

VILLAGE OF GODFREY

ORDINANCE NO. 09-2022

AN ORDINANCE AMENDING CHAPTER 29, ARTICLES II AND III OF
THE VILLAGE OF GODFREY, ILLINOIS STORMWATER CODE

ADOPTED BY THE VILLAGE

BOARD OF TRUSTEES

OF THE

VILLAGE OF GODFREY

MADISON COUNTY, ILLINOIS

THIS 5TH DAY OF APRIL 2022

Published in book form by authority of the President and Village Board of
Trustees of the Village of Godfrey, Madison County, Illinois this 6TH day
of APRIL 2022

**AN ORDINANCE AMENDING CHAPTER 29, ARTICLES II AND III OF
THE VILLAGE OF GODFREY, ILLINOIS STORMWATER CODE**

WHEREAS, the Village of Godfrey maintains a Revised Code of Ordinances which contains in part Chapter 29, setting forth therein in Articles I, II, and III the Storm water Code for the Village of Godfrey; and

WHEREAS, the Village desires to amend Chapter 29, Articles II and III, to update the Storm water provisions set forth therein as provided for by Illinois State Statues; and

WHEREAS, after considerable deliberation and thought, and following extensive involvement with and input from regional storm water officials, the Village Trustees deem it to be in the best interest of the citizens of Godfrey, and the public health, safety and welfare to amend the Village Code in the aforementioned manner.

NOW THEREFORE, BE IT ORDAINED BY THE PRESIDENT AND BOARD OF TRUSTEES OF THE VILLAGE OF GODFREY, ILLINOIS, AS FOLLOWS:

SECTION 1: AMENDMENT: Chapter 29, Articles II and III, of the Revised Code of Ordinances for the Village of Godfrey, Illinois, shall hereafter be amended to reflect the revisions as set forth in Exhibit A hereto, the contents of which are adopted and incorporated by reference as if set forth fully herein.

SECTION 2: SEVERABILITY OF PROVISIONS: Each section, paragraph, sentence, clause, and provision of this Ordinance is severable, and if any provision is held unconstitutional or invalid for any reason, such decision shall not affect the remainder of the Ordinance, nor any part thereof, other than that part affected by such decision.

SECTION 3: CONFLICTING ORDINANCES: Any conflicting ordinances, code provisions or pertinent portions thereof in effect at the time this ordinance takes effect are hereby repealed.

SECTION 4: EFFECTIVE DATE: This Ordinance and the penalty provisions herein shall take effect thirty (30) days following its passage, approval and publication as required by law.

Passed this 5TH day of APRIL 2022 by the Village Board of Trustees of the Village of Godfrey, Madison County, Illinois, and deposited and filed in the office of the Village Clerk in said Village on that date.

BETHANY A. BOHN, VILLAGE CLERK,
GODFREY, ILLINOIS

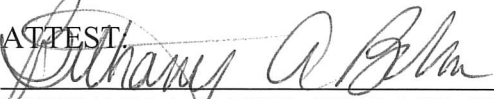
NAME	AYE	NAY	ABSTAIN	ABSENT	CONFLICT
WEBER	X				
McATEE	X				
ALLEN	X				
WOULFE-BEILE	X				
LAUSCHKE	X				
WOODMAN	X				

Approved by the President of the Village of Godfrey, Madison County, Illinois, this 5TH day of APRIL 2022.



MICHAEL J. MCCORMICK, PRESIDENT
GODFREY, ILLINOIS

ATTEST



BETHANY A. BOHN - VILLAGE CLERK
GODFREY, ILLINOIS


(SEAL)

VILLAGE CLERK'S CERTIFICATE

STATE OF ILLINOIS)
COUNTY OF MADISON)
VILLAGE OF GODFREY) **ss. VILLAGE CLERK'S OFFICE**

I, Bethany A. Bohn, Village Clerk of the Village of Godfrey, do hereby certify that the following Ordinance of the Village of Godfrey, Madison County, Illinois, published by authority of the Village Board of Trustees was duly passed by the Village Board of Trustees of the Village of Godfrey, Illinois, approved by the Village President, and published in pamphlet form according to law on this date, and that this ordinance is a true and perfect copy of the ordinance, as passed, approved, and now of record and on file in my office as provided by law.

In witness whereof, I have set and affixed the Corporate Seal of the Village of Godfrey, Illinois, this 6th day of April 2022.


BETHANY A. BOHN, VILLAGE CLERK
GODFREY, ILLINOIS

(SEAL)

ARTICLE II. STORMWATER DRAINAGE AND DETENTION, SOIL EROSION AND SEDIMENT CONTROL

Sec. 29-31. Authority and purpose; other relevant permitting; applicability; exemptions; exceptions; separability.

(a) *Authority and purpose.*

- (1) This Article is enacted pursuant to the police powers granted to the Village of Godfrey, Illinois, pursuant to 65 ILCS 5/11-12-4, 65 ILCS 5/1-2-1, 65 ILCS 5/11-12-5, 65 ILCS 5/11-13-1 et seq.
- (2) The purpose of this Article is to diminish threats to public health and safety, protect property, prevent damage to the environment and promote public welfare by guiding, regulating and controlling the design, construction, use and maintenance of any new development or redevelopment or other activity which disturbs or breaks the topsoil or otherwise results in the movement of earth, and/or changes the stormwater drainage pattern and/or stormwater flows from that which would have occurred if the land had been left in its natural state. This stormwater runoff and resulting soil erosion could result in the inundation of damageable properties, the erosion and destabilization of downstream channels, and the pollution of valuable stream and lake resources. This Article regulates these activities to minimize adverse impacts.

The purpose of this Article is also to comply with the General National Pollutant Discharge Elimination System (NPDES) permit No. ILR40 regulations, the notice of intent (NOI) submitted to the IEPA in 2003 and renewed in 2009, 2014, 2016, and 2021.

- (3) This Article is adopted to accomplish the following objectives:
 - a. To ensure that new development or redevelopment does not increase the drainage or flood hazards, or create unstable conditions susceptible to soil erosion; and
 - b. To protect new buildings and major improvements to buildings from flood damage due to increased stormwater runoff and soil erosion; and
 - c. To protect human life and health from the hazards of increased flooding and soil erosion on a watershed basis; and
 - d. To lessen the burden on the taxpayer for flood control projects, repairs to flood-damaged public facilities and utilities, correction of channel erosion problems, and flood rescue and relief operations caused by stormwater runoff and soil erosion quantities from new development or redevelopment; and
 - e. To protect, conserve, and promote the orderly development of land and soil, water, air, animal, and plant resources; and
 - f. To preserve the natural hydrologic and hydraulic functions of watercourses and floodplains and to protect water quality and aquatic habitats; and
 - g. To preserve the natural characteristics of stream corridors in order to manage flood and stormwater impacts, improve water and groundwater quality, reduce soil erosion, protect aquatic and riparian habitat, maintain quality forest resources, provide recreational opportunities, provide aesthetic benefits, and enhance community and economic development; and
 - h. To establish requirements and promote regular, planned maintenance of stormwater management facilities.

