all electrical, heating, ventilation, plumbing, air conditioning equipment, and utility meters shall be elevated to at least one foot above the BFE. Waterproofed service facilities, including, but not limited to, water and sewer pipes, electrical and telephone lines, and submersible pumps, may be located below the BFE-plus-one-foot elevation.

(3) Building protection requirements for non-residential structures shall follow applicable Federal Emergency Management Agency regulations and include the following:

(a) The lowest floor, including basements, of all new non-residential buildings, including additions, shall be elevated at least to the FPE or be structurally dry flood-proofed to at least the FPE. A non-residential building may be structurally dry flood-proofed (in lieu of elevation) provided that a ~~Registered~~ Licensed Professional Engineer, ~~Registered~~ Licensed Structural Engineer, or Licensed Architect shall certify that the building has been structurally dry flood-proofed up to the FPE and the structure and attendant utility facilities are watertight and capable of resisting the effects of the base flood. The building design shall take into account flood velocities, duration, rate of rise, hydrostatic and hydrodynamic forces, the effects of buoyancy, and impacts from debris or ice. 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.)

1. If a non-residential structure is not dry flood-proofed and is placed on compacted fill, the top of the fill shall be above the FPE. The fill pad shall be placed at the appropriate elevation and designed to extend a minimum of ten feet out from the building's designed footprint unless the building is certified by a ~~Registered~~ Licensed Structural Engineer to be protected from damages due to hydrostatic pressures. Additionally, the fill pad shall meet 95% of Standard Proctor Density in order to be demonstrated not to settle below the FPE and to be adequately protected against erosion, scour, and differential settlement. Foundation excavations shall not extend more than five feet beyond the foundation footprint. Backfill for the over excavated area does not need to meet the compaction requirements.

2. If a non-residential structure is not dry flood-proofed and is elevated by means of walls, pilings, or other foundation, the building's supporting structure must be permanently open to flood waters and not subject to damage by hydrostatic pressures of the base flood. The bottom of the permanent openings shall be no more than one foot above the lowest adjacent grade. The total net area shall be provided below the BFE, and consist of a minimum of two openings for each enclosed area with each opening of an enclosed area on a different exterior wall. The openings must have a total net area of not less than one square inch for every one square foot of enclosed area subject to

flooding below the BFE. Any louvers, screens, or other opening covers must not block or impede the automatic flow of floodwaters into and out of the enclosed area. 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. All areas below the FPE shall be constructed with materials resistant to flood damage. The lowest floor (including basement) for the non-residential structure and all electrical, heating, ventilation, plumbing, air conditioning equipment, and utility meters shall be located at or above the FPE. Waterproofed service facilities, including, but not limited to, water and sewer pipes, electrical and telephone lines, and submersible pumps, may be located below the FPE. No area less than one foot above the BFE shall be used for storage of items or materials.

(b) The lowest floor including basements of all substantially improved non-residential buildings and attendant utility facilities shall be elevated or structurally dry floodproofed to a minimum of one foot above the BFE. A substantially improved, nonresidential building may be structurally dry flood-proofed (in lieu of elevation) provided that a ~~Registered~~ Licensed Professional Engineer, ~~Registered~~ Licensed Structural Engineer, or Licensed Architect shall certify that the building has been structurally dry floodproofed up to a minimum of one foot above the BFE and the structure and attendant utility facilities are watertight and capable of resisting the effects of the base flood. The building design shall take into account flood velocities, duration, rate of rise, hydrostatic and hydrodynamic forces, the effects of buoyancy, and impacts from debris or ice. 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.)

1. If a substantially improved non-residential structure is not dry floodproofed and is placed on compacted fill, the top of the fill for a nonresidential structure substantial improvement shall be at least one foot above the BFE. The fill pad shall be placed at the appropriate elevation and designed to extend a minimum of ten feet out from the building's designed footprint unless the building is certified by a ~~Registered~~ Licensed Structural Engineer to be protected from damages due to hydrostatic pressures. Additionally, the fill pad shall meet 95% of Standard Proctor Density in order to be demonstrated not to settle below one foot above the BFE for the residential structure, and to be adequately protected against erosion, scour, and differential settlement. Foundation excavations shall not extend more than five feet beyond the foundation footprint. Backfill for the over excavated area does not need to meet the compaction requirements.

2. If a substantially improved non-residential structure is not dry floodproofed and is elevated by means of walls, pilings, or other foundation, the building's supporting structure must be permanently open to flood waters and not subject to damage by hydrostatic pressures of the base flood. The bottom of the permanent openings shall be no more than one foot above the lowest adjacent grade. The total net area shall be provided below the BFE, and consist of a minimum of two openings for each enclosed area with each opening of an enclosed area on a different exterior wall. The openings must have a total net area of not less than one square inch for every one square foot of

enclosed area subject to flooding below the BFE. Any louvers, screens, or other opening covers must not block or impede the automatic flow of floodwaters into and out of the enclosed area. 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. All areas lower than one foot above the BFE shall be constructed with materials resistant to flood damage. The lowest floor (including basement) for the substantially improved non-residential structure and all electrical, heating, ventilation, plumbing, air conditioning equipment, and utility meters shall be elevated to at least one foot above the BFE. Waterproofed service facilities, including, but not limited to, water and sewer pipes, electrical and telephone lines, and submersible pumps, may be located below the BFE-plus-one-foot elevation.

COMMENTARY
See § 151.145(F)(2)(l)1. and (F)(2)(l)2. for substantial improvement submittal requirements.

(4) A non-conforming structure damaged by any origin may be restored unless the activity meets the definition of substantial improvement, in which case it shall conform to the provisions of § 151.149(H)(2)(b) for residential structures or § 151.149(H)(3)(b) for non-residential structures.

(5) Mobile homes and recreational vehicles which are not road-ready and cannot be disconnected from utilities in a timely manner and installed on-site for more than 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 870. The requirements in § 151.149(H)(2) shall apply to this section. Mobile homes and recreational vehicles that are not elevated above the flood protection elevation shall be moved to higher ground within 24 hours when the water level reaches a recreational vehicle site.

(6) Storage sheds, detached garages, and attached garages which are not substantial improvements on an existing single-family platted lot, may be constructed with the lowest floor below ~~the FPE~~one-half (0.5) foot above the BFE in accordance with the following:

(a) The building shall not be used for human habitation.

(b) All areas below the ~~BFE~~ FPE shall be constructed with materials resistant to flood damage~~waterproof material~~. Structures located in a regulatory floodway shall be constructed and placed on a development site so as not to block the flow of flood waters and shall also meet the appropriate use criteria of § 151.150. In addition, all other requirements of this chapter 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 floodproofed to the FPE.

(e) The building shall be used only for the storage of vehicles or tools and may not contain other rooms, workshops, greenhouses, or similar uses.

(f) If a residence is elevated appropriately, then the area below the residence can be used as a garage, as long as the garage conforms to (a) through (e) above and include permanent flow through openings as described in § 151.149(H)(2)(a)2.

(g) The building shall be valued at less than $~~17,250~~24,550 (Feb. ~~2011~~ 2023 costs) and be no greater than ~~576~~ 600 square feet in floor size.

(h) If elevated by means of walls or other foundation, the building's supporting structure must be permanently open to flood waters on at least two walls and not subject to damage by hydrostatic pressures of the base flood. The permanent openings shall be at grade level and below the base flood elevation, and consist of a minimum of two openings. The openings shall have a total net area of at least one square inch for every one square foot of enclosed area subject to flooding below the base flood elevation. The requirement for permanent openings may be waived by the Planning, Building and Development Director if a ~~Registered~~ Licensed Professional Engineer or Structural Engineer certifies that the building is not water tight, inside and outside hydrostatic pressures will be equal and that the rate at which the water rises will allow for pressures to equalize. 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.

(7) Boathouses may be constructed with the lowest floor below the flood protection elevation in accordance with all of the following:

(a) The boathouse shall be built on an earthen floor or over a water slip;

(b) The boathouse shall not be used for human habitation;

(c) All areas below the base flood elevation shall be constructed with waterproof material;

(d) The boathouse shall be anchored to prevent flotation;

(e) Service facilities such as electrical and heating equipment shall be elevated or flood-proofed to the flood protection elevation (a flood-proofing certificate shall be required); and

(f) The boathouse shall be used only for the storage of boats or tools and may not contain other rooms, workshops, greenhouses, or similar uses.

(8) If the proposed development would result in a change in the ~~mapped regulatory floodplain~~ base flood elevation ~~on a site~~of a SFHA, the applicant shall submit sufficient data to Federal Emergency Management Agency or the Lake County Stormwater Management Commission to obtain a Letter of Map Amendment or Letter of Map Revision. Proposed changes to regulatory floodplain and regulatory floodway delineations and the base flood elevation shall be submitted to the Lake County

Stormwater Management Commission. The Illinois Department of Natural Resources, Office of Water Resources concurrence is required for changes to the base flood elevation and floodway delineation.

(9) If the proposed development is located in a public body of water, as defined by the Illinois Department of Natural Resources, Office of Water Resources, a permit from the Illinois Department of Natural Resources, Office of Water Resources must be received.

(10) If the proposed development involves the construction, modification, or removal of a dam or an on-stream structure to impound water, an Illinois Department of Natural Resources, Office of Water Resources dam safety permit or letter indicating a permit is not required shall be received prior to the start of development activity.

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

(l) Building Protection Requirement for CHHA. The building protection requirements of this section apply to development, including new construction and substantial improvements in, or partly in, a Coastal High Hazard Area according to the FIRM.

(1) All new construction and substantial improvements shall be elevated on pilings or columns so that the bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to or above the BFE-plus-one-foot elevation, and the pile or column foundation and structure attached thereto is anchored to resist flotation, collapse, and lateral movement due to the effects of wind and water loads acting simultaneously on all building components.

(a) Water loading values used shall be those associated with the base flood.

(b) Wind loading values shall be those required by the applicable state or local building standards. If no state or local building standards required the application of wind loading values to structural design, then wind loading values shall be those defined according to American Society of Civil Engineers 7-16 Minimum design loads and associated criteria for buildings and other structures, or other equivalent standard

(2) A licensed professional structural engineer or architect shall develop or review the structural design, specifications and plans for the construction, and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of Section 151.149(l)(2)

(3) All new construction and substantial improvements shall have the space below the lowest floor either free of obstruction or constructed with non-supporting breakaway walls, open wood lattice-work, or insect screening intended to collapse

without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting foundation system.

(a) For the purpose of this section, a breakaway wall shall have a design safe loading resistance of not less than 10 and no more than 20 pounds per square foot.

(b) Use of breakaway walls which exceed a design safe loading resistance of 20 pounds per square foot (either by design or where so required by local or state codes) may be permitted only if a licensed professional structural engineer or architect certifies that the designs proposed meet all of the following conditions:

(1) Breakaway wall collapse shall result from a water load less than that which would occur during the base flood; and

(2) The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and non-structural). Water loading values shall be those associated with the base flood. Wind loading values shall be those required by the applicable state or local building standards. If no state or local building standards required the application of wind loading values to structural design, then wind loading values shall be those defined according to American Society of Civil Engineers 7-16 Minimum design loads and associated criteria for buildings and other structures, or other equivalent standards.

(c) All space enclosed by breakaway walls, open wood lattice-work, or insect screening below the lowest floor shall be used solely for parking of vehicles, building access, or storage.

(4) Placement or substantial improvement of manufactured homes must comply with Sections 151.149(I)(1) through 151.149(I)(3).

(5) Recreational vehicles, including park models, must either:

(a) Be on site for fewer than 180 consecutive days; or

(b) Be fully licensed and ready for highway use; or

(c) Comply with Section 151.149(I)(1) through Section 151.149(I)(3)

(6) The use of fill for structural support of buildings within a Coastal High Hazard Area is prohibited.

(a) Non-structural fill within a Coastal High Hazard Area shall be permitted only if an engineering report demonstrates that the fill will not cause wave runup, ramping, or deflection of floodwaters that cause damage to buildings.

(7) Man-made alterations of sand dunes within a Coastal High Hazard Area are prohibited unless an engineering report documents that the alterations will not

increase potential flood damage by reducing the wave and flow dissipation characteristics of the sand dunes.

(8) Within a Coastal High Hazard Area, bulkheads, seawalls, revetments, and other erosion control structures shall not be connected to the foundation or superstructure of a building, and shall be designed and constructed so as not to direct floodwaters or increase flood forces or erosion impacts on the foundation or superstructure of any building.

(Ord., § 8.5, passed 10-13-2009; Ord. passed 10-9-2012)

§ 151.150 PERFORMANCE STANDARDS FOR REGULATORY FLOODWAY DEVELOPMENT.

(A) *Generally.* This section establishes performance standards for development within the regulatory floodway. The only development in a regulatory floodway which will be allowed are appropriate uses which will not cause an increase in flood heights for all flood events up to and including the base flood. Only those appropriate uses listed below will be allowed in the regulatory floodway. Appropriate uses do not include the construction or placement of any new structures, fill, building additions, buildings on stilts, piles, piers, or columns, fencing (including landscaping or planting designed to act as a fence), and storage of materials except as specifically defined above as an appropriate use. If the development is proposed for the regulatory floodway portion of the regulatory floodplain, the standards of this section apply in addition to the performance standards for regulatory floodplain development.

(B) *Appropriate uses.* Only the construction, modification, repair, or replacement of the following appropriate uses will be allowed in the regulatory floodway:

(1) Public flood control projects and private improvements relating to the control of drainage, flooding of existing buildings, erosion, water quality, or habitat for fish and wildlife;

(2) Structures or facilities relating to functionally water dependent uses such as facilities and improvements relating to recreational boating, and as modifications or additions to existing wastewater treatment facilities;

(3) Storm and sanitary sewer outfalls;

(4) Underground and overhead utilities if sufficiently flood-proofed;

(5) Recreational facilities such as playing fields and trail systems including any related fencing (at least 50% open when viewed from any one direction) built parallel to the direction of flood flows, and including open air pavilions;

(6) Bridges, culverts, and associated roadways, sidewalks, and railways necessary for crossing over the regulatory floodway or for providing access to other appropriate uses in the regulatory floodway and any modification thereto;

(7) Parking lots and any modifications thereto, where the existing depth of flooding for the base flood elevation is less than six inches and aircraft parking aprons built at or below ground elevation (the depth of flooding can be greater than six inches for parking lots used for short term outdoor recreational use facilities where the applicant agrees to restrict parking during overbank flooding events and agrees to accept liability for all damage caused by vehicular access during all overbank flooding events);

(8) Regulatory floodway re-grading, without fill, to create a positive non-erosive slope toward a channel;

(9) Flood-proofing activities to protect previously existing lawful structures including the construction of watertight window wells, elevating structures, or the construction of flood walls around residential, commercial, or industrial principal structures where the

outside toe of the floodwall shall be no more than ten feet away from the exterior wall of the existing structure, and which are not considered to be substantial improvements to the structure;

(10) The replacement, reconstruction, or repair of a damaged building, provided that the outside dimensions of the building are not increased, and that the activity is not a substantial improvement. An activity that is a substantial improvement shall conform to § 151.149(H)(2)(b) for residential structures or § 151.149(H)(3)(b) for non-residential structures;

(11) Modifications to an existing building that would not increase the enclosed floor area of the building below the base flood elevation, and which will not block flood flows including but not limited to fireplaces, bay windows, decks, patios and second story additions. No enclosed floor areas may be built on stilts; and

(12) Substantial improvements, provided that the outside dimensions of the building are not increased; the building shall conform to § 151.149(H)(2)(b) for residential structures or § 151.149(H)(3)(b) for non-residential structures.

(C) *Mitigation.* Construction of allowed uses will be considered permissible, provided that the proposed project meets the following engineering and mitigation criteria and the standards of § 151.149 are so stated in writing with supporting plans, calculations, and data prepared by a ~~registered~~ licensed professional engineer.

(1) All effective regulatory floodway conveyance lost due to the development of appropriate uses, other than bridge or culvert crossings or on-stream structures or dams, shall be replaced for all flood events up to and including the base flood. In calculating effective regulatory floodway conveyance, the following factors shall be taken into consideration.

(a) Regulatory floodway conveyance:

$$K = \frac{1.4886}{n} AR^{2/3}$$

where “n” is Manning’s roughness factor, “A” is the effective area of the cross-section, and “R” is the ratio of the area to the wetted perimeter.

(b) 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.

(2) Transition sections shall be provided and used in calculations of effective regulatory floodway conveyance, in the design of excavations in the regulatory floodway, between cross-sections with rapid expansions and contractions, and when meeting the regulatory floodway delineation on adjoining properties. The following expansion and contraction ratios shall be used.

(a) Water will expand no faster than at a rate of one foot horizontal for every four feet of the flooded channel’s length.

(b) Water will contract no faster than at a rate of one foot horizontal for every one foot of the flooded channel's length.

(c) Water will not expand or contract faster than one foot vertical for every ten feet of flooded channel's length.

(d) All cross-sections used in the calculations shall be located perpendicular to flood flows.

(e) In the design of excavations in the regulatory floodway, erosion protection shall be provided on land upstream and downstream of proposed transition sections.

(3) The development of all appropriate uses shall not result in an increase in the average channel or regulatory floodway velocities or stage, for all flood events up to and including the base flood event. However, 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 erosion and sedimentation will be avoided by the use of rip-rap or other design measures.

(4) In the case of on-stream structures built for the purpose of backing up water, an increase in upstream stage when compared to existing conditions for all flood events up to and including the base flood event shall be contained within recorded easements. A dam safety permit or letter indicating that a permit is not required must be obtained from the Illinois Department of Natural Resources, Office of Water Resources for any structure built for the purpose of backing up water in the stream during normal or flood flow.

(5) If flood-proof construction is required beyond the outside dimensions of an existing habitable, residential, or commercial building, the outside perimeter of the flood-proofing construction shall be placed no further than ten feet from the outside of the building. Compensation of lost storage and conveyance will not be required for flood-proofing activities.

(6) For public flood control projects, the permitting requirements of this section will be considered met if the applicant can demonstrate to the Illinois Department of Natural Resources, Office of Water Resources, or Lake County Stormwater Management Commission in areas outside of Illinois Department of Natural Resources, Office of Water Resources jurisdiction, through hydraulic and hydrologic calculation 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 base flood event. (See § 151.149.)

(7) General criteria for analysis of flood elevations.

(a) The flood profiles, flows, and regulatory floodway data in the regulatory floodway study referenced in § 151.147 must be used for analysis of the base conditions. If the study data appear to be in error or conditions have changed, the Illinois Department of Natural Resources, Office of Water Resources shall be contacted for approval and concurrence on the appropriate base conditions data to use.

(b) If the base flood elevation at the site of the proposed construction is affected by backwater from a downstream receiving channel with a larger drainage area, the proposed construction shall be shown to meet the requirements of this section for the base flood elevation of the regulatory floodway conditions and conditions with the receiving channel stream at normal water elevations. Additional receiving stream elevations may be considered for design if appropriate and approved by the Lake County Stormwater Management Commission or Illinois Department of Natural Resources, Office of Water Resources.

(c) If the applicant is informed, in writing, by the Illinois Department of Natural Resources, Office of Water Resources, the Lake County Stormwater Management Commission or other jurisdictional authority that a downstream or upstream restrictive bridge or culvert is scheduled to be removed, constructed, modified, or a regional flood control project is scheduled to be built, removed, constructed, or modified within the next five years, the proposed development 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.

(8) If the appropriate use will result in a change in the regulatory floodway location or base flood elevation, the applicant shall submit to the Lake County Stormwater Management Commission the information required to be issued a Conditional Letter of Map Revision from the Illinois Department of Natural Resources, Office of Water Resources and the Federal Emergency Management Agency. The application will not be considered complete until the Conditional Letter of Map Revision is received. No filling, grading, dredging, or excavating shall take place until a conditional approval is issued by the Planning, Building and Development Director. The construction or placement of structures within the currently effective floodway boundary shall not take place until a final Letter of Map Revision is issued by the Illinois Department of Natural Resources, Office of Water Resources and the Federal Emergency Management Agency which revises the floodway boundary.

COMMENTARY:
The Illinois Department of Natural Resources, Office of Water Resources has retained permit authority for any Illinois Department of Natural Resources, Office of Water Resources project, dams, and the like and all other state, federal, or Lake County Stormwater Management Commission projects. The Lake County Stormwater Management Commission will issue permits to local units of government for regulatory floodway development.

(9) For those circumstances listed below and located in a regulatory floodway, the following information shall be submitted to the Illinois Department of Natural Resources, Office of Water Resources or the Lake County Stormwater Management Commission:

(a) Analysis of the flood profile due to a proposed bridge, culvert crossings, and roadway approaches;

(b) An engineer's determination that an existing bridge or culvert crossing or approach road is not a source of flood damage and the analysis indicating the proposed flood profile; and

(c) Alternative transition sections and hydraulically equivalent storage.

(Ord., § 8.6, passed 10-13-2009; Ord. passed 10-9-2012)

§ 151.152 PERFORMANCE STANDARDS FOR REGULATORY FLOODPLAINS WITHOUT REGULATORY FLOODWAYS.

(A) The applicant, through the Lake County Stormwater Management Commission, shall obtain approval from the Illinois Department of Natural Resources, Office of Water Resources for all development with a tributary drainage area of 640 acres or more located within the regulatory floodplain without a delineated regulatory floodway. The development shall not, singularly or cumulatively, result in an obstruction of flood flows or potential flood damages outside the development due to increased flood heights, velocities or loss of floodplain storage.

(B) The applicant shall meet the requirements of § 151.147 in accordance with following criteria and shall submit to the Lake County Stormwater Management Commission:

(1) An engineering study performed by a ~~registered~~ licensed professional engineer which will determine a floodway which meets the definition of the regulatory floodway and show the proposed development will meet all applicable requirements of § 151.147;

(2) An engineering study performed by a ~~registered~~ licensed professional engineer which will determine a base flood elevation and demonstrate that the proposed development will maintain the existing conditions conveyance, will not increase flood velocities, will not increase flood profiles and will compensate for all lost flood storage at a ratio of 1.2 to one in a manner that is hydraulically equivalent; or

(3) An engineering study performed by a ~~registered~~ licensed professional engineer which will demonstrate, for a range of flood elevations (which would exceed the expected 100-year flood elevation), the proposed development will maintain the existing condition's conveyance, will not increase flood velocities, will not increase flood profiles, and will compensate for all lost flood storage at a ratio of 1.2 to one in a manner that is hydraulically equivalent.