- (b) *Other relevant permitting.* Before a development permit under this Article becomes effective, all required federal, state, and local permits will have been officially approved. The acquisition of these permits shall be the sole responsibility of the applicant. These may include, but are not limited to; section 404 of the Clean Waters Act, section 106 of the National Historic Preservation Act, section 10 of the Rivers and Harbors Act, or permitting required by the Illinois Department of Natural Resources, Office of Water Resources in accordance with the Rivers, Lakes and Streams Act, 615 ILCS, the Soil and Water Conservation Districts Act, 70 ILCS, the Farmland Preservation Act, 505 ILCS the Illinois Groundwater Protection Act, 415 ILCS and the National Pollutant Discharge Elimination System Permit (NPDES) thru the Illinois Environmental Protection Agency, Division of Water Pollution Control. Compliance is also required, but not limited to; the Zoning Ordinance and Land Subdivision Standards of the Village of Godfrey, Illinois.
- (c) *Applicability.* This Article applies to all new development or redevelopment in the Village. Except as otherwise provided in this Article, no person, firm or corporation, public or private, the State of Illinois and its agencies or political subdivisions; the United States of America, and its agencies or political subdivisions, any agent, servant, officer or employee of any of the foregoing which meets the following provisions or is otherwise exempted in this Article, shall commence any development activities without first having obtained a development permit from the building and zoning administrator of the Village.

Land disturbances that meet any of the following criteria require a development permit:

- (1) Any new development or redevelopment contains an area ten thousand (10,000) or more square feet of total impervious surface (i.e., streets, roof, patio or parking area or any combination thereof); or
 - (2) Any land disturbing activity (i.e., clearing, grading, stripping, excavation, fill, or any combination thereof) that affects an area of ten thousand (10,000) or more square feet, or that will exceed 100 cubic yards; or
 - (3) Any land disturbing activity exceeding five hundred (500) square feet if the activity is within 25 feet of a river, lake, pond, stream, sinkhole, or wetland; and is done in conjunction with subsections (c)(1) or (c)(2) of this section; or
 - (4) Any land disturbing activity on the sloping side of the slope disturbance line and is in conjunction with subsections (c)(1), (c)(2), or (c)(3) of this section; or
 - (5) Any development that results in change in the direction of stormwater runoff from a site; or
 - (6) Any land-disturbing activity that will affect an area in excess of five hundred (500) square feet if the activity is within 25 feet of a lake, pond, stream, or wetland; or
 - (7) Any activity resulting in a wetland impact; or
 - (8) Any development that is located partially or completely in a regulatory floodway; or
 - (9) Any development that is located partially or completely in a regulatory floodplain; or
 - (10) Any development that is located in a flood-prone area with 100 acres of tributary drainage area or more.
- (d) *Exemptions.*
- (1) A development permit shall not be required for the following:
 - a. Any new development, redevelopment or other activity falling below the minimum standards as set forth in subsection (d) of this section.
 - b. Any addition to an existing single-family dwelling which increases the total impervious surface of the lot above five thousand (5,000) square feet, does not exceed the maximum lot coverage for the zoning classification, and includes a best management practice to mitigate the increase in runoff from the addition.

- c. The agricultural use of land, including the implementation of conservation measures included in a farm conservation plan approved by the soil and water conservation district, and including the construction of agricultural structures.
 - d. The maintenance of any existing stormwater drainage/detention component or structure or any existing soil erosion/sediment control component or structure; including dredging, levee restoration, tree removal or other function which maintains the original design capacities of the above.
 - e. The construction of, improvements to, or the maintenance of any street, road, highway or interstate highway performed by any unit of government whose powers grant such authority.
- (2) A development permit is required for these uses but shall not be subject to the provisions of section 29-33, stormwater drainage and detention.
- a. Any land disturbing activity that is one acre (43,560 square feet) or less; or development of tracts of land where not more than one single-family dwelling is being erected; or,
 - b. Any lots in a new subdivision of land where the lots front and have their sole access on an existing street or roadway.
- (e) *Exceptions.* The board of trustees of the Village, after recommendation of the planning and zoning commission of the Village, may, in accordance with the following procedures, authorize exceptions to any of the requirements and regulations set forth in this Article:
- (1) Application for exception shall be made by a verified petition of the applicant for a development permit, stating fully the grounds of the petition and the facts relied upon by the applicant. Such petition shall be filed with the development permit application. In order for the petition to be granted, it shall be necessary that the board of trustees find all of the following facts with the respect to the land referred to in the application:
 - a. That the land is of such shape or size or is affected by such physical conditions or is subject to such title limitations or record, that it is impossible or impractical for the applicant to comply with all of the requirements of this Article; and
 - b. That the exception is necessary for the preservation and enjoyment of a substantial property right of the applicant; and
 - c. That the granting of the exception will not be detrimental to the public welfare, environment or injurious to other property in the vicinity of the subject's property.
 - (2) Each application for an exception shall be made to the building and zoning administrator. The administrator will review and transmit recommendations to the planning and zoning commission, which shall review such recommendations prior to its recommendation to the board of trustees concerning granting or denying the exception.
 - (3) The planning and zoning commission shall hold a public hearing on each application for exception, within thirty (30) days after receiving the application, in the manner by ordinance. Within thirty (30) days after public hearing, the planning and zoning commission shall recommend to either approve the development permit application with the exceptions and conditions it deems necessary or it shall recommend disapproving such development permit application and exception application, or it shall take other such action as appropriate. The decision of the board of trustees of the Village, upon recommendation of the planning and zoning commission shall be the final decision.
- (f) *Separability/severability.* The provisions and sections of this Article shall be deemed to be separable, and the invalidity of any portion of this Article shall not affect the validity of the remainder.
- (g) *Responsibility.* The applicant shall not be relieved of responsibility for damage to persons or property otherwise imposed by law, and the Village, or its officers or agents will not be made liable for such damage, by (1) the issuance of a development permit under this Article, (2) compliance with the provisions of that

development permit or conditions attached to it by the building and zoning administrator, (3) failure of Village officials to observe or recognize hazardous or unsightly conditions, (4) failure of Village officials to recommend denial or to deny a development permit, or (5) exemptions from development permit requirements of this Article.

- (h) *NPDES compliance:* New and redevelopment, that is applicable to this Article (per subsection (c)), must comply with the NPDES regulations (the general NPDES permit No. ILR40 and the NOI). NPDES compliance is obtained by adhering to this Article, ILR 10 permits, the general NPDES for the Village and the NOI submitted for each individual community and all future steps taken by the individual communities to implement the NOI.
- (1) *Public education and outreach on stormwater impacts:* In accordance with the general NPDES permit No. ILR40 and the NOI, the Village will comply and implement activities as outlined in the public education and outreach on stormwater impacts section of said permit.
 - (2) *Public involvement/participation:* In accordance with the general NPDES permit No. ILR40 and the NOI, the Village will comply and implement activities as outlined in the public involvement/participation section of said permit.
 - (3) *Illicit discharge detection and elimination:* In accordance with the general NPDES permit No. ILR40 and the NOI, the Village will comply and implement activities as outlined in the illicit discharge detection and elimination section of said permit.
 - (4) *Construction site stormwater runoff control:* In accordance with the general NPDES permit No. ILR40 and the NOI, the Village will comply and implement activities as outlined in the construction site stormwater runoff control section of said permit.
 - (5) *Post-construction stormwater management in new development and redevelopment:* In accordance with the general NPDES permit No. ILR40 and the NOI, the Village will comply and implement activities as outlined in the post-construction stormwater management in new development and redevelopment section of said permit.
 - (6) *Pollution prevention/good housekeeping:* In accordance with the general NPDES permit No. ILR40 and the NOI, the Village will comply and implement activities as outlined in the pollution prevention/good housekeeping section of said permit.
- (i) *Information accessibility to the public.* Documents relating to the adherence to this Article are available for review by request to the Village Clerk.