(Ord., § 8.8, passed 10-13-2009)

§ 151.153 PERFORMANCE STANDARDS FOR FLOOD TABLE LAND DEVELOPMENT.

The following flood table land requirements apply to new construction only and not to additions or substantial improvements to structures within flood table lands built before August 10, 1999:

(A) *Public health protection standards.*

(1) No chemicals, explosives, buoyant materials, animal waste, fertilizers, flammable liquids, pollutants, or other hazardous or toxic materials shall be placed or stored below the flood protection elevation.

(2) New and replacement water supply systems, wells, and sanitary sewer lines may be permitted providing all manholes or other above-ground openings located below the FPE are watertight.

(3) On-site waste disposal systems shall be designed to avoid inundation by the base flood.

(B) *Building protection requirements.*

(1) The lowest floor, including basements, of all new residential structures, including additions, shall be elevated or structurally dry flood-proofed up to at least the flood protection elevation (FPE). The floor of an attached garage for a new structure must be elevated up to at least one-half of one foot above the base flood elevation (BFE). If structurally dry flood-proofed, a Licensed Professional Engineer, Licensed Structural Engineer, or Licensed Architect shall certify that the building has been structurally dry flood-proofed up to the FPE and the structure and attendant utility facilities are watertight and capable of resisting the effects of the base flood. The building design shall take into account flood velocities, duration, rate of rise, hydrostatic and hydrodynamic forces, the effects of buoyancy, and impacts from debris or ice. 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.)

(a) If the residential structure is not dry flood-proofed and is placed on compacted fill, the top of the fill for a residential structure shall be above the FPE. The top of fill for an attached garage shall be one-half of one foot above the BFE. The fill pad shall be placed at the appropriate elevation and designed to extend a minimum of ten feet out from the building's designed footprint unless the building is certified by a Registered Structural Engineer to be protected from damages due to hydrostatic pressures. Additionally, the fill pad shall meet 95% of Standard Proctor Density in order to be demonstrated not to settle below the FPE for the residential structure and not below one-half of one foot above the BFE for an attached garage, and to be adequately protected against erosion, scour, and differential settlement. Foundation excavations shall not extend more than five feet beyond the foundation footprint. Backfill for the over excavated area does not need to meet the compaction requirements.

(b) If the residential structure is not dry flood-proofed and is elevated by means of walls, pilings, or other foundation, the building's supporting structure must be permanently open to flood waters and not subject to damage by hydrostatic pressures of the base flood. The bottom of the permanent openings shall be no more than one foot above the lowest adjacent grade. The total net area shall be provided below the FPE, and consist of a minimum of two openings for each enclosed area with each opening of an enclosed area on a different exterior wall. The openings must have a total net area of not less than one square inch for every one square foot of enclosed area subject to flooding below the FPE. Any louvers, screens, or other opening covers must not block or impede the automatic flow of floodwaters into and out of the enclosed area. 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. All areas below the FPE shall be constructed with materials resistant to flood damage. The lowest floor (including basement) for the residential structure and all electrical, heating, ventilation, plumbing, air conditioning equipment, and utility meters shall be located at or above the FPE. Waterproofed service facilities, including, but not limited to, water and sewer pipes, electrical and telephone lines, and submersible pumps, may be located below the FPE. No area less than one foot above the BFE shall be used for storage of items or materials.

(2) The lowest floor including basements of all new non-residential buildings, including additions, shall be elevated at least to the FPE or be structurally dry flood-proofed to at least the FPE. A nonresidential building may be structurally dry flood-proofed (in lieu of elevation) provided that a Licensed Professional Engineer, Licensed Structural Engineer, or Licensed Architect shall certify that the building has been structurally dry flood-proofed up to the FPE and the structure and attendant utility facilities are watertight and capable of resisting the effects of the base flood. The building design shall take into account flood velocities, duration, rate of rise, hydrostatic and hydrodynamic forces, the effects of buoyancy, and impacts from debris or ice. 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.)

(a) If a non-residential structure is not dry flood-proofed and is placed on compacted fill, the top of the fill shall be above the FPE. The fill pad shall be placed at the appropriate elevation and designed to extend a minimum of ten feet out from the building's designed footprint unless the building is certified by a Licensed Structural Engineer to be protected from damages due to hydrostatic pressures. Additionally, the fill pad shall meet 95% of Standard Proctor Density in order to be demonstrated not to settle below the FPE and to be adequately protected against erosion, scour and differential settlement. Foundation excavations shall not extend more than five feet beyond the foundation footprint. Backfill for the over excavated area does not need to meet the compaction requirements.

(b) If a non-residential structure is not dry flood-proofed and is elevated by means of walls, pilings, or other foundation, the building's supporting structure must be permanently open to flood waters and not subject to damage by hydrostatic pressures

of the base flood. The bottom of the permanent openings shall be no more than one foot above the lowest adjacent grade. The total net area shall be provided below the FPE, and consist of a minimum of two openings for each enclosed area with each opening of an enclosed area on a different exterior wall. The openings must have a total net area of not less than one square inch for every one square foot of enclosed area subject to flooding below the FPE. Any louvers, screens, or other opening covers must not block or impede the automatic flow of floodwaters into and out of the enclosed area. 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. All areas below the FPE shall be constructed with materials resistant to flood damage. The lowest floor (including basement) for the non-residential structure and all electrical, heating, ventilation, plumbing, air conditioning equipment, and utility meters shall be located at or above the FPE. Waterproofed service facilities, including, but not limited to, water and sewer pipes, electrical and telephone lines, and submersible pumps, may be located below the FPE. No area less than one foot above the BFE shall be used for storage of items or materials.

(3) Mobile homes and recreational vehicles to be installed on-site more than 180 days shall be elevated to or above the FPE and shall be anchored to resist flotation, collapse, or lateral movement by being tied down in accordance with the Rules and Regulations for the Illinois Mobile Home Tie-Down Act issued pursuant to 77 III. Adm. Code 870.

(4) Accessory structures and attached garages may be constructed with the lowest floor below the FPE in accordance with the following:

(a) The building shall not be used for human habitation.

(b) The structure shall be anchored to prevent flotation.

(c) Service facilities such as electrical and heating equipment shall be elevated or flood-proofed to the FPE.

(d) All areas below the FPE shall be constructed with materials resistant to flood damage.

(e) The floor must be elevated up to at least one-half (0.5) foot above the base flood elevation (BFE) unless it meets all the requirements of Section 151.149(H)(6).

(Ord., § 8.9, passed 10-13-2009; Ord. passed 10-9-2012)

§ 151.154 PERFORMANCE STANDARDS FOR FLOOD-PRONE AREA DEVELOPMENT.

This section establishes performance standards for development located in flood-prone areas with drainage areas less than 640 acres:

(A) *Flood-carrying capacity.* The flood-carrying capacity shall be maintained for channels with flood-prone areas draining a tributary area of 20 acres or more.

(B) *Flood-prone area conveyance, velocities, flood profiles, and flood storage.*

(1) For all development within a flood-prone area where the tributary drainage area is 100 acres or more, the applicant shall meet the requirements of § 151.149 according to the following criteria and submit to the Lake County Stormwater Management Commission for permit or approval:

(a) An engineering study performed by a ~~registered~~ licensed professional engineer which will determine a floodway which meets the definition of the regulatory floodway and show the proposed development will meet all applicable requirements of § 151.147;

(b) An engineering study performed by a ~~registered~~ licensed professional engineer which will determine a base flood elevation and demonstrate that the proposed development will maintain the existing condition's conveyance, will not increase flood velocities, will not increase flood profiles, and will provide hydraulically equivalent compensatory storage at a ratio of 1.2 to one. Such compensation areas shall be designed to drain freely and openly to the channel and located opposite or adjacent to fill areas in a manner that is hydraulically equivalent; or

(c) An engineering study performed by a ~~registered~~ licensed professional engineer which will demonstrate, for a range of flood elevations (which would exceed the expected 100-year flood elevation), the proposed development will maintain the existing condition's conveyance, will not increase flood velocities, will not increase flood profiles, and will provide hydraulically equivalent compensatory storage at a ratio of 1.2 to one. Such compensation areas shall be designed to drain freely and openly to the channel and located opposite or adjacent to fill areas.

(2) For all development within a flood-prone area where the tributary drainage area is more than 100 acres, the applicant shall meet the requirements of § 151.147.

(Ord., § 8.10, passed 10-13-2009; Ord. passed 10-9-2012)

§ 151.271 TERMS DEFINED.

Words and terms used in this chapter shall be given the meanings set forth in this section. All words not defined in this section shall be given their common, ordinary meanings, as the context may reasonably suggest. The use-related terms are mutually exclusive, meaning that uses given a specific definition shall not also be considered to be a part of a more general definition of that use type. A “bookstore”, for example, shall not be considered a general “retail sales and service” use, since “bookstore” is a more specific definition of that use.

ABUTTING. Having a common border with or being separated from the common border by an alley, easement, or right-of-way.

ACCESS. A means of vehicular entry to or exit from property.

ACCESSORY DWELLING. An accessory structure, separate or attached, located on the same lot as a principal dwelling and occupied, for residential purposes only, by a person or persons either employed on the premises or related by blood, marriage, or adoption to the occupants of the principal dwelling.

ACCESSORY STRUCTURE. A structure that customarily:

(1) Is subordinate to and services a principal building or a principal use legally existing on the same zoning lot;

(2) Is subordinate in area, extent, and purpose to the principal building or principal use;

(3) Contributes to the comfort, convenience or necessity of the occupants, business, or industry of the principal structure or principal use served; and

(4) Is located on the same zoning lot as the principal structure or principal use served.

ACCESSORY USE. See ***USE, ACCESSORY***.

ADEQUATE DOWNSTREAM STORMWATER CAPACITY. A stormwater management system shall be considered to have ***ADEQUATE DOWNSTREAM STORMWATER CAPACITY*** if the system can be shown to store or convey up to and including the 100-year stormwater runoff without increasing damage to adjoining properties or to a point downstream known to the Planning, Building and Development Director to be a restriction causing significant backwater.

ADULT-USE CANNABIS CULTIVATION CENTER. A facility operated by an organization or business that is licensed by the Illinois Department of Agriculture to cultivate, process, transport and perform necessary activities to provide cannabis and cannabis-infused products to licensed cannabis business establishments, per the Illinois Cannabis Regulation and Tax Act, (410 ILCS 705).

ADULT-USE CANNABIS CRAFT GROWER. A facility operated by an organization or business that is licensed by the Illinois Department of Agriculture to cultivate, dry, cure, and package cannabis and perform other necessary activities to make cannabis

available for sale at a dispensing organization or use at a processing organization, per the Illinois Cannabis Regulation and Tax Act, (410 ILCS 705). Licensees may share premises with a processing organization or dispensing organization, or both. May contain up to 5,000 square feet on its premises for plants in the flowering stage (increases available by Department of Agriculture in increments of 3,000–-max 14,000 square feet.

ADULT-USE CANNABIS INFUSER. A facility operated by an organization or business that is licensed by the Illinois Department of Agriculture to directly incorporate cannabis or cannabis concentrate into a product formulation to produce a cannabis-infused product, per the Illinois Cannabis Regulation and Tax Act, (410 ILCS 705). Licensees may share premises with a craft grower, or dispensing organization or both.

ADULT-USE CANNABIS PROCESSOR. A facility operated by an organization or business that is licensed by the Illinois Department of Agriculture to either extract constituent chemicals or compounds to produce cannabis concentrate or incorporate cannabis or cannabis concentrate into a product formulation to produce a cannabis product, per the Illinois Cannabis Regulation and Tax Act, (410 ILCS 705).

ADULT-USE CANNABIS DISPENSARY. A facility operated by an organization or business that is licensed by the Illinois Department of Financial and Professional Regulation to acquire cannabis from licensed cannabis business establishments for the purpose of selling or dispensing cannabis, cannabis-infused products, cannabis seeds, paraphernalia or related supplies to purchasers or to qualified registered medical cannabis patients and caregivers, per the Cannabis Regulation and Tax Act, (410 ILCS 705).

ADULT-USE CANNABIS TRANSPORTER. An organization or business that is licensed by the Illinois Department of Agriculture to transport cannabis on behalf of a cannabis business establishment or a community college licensed under the Community College Cannabis Vocational Training Pilot Program, per the Cannabis Regulation and Tax Act, (410 ILCS 705).

ADULT BOOTH. Any area of an adult entertainment establishment set off from the remainder of the establishment by one or more walls or other dividers or partitions and used to show, play, or otherwise demonstrate any adult materials or to view any live performance that is distinguished or characterized by an emphasis on the exposure, depiction, or description of specified anatomical areas or the conduct or simulation of specified sexual activities.

ADULT CABARET. Any commercial establishment that regularly features any of the following as a substantial or significant portion of its business:

(1) Persons who appear semi-nude; or

(2) Live performances distinguished or characterized by an emphasis on the exposure, depiction, or description of specified anatomical areas or the conduct or simulation of specified sexual activities.

ADULT ENTERTAINMENT ESTABLISHMENT. An adult cabaret, adult store, or adult theater.

ADULT MATERIAL. Any of the following, whether new or used:

(1) Books, magazines, periodicals, or other printed matter, or digitally-stored materials that are distinguished or characterized by an emphasis on the exposure, depiction, or description of specified anatomical areas, or the conduct or simulation of specified sexual activities;

(2) Films, motion pictures, video or audio cassettes, slides, computer displays, or other visual representations or recordings of any kind that are distinguished or characterized by an emphasis on the exposure, depiction, or description of specified anatomical areas, or the conduct or simulation of specified sexual activities;

(3) Live performances that are distinguished or characterized by an emphasis on the exposure, depiction, or description of specified anatomical areas, or the conduct or simulation of specified sexual activities; or

(4) Instruments, novelties, devices, or paraphernalia that are designed for use in connection with specified sexual activities, or that depict or describe specified anatomical areas.

ADULT STORE. Any commercial establishment that contains one or more adult booths; offers for sale, rental, or viewing any adult materials as a substantial or significant portion of its business; or has a segment or section devoted to the sale or display of adult materials.

ADULT THEATER. Any commercial establishment that as a substantial or significant portion of its business regularly features for presentation films, motion pictures, video or audio cassettes, slides, computer displays or other visual representations or recordings that are distinguished or characterized by an emphasis on the exposure, depiction, or description of specified anatomical areas, or the conduct or simulation of specified sexual activities.

AFFORDABLE HOUSING. Decent, safe, and sanitary housing that can be secured at a cost not exceeding 30% of the owner's or renter's household income. For renters, the 30% is comprised of rent and utilities. For owners, the 30% is comprised of mortgage principal, interest, real estate taxes, and insurance (PITI).

AGRICULTURAL EDUCATION. Any assemblage of structures and uses intended to educate the general public about the history, science, business, and technology of agriculture, as defined in this section, when operated in conjunction with a principal agricultural use on sites of 200,000 square feet or greater. These structures may include but are not limited to classrooms, displays of equipment, and working models of agricultural implements, devices, or machinery.

AGRICULTURAL EXEMPTION. An exemption contained in state law which prohibits fee bearing building permits with respect to land used or to be used for agricultural purposes and further defines the powers of this chapter as to restrict its application.

AGRICULTURAL PRACTICES. These practices include: normal farming; silviculture and ranching activities such as gardening, plowing, seeding, cultivating, harvesting for the production of food, fiber, forest products, nursery stock, and livestock; maintenance of agricultural drain tiles, irrigation and drainage ditches; and maintenance of farm roads and other access areas for farm vehicles and equipment use.

AGRICULTURE. The tilling of the soil; the growing of crops; the operation of non-retail greenhouses and nurseries; the raising and/or keeping of livestock, equine, fur-bearing animals, gamebirds, poultry, and farm animals; and incidental structures for carrying out the above.

AIRCRAFT. Any machine or device, including but not limited to airplanes, helicopters, gliders, hang gliders, ultralights, autogiros, dirigibles, and hot air balloons, capable of atmospheric flight.

AIRPORT. Any area of land, water, or both which is used or designed for the landing or taking off of aircraft of any type, or for the location of runways, landing areas, airdomes, hangars, structures, airport runways, grass runways, and other facilities constituting an advantage or convenience to the safe landing, takeoff, and navigation of aircraft, or the safe and efficient maintenance thereof, whether or not facilities are provided for the shelter, servicing, or repair of aircraft or for receiving or discharging passengers or cargo, and whether or not those areas and facilities are public or are restricted to private use.

ALLEY. A thoroughfare that is not more than 30 feet wide and that affords only a secondary means of access to abutting property.

AMBIENT SOUND. The all-encompassing sound at a given location, usually a composite of sounds from many sources near and far. For the purpose of this chapter, the ***AMBIENT SOUND LEVEL*** shall mean the quietest of ten ten-second average sound levels measured when there are no nearby or distinctly audible sound sources (e.g., dogs, or jets). Daytime ambient measurements should be made during mid-morning weekday hours, while nighttime measurements should be made after midnight.

AMPHITHEATER. An open air commercial structure, with tiers of seats or a seating area rising above a stage, that is intended to be used for the viewing of musical, theatrical, or other entertainment performances. Non-commercial bandshells and other outdoor stages established as accessory structures in public or community parks shall not be considered ***AMPHITHEATERS***.

AMUSEMENT PARK. An area of land, including the structures thereon, which is devoted to a commercial enterprise open to the public, which provides to patrons multiple amusement attractions and/or amusement rides.

APPROPRIATE USE. Those uses of the regulatory floodway that are expressly permitted by § 151.150.

ARBORIST, CERTIFIED. A person certified by the International Society of Arboriculture.

ARCHITECT. A person ~~registered~~ licensed as an architect and licensed to practice in the State of Illinois.

ARTERIAL STREET. See ***STREET, ARTERIAL***.

ASSEMBLY SPACE. Space intended to accommodate a group of people gathered together, for a particular purpose, whether religious, political, educational, or social. ***ASSEMBLY SPACE*** may include but shall not be limited to meeting rooms/halls, classrooms, worship halls, and social halls.

ASSURANCE, SUBDIVISION (PERFORMANCE, RESTORATION OR MAINTENANCE). A financial guarantee to ensure that all improvements, facilities, or work required by this chapter will be restored, completed, or maintained in compliance with this chapter.

ATRIUM HOUSE. A one-story dwelling unit with private individual access that is attached to another dwelling unit. Each dwelling unit has a private yard or atrium that is enclosed by the house or a wall. (See also atrium house standards of § 151.130.)

ATTACHED DWELLING. A dwelling unit that is attached to one or more dwelling units or to nonresidential uses.

AVERAGE GROUND ELEVATION. The average level of the finished surface of the ground adjacent to the exterior walls of a building or structure.

BANNER. Any sign of lightweight fabric or similar material that is permanently mounted to a pole or a building by a permanent frame at one or more edges. National flags, state or municipal flags, or the official flag of any institution shall not be considered a ***BANNER***.

BAR. An establishment in which the principal business is the sale of alcoholic beverages to patrons for consumption on the premises. Same as ***TAVERN*** or ***NIGHTCLUB***.

BASE FLOOD. The flood having a 1% probability of being equaled or exceeded in any given year. The ***BASE FLOOD*** also is known as the ***100-YEAR FREQUENCY FLOOD EVENT***.

BASE FLOOD ELEVATION. The elevation delineating the level of flooding resulting from the 100-year flood frequency. Application of the ***BASE FLOOD ELEVATION*** at any location shall conform to all applicable standards of § 151.147.

BASE SITE AREA. The portion of a parcel as calculated pursuant to § 151.070(D)(1).

BASEMENT. Any area of a building having its floor subgrade (below grade level) on all sides.

BASIN. A facility which provides temporary or permanent impoundment of water for flood control and other water resource purposes. ***BASINS*** include stormwater infiltration, retention, and detention facilities. Sub-watershed areas within the county that include the Fox River mainstream (including the Chain O'Lakes), Flint Creek, Tower Lake Drain, Slocum Drain, Mutton Creek, Manitou Creek, Fish Lake Drain, Sequoit

Creek, the Des Plaines River mainstream, South Mill Creek, North Mill Creek, Newport Drainage Ditch, Bull Creek, Indian Creek, Aptakisic Creek, Buffalo Creek, Skokie River, Middle Fork-North Branch Chicago River, West Fork-North Branch Chicago River, Kellogg Creek, Dead River, Waukegan River, Pettibone Creek, and Lake Michigan Bluff/Ravines.

BASIN PLAN. A study and evaluation of an individual drainage basin's stormwater management and flood control needs.

BEACON. Any light with one or more beams directed into the atmosphere or directed at one or more points not on the same lot as the light source; also, any light with one or more beams that rotate or move.

BERM. A man-made landscape feature generally consisting of a linear mound of fill. Temporary soil stockpiles and retaining walls are not ***BERMS***.

BEST MANAGEMENT PRACTICE (BMP). Structural or vegetative control measure designed to mitigate changes to both quantity and quality of storm water runoff from land development. ***BMPs*** are intended to reduce storm water volume, peak flows, and/or nonpoint source pollution through evapotranspiration, infiltration, detention, and filtration.

BOATHOUSE. A structure erected for the purpose of storing boats on an earthen floor or over a water slip.

BREAKAWAY WALL. A wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

BRIDGE ENGINEER. The Bridge Engineer of the Illinois Department of Transportation.

BUFFER. An area of predominantly vegetated land to be left open, adjacent to linear water bodies, wetland, lakes, ponds, or other surface waters for the purpose of eliminating or minimizing adverse impacts to the areas.

BUILDING. A structure built, maintained, or intended for use for the shelter or enclosure of persons, animals, or property of any kind. The term includes a gas or liquid storage tank, a manufactured home, mobile home, or a prefabricated building. This term also includes recreational vehicles and travel trailers that exist on a site for more than 180 days.

BUILDING, FRONT OF. The exterior wall of a building which faces the street lot line of the lot.

BUILDING-INTEGRATED SOLAR ENERGY SYSTEM. An active solar energy system that is an integral part of a principal or accessory structure, rather than a separate mechanical device, replacing of substituting for an architectural or structural component of the building. ***BUILDING- INTEGRATED SYSTEMS*** include, but are not

limited to, photovoltaic or hot water solar energy systems that are contained within roofing materials, windows, skylights, or awnings.

BUILDING MARKER. Any sign indicating the name of a building and date and incidental information about its construction, which sign is cut into a masonry surface or made of bronze or other permanent material.

BUILDING PERMIT. A permit issued by the county for the construction, erection, or alteration of a structure or building.

BUILDING, PRINCIPAL. A building in which is conducted, or in which is intended to be conducted, the main or principal use of the lot on which it is located.

BYPASS. To route tributary drainage area runoff around and not through a stormwater control structure.

CABIN or COTTAGE. A recreational (nonresidential) use consisting of detached dwelling units used for temporary or seasonal occupancy.

CALIPER. A measurement of the size of a tree equal to the diameter of its trunk measured six inches above natural grade for trees having calipers less than or equal to 12 inches diameter; and measured four and one-half feet above grade for tree calipers greater than 12 inches diameter.

CAMP. Any land, including structures, used for assembly or temporary occupancy by individuals and providing outdoor recreational facilities.

CARDHOLDER. A qualifying patient or a designated caregiver who has been issued and possesses a valid registry identification card by the Illinois Department of Public Health pursuant to the Compassionate Use of Medical Cannabis Pilot Program Act (410 ILCS 130/1 et seq.).

CARETAKER'S DWELLING UNIT. A dwelling unit located on the same parcel as a nonresidential principal use and occupied exclusively by either the owner, manager, caretaker, or operator, and his or her family, of a permitted principal use.

CASINO/COMMERCIAL WATERCRAFT.

(1) A retail sales and service (entertainment-oriented) use consisting of:

(a) A boat, barge, or vessel or other watercraft operated on any body of water in the county, excluding Lake Michigan, for the purpose of providing on-board food, beverage, entertainment, and/or gaming services to patrons of the watercraft;

(b) All onshore facilities established adjacent to the body of water upon which the watercraft is operated, including but not limited to all docking, maintenance and service, operation, restaurant, tavern, ticketing, retail sales and service, parking, loading and other buildings, structures, and facilities that provide for the comfort, convenience, entertainment, or enjoyment of the patrons of the watercraft;

(c) All piers, docks, breakwaters, moorings, and other waterside structures and facilities required in connection with the safe and convenient operation of the watercraft; and

(d) All on-site construction and development activities associated with the establishment of these uses.

(2) Boats, barges, vessels, or other watercraft operated principally for the transportation of people and materials shall not be considered ***COMMERCIAL WATERCRAFT***.

CEMETERY. Any land, and the structures thereon, designed, used, or intended to be used for the interment of human or animals remains. A ***CEMETERY*** may include a crematorium.

CERTIFIED COMMUNITY. A community which has petitioned the Lake County Stormwater Management Commission and has been found by the Lake County Stormwater Management Commission to be capable of enforcing an ordinance (or ordinances) which contain stormwater and regulatory floodplain management rules and regulations which are consistent with, or at least as stringent, as these of this chapter.

CERTIFIED PROFESSIONAL SOIL CLASSIFIER. A person who is certified by Illinois Soil Classifiers' Association or the American Registry of Certified Professionals in Agronomy, Crops, and Soils.

CERTIFIED WETLAND SPECIALIST. Persons meeting the minimum requirements of subsections (1), (2), (3), and (4) as follows:

(1) Provide a one-page statement of qualifications in the areas noted below. The signed statement will be considered as evidence of qualifications;

(2) Pass the ***CERTIFIED WETLAND SPECIALIST*** exam;

(3) Completion of a Lake County Stormwater Management Commission-approved wetland delineation course and meet the requirements of one of the following:

(a) ~~Registered~~ Licensed professional wetland scientist (PWS) from the Society of Wetland Scientists;

(b) Minimum of a bachelor's degree in an earth science or biologic science and at least one of the following: three years (cumulative) full-time experience in the Upper Midwest Region on wetland related projects; or the completion of 100 wetland delineations in the Upper Midwest; or a minimum of 300 hours spent in field review of wetlands in the Upper Midwest; or

(c) Six years (cumulative) full-time experience in the Upper Midwest Region on wetlands related projects.

(4) Recertification as a ***CERTIFIED WETLAND SPECIALIST*** shall be required every three years through the Lake County Stormwater Management Commission. A minimum of 24 work-related professional development hours including Lake County Stormwater Management Commission mandatory training for this type of certification

shall be obtained within the three-year period in order to qualify for recertification. Documentation shall be self-monitoring and shall be provided to Lake County Stormwater Management Commission upon application of certification or recertification.

CERTIFY or CERTIFICATION. The act or process of attesting that the specific inspections, calculations, or tests, where required, have been performed and that they comply with the applicable requirements of this chapter.

CHANNEL. See ***LINEAR WATER BODY***.

CHANNEL MODIFICATION. Alteration of a channel by changing the physical dimensions or materials of its bed or banks. ***CHANNEL MODIFICATION*** includes damming, rip-rapping or other armoring, widening, deepening, straightening, relocating, lining and significant removal of bottom or woody vegetation from the channel. ***CHANNEL MODIFICATION*** does not include the clearing of dead or dying vegetation, debris, or trash from the channel.

CLUB, NIGHTCLUB. See ***NIGHTCLUB***.

CLUB, PRIVATE. A structure, building or property which is primarily used by an organization serving its members or their guests.

COASTAL HIGH HAZARD AREA. An area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast, and any other area subject to high velocity wave action from storms or seismic other sources. A coastal high hazard area is identified on a community's FIRM by the designation of zone VE or a moderate wave action area (MoWA).

COLLECTOR STREET. See ***STREET, COLLECTOR***.

COMMERCIAL ESTABLISHMENT. Any place where admission, services, performances, or products are provided for or upon payment of any form of consideration.

COMMERCIAL MESSAGE. Any sign, wording, logo, or other representation that, directly or indirectly, names, advertises, or calls attention to a business, product, service, or other commercial activity.

COMMERCIAL VEHICLE. A vehicle that is used or intended to be used primarily for commercial purposes.

COMMUNITY SEWER SYSTEM. A sewage treatment system which serves more than one dwelling unit.

COMMUNITY WATER SYSTEM. A water system which serves more than one dwelling unit.

COMPENSATORY STORAGE. A volume of storage created to offset the loss or displacement of flood storage capacity due to a development activity. (See also § 151.149.)

COMPOSTING. The biological treatment process by which microorganisms decompose the organic fraction of waste, producing compost.

COMPREHENSIVE PLAN. All plans for the orderly development of the county including all accompanying maps, charts, and explanatory material adopted by the County Board, and all amendments thereto.

CONCENTRATED SOLAR THERMAL TECHNOLOGY. A solar energy technology that uses lenses or mirrors, and often tracking systems, to focus or reflect a large area of sunlight into a small area.

CONDITIONAL APPROVAL REGULATORY FLOODWAY MAP CHANGE. Preconstruction approval by Illinois Department of Transportation, Office of Water Resources and Federal Emergency Management Agency of a proposed change to the regulatory floodway map. This preconstruction approval ensures the property owner that once an appropriate use is constructed according to permitted plans, the regulatory floodway map can be changed, as previously agreed, upon review and acceptance of as-built plans.

CONDITIONAL LETTER OF MAP REVISION. A letter which indicates that the Federal Emergency Management Agency will revise base flood elevations, flood insurance rate zones, flood boundaries or regulatory floodway as shown on an effective Flood Hazard Boundary Map or Flood Insurance Rate Map, once the as-built plans are submitted and approved.

CONDUIT. A general term for any channel, watercourse, sewer, or culvert used for the conveyance or movement of water, whether open or closed.

CONSERVATION DISTRICT. Soil and Water Conservation District of Lake County.

CONSERVATION RESIDENTIAL DEVELOPMENT. The development of land for residential uses that requires the reservation of open space pursuant to the requirements of §§ 151.125 through 151.132. A ***CONSERVATION RESIDENTIAL DEVELOPMENT*** may contain one or more of the following housing types: detached house (single family), lot-line house, village house, twinhouse, patio house, atrium house, townhouse, multiplex and/or multi-dwelling structure, as fully described in § 151.130.

CONTRACTOR. Any person or firm engaged in construction, building services, or maintenance, on a contract basis.

CONTRACTOR'S MODEL HOME. A temporary retail sales and/or service use consisting of a building, or portion thereof, designed as a dwelling unit and constructed in a residential development for the purpose of temporary marketing and/or sales of lots or dwelling units within the development in which it is located.

CONTROL, HORIZONTAL AND VERTICAL GROUND. A system of photo-identifiable points with established positions or elevations, or both, which are used as fixed references in positioning and correlating map features.

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.

CONVENTIONAL RESIDENTIAL DEVELOPMENT. The development of land for detached house (single family) dwelling units that requires no minimum reservation of open space pursuant to the requirements of §§ 151.125 through 151.132.

CORNER LOT. See ***LOT, CORNER***.

CORRAL/PADDOCK. An enclosure for confining and/or exercising animals which is generally located adjacent or in close proximity to a stable or barn.

CRITICAL DURATION. The design storm duration for a given frequency storm which produces the greatest peak flow, volume, or stage by analyzing all durations presented in Appendix K.

CUL-DE-SAC. A street ending in a turnaround, designed and intended as a permanent or temporary terminus.

CUSTOMARY HOME OCCUPATIONS. A business, profession, or trade commonly practiced within a principal residence.

CUTOFF. The point at which all light rays emitted by a lamp, light source, or luminaire are completely eliminated (cutoff) at a specific angle above the ground.

CUTOFF ANGLE. The angle formed by a line drawn from the direction of light rays at the light source and a line perpendicular to the ground from the light source, above which no light is emitted.

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.

DAMAGE. For the purpose of interpreting the provisions of §§ 151.145 through 151.154 only, ***DAMAGE*** shall mean a measurable rise in flood heights on property currently subject to flooding, flooding of property currently not subject to flooding unless it is contained within the streambanks or a deed- or plat-restricted area or increases in velocity to the point where the rate of land lost to erosion and scour is significantly increased.

DAY. A work day on which county offices are open for business, exclusive of weekends and holidays, as established by the County Board.

DAY, CALENDAR. A calendar day.

DAY CARE FACILITY.

(1) Any facility which is established and maintained for the general care of children or adults. Whether established for gain or otherwise, a day care facility receives or arranges for care or placement of more than seven individuals unrelated to the operator of the facility.

(2) The term ***DAY CARE FACILITY*** includes facilities commonly called ***CHILD CARE CENTERS***, ***DAY NURSERIES***, ***NURSERY SCHOOLS***, ***ADULT DAY CARES*** and ***KINDERGARTENS*** but does not include any state operated institution for child care, any juvenile detention housing, any licensed nursing home, or any bona fide boarding school.

DECISION-MAKING BODY. The entity that is authorized to finally approve or deny an application or permit required under this chapter.

DEDICATION. The transfer of property interests from private to public ownership for a public purpose. The transfer may be of fee simple interest or of a less than fee interest, including an easement.

DEED OR PLAT RESTRICTION. Permanent easements, covenants, deed-restricted open spaces, outlots dedicated to a public entity, reserved plat areas, and conservation easements dedicated to meet the requirements of this chapter, or public road rights-of-way that contain any part of the stormwater management system of a development.

DENSITY, MAXIMUM. The maximum number of dwelling units allowed per acre of site area, after subtracting land area in regulatory floodplains, wetlands, water bodies and public rights-of-way from the base site area. See § 151.131(F).

DEPRESSIONAL STORAGE AREAS. Non-riverine depressions in the earth where stormwater collects.

DESIGN STORM. A selected storm event, described in terms of the probability of occurring once within a given number of years, for which stormwater or flood control improvements are designed and built.

DESIGNATED CAREGIVER. A person who:

(1) Is at least 21 years of age;

(2) Has agreed to assist with a patient's medical use of cannabis;

(3) Has not been convicted of an excluded offense; and

(4) Assists no more than one registered qualifying patient with his or her medical use of cannabis.

DESIGNATED EROSION CONTROL INSPECTOR.

(1) A person responsible for, at a minimum, verifying compliance and ongoing maintenance of the approved soil erosion and sediment control plan measures of a development and who is recommended to meet the minimum qualification requirements of subsections (1)(a), (1)(b), and (1)(c) as follows:

(a) Provide a one-page statement of qualifications in the areas noted below and a request to be included on the Lake County Stormwater Management Commission Designated Erosion Control Inspector qualified listing. The signed statement will be considered as evidence of qualifications.

(b) Pass the Designated Erosion Control Inspector Exam that is administered by the Lake County Stormwater Management Commission.

(c) Complete a Lake County Stormwater Management Commission-approved soil erosion and sediment control course and meet the requirements of one of the following:

1. Have an official designation as a Certified Professional in Erosion and Sediment Control (CPESC) or Certified Erosion, Sediment and Stormwater Inspector (CESSWI);

2. Two years cumulative experience in the Upper Midwest Region on soil erosion and sediment control inspections.

(2) The listing of Designated Erosion Control Inspectors shall be officially updated every three years by the Lake County Stormwater Management Commission. Continuing education requirements shall be as follows:

(a) Attendance at each annual DECI training seminars shall be sufficient for the three-year listing period.

(b) Alternatively, DECIs must attend 24 hours of work-related professional development hours within the three-year period for relisting.

(3) Documentation shall be self-monitoring and shall be provided to Lake County Stormwater Management Commission upon application for listing.

DESIGNATED EROSION CONTROL INSPECTOR EXAM. An exam that is formally adopted and administered by the Lake County Stormwater Management Commission to establish minimum qualifications for an individual to be listed as a Designated Erosion Control Inspector by the Lake County Stormwater Management Commission. Formal adoption of this exam by the Lake County Stormwater Management Commission shall include the determination of a starting date for the Designated Erosion Control Inspector Program requirements in this chapter.

DETENTION FACILITY. A man-made structure, with either a wet or dry bottom, for the temporary storage of stormwater runoff with controlled release during or immediately following a storm.

DETENTION STORAGE. The temporary detaining or storage of stormwater in reservoirs, on rooftops or other areas under predetermined and controlled conditions, with a controlled rate of discharge therefrom.

DETENTION VOLUME SAFETY FACTOR. A multiplication factor applied to a development's detention volume when the detention facility is constructed on-stream.

DEVELOPER. The legal or beneficial owner or the representative thereof, of a lot or parcel of any land proposed for inclusion in a development, including the holder of an option or contract to purchase.

DEVELOPMENT. The division of a parcel of land into two or more parcels; the construction, reconstruction, conversion, structural alternation, relocation, or

enlargement of any buildings; any use or change in use of any buildings or land; any extension of any use of land or any clearing, grading, excavation or other movement of land, for which permission may be required pursuant to this chapter. For stormwater management purposes, ***DEVELOPMENT*** includes any other activity that might change the direction, height, volume, or velocity of flood or surface water, including the drainage of wetlands and removal of vegetation to the extent such that the wetland would no longer meet the criteria of supporting hydrophytic vegetation as defined in this chapter except that which would be considered appropriate for management purposes.

DEVELOPMENTAL DISABILITY. A physical or mental impairment that substantially limits one or more of a person's major life activities, impairs his or her ability to live independently, or a record of having the impairment.

DIAMETER AT BREAST HEIGHT (DBH). A measurement of the size of a tree equal to the diameter of its trunk measured four and one-half feet above natural grade.

DIRECT DISCHARGE. Discharges of stormwater that have not passed through a detention or retention facility designed to the specification of this chapter.

DISCHARGE. The outflow of water, silt, or other mobile substances passing along a conduit, watercourse, or a channel or released from detention storage.

DOMINANT. For the purpose of this chapter, a ***DOMINANT*** plant species is one that comprises greater than 50% of the vegetated layer. The ***VEGETATED LAYER*** is defined as a subunit of a plant community in which all component species exhibit the same growth form (e.g., trees, saplings, shrubs, herbs).

DRAIN TILE. A conduit, such as corrugated plastic tubing, clay tile, or pipe, installed beneath the ground surface to collect and/or convey drainage water.

DRAINAGE. The removal of surface water or groundwater from land by drains, grading, or other means. ***DRAINAGE*** includes the control of runoff to minimize erosion and sedimentation during or after development and includes the means necessary for water supply preservation or for prevention or alleviation of flooding.

DRAINAGE AREA. The land area above a given point that contributes stormwater to that point.

DRAINAGE BASIN. Subwatershed as indicated in the Lake County Comprehensive Stormwater Management Plan.

DREDGING MATERIAL. Material, including sediments and debris, which are excavated or dredged from the bottom of lakes, rivers, ponds, channels and other water bodies.

DRIP LINE. The perimeter of the circular area surrounding the trunk of a tree measured as one foot of radius from the centerline of the trunk for each one inch of DBH.

DRIVE-IN THEATER. An outdoor movie theater designed to allow patrons to view motion pictures while seated in their parked automobiles.

DRY DETENTION FACILITY. A dry detention facility is a detention facility designed to drain completely after temporary storage of stormwater flows and to normally be dry over the majority of its bottom area.

DUPLEX. Two dwelling units within a single structure located on one lot. (See also ***TWINHOUSE***.)

DWELLING, ACCESSORY. See ***ACCESSORY DWELLING***.

DWELLING, ATRIUM HOUSE. See ***ATRIUM HOUSE***.

DWELLING, ATTACHED. See ***ATTACHED DWELLING***.

DWELLING, DETACHED. Same as ***HOUSE, DETACHED***.

DWELLING, DUPLEX. See ***DUPLEX***.

DWELLING, LOT LINE HOUSE. See ***LOT LINE HOUSE***.

DWELLING, MANUFACTURED HOME. See ***MANUFACTURED HOME***.

DWELLING, MOBILE HOME. See ***MOBILE HOME***.

DWELLING, MULTI- (STRUCTURE). See ***MULTI-DWELLING STRUCTURE***.

DWELLING, MULTIPLEX. See ***MULTIPLEX***.

DWELLING, PATIO HOUSE. See ***PATIO HOUSE***.

DWELLING, SINGLE FAMILY. A dwelling containing one dwelling unit.

DWELLING, TOWNHOUSE. See ***TOWNHOUSE***.

DWELLING, TWINHOUSE. See ***TWINHOUSE***.

DWELLING UNIT. A building or portion of it designed and used for residential occupancy by a single household and that includes exclusive sleeping, cooking, eating, and sanitation facilities. A single ***DWELLING UNIT*** shall contain no more than one set of cooking facilities. Any additional cooking facilities must be clearly accessory in nature.

DWELLING UNIT, CARETAKER'S. See ***CARETAKER'S DWELLING UNIT***.

DWELLING, VILLAGE HOUSE. See ***VILLAGE HOUSE***.

ELEVATION CERTIFICATES. A form published by the Federal Emergency Management Agency that is used to certify the elevation to which a building has been elevated.

EMERGENCY OVERFLOW. The structure in a stormwater management system designed to protect the system in event of a malfunction of the primary flow structure or a storm event greater than the system design. The ***EMERGENCY OVERFLOW*** capacity initiates at the facility design high water level or base flood elevations.

ENCLOSED, LOCKED FACILITY. A room, greenhouse, building, or other enclosed area equipped with locks or other security devices that permit access only by a cultivation center's agents or a dispensing organization's agent working for the registered cultivation center or the registered dispensing organization to cultivate, store, and distribute cannabis for registered qualifying patients.

ENGINEER. A ~~registered~~ licensed professional engineer licensed to practice in the State of Illinois.

ENGINEER OF RECORD. An engineer that designed and certified the final engineering plans or the engineer responsible for the design of engineering improvements in the subdivision and certifies those improvements.

EQUINE. A horse, pony, mule, or ass.

EROSION. The process whereby soil is removed by precipitation, flowing water, wave action, or wind.

EXCAVATION. Any act by which 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 therefrom.

EXCEPTIONAL FUNCTIONAL VALUE WETLAND. See ***WETLAND, EXCEPTIONAL FUNCTIONAL VALUE***.

FAMILY. See ***HOUSEHOLD***.

FARM ANIMALS. Any animal customarily raised on farms, including alpaca, llama, burros, cattle, bison, mink, chickens, turkeys, ducks, geese, donkeys, emus, goats, horses, mules, ostriches, swine, sheep, or lambs.

FARM HOUSING. Temporary housing that is intended to accommodate individuals primarily engaged in the occupation of agriculture. The term includes housing occupied by farm workers, farm employees or farm owners engaged in the full-time occupation of agriculture, and their families.

FARMED WETLAND. Wetlands that are farmed currently, or have been farmed within five years previous to the permit application date, as defined in 7 C.F.R. Part 12 (61 FR 47025).

FEDERAL EMERGENCY MANAGEMENT AGENCY. The Federal Emergency Management Agency and its regulations codified as 44 C.F.R. 59-79 effective as of October 1, 1986. This incorporation does not include any later editions or amendments.

FEE-IN-LIEU OF ON-SITE STORMWATER STORAGE. A fee assessed to a permit applicant used to contribute to the cost of a basin plan or floodplain study components; or other stormwater system improvements, "in-lieu-of" constructing on-site detention or for compensatory storage requirements for streambank and shoreline restoration fills of less than 200 cubic yards.

FILL. Earth, sand, gravel, rock, concrete without metal reinforcement, or other material, excluding asphalt, biodegradable material, such as wood, hazardous waste

and special waste (as determined by the Illinois Environmental Protection Agency), which is deposited, placed, replaced, pushed, dumped, pulled, transported, or moved by man to a new location.

FILLING. The act of depositing fill on land, whether submerged or not.

FILLING, DEEP. Filling of the regulatory floodplain which raises the land surface elevation above that of the base flood elevation (see also § 151.149).

FILLING, SHALLOW. Filling of the regulatory floodplain to realign contours, protect seawalls, or make yards or lands more useful which does not raise the land surface elevation above the base flood elevation (see also § 151.149).

FINAL DEVELOPMENT PLAN. The specific design of all physical planning and engineering elements necessary to develop the land in substantial compliance with the approved preliminary development plan.