Sec. 29-32. Definitions.

For the purposes of this Article certain terms are defined and set forth below:

Adverse impacts: Any negative impact on plant, soil, air or water resources affecting their beneficial uses including recreation, aesthetics, aquatic habitat, quality, and quantity.

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

Base flood elevation: The elevation at all locations delineating the level of flooding resulting from the 100-year frequency flood event, which has a one (1) percent chance of occurring in any given year.

Best Management Practices (BMPs): methods that have been determined to be the most effective and practical means of preventing or reducing non-point source pollution to help achieve water quality goals. BMPs include both measures to prevent pollution and measures to mitigate pollution.

Building permit: A permit issued by the Village for the construction, erection or alteration of a structure or building and the related ground and surface preparation prior to and after completion of construction, erection or alteration of a structure or building.

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

Certify or certification: Formally attesting that the specific inspections and tests were performed, and that such inspections and tests comply with the applicable requirements of this Article.

Channel: Any defined river, stream, creek, brook, branch, natural or artificial depression, ponded area, on-stream lake or impoundment, karst area (sinkhole), flowage, slough, ditch, conduit, culvert, gully, ravine, wash, or natural or manmade drainage way, which has a definite bed and bank or shoreline, in or into which surface or groundwater flows, either perennially or intermittently.

Channel modification: Alteration of a channel by changing the physical dimensions or materials of its bed or banks. Channel modification includes damming, riprapping (or other armoring), filling, widening, deepening, straightening, relocating, lining, and significant removal of bottom or woody rooted vegetation. Channel modification does not include the manmade clearing of debris or removal of trash.

Clean Fill: Those materials which are made up of either in situ (Site derived) soils or transported soils which may be properly placed in lifts to achieve a level of compaction required for the proper support of foundations.

Clearing: Any activity which removes the natural vegetative ground cover.

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

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

Cubic yard: A one (1) yard, by one (1) yard, by one (1) yard amount of material in excavation and/or fill.

Critical Storm: The design storm which provides the highest flood discharges/water surface elevation for the flooding source.

Critical Storm Duration: The duration of a specific return frequency storm event (e.g. 2-year, 5-year, 10-year) which creates the greatest stress on the system, including the maximum surcharge and system outflow. The critical duration shall be determined for each development using flow monitoring and/or modeling data to compare the various durations of the specified storm and calculating the peak wet weather flow rate and volume of runoff for each. The duration resulting in the highest peak wet weather flow rate or largest total volume is the "Critical Storm Duration".

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

Detention time: The amount of time stormwater is held within a detention basin.

Development: Any manmade change to real estate or property, including:

- (1) The division or subdivision of any duly recorded parcel of property;
- (2) Construction, reconstruction or placement of a building or any addition to a building;
- (3) Installation of a manufactured home on a site, preparing a site for a manufactured home, or installing a travel trailer on a site for more than 180 days per year;
- (4) Construction of roads, bridges, or similar projects;
- (5) Redevelopment of a site;

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- (6) Filling, dredging, grading, clearing, excavating, paving or other nonagricultural alterations of a ground surface;
 - (7) Storage of materials or deposit of solid or liquid waste;
 - (8) Any other activity that might alter the magnitude, frequency, direction, or velocity of stormwater flows from a property.

Drain: Includes ditch and means any water course or conduit, whether open, covered, or enclosed, natural or artificial, or partly natural and partly artificial, by which waters coming or falling upon lands are carried away.

Drainage plan: A plan, including engineering drawings and supporting calculations, which describes the existing stormwater drainage system and environmental features, including grading, as well as proposed alterations or changes to the drainage system and environment of a property.

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

Erosion: The general process whereby soil or earth is moved by rainfall, flowing water, wind or wave action.

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 from such actions.

Excess stormwater runoff: The volume and rate of flow of stormwater discharged from a new development or redevelopment which is or will be in excess of that volume and rate which existed before development or redevelopment.

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

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

Final grade: The vertical location of the ground surface after grading work is completed in accordance with the engineering plans.

Flood fringe: That area as designated by the Federal Emergency Management Agency (FEMA) on either side of the flood way. This area is subject to inundation from the base flood but conveys little or no flow.

Flood hazard boundary map (FHBM): a very generalized map prepared by the Federal Emergency Management Agency (FEMA) which shows only where floodplains are located based on very basic data. FHBM's do not include base flood elevations.

Flood insurance rate map (FIRM): A map prepared by the Federal Emergency Management Agency (FEMA) that depicts the special flood hazard area (SFHA) within a community. This map includes insurance rate zones and regulatory floodplains and may or may not depict regulatory flood ways.

Floodplain: That land adjacent to a body of water with ground surface elevations at or below the base flood or the 100-year frequency flood elevation which is subject to inundation. The floodplain as designated by the Federal Emergency Management Agency (FEMA) is also known as the special flood hazard area (SFHA). These areas can be found on the (FIRM), flood boundary and flood way map, or the flood hazard boundary map (FHBM) of the community. This area is the collective combination of the regulatory flood way and the flood fringe.

Flood way: The channel and that portion of the floodplain, including on-stream lakes, adjacent to a stream or watercourse which is needed to store and convey the anticipated existing and future 100-year frequency flood discharge with no more than a 0.1 foot increase in stage due to any loss of flood conveyance or storage and no more than a ten percent (10%) increase in velocities. Flood ways are designated by FEMA on some flood insurance rate maps and flood boundary and flood way maps. However, there are flood ways on all streams whether

mapped by FEMA or not. IDNR/OWR Jurisdictional Streams are subject to state floodplain permitting (see IDNR/OWR Jurisdictional Streams).

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

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

Hydrograph method: This method estimates runoff volume and runoff hydrographs for the point of interest by generating hydrographs for individual sub areas, combining them, and routing them through stream lengths and reservoir structures. Factors such as rainfall amount and distribution, runoff curve number, time of concentration, and travel time are included.

IDNR/OWR Jurisdictional Stream: Illinois Department of Natural Resources Office of Water Resources has jurisdiction over any stream serving a tributary area of 640 acres or more in an urban area, or in the floodway of any stream serving a tributary area of 6,400 acres or more in rural areas. Construction on these streams requires a permit from the Department. (Ill Admin. Code tit. 17, pt. 3700.30). The Department may grant approval for specific types of activities by issuance of a statewide permit which meets the standards defined in this ordinance.

Impervious surface: That area of property that is covered by materials other than soil and vegetation and that has no intended capacity to absorb water, such as parking lots, driveways, sidewalks, patios, tennis courts, roofs and other structures.

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

Loessal soil: A sediment, commonly non-stratified and un-consolidated, composed predominately of silt sized particles with accessory clay and sand.

Lot: An individual platted parcel in an approved subdivision.

Lot Coverage: The area of a zoning lot occupied by the principal building or buildings and accessory buildings.

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

Minor drainage system: That portion of a drainage system designed for the convenience of the public. It consists of street gutters, storm sewers, small open channels, and swales and, where manmade, is to be designed to handle the two-year runoff event.