FLAG. Any fabric, banner, or bunting containing distinctive colors, patterns, or symbols, used as a symbol of a government, political subdivision, or other entity.

FLOOD. A general and temporary condition of partial or complete inundation of normally dry land areas from overflow of inland or tidal waves, or the unusual and rapid accumulation of runoff of surface waters from any source.

FLOOD INSURANCE RATE MAPS. A map prepared by Federal Emergency Management Agency or U.S. Department of Housing and Urban Development that depicts the Special Flood Hazard Area within a community. This map includes insurance rate zones and regulatory floodplains and may or may not depict regulatory floodways.

FLOODPLAIN MANAGEMENT. An overall program of corrective and preventive measures for avoiding or reducing future flood damage.

FLOODPLAIN, REGULATORY. May be either riverine or non-riverine depressional areas. Except for coastal flooding effects of Lake Michigan, ~~F~~floodplain boundaries shall be delineated by projecting the base flood elevation onto the best available topography and by superimposing the Special Flood Hazard Area onto the base map. ***REGULATORY FLOODPLAINS*** include:

(1) Any riverine area inundated by the base flood where there is at least 640 acres of tributary drainage area;

(2) Any non-riverine area with a surface area of one-fourth acre or more, or with a storage volume of three-fourths acre-foot or more when inundated by the base flood; or

(3) Any area indicated as a Special Flood Hazard Area on the Federal Emergency Management Agency Flood Insurance Rate Map or Letter of Map Revision and located with the best available topographic information to be inundated by the base flood.

FLOODPLAIN STUDY. A study, formally adopted by the Lake County Stormwater Management Commission, excluding base flood determinations performed for a specific development site, that examines, analyzes, evaluates, or determines the hydraulic and

hydrologic characteristics of flood hazards for a basin or partial basin area. To be used as a regulatory instrument, the study shall, at a minimum, meet the Federal Emergency Management Agency criteria specified in Guidelines and Specifications for Flood Hazard Mapping Partners, most current version.

FLOOD-PRONE AREA. Any area inundated by the base flood, including such areas outside of the regulatory floodplain.

FLOOD-PRONE AREA. Any area inundated by the base flood.

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

FLOOD-PROOFING CERTIFICATE. A form published by the Federal Emergency Management Agency that is used to certify that a building has been designed and constructed to be structurally dry floodproofed to the flood protection elevation.

FLOOD PROTECTION ELEVATION. The base flood elevation plus two feet of freeboard.

FLOOD TABLE LAND. The land area immediately adjacent to flood-prone areas with greater than 100 acres of tributary drainage area, the elevation of which is greater than the base flood elevation by two feet or less.

FLOODWAY, REGULATORY. The channel, including on-stream lakes, and that portion of the regulatory floodplain adjacent to a channel as designated by Illinois Department of Transportation, Office of Water Resources, which is needed to store and convey the existing and anticipated future 100-year frequency flood discharge with no more than a one-tenth foot increase in stage due to the loss of flood conveyance or storage, and no more than a 10% increase in velocities. The location of the regulatory floodway shall be as delineated on the maps listed in Appendix M, as may be amended by the Federal Emergency Management Agency. Where interpretation is needed to determine the exact location of the regulatory floodway boundary, Illinois Department of Transportation, Office of Water Resources shall be contacted.

The need to preserve storage when defining the regulatory floodway will be waived by the SMC if the applicant receives approval from IDNR/OWR under 3708.60.d Floodway Construction in Northeastern Illinois.

FLOOR AREA. The sum of the gross area for each of a building's stories under roof measured from the exterior limits or faces of the structure. Parking structures providing spaces to meet minimum off-street parking standards of § 151.165 shall not be counted as ***FLOOR AREA***.

FLOOR AREA FACTOR. An intensity measurement expressed as the total floor area per net site area.

FOOTCANDLE. A unit of illumination produced on a surface, all points of which are one foot from a uniform point source of one standard candle.

FORESTED WETLAND. A wetland area with 30% or greater aerial coverage of trees. Trees referred to as woody plants that are greater than three inches in diameter at breast height (DBH) and with a height of greater than 20 feet.

FORESTRY. The clearing of forested or woodland areas, including mature woodlands and young woodlands as defined by this chapter.

FRAMEWORK PLAN. A component of the Comprehensive Plan.

FREEBOARD. An increment of height added to the base flood or other high water elevation to provide a factor of safety for uncertainties in calculations, unknown local conditions, wave actions, and unpredictable effects such as those caused by ice or debris jams.

FREEWAY. A high volume traffic corridor which, together with other freeways, carries a high proportion of total area travel with a minimum of total mileage, and to which access is partially or fully controlled, often by public purchase of access rights or by designation pursuant to state statutes.

FUNCTIONAL ASSESSMENT. An assessment of a wetlands flood storage, water quality, and other beneficial functions.

GARAGE. A structure or part thereof, designed, used, or intended to be used for the parking and storage of motor vehicles.

GARDEN CENTER. A place of business where retail and wholesale products and produce are sold to the consumer. These centers, which may include a nursery and/or greenhouses, import most of the items sold, and may include plants, nursery products and stock, fertilizers, potting soil, hardware, power equipment and machinery, hoes, rakes, shovels, and other garden and farm variety tools and utensils.

GENERAL CONSTRUCTION OR DEMOLITION DEBRIS. Non-hazardous, uncontaminated materials resulting from the construction, remodeling, repair, and the demolition of utilities, structures, and roads, limited to the following: bricks, concrete, and other masonry materials; soil; rock; wood, including non-hazardous, painted, treated, and coated wood and wood products; wall coverings; plaster; drywall; plumbing fixtures; non-asbestos insulation; roofing shingles and other roof coverings; reclaimed or other asphalt pavement; glass; plastics that are not sealed in a manner that conceals waste; electrical wiring and components containing no hazardous substances; and corrugated cardboard, piping or metals incidental to any of those materials or as defined in § 3.160(a) of the Illinois Environmental Protection Act as amended.

GLARE. The sensation produced by a bright source within the visual field that is sufficiently brighter than the level to which the eyes are adapted and which causes annoyance, discomfort, or loss of visual performance and visibility.

GOLF COURSE. An area of land laid out for the game of golf with a series of holes and including tees, greens, fairways, and often one or more natural or artificial hazards.

GOVERNMENT BUILDING (OR USE). A building or structure owned or leased by a unit of government and used by the unit of government in exercising its statutory

authority. ***GOVERNMENT BUILDINGS*** may include but shall not be limited to township and forest preserve structures, postal offices, public sewage treatment plants, public water treatment plants, fire stations, and public libraries.

GRADE, EXISTING OR NATURAL. The vertical elevation of the existing ground surface prior to excavation or filling.

GRADING. The contouring of land to a specified level or slope.

GREEN INFRASTRUCTURE. Any stormwater management technique or practice that reduces runoff volume through preserving, restoring, utilizing, or enhancing the processes of infiltration, evapotranspiration, and reuse. Approaches may include green roofs, naturalized detention facilities, trees and tree boxes, rain gardens, vegetated swales, wetlands, infiltration planters, porous and permeable pavements, porous piping systems, dry wells, vegetated median strips, reforestation/revegetation, rain barrels and cisterns, and protection and enhancement of riparian buffers and floodplain.

GREENHOUSE. An enclosed structure, permanent or portable, which is used for the growth of plants.

GREENHOUSE AND/OR NURSERY CENTER. The retail or wholesale sale of plants, as well as accessory items directly related to the maintenance and care of plant life. The accessory items normally sold are clay pots, potting soil, fertilizers, insecticides, hanging baskets, rakes, hoes and shovels, and the like. However, no power equipment, such as gas or electric lawnmowers and farm implements, may be sold wholesale or retail.

GROUND-MOUNTED SOLAR ENERGY SYSTEM. A solar energy system mounted on a rack or pole that is attached to or ballasted on the ground. ***GROUND-MOUNTED SYSTEMS*** can be either accessory or principal uses.

GROUP LIVING. Residential occupancy of a structure by a group of people who do not meet the definition of “household living”. Examples include dormitories, fraternities, sororities, monasteries, and convents.

GROUP LIVING STRUCTURE. A structure that is used as a residence for a group living use and that contains sleeping areas and one or more cooking, eating, and sanitary facilities.

GROVE. A stand of five or more individual trees whose total combined canopy covers an area of less than 20,000 square feet, at least 50% of which is composed of trees having a diameter breast height of 16 inches or more. An active commercial nursery or Christmas tree operation shall not be considered a ***GROVE***.

HEIGHT. The vertical distance between the mean elevation at finished grade along the front of a structure to the highest point of the roof.

HELIPORT. A facility constructed for the taking off and landing of helicopters.

HIGH-QUALITY AQUATIC RESOURCES (HQAR). Waters of the United States or isolated waters of Lake County that are determined to be critical due to their uniqueness, scarcity, function, and/or value as defined in Appendix N of this chapter.

HIGHWAY DESIGN MANUAL. The Design Manual or its successor document or documents, as published by the Illinois Department of Transportation in effect at the time a preliminary plat is approved.

HIGHWAY STANDARD MANUAL. The Standards Manual or its successor document or documents, as published by the Illinois Department of Transportation in effect at the time a preliminary plat is approved.

HOSPITAL. A health-medical use devoted primarily to the maintenance and operation of facilities for the diagnosis, treatment, and overnight care of individuals suffering from illness, disease, injury, deformity, or other abnormal physical, mental, or emotional conditions or afflictions.

HOSPITAL EMERGENCY HELIPORT. A facility constructed for the taking off and landing of helicopters as a means of providing medical emergency transport. This heliport shall be considered an accessory use to the hospital, shall be used exclusively in connection with the hospital, and shall be subordinate to the hospital in area, extent, and purpose.

HOTEL. A building designed for transient occupancy containing rooms or suites accessible from a common hall or entrance, providing living, sleeping and toilet facilities; individual cooking facilities, a general kitchen or a common dining room may be provided.

HOUSE, ATTACHED. Same as ***DWELLING, ATTACHED***.

HOUSE, DETACHED. A dwelling unit located on its own lot that is not attached to any other dwelling unit.

HOUSEHOLD. Any of the following:

(1) Two or more persons related to one another by blood, marriage, or legal adoption, living together as a single housekeeping unit in a dwelling unit;

(2) Up to four unrelated persons living together as a single housekeeping unit in a single dwelling unit; or

(3) Up to eight persons with disabilities and attendant support staff living together as a single housekeeping unit in a single dwelling unit.

HYDRAULICALLY EQUIVALENT COMPENSATORY STORAGE. Compensatory storage placed between the proposed normal water elevation and the proposed 100-year flood elevation. All storage lost or displaced below the existing ten-year flood elevation is replaced below the proposed ten-year flood elevation. All storage lost or displaced above the existing ten-year flood elevation is replaced above the proposed ten-year flood elevation. The additional compensatory storage required beyond a 1:1 ratio may be placed at any elevation between normal water level and the base flood elevation.

HYDRIC SOIL. A soil that is saturated, flooded, or ponded long enough during the growing season to develop an anaerobic (without oxygen) conditions in the upper part.

HYDROLOGIC AND HYDRAULIC CALCULATIONS. Engineering analysis which determines expected flood flows and flood elevations based on land characteristics and rainfall events.

HYDROLOGICALLY CONNECTED. A stormwater discharge that is tributary to a channel, wetland, lake, or pond and that has an overland flow path of less than 200 feet.

HYDROLOGICALLY DISTURBED. An area where the land surface has been cleared, grubbed, compacted, or otherwise modified to increase runoff volumes or rates, or to change runoff direction.

HYDROPHYTIC VEGETATION. Plant life growing in water, soil, or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content.

ILLICIT DISCHARGE. Any discharge or dumping of material into the stormwater management system or a flood-prone area that is not composed entirely of stormwater, except for discharges allowed under NPDES Permit No. ILR40 Part I.B.2.

ILLINOIS URBAN MANUAL. The Natural Resources Conservation Service Illinois Urban Manual. A technical manual designed for urban ecosystem protection and enhancement. This manual contains design guidance for a development site to meet the Watershed Development Ordinance performance standards for soil erosion and sediment control.

ILLUMINATED SIGN. Any sign that has characters, letters, figures, designs, or outlines illuminated by electric lights, luminous tubes, or any other artificial means as part of the sign.

ILLUMINATION, MAXIMUM PERMITTED. The maximum illumination measured in footcandles at the property line.

IMPERVIOUS SURFACE. Any hard-surfaced, man-made area that does not readily absorb or retain water, including but not limited to building roofs, parking and driveway areas, graveled areas, sidewalks, and paved recreation areas.

IMPERVIOUS SURFACE RATIO (ISR). A measure of the intensity of land use which is determined by dividing the total area of all impervious surfaces on a site by the net site area.

IMPROVEMENTS. Any man-made changes to any land or structure.

IMPROVEMENTS, PUBLIC. Any improvement necessary to provide for public needs.

INDIVIDUAL SEWAGE DISPOSAL SYSTEM. A sewage treatment and disposal system that infiltrates treated wastewater into soil; discharges wastewater to the surface where the projected daily flow is less than 1,500 gallons; or holds wastewater in a tank for removal or disposal at a remote site.

IN-KIND REPLACEMENT (CULVERT). An ***IN-KIND CULVERT REPLACEMENT*** has an equivalent cross-sectional area, shape, roughness coefficient, and inlet and outlet elevations; or the replacement may be shown to have an equivalent hydraulic capacity using appropriate engineering calculations.

INSPECT. To visit, or to review plans, or to oversee a site visit or plan review per generally accepted engineering practices.

INTERIOR LOT. See ***LOT, INTERIOR***.

INTERSECTION VISIBILITY TRIANGLE. An area formed by a point on each street center line located 100 feet from the intersection of local street center lines and a third line connecting the two points of 130 feet from the intersection of collector or higher category street center lines and a third line connecting the two points.

ISOLATED WATERS OF LAKE COUNTY. All waters such as wetlands, ponds, streams, farmed wetlands, and wetlands that are not under U.S. Army Corps of Engineers jurisdiction. The limits of the ***ISOLATED WATERS OF LAKE COUNTY*** extend to the ordinary high water mark or the delineated wetland boundary.

(1) The following are excluded from the ***ISOLATED WATERS OF LAKE COUNTY***, as determined by the Enforcement Officer:

(a) Excavations and impoundments that have received a permit from the appropriate jurisdictional authority;

(b) Excavations and impoundments permitted by right, prior to being a regulated activity, within 40% or more non-hydric soils. Areas designated as “water” as depicted on the Soil Survey of Lake County, SCS, 1970 are determined as either hydric or non-hydric soils by connecting adjoining soil boundaries to create complete polygons of the depicted soil types;

(c) Wetlands created incidental construction grading on development sites; and

(d) Road-side ditches.

(2) The following shall not be considered as meeting the exclusion criteria in subsection (1) above:

(a) All areas meeting the definition of high-quality aquatic resources, other than areas meeting exclusions (1)(a) or (1)(d);

(b) Wetland mitigation areas created to meet the requirements of this chapter or § 404 of the Clean Water Act; and

(c) Wetland areas created or restored using public funds.

JUNK YARD. Any land or structure, exclusive of recycling centers, used for a salvaging operation, including, among other things, the storage and sale of waste paper, rags, scrap metal, and discarded materials, or the dismantling, storage, and salvaging of unlicensed, inoperative vehicles.

KENNEL. A location where the number of dogs or any other animal, except for farm animals, exceeds the residential pet limits established by the Lake County Health Department, or any place in or at which dogs or any other animals, except farm animals, are kept on a regular basis for the purpose of sale or in connection with boarding, training, care, or breeding or adoption.

LANDSCAPE ARCHITECT. A person with a degree in landscape architecture from an accredited university or college.

LANDSCAPE CONTRACTOR. A business principally engaged in the decorative and functional alteration, planting and maintenance of grounds. The business may engage in the installation and construction of underground improvements but only to the extent that the improvements (e.g., irrigation or drainage facilities) are accessory to the principal business and are necessary to support or sustain the landscaped surface of the ground.

LANDSCAPE WASTE. All accumulations of grass or shrubbery cuttings, leaves, tree limbs and other materials accumulated as the result of the care of lawns, shrubbery, vines, and trees.

LANDSCAPE WASTE COMPOSTING FACILITY. An establishment for the composting of waste materials accumulated as the result of the care of lawns, shrubbery, vines, and trees. However property on which the principal use is residential and on which composting of these materials, accumulated exclusively on-site, is conducted, shall not be considered a ***LANDSCAPE WASTE COMPOSTING FACILITY***.

LETTER OF MAP AMENDMENT. Official determination by Federal Emergency Management Agency that a specific structure is not in a Special Flood Hazard Area, amends the effective Flood Hazard Boundary Map or Flood Insurance Rate Map.

LETTER OF MAP REVISION. A letter issued by Federal Emergency Management Agency or Illinois Department of Transportation, Office of Water Resources that revises base flood elevations, flood insurance rate zones, flood boundaries, or regulatory floodways as shown on an effective Flood Hazard Boundary Maps or Flood Insurance Rate Maps.

LETTER OF NO IMPACT (LONI). Written confirmation from Lake County Stormwater Management Commission or isolated wetland certified community that no wetland impacts will occur from a proposed development, based on a review of plans or other applicable information provided by the applicant as specified in this chapter.

LIMIT OF MODERATE WAVE ACTION (LiMWA). A line shown on a Flood Insurance Rate Map to indicate the inland limit of the 1.5-ft breaking wave height during the base flood.

LINEAR WATER BODY. A natural or artificial watercourse that periodically or continuously contains moving water, or that forms a connecting link between two or more bodies of water. ***LINEAR WATER BODIES*** have a definite bed and banks that serve to confine the water and include any river, stream, creek, brook, branch, flowage, ditch, conduit, culvert, gully, ravine, swale, wash, or natural or man-made drainageway, in or into which surface water or groundwater flows, either perennially or intermittently. Roadside drainage ditches, conveyance systems between on-site detention facilities and excavated detention facilities are not ***LINEAR WATER BODIES***. ***LINEAR WATER BODIES*** are also known as ***CHANNELS***. For the purposes of §§ 151.145 through 151.154 only, the terms ***LINEAR WATER BODY*** and ***NONLINEAR WATER BODY*** are interchangeable.

LIQUID EQUIVALENT PRECIPITATION. The amount of precipitation, including any frozen precipitation in its melted state (e.g., snow, sleet, freezing rain). With varying densities of frozen precipitation, the liquid equivalent precipitation indicates the actual amount of water that falls in a storm event, regardless of the type of precipitation.

LIVESTOCK. Animals that are customarily kept for producing food or fiber.

LOCAL FOOD GARDEN. A parcel or any portion thereof, managed and maintained by a person or group of persons, for the growing and harvesting of food products and/or ornamental plants, exclusive of those agricultural uses that require large-scale mechanized equipment not customarily used for residential gardening.

LOCAL FOOD PRODUCTION. The practice of producing food for the purposes of consumption or sale at a local market, such as growing vegetables and fruits and raising livestock. ***LOCAL FOOD PRODUCTION*** also includes the growing of vegetables and fruits and the keeping of chickens or bees, as a residential accessory use.

LOCAL STREET. See ***STREET, LOCAL***.

LOT. A single legally divided parcel of land.

LOT AREA. The area contained within the boundary lines of a lot, excluding any street, easement for street purposes, or street right-of-way.

LOT, CORNER. A lot abutting on two streets at their juncture.

LOT, DOUBLE-FRONTAGE. A lot abutting on two parallel streets, or abutting on two intersecting streets at points removed from their juncture.

LOT, INTERIOR. A lot other than a corner lot.

LOT LINE. A line bounding a lot which divides one lot from another or from a street or any other public or private space.

LOT LINE, FRONT. The part of the entire interior lot abutting the street or that part of a corner lot extending across the narrowest part of the lot abutting the street. Double frontage lots have two ***FRONT LOT LINES***.

LOT LINE HOUSE. A dwelling unit that is located on its own lot, not attached to any other dwelling unit and set on or within five feet of the interior side lot line.

LOT LINE, REAR. The lot line which is parallel to and most distant from the front lot line; in the case of a triangular or an irregular lot, a line 20 feet in length, entirely within the lot, parallel to and at the maximum possible distance from the front lot line shall be considered to be the ***REAR LOT LINE***.

LOT LINE, SIDE. Any lot line other than a street or rear lot line.

LOT LINE, STREET. In the case of a lot abutting only one street, the lot line separating a lot from the street; in the case of a corner lot, each lot line separating the lot from a street; in the case of a double frontage lot, each lot line separating the lot from a street shall be considered to be the ***STREET LOT LINE***.

LOT, PANHANDLE. A lot resulting from the division of a tract of land that, before its division, did not have sufficient width on a street to create more than one lot abutting the street but had sufficient area and depth to be divided into more than one buildable lot.

LOT WIDTH. The horizontal distance between side lot lines. ***LOT WIDTH*** shall be measured between side lot lines at the required front setback line. (See also § 151.131(B).)

LOT, ZONING. A parcel of land comprised of one or more recorded lots that are contiguous and under the same ownership and in the same zoning district; occupied or intended to be occupied by a principal building or buildings, or principal use or uses, along with permitted accessory buildings or uses; and meeting all of the requirements for area, buildable area, frontage, width, setbacks, and any other requirements set forth in this chapter. Lots separated by streets or alleys shall not be considered contiguous for the purposes of this definition.

LOW-FREQUENCY SOUND. Sound with frequencies below 100 Hz, including audible sound and infrasound, as opposed to broadband which has sound frequencies above 100 Hz. Infrasound has frequencies below 20 Hz, which if sufficiently intense, can be perceived by many individuals, and must be measured by a sound level meter using the C-weighted scale.

LOW OPENING ELEVATION. The elevation at which water could enter a structure through any non-watertight opening such as a doorway threshold, a window sill, or a basement window well.

LOWEST ADJACENT GRADE. The lowest finished grade adjacent to a structure~~, not including the bottom of window wells~~.

LOWEST FLOOR. Lowest floor of the lowest enclosed area, including basement. An unfinished or flood resistant enclosure, usable solely for parking of vehicles, or building access in an area other than a basement area is not considered a building's lowest floor; provided, that the requirements of § 151.149(H) are met.