Mitigation: Mitigation is when the prescribed controls are not sufficient and additional measures are required to offset the development, including those measures necessary to minimize the negative effects which stormwater drainage and development activities might have on the public health, safety and welfare. Examples of mitigation include, but are not limited to; compensatory storage, soil erosion and sedimentation control, and channel restoration.

Modified rational method: As described in the Illinois Department of Transportation "Drainage Manual" is based on the principal that the maximum rate of runoff from a given drainage area occurs at that point in time when all parts of the watershed are contributing to the flow. The rainfall generating the peak flow is assumed to be of uniform intensity for the entire watershed with a rainfall duration equal to the time of concentration.

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

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

One-Hundred-year event: A rainfall, runoff, or flood event having a one percent (1%) chance of occurring in any given year. Critical Storm duration is assumed unless otherwise noted.

Parcel: All contiguous land in one ownership.

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

Permittee: Any person to whom a building permit is issued.

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

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

Prime farmland: Prime farmland is land that is best suited to food, feed, forage, fiber, and oilseed crops. It may be cropland, pasture, woodland, or other land, but it is not urban and built up land or water areas. It is either used for food or fiber or is available for those uses. The soil qualities, growing season and moisture supply are those needed for a well-managed soil to economically produce a sustained high yield of crops. Prime farmland produces the highest yields with minimum inputs of energy and economic resources, and farming it results in the least damage to the environment.

Property: A parcel of real estate.

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

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

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

Sinkhole (karst areas): A sinkhole or karst topography is a land surface depression or blind valley which may or may not have surface openings to cavernous underground areas and are the result of water movement through silts and jointed limestone. These conditions make such areas unstable and susceptible to subsidence and surface collapse. Fractures in the limestone may channel runoff water to public or private water supplies, making those sources especially susceptible to groundwater contamination.

Slope disturbance line: The line which delineates relatively level building areas from areas where slopes exceed eight percent (8%) and where special precautions must be taken.

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

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

Storm sewer: A closed conduit for conveying collected stormwater.

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

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

Ten-year event: A runoff, rainfall, or flood event having a ten percent (10%) chance of occurring in any given year. Critical storm duration is assumed unless otherwise noted.

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

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

Two-year event: A runoff, rainfall, or flood event having a fifty percent (50%) chance of occurring in any given year. Critical storm duration is assumed unless otherwise noted.

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

Watershed: All land area drained by, or contributing water to, the same stream, creek, ditch, lake, marsh, stormwater facility, groundwater or depressional area.

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

Wetlands: Wetlands are defined by regulation as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." For general, but not inclusive locations of designated wetlands refer to mapping prepared jointly by the U.S. Department of Interior, Fish and Wildlife Service and the Illinois Department of Natural Resources, Office of Resource Conservation; National Wetlands Inventory Mapping, 1987. The applicant may be required to provide a field investigation by a qualified wetland delineator.

Sec. 29-33. Stormwater drainage and detention.

- (a) *Drainage plan submittal requirements.* Each applicant shall submit the following information, to ensure that the provisions of this Article are met. The submittal shall include sufficient information to evaluate the environmental characteristics of the property, the potential adverse impacts and benefits of the development on water resources both on-site and off-site, and the effectiveness of the proposed drainage plan in managing stormwater runoff, and meet the provisions of subsection 29-31(b). The applicant shall certify on the drawings that all clearing, grading, drainage, and construction shall be accomplished in strict conformance with the drainage plan. The following information shall be submitted for both existing and proposed property conditions for all new development or redevelopment.
- (1) *Drainage plan requirements:* A topographic survey of the property at two-foot (2') contours unless otherwise specified or approved by the Village. If the mapping is compiled using a digital format and the global positioning system (GPS), the applicant will provide both paper and digital copies including GPS points.
 - (2) *Mapping and descriptions:* An existing drainage and proposed drainage plan, for the property and one hundred (100) feet surrounding the property at a scale of not more than one hundred (100) feet to one (1) inch and including the following:
 - a. Property boundary, dimensions, and approximate acreage; and
 - b. Building setback lines; and
 - c. All existing and proposed structures and sizes; and
 - d. Area of existing and proposed impervious surface in square feet; and
 - e. All existing, or proposed easements; and
 - f. All existing, abandoned, or proposed water or monitoring well head locations; and
 - g. All sanitary or combined sewer lines and private septic systems; and
 - h. The banks and centerline of streams and channels; and

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- i. Shoreline of lakes, ponds, and detention basins with normal water level elevation; and
 - j. Known farm drains and tiles; and
 - k. Soil classifications; and
 - l. Location, size and slope of stormwater conduits and drainage swales; and
 - m. Depressional storage areas; and
 - n. Detention/retention facilities; and
 - o. Roads, streets, and associated stormwater inlets including finished grades; and
 - p. Base flood elevation, flood fringe, and regulatory flood way; and
 - q. Basis of design for the final drainage network components; and
 - r. A statement giving any applicable engineering assumptions and calculations; and
 - s. A vicinity map showing the relationship of the site to its general surroundings at a scale of not less than two thousand (2,000) feet to one (1) inch (1:24,000); and
 - t. Title, scale, north arrow, legend, firm's Illinois license number, seal of licensed professional engineer, date, and name of person preparing plans; and
 - u. Cross-section data for open channel flow paths and designated overland flow paths; and
 - v. Direction of storm flows; and
 - w. Off-site drainage areas contributing to the site; and
 - x. Flow rates and velocities at critical points in the drainage system (may be included in the supporting documentation); and
 - y. A statement by the design engineer of the drainage system's provision for handling events greater than the one hundred (100) year, twenty-four (24) hour runoff (may be included in the supporting documentation); and
 - z. A statement of certification of all drainage plans, calculations, and supporting data by a licensed professional engineer.
- (3) *Environmental features:* A depiction of environmental features of the property and immediate vicinity including the following:
- a. The limits of designated regulatory and non-regulatory wetland areas; and
 - b. The location and limits of known sinkholes (karst areas); and
 - c. Any known designated natural areas, prime farmland; and
 - d. Any known proposed environmental mitigation features.
- (b) *Minimization of increases in runoff volumes and rates.* In the selection of a drainage plan for a new development or redevelopment; the applicant shall evaluate and implement site design features which minimize the increase in runoff volumes and rates from the site and maintain downstream water quality. The applicant's drainage plan submittal shall include evaluations of site design features which are consistent with the following hierarchy:
- (1) Preservation of regulatory floodplains, flood prone and wetland areas; and
 - (2) Minimize impervious surfaces on the property, consistent with the needs of the project; and
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- (3) Attenuate flows by use of open vegetated swales and natural depressions and preserves the existing natural streams, channels and drainageways; and
 - (4) The use of native, deep-rooted landscaping as an alternative to turf grass; and
 - (5) The use of open vegetated channels, filter strips, bio-swales, and infiltration (basins, trenches, floodplain restoration, etc.) to convey filter, and infiltrate stormwater runoff and minimize the usage of minor stormwater systems; and
 - (6) Preservation of the natural infiltration and storage characteristics of the site (e.g., disconnection of impervious cover, on-lot bio-retention facilities, rooftop detention, parking lot detention); and
 - (7) Structural measures that provide water quality and volume control (stormwater wetlands, wet detention facilities, sedimentation traps, etc.); and
 - (8) Infiltration of runoff on-site; and
 - (9) Provide stormwater retention structures; and
 - (10) Provide wet or wetland detention structures; and
 - (11) Provide dry detention structures; and
 - (12) Construct storm sewers.
- (c) *Water quality and multiple uses.*
- (1) The drainage system should be designed to minimize adverse surface and groundwater quality impacts off-site and on the property itself. Water quality shall adhere to:
 - a. Illinois Environmental Protection Act - 415 ILCS 5/12, from Ch.111 1/2., par. 1011 and 1012; and
 - b. Illinois Pollution Control Board Rules and Regulations - Title 35: Environmental Protection, Subtitle C: Water Pollution, Chapter I: Pollution Control Board, Part 302 Water Quality Standards; and
 - c. Illinois Pollution Control Board Rules and Regulations - Title 35: Environmental Protection, Subtitle C: Water Pollution, Chapter I: Pollution Control Board, Part 304 Effluent Standards.
 - (2) Detention basins shall incorporate design features to capture stormwater runoff pollutants. When designers propose wet bottom and wetland-type designs, all flows from the development shall be routed through the basin (i.e. low flows shall not be bypassed). When it is not practical or feasible to route all of the project's flow to the detention basin, the design of the basin shall compensate for the bypass flow. In cases where detention facilities are practical and the long-term maintenance of such facilities are provided for, detention of stormwater shall be promoted throughout the property's drainage system to reduce the volume of stormwater runoff and to reduce the quantity of runoff pollutants.
 - (3) The drainage system should incorporate multiple uses where practicable. Uses considered compatible with stormwater management include open space, aesthetics, aquatic habitat, recreation (boating, fishing, trails, playing fields), wetlands and water quality mitigation.
 - (4) Green infrastructure and non-structural BMPs are recommended to control stormwater runoff for projects less than 1.0 acre of new impervious area.
 - (5) Developments in watersheds which drain to critical or impaired waters as identified by Watershed Plans or waters included on IEPA's 303(d) list shall meet water quality and buffer standards to the extent that is practicable.
 - a. The development shall provide water quality treatment for runoff from increased impervious areas to minimize impacts of post-development stormwater runoff on water quality.
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b. The first inch of runoff from the new impervious area of development on the site shall be the water quality control storage.