LUMINAIRE. A complete lighting unit consisting of a light source and all necessary mechanical, electrical, and decorative parts.

LUMINAIRE, CUTOFF-TYPE. A luminaire with elements such as shields, reflectors, or refractor panels which direct and cut off the light at a cutoff angle that is less than 90 degrees.

MAINTAINABLE OUTLET. A stormwater conveyance system (such as a storm sewer or overland flow path) that provides positive drainage to a natural watercourse or stormwater management system. The natural watercourse or stormwater management system shall have adequate downstream capacity. Stormwater management systems shall be within a recorded drainage easement or right-of-way.

MANUFACTURED HOME. A dwelling manufactured off-site which complies with the provisions of the 2012 International Residential Code (see Chapter 150).

MARINA. A boat basin and recreational facility, located on waterfront property or having direct water access, providing moorings for boats, and one or more of the following facilities: boat launching ramps, boat livery, boat sales, maintenance shops, marine supply store, and fuel dock.

MATURE WOODLAND. See ***WOODLAND, MATURE***.

MAXIMUM EXTENT PRACTICABLE (MEP).

(1) For the purposes of this chapter, the maximum extent practicable (MEP) is defined as the highest level of Runoff Volume Reduction (RVR) that is achievable for the development as determined by the applicant and approved by the Planning, Building and Development Director (see Appendix R for runoff volume reduction quantities). The MEP RVR quantitative standard for the development shall not be required to exceed the minimum performance standards identified in § 151.146(D). For public road developments, the MEP shall not necessitate the need to acquire right-of-wav or deed and plat restricted areas outside of the right-of-way.

(2) In making the determination that the RVR quantitative standard for the development is the MEP, the following objectives should be considered, when applicable, including, but not limited to:

(a) Prevention or reduction of existing, adjacent flood-related problems;

(b) Examination of adequate downstream capacity from the development;

(c) Preservation of existing wetland hydrology;

(d) Protection of adjacent streams from degradation due to increased volumes and prolonged bankfull flows;

(e) Minimization of off-site water quality impacts;

(f) Enhancements of aquifer recharge on-site;

(g) Evaluate geographic features of the site (e.g., topography, soil structure, natural resources);

(h) Utilize best available and feasible technology;

(i) Maximize performance of the design; and

(j) Provide for sustainability through maintenance and management of the installed practices.

MEDIAN FAMILY INCOME. As defined by the U.S. Department of Housing and Urban Development.

MEDICAL CANNABIS INFUSED PRODUCT. Food, oils, ointments, or other products containing usable cannabis that are not smoked.

MEDICAL CANNABIS CONTAINER. A sealed, traceable, food compliant, tamper resistant, tamper evident container or package used for the purpose of containment of medical cannabis from a cultivation center to a dispensing organization.

MEDICAL CANNABIS CULTIVATION CENTER (CULTIVATION CENTER). A facility operated by an organization or business that is registered by the Illinois Department of Agriculture to perform necessary activities to provide only registered medical cannabis dispensing organizations with usable medical cannabis.

MEDICAL CANNABIS DISPENSING ORGANIZATION (DISPENSING ORGANIZATION, DISPENSARY ORGANIZATION, DISPENSARY). A facility operated by an organization or business that is registered by the Illinois Department of Financial and Professional Regulation to acquire medical cannabis from a registered cultivation center for the purpose of dispensing cannabis, paraphernalia, or related supplies and educational materials to registered qualifying patients.

MINIMUM FLOOR ELEVATION. The lowest elevation permissible for the construction, erection, or other placement of any floor, including a basement floor.

MINI-WAREHOUSE. See ***WAREHOUSE, MINI***.

MITIGATION. Measures taken to eliminate or minimize damage from development activities, such as construction in wetlands or regulatory floodplain filling, by replacement of the resource or other means of compensation.

MOBILE HOME. A transportable, factory-built structure that was manufactured prior to enactment of the federal Manufactured Housing Construction and Safety Standards Act of 1974 (42 U.S.C. § 5401) or a manufactured home build subsequent to and in compliance with the federal Manufactured Housing Construction and Safety Standards Act of 1974 (42 U.S.C. § 5401) and that is designed to be used as a single dwelling unit.

MOBILE HOME PARK. A contiguous parcel of land which has been developed for the placement of mobile homes and is owned in its entirety by an individual, a firm, trust, partnership, public or private association or corporation.

MODERATE WAVE ACTION AREA (MoWA). A special flood hazard area subject to the potential for breaking wave heights of greater than or equal to 1.5 feet, but less than 3 feet, where the primary source of flooding is astronomical tides, storm surges, seiches, and/or tsunamis. A MoWA is an area within zone AE on a FIRM that is between the inland limit of zone VE and a Limit of Moderate Wave Action, where identified. (Also known as “Coastal A zone”)

MOTEL. A building designed for transient occupancy containing rooms or suites with separate entrances, providing living, sleeping, and toilet facilities. Individual cooking facilities may be provided.

MULTI-DWELLING (STRUCTURE). A structure that contains more than eight dwelling units that share common walls or floor/ceilings with one or more units. The land underneath the structure is not divided into separate lots. ***MULTI-DWELLING*** includes structures commonly called apartments and condominiums. (See also ***MULTI-DWELLING STRUCTURE*** standards of § 151.130.)

MULTIPLEX. An attached dwelling or a stacked dwelling containing no fewer than three and no more than eight dwelling units within a single building, each (building) of

which is located on its own individual lot. (See also ***MULTIPLEX*** standards of § 151.130.)

NATIVE VEGETATION (OR PLANT SPECIES). Plant species grown in the Chicago region, specifically this county, prior to European settlement of the region. (See Plants in the Chicago Region, Indiana Academy of Sciences.)

NATURAL. When used in reference to streams, channels, and linear water bodies, means those streams, channels, and linear water bodies formed by the existing surface topography of the earth prior to changes made by man. A modified stream, channel, or linear water body that has regained ***NATURAL*** characteristics over time as it meanders and reestablishes vegetation may be considered ***NATURAL***.

NATURAL RESOURCES. All areas of wetlands, floodplains, linear and nonlinear water bodies, woodlands, and significant trees, as defined in this chapter.

NET SITE AREA. The buildable portion of a lot, as calculated in accordance with § 151.070(D).

NGVD. National Geodetic Vertical Datum of 1929. Superseded by NAVD 88, effective September 18, 2013.

NIGHTCLUB. An establishment serving liquor and/or food while providing space for music, dancing, floor shows, or comedy acts. A ***NIGHTCLUB*** shall not include activities or uses as defined by this chapter as an ***ADULT ENTERTAINMENT ESTABLISHMENT***.

NOISE. Sound that adversely affects the psychological or physiological well-being of people.

NON-COMMERCIAL MESSAGE. Any sign, wording, logo, or other representation that directly or indirectly expresses, conveys, or calls attention to political, religious, social, or other non-commercial information, sentiments, or beliefs, but not including incidental sign messages.

NON-CUSTOMARY RECREATIONAL STRUCTURE. A recreational structure intended for the private use of occupants of a principal dwelling and their guests. Examples of ***NON-CUSTOMARY RECREATIONAL STRUCTURES*** include but are not limited to skateboard/bike ramps, sports courts, and ice rinks.

NONLINEAR WATER BODY. A natural or artificial body of water that retains water year-round, other than a linear water body, such as depressional ponded areas, lakes, and sloughs. For the purposes of §§ 151.145 through 151.154 only, the terms ***LINEAR WATER BODY*** and ***NONLINEAR WATER BODY*** are interchangeable.

NON-PARTICIPATING PROPERTY. A different property that is not owned by the owner of the property on which a development is being proposed or installed.

NONRESIDENTIAL ZONING DISTRICT. All zoning districts except those classified as residential zoning districts. See Residential Zoning District.

NON-RIVERINE REGULATORY FLOODPLAIN. Regulatory floodplains not associated with streams, creeks, or rivers, such as isolated depressional storage areas or lakes.

NRI. Natural resources information report, as required by Illinois Statutes, 70 ILCS 405/22.02a.

NURSERY. A place where the primary activity is the growing of plants, flowers, trees, and shrubs for sale.

ON-STREAM DETENTION. Any detention facility that has off-site tributary drainage area.

OPEN SPACE RATIO. A ratio derived by dividing open space by the net site area.

OPEN WATERS. Permanently inundated isolated waters of Lake County that are greater than three feet in depth below the normal water level or normal pool elevation.

ORDINARY HIGH WATER MARK. The point on the bank or shore at which the presence and movement of surface waters are continuous so as to leave a distinctive mark, such as by erosion, destruction, or prevention of terrestrial vegetation, predominance of aquatic vegetation, or other recognized characteristics.

OVERLAND FLOW PATH. An area of land which conveys stormwater for all events up to and including the base flood event. The ***OVERLAND FLOW PATH*** can be estimated using readily available topographic information and shall take into account all on-site and off-site tributary areas in accordance with § 151.146(H).

OWNER. The person having the right of legal title or beneficial interest in or a contractual right to purchase a parcel of land. For the purpose of providing notices required by this chapter, the ***OWNER*** is the person who last paid taxes on any parcel as identified by county property tax records.

OWNERSHIP PARCEL. Any legally described parcel of land. This includes contiguous lots or parcels of land, owned in whole, or in part, by the same property owner.

PARCEL. Any legally described piece of land.

PARCEL IDENTIFICATION NUMBER. Permanent index number used to identify properties for tax assessment.

PARK, COMMERCIAL. Any park or recreation area for which an admission fee is charged.

PARK, COMMUNITY. Any non-commercial recreation area or park created as part of, or within the area covered by, a county approved subdivision plat.

PARK, NON-COMMERCIAL. A park or recreation area that is open to public and for which no fee is charged.

PASTURE. An area of grass or other vegetative cover grown for the purpose of grazing animals.

PATIO HOUSE. A dwelling unit located on its own lot that may be attached to or detached from other dwelling units. A ***PATIO HOUSE*** lot is enclosed by a solid wall located at the lot line, broken only by driveways and pedestrian access points, thus creating a private yard area between the house and the wall. (See also the ***PATIO HOUSE*** standards of § 151.130.)

PEAK FLOW. The maximum rate of flow of water at a given point in a channel, watercourse, or conduit resulting from a specified storm or flood.

PEDESTRIANWAY. A right-of-way designated for use by pedestrian traffic.

PENNANT. Any lightweight plastic, fabric, or other material, whether or not containing a message of any kind, suspended from a rope, wire, or string, usually in series, designed to move in the wind.

PERMITTEE. Any person to whom a permit is issued.

PERSON. Any individual, public or private firm or corporation, 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.

PLAT. Plat of subdivision, whether preliminary or final.

POND. A natural or artificial body of water of less than two acres that retains water year-round.

PRINCIPAL BUILDING. See ***BUILDING, PRINCIPAL***.

PRINCIPAL USE. See ***USE, PRINCIPAL***.

PRIVATE CLUB. See ***CLUB, PRIVATE***.

PRIVATE STABLE. See ***STABLE, PRIVATE***.

PROTECTED USE. Any of the following:

(1) A church, synagogue, mosque, or other place of worship;

(2) A public or private nursery, elementary, or secondary school;

(3) A child care facility, licensed by the Illinois Department of Children and Family Services;

(4) A public park, playground, playing field, forest preserve, or other recreational area;

(5) A public or private cemetery; or

(6) A public housing facility.

PUBLIC BODIES OF WATER. All open public rivers, streams, and lakes specifically designated by Illinois Department of Transportation, Office of Water Resources, that are capable of being navigated by watercraft, in whole or in part, for commercial uses and purposes, or which in their natural condition were capable of being improved and made

navigable, or that are connected with or discharged their waters into navigable lakes or rivers within, or upon, the borders of the State of Illinois, together with all bayous, sloughs, backwaters, lakes that are open to the main channel or body of water and directly accessible thereto.

PUBLIC FLOOD CONTROL PROJECT. A flood control project within a deed- or plat-restricted area, which will be operated and maintained by a public agency to reduce flood damages to existing buildings or structures. A land stewardship not-for-profit corporation or other similar entity may also own, operate or maintain a ***PUBLIC FLOOD CONTROL PROJECT***. In this circumstance, there shall also be an executed agreement with a public agency to take over ownership, operation or maintenance if the corporation dissolves or fails to meet the operation, and maintenance requirements for the project area. The project shall include a hydrologic and hydraulic study of the existing and proposed conditions of the watershed area affected by the project. Nothing in this definition shall preclude the design, engineering, construction, or financing, in whole or in part, of a flood control project by persons or parties who are not public agencies.

PUBLIC PARK. Park, noncommercial.

PUBLIC ROAD DEVELOPMENT. Any development activity which takes place in a public right-of-way, or part thereof, that is administered and funded in whole or in part, by a public agency under its respective roadway jurisdiction. Rehabilitative maintenance and in-kind replacement are considered to be a ***PUBLIC ROAD DEVELOPMENT*** if located in a regulatory floodplain. A ***PUBLIC ROAD DEVELOPMENT*** located within a regulatory floodway and which has been approved by the Illinois Department of Transportation, Division of Highways (IDOT/DOH), Bureau of Local Roads and Streets is exempt from the hydraulic analysis requirements of this chapter. Individual recreational trail systems being constructed that are not part of another development project and linear railroad development projects shall be considered ***PUBLIC ROAD DEVELOPMENTS*** with respect to the requirements of this chapter.

PUBLICLY DEDICATED ROAD RIGHT-OF-WAY. Any street which is dedicated for public road purposes.

RATED NAMEPLATE CAPACITY. The maximum rated output of electric power production of the photovoltaic system in watts of direct current (DC).

REAR LOT LINE. See ***LOT LINE, REAR***.

REAR SETBACK. See ***SETBACK, REAR***.

REASONABLY FEASIBLE ALTERNATIVE. An option that does not involve physical or economic hardships that would render a development project infeasible and that is not unreasonable in the determination of the Planning, Building and Development Director.

RECONSTRUCTION. The act of rebuilding a structure.

RECORD DRAWINGS. Construction drawings revised to show significant changes made during the construction process, usually based on marked-up prints, drawings and other data furnished by the contractor to the Enforcement Officer.

RECREATIONAL VEHICLE. A vehicle that is built on a single chassis and that has a total area of 400 square feet or less when measured at the largest horizontal projection. The vehicle must be designed to be self-propelled or permanently towable by a light-duty truck. Furthermore, the vehicle must be designed solely for recreation, camping, travel, or seasonal use rather than as a permanent dwelling. ***TRAVEL TRAILER***, ***MOTOR-HOME***, ***CAMPING TRAILER***, and ***PICKUP COACH*** are deemed synonymous with ***RECREATIONAL VEHICLE***. ***RECREATIONAL VEHICLES*** must be road-ready at all times when located within the floodplain.

RECREATIONAL VEHICLE PARK. A parcel on which campsites are established for occupancy by recreational vehicles of the general public as temporary living quarters for purposes of recreation or vacation.

RECREATIONAL VEHICLE, ROAD-READY. A recreational vehicle that is on its wheels or a jacking system and is attached to the site only by quick-disconnect type utilities and security devices. The hitch must remain on the vehicle at all times, and the vehicle's wheels must remain on its axles, with tires inflated.

RECYCLING CENTER. A land use devoted to the receipt, separation, storage, baling, conversion, and/or processing of recyclable materials.

REGULATORY FLOODPLAIN. See ***FLOODPLAIN, REGULATORY***.

REGULATORY FLOODWAY. See ***FLOODWAY, REGULATORY***.

REHABILITATIVE MAINTENANCE (ROADWAY). Repair or maintenance that does not increase the traffic lanes and does not involve changes to the roadway elevation.

REPAIR, REMODELING, OR MAINTENANCE. Activities which do not result in any increases in the outside dimensions of a building or any changes to the dimensions of a structure.

REPETITIVE LOSS. Flood-related damages sustained by a structure on two separate occasions during a ten-year period for which the cost of repairs at the time of each flood event on the average equals or exceeds 25% of the market value of the structure before the damage occurred.

RESIDENTIAL PROPERTY. Any lot or other tract of land zoned in any of the following zoning districts: RE, E, R-1, R-2, R-3, R-4, R-5, R-6, and RR.

RESIDENTIAL ZONING DISTRICT. Any RE, E, R-1, R-2, R-3, R-4, R-5, R-6, and RR Zoning District.

RESTAURANT, CLASS "A" (i.e., "FAST FOOD"). A restaurant which exhibits any three or more of the following characteristics:

(1) Provides drive-through service,

(2) Sells prepared food ready to carryout,

(3) Holds no county liquor license,

(4) Does not accept dining reservations, or

(5) Little or no advertising on an individual establishment basis.

RESTAURANT, CLASS "B" (i.e., "FAST CASUAL"). A restaurant which exhibits any three or more of the following characteristics:

(1) Limited service or self-service format,

(2) Significant portion of sales are carryout orders,

(3) Holds a county-issued Class E county liquor license,

(4) Does not accept dining reservations, or

(5) Does little or no advertising on an individual establishment basis.

RESTAURANT, CLASS "C" (i.e., "FULL SERVICE"). A restaurant which exhibits any three or more of the following characteristics:

(1) Full table service is available,

(2) Holds a county-issued Class A, B, or E liquor license,

(3) Meeting and/or banquet facilities incidental to the principal use are available,

(4) Provides carryout in addition to full table service, or

(5) Advertising primarily on an individual establishment basis.

RETAINING WALL. A structure used to accommodate a vertical grade change over a short horizontal distance.

RETENTION FACILITY. A facility designed to completely retain a specified amount of stormwater runoff without release except by means of evaporation, infiltration, or pumping.

REVIEW BODY. The entity that is authorized to recommend approval or denial of an application or permit required under this chapter.

REVIEWING AGENCY. Any of the following agencies or individuals:

(1) Cable television company;

(2) County Board district member;

(3) Electric company;

(4) Fire Department/protection district;

(5) Gas company;

(6) Illinois Department of Natural Resources;

(7) Illinois Department of Transportation;

(8) J.U.L.I.E.;

(9) Lake County Forest Preserve District;

(10) Lake County Map Services;

(11) Local postmaster;

(12) Mayor/president of all municipalities within a one and one-half-mile radius of the subject property;

(13) METRA and PACE;

(14) Planning Building and Zoning Committee members;

(15) Regional Superintendent of Schools;

(16) Soil and Water Conservation District;

(17) Sanitary District;

(18) Lake County Stormwater Management Commission;

(19) Superintendent, grade school district;

(20) Superintendent, high school district;

(21) Telephone company;

(22) Township Assessor;

(23) Township Highway Commissioner;

(24) Township Supervisor; and

(25) Water District.

RIGHT-OF-WAY. A strip of land occupied or intended to be occupied by a street, crosswalk, railroad, sanitary or storm sewer, electric transmission line, oil or gas pipeline, or for any other similar use as may be designated.

RIGHT-OF-WAY, ULTIMATE. The full width of right-of-way, as identified in Appendix B or as shown on transportation plans that have been adopted by the County Board, whichever width is greater.

RIVERINE. Relating to, formed by, or resembling a stream (including creeks and rivers).

ROAD. An approved place or way, however designated, for vehicular travel which affords principal means of access to abutting property, or other street.

ROADSIDE DITCHES. Drainage ditches within 25 feet from the edge of the outside travel lane.

RODEO. A public exhibition of cowboy skills, such as but not limited to bronco- and bull-riding, steer-wrestling, calf-roping and barrel racing.

ROOF-MOUNTED SOLAR ENERGY SYSTEM. A solar energy system that is fastened to or ballasted on a building roof. ***ROOF-MOUNTED SYSTEMS*** are accessory to the principal use.

SCHOOL. A place or institution that is recognized by the State Board of Education and provides basic education at the primary, elementary, middle, junior high, or high school level.

SCHOOL, PRIVATE. Any school that is not recognized by the State Board of Education. ***PRIVATE SCHOOLS*** may include but shall not be limited to business schools, trade schools, art schools, dance schools, or schools in other similar fields.

SEASONAL SALE OF FARM PRODUCE. A temporary use of land involving the retail sale of agricultural produce primarily grown on-site.

SEDIMENTATION. The process that deposits soils, debris, and other materials either on other ground surfaces or in bodies of water or watercourses.

SEMI-NUDE. A state of dress or undress in which clothing covers no more than the genitals, pubic region, and areola of the female breast, as well as portions of the body covered by supporting straps or devices or by other minor accessory apparel such as hats, gloves, and socks.

SERVICE STATION. An establishment providing retail sales of vehicle fuels which may also provide such services as lubrication, oil and tire changes, and minor repairs. This use does not include paint spraying or body repair.

SETBACK, REAR. A setback extending the full width of the lot in the area between the rear lot line and the rear building line.

SETBACK, SIDE. A setback extending the full length of the lot in the area between a side lot line and a side building line.

SETBACK, STREET. A setback extending the full width of a lot between the street lot line and a building line.

SEWER. Unless otherwise expressly stated, ***SEWER*** means a closed conduit for conducting sanitary sewage.

SHADOW FLICKER. The on-and-off strobe light effect caused by the shadow of moving blades cast by the sun passing above or behind the turbine.

SHADOW FLICKER INTENSITY. The difference or variation in brightness at a given location in the presence and absence of a shadow.

SHOOTING RANGE, OUTDOOR. An area of land reserved or designed for the aiming and discharge of firearms at inanimate targets.

SHOPPING CENTER. A group of commercial establishments planned, developed, and managed as a unit and having in excess of 100,000 square feet of floor area.

SHOPPING CENTER, REGIONAL. A shopping center having in excess of 500,000 square feet of floor area.

SHORELINE. The area of land adjacent to a wetland, lake, pond, or channel.

SIDE LOT LINE. See ***LOT LINE, SIDE***.

SIDE SETBACK. See ***SETBACK, SIDE***.

SIGN. Any device, fixture, placard, or structure that uses any color, form, graphic, illumination, symbol, or writing to advertise, announces the purpose of, or identify the purpose of a person or entity, or to communicate information of any kind to the public.

SIGN, ANIMATED. Any sign that uses movement or change of lighting to depict action or create a special effect or scene.