(d) *Design criteria, standards, and methods.*

- (1) *Release rates.* The drainage system for new developments or redevelopments shall be designed to control the peak rate of discharge from the property for the two-year, 10-year, and 100-year critical storm duration events to discharge rates at or below those which existed prior to development. Additionally, the discharge from a stormwater detention facility shall not cause an increase in flooding or channel instability downstream when considered in aggregate with other developed properties and downstream drainage capacities. In areas where the drainage system discharges to a watershed identified as sensitive in the Madison County's Watershed Plan, a greater reduction of discharges rates may be required.
 - a. *Detention basin outlet design.* The detention basin outlet control structure shall be designed to account for observed or anticipated downstream tailwater elevations. The tailwater elevations used in the detention model shall be for the particular storm frequency being routed through the detention basin. An emergency spillway or overflow device shall be provided and set at an elevation equivalent to the 100-year design high water.
 - b. A calculation shall be made to determine the water elevation in the detention basin that would result from a 100-year critical storm duration event or a 24-hour storm event (whichever produces the higher water elevation) with the outflow control structure openings blocked. The discharge rate flowing through the emergency spillway shall not exceed the 100-year predevelopment flow rate. The top of bank for the detention basin shall be set at least one foot above this elevation. The lowest finished floor elevation of adjacent structures shall also be at least one foot above the detention basin top of bank.
- (2) *Detention storage requirements.* See subsection (d)(1) of this section.
- (3) *Drainage system design and evaluation.* The following criteria should be used in evaluating and designing the drainage system. The design will provide capacity to pass the ten-year peak flow rate in the minor drainage system and an overload flow path for flows in excess of the design capacity.
 - a. *Design methodologies:* Detention basin design shall be calculated using SCS TR-55 methods. Basins with drainage areas of ten acres or less may be calculated using the rational method as approved by the Illinois Department of Transportation. Other applicable methods, i.e. HEC-1, TR-20, SWMM, etc., shall be used for large watersheds.
 - b. *Positive drainage:* Whenever practicable, all developments must be provided an overland flow path that will pass the 100-year, 24-hour event flow at a stage at least one (1) foot below the lowest grade, adjacent to a structure, in the vicinity of the flow path. Street ponding and flow depths shall not exceed curb heights.
 - c. *Rainfall.* Unless a continuous simulation approach to drainage system hydrology is used, all design rainfall events shall be based on the Illinois State Water Survey's Bulletin 75. The precipitation frequency estimates and their time distributions presented in this bulletin supersede those published in Bulletin 70, Circular 172, and Circular 173. The first quartile point rainfall distribution shall be used for the design and analysis of conveyance systems with, critical durations less than or equal to six hours. The second quartile distribution shall be used for storms with durations greater than six hours and less than or equal to 12 hours. The third quartile point rainfall distribution shall be used for the design and analysis of detention basins and conveyance system with critical durations greater than 12 and less than or equal to 24 hours. The fourth quartile distribution shall be used in the design and analysis of systems, with durations greater than 24 hours. The first, third, and fourth quartile distributions described by Huff are presented in Table 26 of Bulletin 75. Refer to Table 13 (for Section 8 Southwest) of Bulletin 75 for rainfall depth, duration, and frequency. The NRCS Type II distribution may

be used as an alternate to the Huff distributions. Adjustment for the "St. Louis Urban Effect" as given in Table 4, Illinois State Water Survey Circular 172 is not applicable when Bulletin 75 rainfall data is used.