SIGN, BENCH. Any sign that is part of, or affixed to, a bench, including but not limited to a sidewalk bench, park bench, or a bench at a bus stop or railroad station.

SIGN, BUILDING. Any sign attached to any section of a building, as contrasted to a freestanding sign. ***BUILDING SIGNS*** include but are not necessarily limited to the following: banners, building markers, canopy signs, identification signs, incidental signs, projecting signs, residential signs (some), roof signs, temporary signs, wall signs, and window signs.

SIGN, CANOPY. Any sign that is a section of or attached to an awning, canopy, or other fabric, plastic, or structural protective cover over a door, entrance, window, or outdoor service area. A marquee is not a ***CANOPY***.

SIGN, CHANGEABLE COPY. A sign or portion thereof with characters, letters, or illustrations that can be changed or rearranged without altering the face or the surface of the sign. The term ***CHANGEABLE COPY SIGN*** expressly excludes animated signs, time/temperature signs, and electronic message boards.

SIGN, CONSTRUCTION. A temporary sign indicating that construction is occurring on that zoning lot.

SIGN, DIRECTIONAL. A sign indicating only the name of a business or activity and the distance or directions to the business or activity.

SIGN, ELECTION. A sign concerning a concurrent election.

SIGN, ELECTRONIC MESSAGE BOARD. A sign or component of a sign that uses changing lights to form a message or series of messages that are electronically programmed or modified by electronic processes.

SIGN, ENTRANCE. A freestanding or wall sign located at the entrance of a subdivision, office park, park or forest preserve, providing only the name and/or location of that activity.

SIGN, FLASHING. A sign, the illumination of which is not kept constant in intensity at all times when in use, and which exhibits sudden or marked changes in lighting effects. Electronic message boards and time/temperature signs that are operated in accordance with all applicable regulations shall not be considered ***FLASHING SIGNS***.

SIGN, FREESTANDING. A sign not attached to a building or structure other than its own support, supported by one or more columns, uprights or braces in or upon the ground. Includes ground-mounted monument signs, pylon signs, and pole signs.

SIGN, IDENTIFICATION. A sign bearing the address of the premises and/or the name of its occupant but containing no logo and no commercial message.

SIGN, INCIDENTAL. A sign, generally informational, that has a purpose secondary to the use of the lot on which it is located, such as “no parking”, “***INCIDENTAL***.

SIGN, INSTITUTIONAL. A sign identifying or advertising an institutional or business use permitted in a residential district, where the sign is located on the same premises as the use.

SIGN, INTEGRAL ROOF. Any sign erected and constructed as an integral or essential integral section of a normal roof structure of any design, so that no section of the sign extends vertically above the highest portion of the roof and so that no section of the sign is separated from the rest of the roof by a space of more than six inches.

SIGN, MERCHANDISE DISPLAY. A sign that is an integral part of a product display rack (also known as ***POINT-OF-PURCHASE SIGN***).

SIGN, NON-COMMERCIAL, NOT OTHERWISE CLASSIFIED. A sign containing a non-commercial message, either political or personal; provided that a sign concerning a concurrent election shall be considered a temporary election sign.

SIGN, PORTABLE. Any sign not permanently attached to the ground or other permanent structure or a sign designed to be transported, including but not limited to signs designed to be transported by means of wheels; signs made as A-frames or T-frames; menu and sandwich board signs; balloons used as signs; umbrellas used for commercial messages; and signs attached to or painted on vehicles parked and visible from the public right-of-way, unless the vehicle is used in the normal day-to-day operations of the business.

SIGN, PROJECTING. Any sign attached to a building wall and extending laterally more than 18 inches from the face of the wall.

SIGN, RESIDENTIAL. Any sign located in a district zoned for residential uses that contains no commercial message.

SIGN, ROOF. A sign that is placed above or supported on the top of a building.

SIGN, SUSPENDED. A sign that is suspended from the underside of a horizontal plane surface and is supported by that surface.

SIGN, TEMPORARY. Any sign that is used only temporarily and is not permanently mounted.

SIGN, TIME/TEMPERATURE. Any sign indicating the time and/or temperature.

SIGN, VEHICLE. A sign attached to an operable vehicle licensed to operate on the public streets. Any sign attached to an inoperable or unlicensed vehicle or any sign attached to a vehicle that is regularly parked for more than 72 hours in a location conspicuously visible from a public street shall be deemed a portable sign.

SIGN, WALL. Any sign attached parallel to, but within six inches of a wall, painted on the wall surface, or erected and confined within the limits of an outside wall of any building or structure, which is supported by the wall or building, and which displays only one sign surface.

SIGN, WINDOW. Any sign that is placed inside a window or upon the window panes or glass and is visible from the exterior of the window.

SIGNIFICANT TREES. Trees (other than those listed as prohibited or noxious species) with a diameter at breast height of 24 inches or greater that are not included in any young woodland or mature woodland area.

SITE. A parcel of land for which a permit is issued pursuant to this chapter.

SITE DEVELOPMENT PERMIT. A permit issued by the Lake County Planning, Building and Development Department for the alteration or construction of ground improvements and structures for the control of erosion, runoff, and grading.

SITE DEVELOPMENT PLAN. A plan prepared by an engineer that shows the method, control, and implementation of erosion control measures, stormwater runoff, and/or grading of lands for the construction of buildings and other necessary improvements.

SMC WETLAND RESTORATION FUND. A fund that is administered and implemented for wetland impact mitigation that is approved and adopted by the Lake County Stormwater Management Commission.

SOIL SURVEY. The latest issue and amendments thereto of a publication entitled Soil Survey of Lake County, Illinois prepared by the U.S. Department of Agriculture, Soil Conservation Service, in cooperation with Illinois Agriculture Experiment Station.

SOLAR ARRAY. A group of solar panels wired together. An ***ARRAY*** consists of multiple solar modules (solar panels).

SOLAR ENERGY SYSTEM. A device or structural design feature to provide for the collection, storage, and distribution of solar energy for space heating or cooling, electricity generation, or water heating.

SOLAR ENERGY SYSTEM, LARGE-SCALE. A ground-mounted solar energy system that occupies at least 40,000 square feet of surface area (equivalent to a rated nameplate capacity of about 250kW DC or greater).

SOLAR ENERGY SYSTEM, MEDIUM-SCALE. A ground-mounted solar energy system that occupies more than 1,750 square feet but less than 40,000 square feet of surface area (equivalent to a rated nameplate capacity of about 10 to 250 kW DC).

SOLAR ENERGY SYSTEM, SMALL-SCALE. A ground-mounted solar energy system that occupies 1,750 square feet of surface area or less (equivalent to a rated nameplate capacity of about 10 kW DC or less).

SOLAR PANEL. A device that is used to convert radiant solar energy into electrical current.

SOUND FREQUENCY. The number of oscillations per second in hertz (Hz). How we perceive sound is partly dependent on what the frequency is. High frequency sound has more oscillations per second, whereas low frequency sound has fewer.

SOUND LEVEL. The A-weighted sound pressure level in decibels (dB) (or the C-weighted level if specified) as measured using a sound level meter that meets the requirements of a Type 2 or better precision instrument according to ANSI S1.4. The average ***SOUND LEVEL*** is time-averaged over a one to two minute period, using an integrating sound level meter that meets the requirements of ANSI S12.43.

SPECIAL FLOOD HAZARD AREA. Any area subject to inundation by the base flood as shown on the regulatory floodplain maps and profiles listed in Appendix M, as may be amended by the Federal Emergency Management Agency.

SPECIFIED ANATOMICAL AREAS. Any of the following:

(1) Less than completely and opaquely covered human genitals; pubic region; buttocks; anus; or female breast below a point immediately above the top of the areola, but not including any portion of the cleavage of the female breast exhibited by a dress, blouse, shirt, leotard, bathing suit, or other wearing apparel, provided the areola is not exposed; or

(2) Human male genitals in a discernibly turgid state, even if completely and opaquely covered, or any device or covering that, when worn, simulates human male genitals in a discernibly turgid state.

SPECIFIED SEXUAL ACTIVITIES. Any of the following:

(1) Actual touching of human genitals, pubic region, buttocks, anus, or female breasts;

(2) Actual physical sexual acts, normal or perverted, including intercourse, oral copulation, or sodomy;

(3) Actual masturbation;

(4) Human genitals in a state of sexual stimulation, arousal, or tumescence; or

(5) Excretory functions as part of or in connection with any of the activities set forth in subsections (1), (2), (3), or (4) of this definition.

SPORTS ARENA. A commercial structure with tiers of seats rising around a field or court, that is intended to be used primarily for the viewing of athletic events. ***SPORTS ARENA*** may also be used for entertainment and other public gathering purposes, such as conventions, circuses, or concerts.

STABLE, PRIVATE. An accessory structure and/or land use which is designed, arranged, used or intended to be used for the keeping of equines for the private use of the occupants of a principal dwelling and their guests, but in no event for hire.

STAFF DOCTOR. A doctor employed by a hospital, clinic, or other institution, or a doctor who is “on call” to that institution during certain specified periods of time for emergencies or other need.

STANDARD RESTAURANT. See ***RESTAURANT, STANDARD***.

STANDARD SPECIFICATIONS. The Standard Specifications for Road and Bridge Construction, Supplemental Specifications and Recurring Special Provisions or its successor document or documents, as adopted by the Illinois Department of Transportation, in effect at the time a preliminary plat is approved. The Standard Specifications for Water and Sewer Main Construction in Illinois or its successor document or documents, as adopted by the Illinois Environmental Protection Agency in effect at the time a preliminary plat is approved.

STOCKPILE, TEMPORARY SOIL. A mass or mound of soil, typically topsoil, that has been stripped or removed from an area or areas of a site and reserved for future use.

STORAGE, OUTDOOR. Outdoor storage of fuel, raw materials, products, and equipment.

STORM, ONE HUNDRED-YEAR. Rainstorms of varying durations and intensities expected to recur on the average of once every 100 years or statistically having a 1% chance of occurring in any single year. A duration of 24 hours is assumed unless otherwise noted.

STORM RUNOFF, ONE HUNDRED-YEAR. The stormwater runoff from the 100-year storm.

STORM SEWER. A closed conduit for conducting stormwater.

STORMWATER DRAINAGE FACILITY. Any element in a stormwater drainage system which is made or improved by humans.

STORMWATER DRAINAGE SYSTEM. All facilities used for conducting stormwater to, through, or from a drainage area to the point of final outlet.

STORMWATER MANAGEMENT. A set of actions taken to control stormwater runoff with the objectives of providing controlled surface drainage, flood control, and pollutant reduction in runoff.

STORMWATER MANAGEMENT COMMISSION APPROVED WETLAND BANK. A wetland mitigation bank approved by the Lake County Stormwater Management Commission that conforms with Appendix O of the Watershed Development Ordinance.

STORMWATER MANAGEMENT SYSTEM. The collection of natural features and man-made facilities which define the stormwater management for a development.

STORMWATER RUNOFF. The waters derived from rains falling within a tributary drainage basin, flowing over the surface of the ground or collected in channels, watercourses, or conduits.

STORMWATER RUNOFF, EXCESS. The volume and rate of flow of stormwater discharged from a developed drainage area which is or will be in excess of that volume and rate which existed before development.

STORY. The portion of a building or structure included between the surface of any floor and the ceiling next above. A basement shall be counted as a ***STORY*** if the floor next above it is more than five feet above the average ground elevation.

STREAM. A course of running water flowing in a channel.

STREET. An approved place or way, however designated, for vehicular travel which affords principal means of access to abutting property, or other street.

STREET, ARTERIAL. A street which serves or connects major urban activity centers, is a high volume travel corridor, provides for long trip desires and/or is part of an integrated network providing intercounty and interstate service. (See § 151.169(A).)

STREET, COLLECTOR. A street serving as an intracounty travel corridor channelizing and distributing traffic to and from arterial and local streets. (See § 151.169(A).)

STREET, LOCAL. A street providing access to adjacent land, service to travel short distances, the lowest level of mobility, and access service to other streets. (See § 151.169(A).)

STREET LOT LINE. See ***LOT LINE, STREET***.

STREET, MARGINAL ACCESS. A local street that is adjacent to, or is included in, the right-of-way of an expressway, major arterial, collector street, railroad or utility right-of-way and which provides access to abutting properties and protection from through traffic.

STREET, NONRESIDENTIAL. A street internal to a non-residential subdivision.

STREET, PRIVATE. A street which is not dedicated for public use and for which no highway authority has any jurisdiction or maintenance responsibilities.

STREET SETBACK. See ***SETBACK, STREET***.

STRUCTURE. Anything man-made, constructed, erected, or placed, which has location in or on the ground or is attached to something having a location on the ground.

STRUCTURE, ACCESSORY. See ***ACCESSORY STRUCTURE***.

STRUCTURE, HEIGHT OF. See ***HEIGHT***.

SUBDIVISION. Any division or redivision of a parcel of land into two or more parts by means of mapping, platting, conveyance, change or rearrangement of boundaries, except those divisions of land provided for under 765 ILCS 205/1.

SUBDIVISION MARKETING SIGN. A temporary sign used for marketing lots within a subdivision which has been approved pursuant to the provisions of this chapter.

SUBDIVISION, NONRESIDENTIAL. A division of land which is in compliance with the Lake County Subdivision Ordinance (§§ 151.185 through 151.204) and which results in lots all of which are intended for nonresidential uses.

SUBSTANTIAL DAMAGE. Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50% of the market value of the structure before the damage occurred.

SUBSTANTIAL IMPROVEMENT. Any repair, reconstruction, rehabilitation, addition, or improvement of a structure, which increases the floor area by more than 75% of the structure's first floor area or the cost of which equals or exceeds 50% of the market value of the current structure before the start of construction. This term includes structures which have incurred a repetitive loss or substantial damage, regardless of the actual repair work performed. For the purposes of this definition, "start of construction" is considered to occur when the first qualifying improvement, as described in FEMA Publication 480 National Flood Insurance Program Flood Management Requirements, commences or 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. This term includes all cumulative improvements within the last ten years. The term does not, however, include either:

(1) 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

(2) Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

SUBSTANTIAL OR SIGNIFICANT PORTION OF ITS BUSINESS. For purposes of the definitions of "adult cabaret", "adult store", or "adult theater" herein, the phrase ***SUBSTANTIAL OR SIGNIFICANT PORTION OF ITS BUSINESS*** shall be deemed to apply to any commercial establishment that satisfies one or more of the following criteria:

(1) Gross sales: 30% or more of the retail dollar value of the commercial establishment's annual gross sales derives from the sale, rental, or viewing of adult materials;

(2) Floor area: 30% or more of the floor area of the commercial establishment is devoted to the display, viewing, or presentation of adult materials, not including storerooms, stock areas, bathrooms, basements, or any other portion of the commercial establishment not open to the public;

(3) Merchandise displayed: 30% or more of the retail dollar value of all merchandise displayed at any one time is attributable to adult materials;

(4) Inventory: 30% or more of all inventory of the commercial establishment (whether measured by retail dollar value or number of items) consists at any one time of adult materials;

(5) Stock-in-trade: 30% or more of the stock-in-trade at the commercial establishment consists at any one time of adult materials; and/or

(6) Live performances: live performances by persons appearing semi-nude, or live performances that are otherwise distinguished or characterized by an emphasis on the exposure, depiction, or description of specified anatomical areas or the conduct or simulation of specified sexual activities, and that are taking place 30% or more of the time during which the commercial establishment is open for business.

SUN GLINT. The reflection of sunlight off of a surface, as in the case of the blades, tower, or other component of a wind energy facility.

SURVEYOR. A ~~registered~~ licensed professional land surveyor licensed to practice in the State of Illinois.

SWALE. A linear depression in the ground surface which conveys drainage water with side slopes at or less steep than a 3H to 1V slope.

TECHNICAL REFERENCE MANUAL (TRM). The Lake County Stormwater Management Commission Technical Reference Manual. This manual contains design guidance for a development site to meet the Watershed Development Ordinance performance standards.

TEMPORARY USE. See ***USE, TEMPORARY***.

TERMINAL, TRUCK. A structure or land primarily used for the temporary storage of goods awaiting transfer or wholesale distribution by means of motor carrier transportation.

TOPDRESSING. The placement of not more than four inches of topsoil within the regulatory floodplain for the purposes of preventing soil erosion and establishing vegetative cover. (See also § 151.149.)

TOWER. A tall structure, mounted in the ground, on which a wind turbine is mounted.

TOWNHOUSE. A dwelling unit, located on its own lot, that shares one or more common or abutting walls with one or more dwelling units. A ***TOWNHOUSE*** does not share common floors/ceilings with other dwelling units. (See also the ***TOWNHOUSE*** standards of § 151.130.)

TRAFFIC CONTROL MANUAL. The Illinois Manual for Uniform Traffic Control Devices for Streets and Highways (MUTCD), as published by the Illinois Department of Transportation.

Traffic engineer. A State of Illinois ~~registered~~ licensed professional engineer whose primary work experience has been in traffic engineering.

TRAFFIC FACILITY. Any public or private right-or-way used for or intended to be used for travel including but not limited to an expressway, highway, arterial, street, road, thoroughfare, avenue, lane, place, or alley.

TRANSITION SECTION. Reaches of the stream or regulatory floodway where water flows from a narrow cross-section to a wide cross-section or vice-versa.

TRAUMA CENTER. A facility devoted primarily to the diagnosis and treatment of individuals suffering from injury or medical emergency.

TRIBUTARY AREA. See ***DRAINAGE AREA***.

TRUCK TERMINAL. See ***TERMINAL, TRUCK***.

TURBINE. The parts of a wind energy facility including the blades, nacelle and tail.

TWINHOUSE. A structure that contains two primary dwelling units, each located on its own lot. The two dwelling units share a common wall along the common lot line. (See also the ***TWINHOUSE*** standards of § 151.130.)

USE. The purpose or activity for which land, or any structure thereon, is designed, arranged, or intended, or for which it is occupied or maintained.

USE, ACCESSORY. A use that customarily:

(1) Is subordinate to and services a principal building or a principal use legally existing on the same zoning lot;

(2) Is subordinate in area, extent, and purpose to the principal building or principal use;

(3) Contributes to the comfort, convenience, or necessity of the occupants, business, or industry of the principal structure or principal use served; and

(4) Is located on the same zoning lot as the principal structure or principal use served.

USE, NONRESIDENTIAL. Any use not classified as a residential use.

USE, PRINCIPAL. The specific primary purpose for which land is used.

USE, RESIDENTIAL. A use of land which provides space for the permanent occupancy of either individuals or households within dwellings.

USE, TEMPORARY. A use established for a fixed period of time with the intent to discontinue the use upon the expiration of that time.

VALUE ADDED AGRICULTURAL PROCESSING. The small-scale processing and/or packaging of raw agricultural products resulting in an increase in the value of the agricultural product.

VALUE ADDED AGRICULTURAL PRODUCT. An agricultural product that has been modified from its raw physical state or form in order to enhance the value for sale to the consumer.

VILLAGE HOUSE. A dwelling unit that is located on its own lot, not attached to any other dwelling units, surrounded by very shallow front and side yards and located in a

conservation residential development that complies with the ***VILLAGE HOUSE*** standards of § 151.130.

WAREHOUSE, MINI. A building or group of buildings that contains varying sizes of individual, compartmentalized, and controlled-access stalls or lockers for the dead storage of a customer's goods or wares. No service or repair activities other than the rental of dead storage units are permitted on the premises.

WATER DEPENDENT. Structures of facilities relating to the use of, or requiring access to, the water or shoreline. Examples of ***WATER DEPENDENT*** uses include but are not limited to pumping facilities, wastewater treatment facilities, facilities and improvements related to recreation boating or commercial shipping.

WATERCOURSE. Any natural or man-made depression into which water flows either regularly or intermittently.

WATERS OF THE UNITED STATES. For the purpose of this chapter, the term ***WATERS OF THE UNITED STATES*** refers to those areas that are under the U.S. Army Corps of Engineers jurisdiction.

WATERSHED. The land area above a given point on a channel that contributes stormwater to that point. In this county the four major ***WATERSHEDS*** are officially defined as: the Lake Michigan Watershed, the North Branch of the Chicago River Watershed, the Des Plaines River Watershed, and the Fox River Watershed.

WATERSHED BENEFIT. A decrease in flood damages to structures upstream or downstream of the development site created by installation of the stormwater management system. The benefit must be beyond the benefit provided by meeting the minimum Watershed Development Ordinance standards and TRM guidance.

WATERSHED DEVELOPMENT PERMIT. A permit established by the Watershed Development Ordinance and issued, through the Lake County Stormwater Management Commission or certified communities, prior to the approval of a building permit signifying conformance with provisions of the Watershed Development Ordinance.

WEEKEND. Saturday and Sunday. National holidays observed on a Friday or Monday may be included.

WET DETENTION FACILITY. A ***WET DETENTION FACILITY*** designed to maintain a permanent pool of water after the temporary storage of stormwater runoff.

WETLAND. A specific type of natural or man-made drainageway as follows: land that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, under normal conditions, a prevalence of vegetation adapted for life in saturated soil conditions (known as hydrophytic vegetation). A ***WETLAND*** is identified based upon the three attributes: hydrology, soils, and vegetation as mandated by the current federal wetland determination methodology.

WETLAND, EXCEPTIONAL FUNCTIONAL VALUE (ADID). Any wetland identified as such in the U.S. Environmental Protection Agency Advanced Identification Study of the

county (ADID) or any wetland that through a functional assessment meets the criteria defined in that study for determining exceptional functional value.

WETLAND IMPACT. Isolated waters of Lake County or Waters of the United States that are hydrologically disturbed or otherwise adversely affected by flooding, filling, excavation, or drainage which results from implementation of a development activity.

WETLAND, MAPPED. Any area suspected of being a wetland because it is mapped as such on the Lake County Wetland Inventory or Advanced Identification (ADID) maps.

WHOLESALE. The sale of goods to retailers or jobbers rather than consumers.

WILDLIFE. Any animal that is normally born in the wild and able to live on its own without human assistance, excluding livestock or animals considered to be domesticated.