- d. *Antecedent moisture.* Average antecedent moisture conditions shall be assumed when calculating runoff curve numbers for use in the SCS TR-55 method.
 - e. *Curve Number (CN).* A CN value of 80 shall be used for existing agricultural land.
 - f. *Alteration of Drainage Patterns.* The design of stormwater management systems shall not result in any transfer of water between watersheds unless no reasonable alternative exists as determined by the Village.
 - g. *Runoff Calculations.* Runoff calculations for all offsite tributary land shall be based on either the anticipated future land use conditions or existing land use conditions. Anticipated future land use conditions will be based on future land use and existing offsite storage facilities. Existing land use conditions will be based on existing land use and existing offsite storage facilities.
- (4) *Wet detention basin design.* Wet detention basins shall be designed to remove stormwater pollutants, to be safe, to be aesthetically pleasing, and as much as feasible to be available for recreational use.
- a. *Wet basin depths:* Wet basins shall be at least three feet deep, excluding near-shore banks and safety ledges. If fish habitat is to be provided they shall be at least eight (8) feet deep over twenty-five (25%) percent of the bottom area to prevent winterkill.
 - b. *Wet basin shoreline slopes:* The side slopes of wet basins at the normal pool elevation shall not be steeper than three to one (3 to 1 horizontal to vertical). It is recommended that aquatic vegetation be established around the perimeter to provide protection from shoreline erosion. For basins more than five acres, riprap shoreline protection or native wetland and wet prairie vegetation with deep root system shall be provided to stabilize the soil.
 - c. *Permanent pool volume:* The permanent pool volume in a wet basin at normal depth shall, at a minimum, be equal to the runoff volume from its watershed for the two-year, critical storm duration event (calculated during dry weather conditions).
 - d. *Wet basin inlet and outlet orientation:* The distance between detention inlets and outlets shall be maximized. Inlets and outlets shall be at opposite ends of the basin providing that the orientation does not create undue hardship based on topography or other natural constraints.
- (5) *Dry detention basin design.* In addition to the other requirements of this Article, dry basins shall be designed to remove stormwater pollutants, to be safe, to be aesthetically pleasing and as much as feasible to be available for multiple uses. Paved low flow channels may be used in a dry basin provided provisions are made to prevent ponding.
- a. *Dry basin drainage:* Dry basins shall be designed so that eighty percent (80%) of their bottom area shall have standing water no longer than seventy-two (72) hours for any runoff event less than the 100-year, critical storm duration. Grading plans shall clearly distinguish the wet portion of the basin bottom. Underdrains directed to the outlet may be used to accomplish this requirement.
 - b. *Velocity dissipation:* Velocity dissipation measures shall be incorporated into dry basin designs to minimize erosion at inlets and outlets and to minimize resuspension of pollutants.
 - c. *Dry basin inlet and outlet orientation:* Shall be the same as subsection (d)(4)(d).
- (6) *Existing depressional areas.* Existing depressional storage volume will be maintained, and the volume of detention storage provided to meet the requirements of this Article shall be in addition to existing storage.
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- (7) *Minimum detention outlet size.* Where a single pipe outlet or orifice plate is to be used to control discharge, it shall have a minimum diameter of twelve inches for larger basins. Notches or weirs are preferred to a round orifice because this configuration better controls a range of storm events. If this minimum size permits release rates greater than those specified in this section, alternative outlet designs shall be utilized which incorporate self-cleaning flow restrictors. The minimum area for the flow restrictor is 12.56 square inches (equivalent to a 4-inch diameter circular orifice). The outlet pipe and control devices shall be designed to minimize maintenance requirements and prevent tampering.
- (8) *Detention in floodplains.* The placement of detention basins within the riverine floodplain (Zones A and AE) is strongly discouraged and can only be approved for a specific site by the Village because of questions about their reliable operation during flood events. However, if approval is granted, the stormwater detention requirements of this Article may be fulfilled by providing detention storage within flood fringe areas on the project site provided the following provisions are met as well as compliance with subsection 29-31(b).
- a. *Detention in flood fringe areas:* The placement of a detention basin in a flood fringe area shall require compensatory storage for 1.5 times the volume below the base flood elevation occupied by the detention basin including any berms. The release from the detention storage provided shall still be controlled consistent with the requirements of this section. The applicant shall demonstrate its operation for all stream-flow and floodplain backwater conditions. Excavations for compensatory storage along watercourses shall be opposite or adjacent to the area occupied by detention. All floodplain storage lost below the existing ten-year flood elevation shall be replaced below the existing ten-year elevation. All floodplain storage lost above the existing ten-year flood elevation shall be replaced above the existing ten-year flood elevation. All compensatory storage excavations shall be constructed to drain freely and openly to the watercourse and comply with subsection 29-31(b).
 - b. *Detention on prime farmland:* All detention basin construction shall examine potential impacts to adjacent agricultural land and shall address measures that will be implemented to eliminate such impacts and comply with subsection 29-31(b).
 - c. *Detention in flood ways:* Detention basins, if approved for placement, shall be placed in the flood way only in accordance with subsection (d)(8) of this section. All permitting requirements of USACE and IDNR/OWR Jurisdictional Streams shall apply.
 - d. *On-stream detention:* On-stream detention basins are discouraged but allowable if they provide regional public benefits and if they meet the other provisions of this Article with respect to water quality and control of the 100-year, critical storm duration from the property. Further criteria are presented in subsection (e) of this section. If on-stream detention is used in watersheds larger than one square mile, the applicant will use hydrographic modeling to demonstrate that the design will not increase the water level for any properties upstream or downstream of the property. Also, impoundment of the stream as part of on-stream detention:
 1. Shall not prevent the migration of indigenous fish species, which require access to upstream areas as part of their life cycle, such as for spawning;
 2. Shall not cause or contribute to the degradation of water quality or stream aquatic habitat;
 3. Shall include a design calling for gradual bank slopes, appropriate bank stabilization measures, and a pre-sedimentation basin;
 4. Shall not involve any stream channelization or the filling of wetlands;
 5. Shall require the implementation of an effective nonpoint source management program throughout the upstream watershed which shall include as a minimum: runoff reduction "Best Management Practices" (BMP's) consistent with subsection (b) of this section; two-
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year, critical storm duration detention/sedimentation basins for all development consistent with subsection (d)(8)(d). of this section;

6. Shall not occur downstream of a wastewater discharge; and
7. Shall not contribute to the duration or flood frequency of any adjacent land.
8. Shall comply with subsection 29-31(b).

(9) *Drainage into wetlands, rivers, streams, lakes, ponds, and depressional storage areas.* Wetlands, lakes, ponds and depressional storage areas shall be protected from damaging modifications and adverse changes in runoff quality and quantity associated with land developments. In addition to the other requirements of this Article, the following requirements shall be met for all developments whose drainage flows into wetlands, rivers, lakes, ponds or depressional storage areas:

- a. *Detention in wetlands, rivers, streams, lakes, ponds or depressional storage areas:* Existing wetlands, rivers, lakes, ponds or depressional storage areas shall not be modified for the purposes of stormwater detention unless it is demonstrated that the proposed modifications will maintain or improve its habitat and ability to perform beneficial functions and shall comply with subsection 29-31(b). Existing storage and release rate characteristics of wetlands, rivers, lakes, ponds or depressional storage areas shall be maintained and the volume of detention storage provided to meet the requirements of this section shall be in addition to this existing storage.
 1. Drainage into, or detention within, wetlands classified as Waters of the United States (WOTUS) may be allowed, subject to obtaining regulatory permitting or written clearance from the USACE. In addition to the other requirements of this ordinance, the following requirements shall be met for all development whose drainage flows into the WOTUS.
 - i. The 2-year discharge rate to the WOTUS shall not exceed 0.04 cfs/acre (the 2-year detention volume must be provided upstream of the WOTUS).
 - ii. The existing depression storage of the WOTUS shall be maintained. The volume of detention storage provided to meet the discharge rate requirements shall be in addition to the existing depressional storage.
 - iii. The site drainage patterns shall not be altered to substantially decrease or increase the area tributary to the WOTUS.
 2. Buffer areas shall be required for all areas defined as Waters of the United States (WOTUS). The buffer area for all WOTUS shall extend landward from the ordinary high water mark. The buffer area for jurisdictional or mitigated wetlands shall extend from the edge of the delineated wetland. A property may contain a buffer area that originates from WOTUS on another property. Buffer areas are divided into two types, linear buffers and water body buffers.
 - i. Linear buffers shall be designated along both sides of all channels meeting the definition of WOTUS:
 - [a]. When the channel has a watershed greater than twenty (20) acres, the minimum buffer shall be thirty (30) feet on each side of the channel.
 - [b]. Channels with an Index of Biotic Integrity (IBI) greater than 35 shall have a minimum buffer width of one hundred (100) feet on each side of the channel. (Initial IBI based on IDNR, IEPA data, or site specific assessment, whichever is most current.)
 - ii. Water body buffers shall encompass all non-linear bodies of water meeting the definition of WOTUS including wetlands, lakes, and ponds.

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- [a]. For all water bodies with a total surface area of one tenth (0.10) acre but less than 1 acre, a minimum buffer width of thirty (30) feet shall be established.
 - [b]. For all water bodies with a total surface area greater than one (1) acre but less than 2.5 acres, a minimum buffer width of forty (40) feet shall be established.
 - [c]. For all water bodies with a total surface area of 2.5 acres, a minimum buffer width of fifty (50) feet shall be established.
- b. *Sediment control*: The existing wetlands, rivers, lakes, ponds, or depressional storage areas shall be protected during construction and as further regulated in section 29-34 of this Article.
 - c. *Alteration of drainage patterns*: Site drainage patterns shall not be altered to substantially decrease or increase the existing area tributary to the wetlands, rivers, lakes, ponds or depressional storage areas.
 - d. *Detention/sedimentation*: All runoff from the development shall be routed through a preliminary detention/sedimentation basin designed to capture the two-year, critical storm duration and hold it for at least 24 hours, before being discharged to the wetland, river, lake, pond, or depressional storage area. This basin shall be constructed before property grading begins and shall be maintained throughout the construction process. In addition, the drainage hierarchy defined in subsection (b) should be followed to minimize runoff volumes and rates being discharged to the wetland, river, stream, lake, pond, or depressional storage area and as further regulated in and subsection 29-33(d) of this Article.
 - e. *Loessal soils*: Care must be taken to avoid open flow discharges of stormwater over silt (loessal) soils due to high potential for erosion.
 - f. *Sinkholes, karst area*: The following requirements apply for new developments or redevelopments where sinkholes are determined to be present:
 - 1. A stormwater detention basin shall not be placed in or over a sinkhole.
 - 2. Stormwater detention basins shall not be located closer than one hundred (100) feet from the rim of a sinkhole.
 - 3. The outflow from a stormwater detention basin, channel, ditch or any stormwater runoff generated as a result of a new development or redevelopment shall not empty into or be directed, redirected by any means into or through any sinkhole.
 - 4. If, after the review of the stormwater drainage plan, the Village engineer may determine that more detailed information is required, a sinkhole evaluation may be required. A sinkhole evaluation which addresses the geologic, engineering and environmental factors resulting from a new development or redevelopment be performed by a professional with experience and expertise in karst topography, whom shall certify the results of the evaluation. This evaluation shall be the responsibility of the applicant and performed at no cost to the Village. After a review of this evaluation and with the consultation of the county soil and water conservation district, the Village engineer of the Village may either approve or disapprove the drainage plan as submitted.
 - 5. Whenever a new sinkhole appears or it becomes apparent that the sinkhole has not yet been identified, it shall be reported to the county soil and water conservation district.
 - 6. Shall comply with subsection 29-31(b).
- (10) *Street detention, parking lot detention, and culvert drainage.*
- a. *Street detention*. Storm water detention on streets is not allowed.
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- b. *Parking lot detention.* The maximum stormwater ponding depth in any parking area shall not exceed six (6) inches for more than four (4) hours.
 - c. *Culvert, road and driveway crossings.* Sizing of culvert crossings shall consider entrance and exit losses as well as tailwater conditions on the culvert.
- (11) *Underground Detention Storage:* In addition to the other applicable requirements of this Section, underground detention storage shall be designed to remove stormwater pollutants by collecting sediment and floatable debris, to be safe, and shall meet the following requirements:
- a. *Underground Detention Chambers:* Adequate access shall be provided to all chambers for inspection, maintenance, and removal of accumulated sediment and debris.
 - b. *Positive Drainage:* Underground facilities shall be sloped to provide positive drainage via gravity to the outlet.
 - c. *Storage Volume:* The required detention storage volume shall be provided in the storage structure, storage pipe, or reservoir stone as noted below. Storage volume in voids of bedding material will not be considered part of the detention volume. The volume of stone void space in the reservoir stone layer of an aggregate basin or an infiltration basin may provide detention storage volume and shall be assumed to be no greater than 40% voids.
 - d. *Location:* Underground detention facilities shall be located far enough from property lines and buildings to allow sufficient space for installation, maintenance, and future repairs as well as to prevent building foundation damage in the event that the storage basin fails or is not watertight. A minimum separation of 10' from adjacent properties and buildings is recommended. Exceptions may be allowed when the building foundation is designed to account for the proximity of the underground basin.
 - e. *Design:* Underground detention and infiltration facilities shall be designed, signed, and sealed by an Illinois Licensed Professional Engineer, and structural components shall be designed, signed and sealed by an Illinois Licensed Structural Engineer.
- (12) *Infiltration practices.* To effectively reduce runoff volumes, infiltration practices including basins, trenches, and porous pavement may be used as detention facilities subject to the following:
- a. The basin must be designed to dewater within 72 hours following the end of the 100-year critical duration storm event.
 - b. The underlying soils must have an infiltration rate of at least 0.5 inches per hour as determined by an engineer and should be located in hydrologic soil groups "A" and "B" as designated by the U.S.D.A. Natural Resources Conservation Service.
 - c. Pretreatment facilities must be provided to prevent obstruction.
 - d. Infiltration basins and trenches designed to recharge groundwater shall not be located within two hundred (200) feet of a water supply well.
 - e. Runoff from the areas that have water quality concerns or are subject to frequent winter deicing must not be routed to the infiltration facility.
 - f. The bottom of infiltration basins or trenches shall be a minimum of four (4) feet above the seasonally high groundwater and bedrock level. Engineering calculations demonstrating infiltration rates shall be included with the application.
- (13) *Vegetated filter strips and swales.* To effectively filter stormwater pollutants and promote infiltration of runoff, sites should be designed to maximize the use of vegetated filter strips and swales. Whenever practicable, runoff from impervious surfaces should be directed onto filter strips and swales comprised of native grasses and forbs before being routed to a storm sewer or detention basin.
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- (14) *Safety considerations.* The drainage system components, especially all detention basins, shall be designed to protect the safety of any children or adults coming in contact with the system during runoff events and shall comply with subsection 29-31(b).
- a. *Side slopes:* The side slopes of all detention basins at 100-year, critical storm duration event capacity shall be as level as practicable to prevent accidental falls into the basin and for stability and ease of maintenance. Side slopes of detention basins and open channels shall not be steeper than three (3) to one (1) (horizontal to vertical).
 - b. *Safety ledge.* All wet detention basins shall have a level safety ledge at least four (4) feet in width, two-and-one-half (2.5) to three (3) feet below the normal water depth or must be protected by an enclosed fence, at least forty-eight (48) inches in height.
 - c. *Velocity.* Velocities throughout the surface drainage system shall be controlled to safe levels taking into consideration rates and depths of flow.
 - d. *Overflow structures.* See subsection (d)(1)(a). of this section.
- (15) *Maintenance considerations.* The stormwater drainage system shall be designed to minimize and facilitate maintenance. Turfed side slopes shall be designed to allow lawn mowing equipment to easily negotiate them. Wet basins shall be provided with alternate outflows which can be used to completely drain the pool for sediment removal. Pumping may be considered if drainage by gravity is not feasible. Pre-sedimentation basins shall be included, where feasible, for localizing sediment deposition and removal. Site access for heavy equipment shall be provided.
- (e) *Accommodating flows from upstream tributary areas.* Stormwater runoff from areas tributary to the property shall be considered in the design of the property's drainage system. Whenever practicable, flows from upstream areas that are not to be detained should be routed around the basin being provided for the site being developed. Off-site flow may be diverted around a proposed detention facility provided that the other applicable standards regarding regulatory floodplain or flood-prone areas are met. Peak runoff at the point where off-site and detention outlet flows converge shall be analyzed to verify the peak runoff is not increased from that of the per-developed condition.
- (1) *Upstream areas not meeting ordinance requirements.* When there are areas not meeting the storage and release rates of this Article, tributary to the applicant's property, regionalized detention on the applicant's property may be explored by the applicant or the Village. When it is deemed beneficial by the Village or the applicant to explore such a design, the following steps shall be followed:
- a. The applicant shall compute the storage volume needed for his property using the release rates of subsection (d) of this section, the applicant's property area, and the procedures described in subsection (c) of this section.
 - b. Areas tributary to the applicant's property, not meeting the storage and release rate requirements of this Article, shall be identified.
 - c. Using the areas determined above plus the applicant's property area, total storage needed for the combined properties shall be computed.
- Allowable release rates shall be computed using the combined property areas. Storage shall be computed as described in subsection (d) of this section. If tributary areas are not developed, a reasonable fully developed land cover, based on local zoning, shall be used for the purposes of computing storage.
- Once the necessary combined storage is computed, the Village may choose to pay for over-sizing the applicant's detention basin to accommodate the regional flows. The applicant's responsibility will be limited to the storage for his property as computed above. If regional storage is selected by the Village, then the design produced in subsection (c) of this section shall be implemented. If
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regional storage is rejected by the Village, the applicant shall bypass all tributary area flows around the applicant's basin whenever practicable. If the applicant must route upstream flows through his basin and the upstream areas exceed one-square mile in size, the applicant must meet the provision of subsection 29-33(d)(8)(d). for on-stream basins.