WILDLIFE EDUCATION. The process of influencing people's attitudes, emotions, knowledge, and behaviors about wildlife and wild places with the purpose of introducing people to wildlife, promoting awareness of biodiversity, and developing conservation-minded and sustainable behavior. This is done through the efforts of trained/skilled educators and interpreters, who use a variety of techniques, methods and assessments to impart information. ***WILDLIFE EDUCATION*** is distinct from entertainment-oriented exhibitions in that its primary purpose is not to entertain but rather to provide a deeper understanding of and connection to wildlife. ***WILDLIFE EDUCATION*** does not include the use of wildlife in performances that: (a) are foreign to their natural behavior (or otherwise not designed to simulate their natural interactions within their environment); (b) introduce painful physical restraint or deprivation inconsistent with practices employed by wildlife biologists, veterinarians or other licensed or trained wildlife caretakers; (c) force interactions with other wildlife contrary to normal conditions in the wild; or (d) otherwise unnecessarily induce significant stress, injury or illness to wildlife as a reasonably foreseeable consequence of the performance. ***WILDLIFE EDUCATION*** includes, but is not limited to, events to provide the public with opportunities to experience wildlife directly and vicariously through outreach programs, on-site tours, demonstrations, and community events. Wildlife educational programming is typically, but not exclusively, provided by local government agencies, non-profit organizations that provide rehabilitation and release or sanctuary of animals, or trained professionals who are actively engaged in conservation and educational programs and possess the proper permits from the Illinois Department of Natural Resources, U.S. Fish and Wildlife Service, or the U.S. Department of Agriculture.

WOODLAND, MATURE. An area or stand of trees whose total combined canopy covers an area of 20,000 square feet or more, at least 50% of which is composed of trees having a diameter breast height of 16 inches or more. An active commercial nursery or Christmas tree operation shall not be considered a ***MATURE WOODLAND***. In addition, no woodlands dominated (more than 50% of the canopy cover) by non-native tree species such as Acer negundo (box elder), Robinia pseudoacacia (black locust), Rhamnus cathartica (common buckthorn), Eleagnus angustifolia (Russian olive), Eleagnus umbellata (autumn olive), Populus alba (white poplar) and Ulmus pumila (siberian elm) shall be considered a ***MATURE WOODLAND***.

WOODLANDS, YOUNG. An area or stand of trees whose total combined canopy covers an area of 20,000 square feet or more, at least 50% of which is composed of trees having a diameter breast height of at least three inches and less than 16 inches. An active commercial nursery or Christmas tree operation shall not be considered a ***YOUNG WOODLAND***. In addition, no woodlands dominated (more than 50% of the canopy cover) by non-native tree species such as Acer negundo (box elder), Robinia pseudoacacia (black locust), Rhamnus cathartica (common buckthorn), Eleagnus angustifolia (Russian olive), Eleagnus umbellata (autumn olive), Populus alba (white poplar) and Ulmus pumila (siberian elm) shall be considered a ***YOUNG WOODLAND***.

YARD. The space between a lot line and building line.

YOUNG WOODLAND. See ***WOODLANDS, YOUNG***.

ZONING LOT. See ***LOT, ZONING***.

(Ord., § 14.2, passed 10-13-2009; Ord. passed 8-14-2012; Ord. passed 10-9-2012; Ord. passed - -; Ord. passed - -; Ord. 15-0701, passed 7-14-2015; Ord. 15-1028, passed 10-13-2015; Ord. 19-1378, passed 9-10-2019; Ord. 21-0744, passed 5-11-2021; Ord. 22-1060, passed 8-9-2022: Ord. 22-1356, passed 10-11-2022)

APPENDIX K: RAINFALL TABLES

Rainfall Depth-Duration Frequency Tables for Lake County

Rainfall is in inches

Storm Duration	*2-month*	*3-month*	*4-month*	*6-month*	*9-month*	*1-year*	*2-year*	*5-year*	*10-year*	*25-year*	*50-year*	*100-year*	*500-year*
5 minutes	0.19	0.22	0.24	0.27	0.31	0.33	0.40	0.52	0.62	0.77	0.90	1.03	1.35
10 minutes	0.3533	0.4038	0.4341	0.4947	0.563	0.6158	0.7370	0.9590	1.1308	1.4235	1.6558	1.8980	2.4736
15 minutes	0.42	0.49	0.53	0.61	0.69	0.75	0.90	1.16	1.39	1.74	2.03	2.32	3.04
30 minutes	0.58	0.66	0.73	0.83	0.94	1.03	1.24	1.59	1.91	2.39	2.78	3.17	4.16
1 hour	0.74	0.84	0.93	1.05	1.20	1.30	1.57	2.02	2.42	3.03	3.53	4.03	5.28
2 hours	0.91	1.04	1.14	1.30	1.48	1.61	1.94	2.49	2.99	3.74	4.35	4.97	6.52
3 hours	1.00	1.15	1.26	1.44	1.63	1.77	2.14	2.75	3.30	4.13	4.80	5.49	7.20
6 hours	1.18	1.35	1.48	1.68	1.91	2.08	2.51	3.23	3.86	4.84	5.63	6.43	8.43
12 hours	1.37	1.56	1.71	1.95	2.21	2.41	2.91	3.74	4.48	5.61	6.53	7.46	9.78
18 hours	1.48	1.69	1.85	2.11	2.39	2.61	3.14	4.04	4.84	6.06	7.05	8.06	10.57
24 hours	1.57	1.80	1.97	2.24	2.55	2.77	3.34	4.30	5.15	6.45	7.50	8.57	11.24
48 hours	1.72	1.97	2.16	2.46	2.79	3.04	3.66	4.71	5.62	6.99	8.13	9.28	12.10
72 hours	1.87	2.14	2.34	2.67	3.03	3.30	3.97	5.08	6.05	7.49	8.64	9.85	12.81
120 hours	2.08	2.38	2.61	2.97	3.37	3.67	4.42	5.63	6.68	8.16	9.39	10.66	13.81
240 hours	2.63	3.01	3.30	3.76	4.27	4.65	5.60	7.09	8.25	9.90	11.26	12.65	16.00

References: ISWS Bulletin 75 Precipitation Frequency Study for Illinois

James R. Angel and Momcilo Markus

Illinois State WAter Survey, March 2020

*Multiplication Factor - Average ratios of X-hour/24-hour rainfall for Illinois, 1989 Bulletin 70

**6 County - A multiplicative factor is not available for these storm events. Therefore, the 6-county Bulletin 70 data is used for regulatory studies.

HUFF RAINFALL DISTRIBUTIONS

The Huff quartiles represent the typical rainfall distribution for four different storm duration ranges. The First quartile applies to storms less than or equal to six hours long. Second is for storms greater than six hours and less than or equal to 12, while the third Huff quartile is for storms greater than 12 hours and less than or equal to 24 hours. Fourth quartile storms apply to storm durations greater than 24 hours.

	Area < 10 SM				Area > 10 & Area < 50				Area > 50 & Area < 400			
Portion of the Storm	First Quartile	Second Quartile	Third Quartile	Fourth Quartile	First Quartile	Second Quartile	Third Quartile	Fourth Quartile	First Quartile	Second Quartile	Third Quartile	Fourth Quartiel
	Area < 10 SM				Area > 10 & Area < 50				Area > 50 & Area < 400			
Portion of the Storm	First Quartile	Second Quartile	Third Quartile	Fourth Quartile	First Quartile	Second Quartile	Third Quartile	Fourth Quartile	First Quartile	Second Quartile	Third Quartile	Fourth Quartiel
0/24	0	0	0	0	0	0	0	0	0	0	0	0
1/24	8.36	2.29	2.05	2.31	6.41	1.48	1.33	1.48	4.59	0.88	0.72	0.9
2/24	17.73	4.82	4.31	4.79	15.69	3.57	3.02	3.34	13.49	2.38	1.85	2.29
3/24	28.11	7.78	6.67	7.12	27.45	6.39	5.13	5.72	25.94	4.93	3.47	4.36
4/24	38.33	11.33	9.12	9.78	38.91	10.02	7.53	8.56	39.17	8.52	5.57	7.1
5/24	47.45	15.79	11.71	12.53	49.34	14.71	10.01	11.69	51.04	13.19	8.28	9.93
6/24	55.5	21.39	14.36	15.23	58.55	20.89	12.65	14.19	60.79	19.59	10.96	12.84
7/24	62.25	28.41	16.91	17.91	65.88	28.91	15.24	17.19	69.26	27.46	13.79	15.46
8/24	67.22	36.44	19.64	20.33	71.1	37.55	18.17	19.69	74.8	37.17	16.35	17.83
9/24	70.82	45.29	22.78	22.83	74.92	46.86	21.46	22.27	78.74	47.77	19.66	20.12
10/24	74.17	54.35	26.33	25.41	78.3	56.25	25.36	24.81	82.2	58.18	23.46	23.12
11/24	76.97	62.38	30.93	28.35	81.16	64.84	29.9	27.46	85.13	67.64	28.07	25.76
12/24	79.81	69.76	36.35	31.25	83.75	72.9	35.6	30.33	87.38	75.86	34.06	28.26
13/24	82.55	75.48	43.92	33.9	86.2	79.07	43.42	32.42	89.58	82.04	42.3	30.99
14/24	85.18	80.38	52.11	36.33	88.64	83.97	52.18	34.28	91.45	86.92	52.02	33.68
15/24	87.4	84.7	61.02	38.61	90.81	87.58	61.88	36.89	93.35	90.33	62.76	36.12
16/24	89.47	87.81	69.89	41.24	92.58	90.67	71.81	39.73	94.8	93.09	72.8	39.07
17/24	91.17	90.22	78.19	45.08	93.99	92.76	80.43	43.85	95.99	94.82	82.27	42.93
18/24	92.7	92.17	84.92	51.29	95.19	94.59	87.25	49.87	96.94	96.25	89.19	48.98
19/24	94.03	93.81	89.74	59.31	96.35	95.97	92.01	58.93	97.7	97.34	93.6	59.22
20/24	95.36	95.29	93.11	69.19	97.27	97.1	95.04	69.85	98.35	98.21	96.33	71.66
21/24	96.56	96.57	95.34	80.05	98.03	97.99	96.9	82.36	98.86	98.83	97.97	85.18
22/24	97.74	97.74	97.06	89.71	98.74	98.72	98.22	92.59	99.28	99.3	98.98	94.64
23/24	98.85	98.84	98.56	96.04	99.37	99.39	99.21	97.96	99.66	99.67	99.58	98.77
24/24	100	100	100	100	100	100	100	100	100	100	100	100

References: Floyd A. Huff and James R. Angel, 1989 ‘Frequency Distributions and Hydroclimatic Characteristics of Heavy Rainstorms in Illinois’, Illinois State Water Survey, Bulletin 70.

(Ord., Appendix K, passed 10-13-2009; Ord. 22-1060, passed 8-9-2022)

APPENDIX M: FEMA FLOOD INSURANCE STUDY MAPS AND PROFILES

COMMUNITY NAME	*COMMUNITY MEMBER*	*DATE OF CURRENT EFFECTIVE MAP (OR MAP INDEX)*	*LAKE COUNTY DFIRM PANEL NUMBERS*	*EFFECTIVE FIS STUDY DATE*
COMMUNITY NAME	*COMMUNITY MEMBER*	*DATE OF CURRENT EFFECTIVE MAP (OR MAP INDEX)*	*LAKE COUNTY DFIRM PANEL NUMBERS*	*EFFECTIVE FIS STUDY DATE*
ANTIOCH	170358#	SEP 18, 2013	17097C0010 K	~~FEB 17, 2016~~OCT 5, 2023
		SEP 18, 2013	17097C0026 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0027 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0028 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0029 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0032 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0034 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0035 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0055 K	OCT 5, 2023~~FEB 17, 2016~~
BANNOCKBURN	170359#	SEP 18, 2013	17097C0259 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0267 K	OCT 5, 2023~~FEB 17, 2016~~

		SEP 18, 2013	17097C0278 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0286 K	OCT 5, 2023~~FEB 17, 2016~~
BARRINGTON HILLS	170058#	SEP 18, 2013	17097C0215 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0216 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0217 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0219 K	OCT 5, 2023~~FEB 17, 2016~~
BARRINGTON	170057#	SEP 18, 2013	17097C0216 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0217 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0219 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0236 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0238 K	OCT 5, 2023~~FEB 17, 2016~~
BEACH PARK	171022#	SEP 18, 2013	17097C0059 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0067 K	OCT 5, 2023~~FEB 17, 2016~~

		SEP 18, 2013	17097C0069 K	OCT 5, 2023~~FEB 17, 2016~~
		OCT 5, 2023~~SEP 18, 2013~~	17097C0078 ~~K~~L	OCT 5, 2023~~FEB 17, 2016~~
		OCT 5, 2023~~SEP 18, 2013~~	17097C0086 ~~K~~L	OCT 5, 2023~~FEB 17, 2016~~
		OCT 5, 2023~~SEP 18, 2013~~	17097C0087 ~~K~~L	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0088 K	OCT 5, 2023~~FEB 17, 2016~~
		OCT 5, 2023~~SEP 18, 2013~~	17097C0089 ~~K~~L	OCT 5, 2023~~FEB 17, 2016~~
BUFFALO GROVE	170068#	SEP 18, 2013	17097C0253 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0254 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0261 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0262 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0263 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0264 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0266 K	OCT 5, 2023~~FEB 17, 2016~~

		SEP 18, 2013	17097C0270 K	OCT 5, 2023~~FEB 17, 2016~~
DEERFIELD	170361#	SEP 18, 2013	17097C0267 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0270 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0278 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0286 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0287 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0288 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0289 K	OCT 5, 2023~~FEB 17, 2016~~
DEER PARK	171028#	SEP 18, 2013	17097C0217 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0236 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0237 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0238 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0241 K	OCT 5, 2023~~FEB 17, 2016~~

FOX LAKE	170362#	SEP 18, 2013	17097C0004 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0010 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0012 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0014 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0019 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0020 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0106 K	OCT 5, 2023~~FEB 17, 2016~~
		FEB 17, 2016	17097C0107 L	OCT 5, 2023~~FEB 17, 2016~~
FOX RIVER GROVE	170477#	SEP 18, 2013	10797C0205 K	OCT 5, 2023~~FEB 17, 2016~~
GRAYSLAKE	170363#	OCT 5, 2023~~SEP 18, 2013~~	17097C0043 ~~K~~L	OCT 5, 2023~~FEB 17, 2016~~
		OCT 5, 2023~~SEP 18, 2013~~	17097C0044 ~~K~~L	OCT 5, 2023~~FEB 17, 2016~~
		FEB 17, 2016	17097C0129 L	OCT 5, 2023~~FEB 17, 2016~~
		OCT 5, 2023~~FEB 17, 2016~~	17097C0131 ~~L~~M	OCT 5, 2023~~FEB 17, 2016~~

		OCT 5, 2023~~SEP 18, 2013~~	17097C0132 ~~K~~L	OCT 5, 2023~~FEB 17, 2016~~
		OCT 5, 2023~~FEB 17, 2016~~	17097C0133 ~~L~~M	OCT 5, 2023~~FEB 17, 2016~~
		OCT 5, 2023~~SEP 18, 2013~~	17097C0134 ~~K~~L	OCT 5, 2023~~FEB 17, 2016~~
		FEB 17, 2016	17097C0137 L	OCT 5, 2023~~FEB 17, 2016~~
		FEB 17, 2016	17097C0141 L	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0142 K	OCT 5, 2023~~FEB 17, 2016~~
		OCT 5, 2023~~SEP 18, 2013~~	17097C0151 ~~K~~L	OCT 5, 2023~~FEB 17, 2016~~
		OCT 5, 2023~~SEP 18, 2013~~	17097C0153 ~~K~~L	OCT 5, 2023~~FEB 17, 2016~~
GREEN OAKS	170364#	SEP 18, 2013	17097C0158 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0159 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0166 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0167 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0168 K	OCT 5, 2023~~FEB 17, 2016~~

		SEP 18, 2013	17097C0169 K	OCT 5, 2023~~FEB 17, 2016~~
GURNEE	170365#	OCT 5, 2023~~SEP 18, 2013~~	17097C0044 ~~K~~L	OCT 5, 2023~~FEB 17, 2016~~
		OCT 5, 2023~~SEP 18, 2013~~	17097C0063 ~~K~~L	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0064 K	OCT 5, 2023~~FEB 17, 2016~~
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		SEP 18, 2013	17097C0157 K	OCT 5, 2023~~FEB 17, 2016~~

HAINESVILLE	171005#	FEB 17, 2016	17097C0127 L	OCT 5, 2023~~FEB 17, 2016~~
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		FEB 17, 2016	17097C0131 L	OCT 5, 2023~~FEB 17, 2016~~
		FEB 17, 2016	17097C0133 L	OCT 5, 2023~~FEB 17, 2016~~
HAWTHORN WOODS	170366#	FEB 17, 2016	17097C0139 L	OCT 5, 2023~~FEB 17, 2016~~
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HIGHLAND PARK	170367#	OCT 5, 2023~~SEP 18, 2013~~	17097C0277 ~~K~~L	OCT 5, 2023~~FEB 17, 2016~~
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HIGHWOOD	171033#	SEP 18, 2013	17097C0279 K	OCT 5, 2023~~FEB 17, 2016~~

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INDIAN CREEK	170369#	SEP 18, 2013	17097C0251 K	OCT 5, 2023~~FEB 17, 2016~~
ISLAND LAKE	170370#	SEP 18, 2013	17097C0112 K	OCT 5, 2023~~FEB 17, 2016~~
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KILDEER	170371#	SEP 18, 2013	17097C0233 K	OCT 5, 2023~~FEB 17, 2016~~
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LAKE BARRINGTON	170372#	SEP 18, 2013	17097C0118 K	OCT 5, 2023~~FEB 17, 2016~~
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		SEP 18, 2013	17097C0216 K	OCT 5, 2023~~FEB 17, 2016~~
LAKE BLUFF	170373#	SEP 18, 2013	17097C0167 K	OCT 5, 2023~~FEB 17, 2016~~
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		OCT 5, 2023	17097C0189 L	OCT 5, 2023
LAKE COUNTY UNINCORPORATED AREAS	170357#	DFIRM PANEL NUMBERS LISTED SEPARATELY AT END OF APPENDIX		
LAKE FOREST	170374#	SEP 18, 2013	17097C0169 K	OCT 5, 2023~~FEB 17, 2016~~
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		OCT 5, 2023~~SEP 18, 2013~~	17097C0277 ~~K~~L	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0278 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0279 K	OCT 5, 2023~~FEB 17, 2016~~
		OCT 5, 2023~~SEP 18, 2013~~	~~17097C0285 K~~17097C0281 L	OCT 5, 2023~~FEB 17, 2016~~
LAKE VILLA	170375#	SEP 18, 2013	17097C0028 K	OCT 5, 2023~~FEB 17, 2016~~
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		SEP 18, 2013	17097C0037 K	OCT 5, 2023~~FEB 17, 2016~~

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LAKE ZURICH	170376#	FEB 17, 2016	17097C0227 L	OCT 5, 2023~~FEB 17, 2016~~
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		SEP 18, 2013	17097C0236 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0237 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0241 K	OCT 5, 2023~~FEB 17, 2016~~
LAKEMOOR	170915#	SEP 18, 2013	17097C0102 K	OCT 5, 2023~~FEB 17, 2016~~
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		SEP 18, 2013	17097C0106 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0108 K	OCT 5, 2023~~FEB 17, 2016~~
LIBERTYVILLE	170377#	OCT 5, 2023~~SEP 18, 2013~~	17097C0134 ~~K~~L	OCT 5, 2023~~FEB 17, 2016~~
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LINCOLNSHIRE	170378#	SEP 18, 2013	17097C0254 K	OCT 5, 2023~~FEB 17, 2016~~
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		SEP 18, 2013	17097C0267 K	OCT 5, 2023~~FEB 17, 2016~~
LINDENHURST	170379#	SEP 18, 2013	17097C0035 K	OCT 5, 2023~~FEB 17, 2016~~
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LONG GROVE	170380#	SEP 18, 2013	17097C0144 K	OCT 5, 2023~~FEB 17, 2016~~
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		SEP 18, 2013	17097C0251 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0253 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0254 K	OCT 5, 2023~~FEB 17, 2016~~
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		SEP 18, 2013	17097C0263 K	OCT 5, 2023~~FEB 17, 2016~~
METTAWA	170381#	SEP 18, 2013	17097C0164 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0168 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0169 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0252 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0256 K	OCT 5, 2023~~FEB 17, 2016~~

		SEP 18, 2013	17097C0257 K	OCT 5, 2023~~FEB 17, 2016~~
MUNDELEIN	170382#	FEB 17, 2016	17097C0139 L	OCT 5, 2023~~FEB 17, 2016~~
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		SEP 18, 2013	17097C0164 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0232 K	OCT 5, 2023~~FEB 17, 2016~~
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NORTH BARRINGTON	170383#	SEP 18, 2013	17097C0207 K	OCT 5, 2023~~FEB 17, 2016~~
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		SEP 18, 2013	17097C0217 K	OCT 5, 2023~~FEB 17, 2016~~
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		SEP 18, 2013	17097C0228 K	OCT 5, 2023~~FEB 17, 2016~~
		SEP 18, 2013	17097C0236 K	OCT 5, 2023~~FEB 17, 2016~~
NORTH CHICAGO	170384#	SEP 18, 2013	17097C0159 K	OCT 5, 2023~~FEB 17, 2016~~
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OLD MILL CREEK	170385#	SEP 18, 2013	17097C0034 K	OCT 5, 2023~~FEB 17, 2016~~
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PARK CITY	170386#	SEP 18, 2013	17097C0156 K	OCT 5, 2023~~FEB 17, 2016~~
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PORT BARRINGTON	170478#	SEP 18, 2013	17097C0114 K	OCT 5, 2023~~FEB 17, 2016~~
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RIVERWOODS	170387#	SEP 18, 2013	17097C0259 K	OCT 5, 2023~~FEB 17, 2016~~

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ROUND LAKE BEACH	170389#	SEP 18, 2013	17097C0038 K	OCT 5, 2023~~FEB 17, 2016~~
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		FEB 17, 2016	17097C0127 L	OCT 5, 2023~~FEB 17, 2016~~
		OCT 5, 2023~~FEB 17, 2016~~	17097C0131 ~~L~~M	OCT 5, 2023~~FEB 17, 2016~~
ROUND LAKE HEIGHTS	170390#	SEP 18, 2013	17097C0038 K	OCT 5, 2023~~FEB 17, 2016~~
ROUND LAKE PARK	170391#	FEB 17, 2016	17097C0127 L	OCT 5, 2023~~FEB 17, 2016~~
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ROUND LAKE	170388#	FEB 17, 2016	17097C0107 L	OCT 5, 2023~~FEB 17, 2016~~
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		FEB 17, 2016	17097C0137 L	OCT 5, 2023~~FEB 17, 2016~~
THIRD LAKE	170392#	OCT 5, 2023~~SEP 18, 2013~~	17097C0043 ~~K~~L	OCT 5, 2023~~FEB 17, 2016~~
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TOWER LAKES	170393#	SEP 18, 2013	17097C0206 K	OCT 5, 2023~~FEB 17, 2016~~
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VERNON HILLS	170394#	SEP 18, 2013	17097C0163 K	OCT 5, 2023~~FEB 17, 2016~~
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VOLO	171042#	SEP 18, 2013	17097C0106 K	OCT 5, 2023~~FEB 17, 2016~~

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WADSWORTH	170395#	SEP 18, 2013	17097C0055 K	OCT 5, 2023~~FEB 17, 2016~~
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WAUCONDA	170396#	SEP 18, 2013	17097C0116 K	OCT 5, 2023~~FEB 17, 2016~~
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WAUKEGAN	170397#	OCT 5, 2023~~SEP 18, 2013~~	17097C0066 ~~K~~L	OCT 5, 2023~~FEB 17, 2016~~
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APPENDIX S: UNIFIED DEVELOPMENT ORDINANCE MITIGATION REQUIREMENTS AND GUIDELINES FOR ISOLATED WATERS OF LAKE COUNTY IMPACTS

INTRODUCTION

This Appendix contains the minimum requirements and guidelines for preparation of a Project Mitigation Document (PMD) related to the creation or enhancement of wetlands on a development site, or on an offsite property, to meet the mitigation provisions in§ 151.146(M)(4). These provisions do not apply for Category IV impacts to Isolated Waters of Lake County. The PMD shall provide at a minimum, information needed by Lake County Planning Building & Development (PB&D) to evaluate the appropriateness and enforceability of a proposed mitigation plan. Additional requirements may apply for impacts to Waters of the United States, as determined by the U.S. Army Corps of Engineers. For the purposes of this Appendix, the term mitigation site refers to the ownership parcel where the mitigation is to occur. Mitigation area refers to the location within the mitigation site where the actual mitigation will occur.

Each PMD shall include specific information in a standard format as outlined in Table 1 and described in Sections A-K below.

Table 1 - Standard Format for PMD

Section	Topic
A	Mitigation Goals
B	Mitigation Site Information
C	Mitigation Design
D	Deed or Plat Restriction
E	Construction Schedule
F	Financial Assurance
G	As-Built Plans
H	Performance Standards
I	Monitoring and Management
J	Reports
K	Compliance and Completion

A. MITIGATION GOALS

1. Discuss how the wetland mitigation shall duplicate or improve the hydrologic and biologic features of the impacted wetlands. Describe the specific functions of the wetlands to be created or enhanced versus the functions of the wetlands to be impacted.

2. Describe the acreage and vegetative community type of wetlands and wetland buffers to be created or enhanced to meet the minimum mitigation ratios required in § 151.146(M)(4)(b). Mitigation acreage shall be credited on the following basis:

a. 100% for each acre of wetland created or restored. For the purposes of this Appendix, wetland creation includes restoration of historic wetlands which have been filled, drained, or otherwise manipulated to the extent the areas no longer exhibit wetland characteristics. Open water creation shall be credited at 100% for in-kind mitigation (e.g., one acre of open water created for one acre of open water impacted). No mitigation credit shall be given for open water creation to compensate for non-open water impacts.

b. 25% for each acre of non-farmed wetland enhanced after a minimum ratio of 1:1 for wetland creation to wetland impact is achieved.

c. Enhancement of farmed wetlands meeting the size criterion in§ 151.146(M)(5)(a) may be used for up to 80% of the total mitigation requirement (e.g., if 2.0 acres of mitigation are required, up to 1.6 acres may be credited for farmed wetland enhancement, as long as the size criterion above is met).

d. Enhanced upland areas or enhanced wetland edges used to meet the buffer requirements in § 151.146(H)(5) shall be credited at 25% for each acre enhanced. Created or restored wetland edges used to meet the buffer requirements of this Ordinance shall be credited at 75% for each acre created or restored. All high-quality aquatic resources existing on the mitigation site shall, at a minimum, meet the buffer requirements for high-quality aquatic resources; all other existing enhanced, created or restored wetland areas shall, at a minimum, meet the non-high-quality aquatic resource buffer requirements of this Ordinance.

B. MITIGATION SITE INFORMATION

1. *Site Location.* Identify the mitigation site on a general location map (USGS quadrangle map preferred), plat of survey, and major watershed map (e.g., Fox River Watershed).

2. *Physical Description.* Describe the physical characteristics of the mitigation area. Provide information to support the mitigation site selection, including, but not limited to: wetland determination report meeting the requirements in§ 151.146(M)(3), NRCS certified wetland determination (for agricultural land), topographic map with a minimum of 2-foot contour lines, recent and historic aerial photographs, current site photographs, drain tile information, USGS hydrologic atlas, FEMA flood insurance rate map and base flood elevations as required by this Ordinance, and ~~SCS~~ NRCS soil survey map and soil unit descriptions.

3. *Land Use.* Describe the past and current land use(s) of the mitigation site parcel. Submit a plan at a minimum scale of 1 in.=100 ft. showing the existing land use(s) and pertinent features, such as buildings, roads, utility lines, drain tiles, culverts, landscaping, lot lines, etc. Include on the plan or provide a narrative of any adjacent land uses that could conflict with the mitigation proposal and any zoning restrictions. Discuss potential adverse impacts to the mitigation site, including stormwater runoff from adjacent properties or nearby development in the watershed. Include a copy of the current zoning map and comprehensive land plan showing proposed land use(s), roads and trail systems.

4. *Ownership.* Identify the current owner(s) of the mitigation site property. If the owner is different from the permittee, provide PB&D with a copy of an executed agreement between the owner(s) and permittee that grants permission by the owner(s) for the permittee to use the property for mitigation and specifies the responsibilities of each party for establishment of the mitigation site. Once mitigation is in place, the permittee shall notify PB&D of any change in ownership. The new owner(s) shall provide written assurance to the issuer of the SDP of the transfer of the permit and intent to comply with the terms and conditions of the permit, specifically the mitigation plan.

5. *Significant Biological Resources.* The permittee shall consult with the Illinois Department of Natural Resources (IDNR) and the U.S. Fish & Wildlife Service (USFWS) regarding the possible presence of threatened or endangered species or critical habitat on the mitigation site. PB&D shall not approve the mitigation area until documentation is provided confirming the proposed mitigation area is in compliance with the IDNR's Endangered Species Consultation Program and the Illinois Natural Areas Preservation Act [520 ILCS 10/11 and 525 ILCS 30/17] and the USFWS' consultation program under the federal Endangered Species Act.

C. MITIGATION DESIGN

1. *Topography.* If grading is proposed, submit a grading plan at a minimum scale of 1 in.=100 ft. showing existing and proposed grades with a minimum of 1-foot contour lines. Identify elevation and location of reference benchmarks. Include cross-sections for the mitigation wetlands with normal water level (NWL) and high water level (HWL) depicted, if applicable.

2. *Hydrology.*

Identify the source(s) of water for the mitigation wetlands, both surface and subsurface. Describe any water control structures to be used and identify these structures on the grading plan, with invert elevations. Control structures with adjustable inverts are recommended to facilitate management of desired water levels in the mitigation wetlands. Describe the expected hydrologic regime of the mitigation wetlands.

Provide hydrologic modeling results in both summary table and hydrograph form for the 2-year and 100-year, 24 hour storm events, at a minimum, to support the expected hydrologic regime of the mitigation wetlands. Verify that the mitigation design will not adversely impact the hydrology of existing on-site or nearby wetlands.

Discuss factors influencing the quality of stormwater runoff from on-site and off-site sources (e.g., roads, lawns, parking lots, etc.) and incorporate best management practices (BMPs) into the design to treat runoff before it discharges into the wetlands. Identify the BMPs on the grading plan.

Stormwater detention basins shall not be used for creation of wetlands to meet the wetland mitigation requirements of this Ordinance in§ 151.146(M)(4).

3. *Soils.*

A minimum of twelve (12) inches of suitable rooting medium shall be provided on the mitigation wetlands and wetland buffer areas. Use low ground pressure equipment to minimize soil compaction, include information about whether topsoil will be imported from off-site.

If the mitigation site contains a drained hydric soil, include the ~~SCS~~ NRCS soil map unit description and describe the drainage system (e.g., drain tile, ditches, channels, etc.). The drainage system shall be shown on the grading plan. Verify the hydric soil map unit by digging a 30-inch deep soil pit in a representative location of the map unit and write a detailed profile description of the soil, including horizons, soil colors using Munsell color charts, and soil texture and structure. Examine the soil profile for the presence of redoximorphic features such as iron/manganese accumulations, oxidized rhizospheres, mottles, and depleted zones. Record the type, relative abundance, location, and color of these features. Record other evidence of soil wetness such as the accumulation of partially decomposed organic matter at the soil surface.

4. *Planting Plan.* Submit a plan at a minimum scale of 1 in.=100 ft. depicting the location and acreage of each wetland and wetland buffer community type to be established. This plan shall also be used as the base map to show the locations of the vegetation monitoring transects and hydrology sampling points discussed in Appendix S, Section I. Provide the list of plants to be established in community by common and scientific name, along with the seeding or planting rate for each species. Seed and plant stock source(s) shall originate from within 150 miles of the mitigation site to maintain local genotypes.

D. DEED OR PLAT RESTRICTION

All mitigation wetlands, as well as other preserved wetlands or waters and wetland buffers on the mitigation site, shall be protected in perpetuity by a deed or plat restriction. The permittee shall provide PB&D with a draft copy of the proposed deed or plat restriction document and associated exhibit(s) showing the restricted areas for approval. Contact PB&D for example wetland and wetland buffer restrictive language.

E. CONSTRUCTION SCHEDULE

Provide a schedule with anticipated start date and duration for each phase of the mitigation site construction, including installation of soil erosion and sediment control measures, earthwork, and planting.

F. FINANCIAL ASSURANCE

The permittee shall provide PB&D with a financial surety for 110% of the total estimated cost for construction, monitoring, and management of the mitigation wetlands and wetland buffers. The amount of the financial surety shall be based upon the wetland consultant's detailed cost estimate for completing the approved mitigation plan, including earthwork, planting, and monitoring and management for a minimum of five (5) full growing seasons after planting is completed. The cost estimate shall be provided to PB&D for approval prior to obtaining the financial surety. The financial surety may be in the form of a performance bond, irrevocable letter of credit, irrevocable trust, escrow account, casualty insurance, or other approved surety.

The financial surety shall be held by PB&D until the mitigation site meets the performance standards in Section H. Such surety may be phased out or reduced by PB&D once it has been demonstrated that the mitigation site is functionally mature and/or self-sustaining in accordance with the performance standards in Section H.

G. AS-BUILT PLANS

1. Upon the completion of earthwork, but prior to planting, the permittee shall provide an as-built topographic map to PB&D for approval. The as-built map shall depict the constructed grades at a minimum of 2-ft contour intervals, along with spot elevations, and the invert elevations of all water control structures. The bench mark(s) used to establish the grades shall also be indicated on the plan. If the constructed grades and invert elevations are not in conformance with the approved grading and utility plan, the permittee shall be responsible for regrading or reinstalling the water control structures at the designed elevations to comply with the approved plan. If the as-built plan and site inspection are determined to be in conformance with the approved design, PB&D shall issue a written approval of the as-built plan and planting activities may commence.

2. Upon the completion of planting activities, the permittee shall provide PB&D with lists of the species actually planted in the mitigation wetlands and wetland buffers, including the common and scientific name of each species, the quantity of each species planted (e.g., weight of seeds/acre, number of plugged plants/acre), the source of the seeds/plants, the planting method(s) used, and the date(s) seeding or planting occurred.

H. PERFORMANCE STANDARDS

Performance standards are predetermined goals for guiding and measuring mitigation success.

1. *Performance Period.* The performance period shall consist of a minimum five (5) years at which time the vegetation performance standards are met, unless the vegetation performance standards can be met earlier for two (2) consecutive growing seasons, at which time the performance period shall be considered complete. Conversely, the performance period may be required to be longer than five (5) years in order to meet the vegetation performance standards if they haven't been met after the standard five-year time frame.

2. *Wetland Vegetation Performance Standards.* The performance standards below apply to emergent, wet prairie and sedge meadow communities. If other community types are proposed (e.g., aquatic, forest, etc.), the permittee shall submit proposed performance standards for each community to PB&D for approval.

a. *Floristic Quality.* By the end of the performance period, a native mean coefficient of conservatism value (native mean C value) of greater than or equal to 3.5 and a native floristic quality index value (FQI) of greater than or equal to 20 shall be achieved for each wetland community as determined using the Chicago Region Floristic Quality Assessment Calculator (U.S. Army Corps of Engineers, Chicago District, most recent version).

b. *Mean Wetness Coefficient.* By the end of the performance period, the mean wetness coefficient (mean W) shall be less than or equal to 0 in each wetland community. Wetness coefficients are listed below, based on the category of each plant species designated in the National Wetland Plant List—Midwest Regional Plant List (U.S. Army Corps of Engineers, most recent version. The mean W for each wetland community is calculated by the following equation: Sum of wetness coefficients for all species/number of species.

Wetness Coefficients	
National Wetland Category	**Wetness Coefficient**
Obligate (OBL)	-2
Facultative Wetland (FACW)	-1
Facultative (FAC)	0
Facultative Upland (FACU)	1
Upland (UPL)	2

c. *Vegetative Cover.* By the end of the performance period, no area greater than ten (10)~~100~~ square feet within the created or enhanced wetlands shall be devoid of vegetation, as measured by percent areal coverage. Areas not meeting this standard shall be re-planted.

d. *Invasive Species Dominance.* By the end of the performance period, none of the three dominant plant species in the emergent, wet prairie, or sedge meadow communities shall be non-native or weedy species, including, but not limited to, the following species: Typha spp., Phragmites australis, Poa compressa, Poa pratensis, Lythrum salicaria, Salix interior, Echinochloa crusgalli, or Phalaris arundinacea. Dominance shall be based on the relative importance value (RIV) of each species, which is calculated by the following equation: Invasive Species Dominance:

RIVs = [RFs + RCs] / 2 x 100, where:

RIVs is the relative importance value of the individual species in the community,

RFs is the frequency of the individual species occurring in all quadrats/the total frequency of all species (adventive and native) occurring in all quadrats, and

RCs is the coverage of the individual species occurring in all quadrats/the total coverage of all species (adventive and native) occurring in all quadrats.

3. *Wetland Buffer Vegetation Performance Standards.* The performance standards below apply to the prairie community to achieve mitigation credit. If other community types are proposed for the wetland buffers (e.g., forest, savanna, etc.), the permittee shall submit proposed performance standards for each community to PB&D for approval.

a. *Floristic Quality.* By the end of the performance period, a native mean coefficient of conservatism value (native mean C value) of greater than or equal to 2.5 and a native floristic quality index value (FQI) of greater than or equal to 15 shall be achieved for the buffer as determined using the Chicago Region Floristic Quality Assessment Calculator (U.S. Army Corps of Engineers, Chicago District, most recent version).

b. *Vegetative Cover.* By the end of the performance period, no area greater than ~~100~~ ten (10) square feet within the created or enhanced mesic prairie buffers shall be devoid of vegetation, as measured by percent areal coverage. Areas not meeting this standard shall be re-planted.

c. *Invasive Species Dominance.* By the end of the performance period, none of the three dominant plant species in the mesic prairie buffer community shall be non-native or weedy species, including, but not limited to, the following species: Cirsium arvense, Melilotus spp., Aliiaria petiolata, Poa compressa, Poa pratensis, Ambrosia artemisiifolia, or Rhamnus cathartica and R. franguia. Dominance shall be based on the relative importance value (RIV) of each species, which is calculated using the equation in Section H.2.d.

I. MONITORING AND MANAGEMENT

1. *Monitoring.*

a. *Monitoring Plan.* The PMD shall contain a proposed five-year monitoring plan. Such plan shall include, at a minimum, a description of the sampling methodologies to be followed for evaluating hydrology in the mitigation wetlands and assessing vegetation in the mitigation wetlands and buffers, the frequency of sampling, and the report(s) to be generated.

b. *Vegetation Monitoring.* A sufficient number of straight-line sampling transects shall be established in the mitigation wetlands and wetland buffers to achieve a representative amount of plant frequency and coverage data. The beginning and end points of each transect shall be monumented in the field with a metal stake. The location of each transect and the number of proposed quadrats per transect shall be accurately identified on the Planting Plan (Section C.4.), which shall be included in the annual monitoring reports. Each transect shall consist of a series of sample quadrats either 0.25 or 1.0 square meter in size. Vegetation sampling shall be conducted by, or under the supervision of, a Certified Wetland Specialist twice during the growing season with at least one month between sampling dates (e.g., May/June and August/September). Vegetation sampling shall include the following, at a minimum:

(1) Record the number and estimated percent areal coverage of each vascular plant species in each quadrant, including all non-native (adventive) taxa and native taxa. Use this data to perform the calculations in (2)-(4) below, Photograph each end of the transect at the time of sampling,

(2) Calculate the native mean C value, FQI, and mean wetness coefficient for each quadrat,

(3) Calculate native mean C value, and native FQI and mean wetness coefficient for each transect,

(4) Calculate the RIVn of total native species by the following equation:

RIVn = [RFn + RCn] / 2 x 100, where:

RIVn is the relative importance value of the total native species in the community,

RFn is the total frequency of the native species occurring in all quadrats/the total frequency of all species (adventive and native) occurring in all quadrats, and

RCn is the total coverage of the native species occurring in all quadrats/the total coverage of all species (adventive and native) occurring in all quadrats.

c. *Hydrology Monitoring.* A sufficient number of representative sample points shall be established in each mitigation wetland to assess the hydrologic conditions. The sample points shall be monumented in the field with a metal stake. The location of each sample point shall be accurately identified on the Planting Plan (Section C.4.), which shall be included in the annual monitoring reports. At a minimum, hydrology monitoring shall be conducted on a bi-weekly basis during the first growing season and on a monthly basis during each succeeding growing season of the monitoring period. Hydrology sampling shall include the following, at a minimum:

(1) Depth of inundation (in. or cm.) based on NAVD 88 datum, which superseded the NGVD 29 datum used prior to September 18, 2013, and

(2) Soil moisture condition to a minimum depth of 12 in. (e.g., saturated, moist, dry).

2. *Management.*

a. *Management Plan.* The PMD shall contain a proposed five-year management plan. Such plan shall include a description of the anticipated management practices to be employed each year to meet the performance standards in Section H., and a schedule of all proposed management practices (i.e., a calendar indicating month and year of activity). In addition, the plan shall identify the entity to assume responsibility for long-term management of the mitigation wetlands and wetland buffers after the performance period and the dedicated source of funding for long-term management. At completion of the performance period, PB&D shall require a written agreement between the permittee and the entity identified for long-term management.

b. *Management Practices.* Describe the methods and equipment to be used for each proposed management practice (e.g., prescribed burning, control of invasive plant species by herbicide application or hand removal, mow management, etc.). List all permits or certifications/licenses required for the proposed management practices (e.g., IEPA open burn permit, local fire department permits, IDOA herbicide applicators license, etc.). Personnel who perform the management activities shall have appropriate licenses and qualifications.

J. REPORTS

At a minimum, an annual report prepared by, or under the supervision of, a Certified Wetland Specialist summarizing the results of the previous year's monitoring data shall be submitted to the PB&D by January 31st of the following year. The annual reports shall contain, at a minimum:

1. A narrative summary of the vegetation and hydrology monitoring data;

2. A discussion of the progress of native vegetation establishment relative to the performance standards in Section H.;

3. An appendix containing the monitoring data;

4. Photographs of the sample transects and panoramic views of the mitigation wetlands and buffers;

5. A narrative summary of the management practices employed during the previous year and photographs documenting these activities;

6. Recommendations for proposed management practices to be employed during the following year(s), based on the monitoring results to date; and

7. The proposed schedule for management practices in the following year(s).

K. COMPLIANCE AND COMPLETION

1. *Responsible Parties.*

The permittee shall be responsible for establishment of the mitigation wetlands and wetland buffers and all associated monitoring and management activities for the performance period. The permittee shall take corrective measures as necessary to meet the performance standards in Section H., within the performance period.

After the performance period, the entity identified for long term management shall assume long-term management for the mitigation wetlands and wetland buffers. The permittee's responsibility for the mitigation wetlands and wetland buffers shall be released in writing by PB&D.

2. *Notification.*

After the performance period, the permittee shall provide written notification to PB&D, along with following information: 1) A scaled plan (min. 1 in. = 100 ft.) showing the delineated boundaries and actual acreages of the mitigation wetlands and wetland buffers; and 2) A summary of how the performance standards have been met for each wetland and buffer. Upon notification, PB&D shall review the submitted information and perform a site inspection to evaluate the success of the mitigation site. If the mitigation goals and performance standards have been met, PB&D shall notify the permittee in writing that the permittee's responsibility for the mitigation site is released. A copy of the written release shall be provided to the entity designated for long-term management of the mitigation site.

If PB&D determines that the mitigation goals or performance standards have not been met based on the information submitted and site inspection, PB&D shall notify the

permittee in writing of the specific shortfalls. The permittee shall be granted a specified time limit to respond to the identified shortfalls. Failure to fully respond to the identified shortfalls within the specified time limit may result in PB&D's use of the mitigation surety to correct the shortfalls.

(Ord. passed 10-9-2012; Ord. 22-1060, passed 8-9-2022)