- (2) *Upstream areas meeting ordinance requirements.* When there are areas which meet the storage and release rate requirements of this Article, tributary to the applicant's property, the upstream flows shall be bypassed around the applicant's detention basin if this is the only practicable alternative. Storage needed for the applicant's property shall be computed as described in subsection (e)(1) of this section. However, if the Village decides to route tributary area flows through an applicant's basin, the final design stormwater releases shall be based on the combined total of the applicant's property plus tributary areas. It must be shown that at no time will the release rate from the combined property exceed the allowable release rate for applicant's property alone.
- (f) *Early completion of detention facilities.* Where detention, retention, or depressional storage areas are to be used as part of the drainage system for a property, they shall be constructed as the first element of the initial earthwork program. Any eroded sediment captured in these facilities shall be removed by the applicant on a regular basis and before project completion in order to maintain the design volume of the facilities.

Sec. 29-34. - Soil erosion and sediment control.

- (a) *Findings.* The Village hereby finds that:
 - (1) The soil types found in the Village are susceptible to erosion and if left unprotected could cause severe loss of soil with resultant damage to property; and
 - (2) The topography of the Village contains areas with steep slopes upon which, if clearing of trees and/or inappropriate construction takes place, could result in severe erosion and slope stability problems which could result in damage to property; and
 - (3) Excessive quantities of soil may erode from areas undergoing development for certain nonagricultural uses including, but not limited to; the construction of dwelling units, commercial buildings and industrial plants, the building of roads and highways, the modification of stream channels and drainage ways, and the creation of recreational facilities; and
 - (4) The washing, blowing, and falling of eroded soil across and upon roadways endangers the health and safety of users thereof, by decreasing vision and reducing traction of road vehicles; and
 - (5) Soil erosion necessitates the costly repairing of gullies, washed out fills, and embankments; and
 - (6) Sediment from soil erosion tends to clog sewers and ditches and to pollute and silt rivers, streams, lakes, sinkholes, wetlands, and reservoirs; and
 - (7) Sediment limits the use of water and waterways for most beneficial purposes, promotes the growth of undesirable aquatic weeds, destroys fish and other desirable aquatic life, and is costly and difficult to remove; and

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- (8) Sediment reduces the channel capacity of waterways and the storage capacity of floodplains and natural depressions, resulting in increased chances of flooding at risk to public health and safety; and
 - (9) Streambank and channel restoration, which includes stabilization and grade control structures reduce erosion and, in some cases, provide flood storage; and
 - (10) Critical stream reaches exhibit highly eroded banks or stream beds, or degraded channel conditions, that are a major source of total suspended solids (sediment), phosphorus and nitrogen carried with it. Streambank stabilization and channel restoration reduce sediment and nutrients transported downstream, increase dissolved oxygen levels, and improve habitat.
- (b) *General principles.* It is the objective of this Article to control soil erosion and sedimentation caused by development activities, including clearing, grading, stripping, excavating, and filling of land, in the Village.
- (1) Water quality shall adhere to:
 - a. Illinois Environmental Protection Act - 415 ILCS 5/12, from Ch.111 1/2, par. 1011 and 1012; and
 - b. Illinois Pollution Control Board Rules and Regulations - Title 35: Environmental Protection, Subtitle C: Water Pollution, Chapter I: Pollution Control Board, Part 302 Water Quality Standards; and
 - c. Illinois Pollution Control Board Rules and Regulations - Title 35: Environmental Protection, Subtitle C: Water Pollution, Chapter I: Pollution Control Board, Part 304 Effluent Standards.
 - (2) Measures taken to control soil erosion and off-site sediment runoff shall be adequate to assure that sediment is not transported from the site by a storm event of two-year, critical storm duration event. The following principles shall apply to all new development or redevelopment activities within the Village and to the preparation of the submissions required under subsection (c) of this section:
 - a. New development or redevelopment shall be related to the topography and soils of the site so as to create the least potential for erosion. Areas of steep slopes greater than thirty-three (33%) percent where high cuts and fills may be required are to be avoided wherever possible, and natural contours should be followed as closely as possible.
 - b. Natural vegetation shall be retained and protected wherever possible. Areas immediately adjacent to natural watercourses, lakes, ponds, sinkholes, and wetlands are to be left undisturbed wherever possible. Temporary crossings of watercourses, when permitted, must include appropriate stabilization measures.
 - 1. Where stream construction crossings are necessary, temporary crossings shall be constructed of non-erosive material.
 - 2. 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.
 - c. Stormwater conveyance channels, including ditches, swales, and diversions, and the outlet of all channels and pipes shall be designed and constructed to withstand the expected flow velocity from the ten-year, critical storm duration event without erosion. All constructed or modified channels shall be stabilized within 48 hours.

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- d. Special precautions shall be taken to prevent damages resultant from any necessary development activity within or adjacent to any stream, lake, pond, sinkhole or wetland. Preventive measures shall reflect the sensitivity of these areas to erosion and sedimentation.
 - 1. 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.
 - 2. Areas of embankments having slopes greater than or equal to 3H:1V shall be stabilized with staked-in-place sod, mat, or blanket in combination with seeding.
 - e. The smallest practical area of land should be exposed for the shortest practical time during development.
 - f. Sediment basins or traps, filter barriers, diversions, and any other appropriate sediment or runoff control measures shall be installed prior to site clearing and grading and maintained to remove sediment from runoff waters from land undergoing development.
 - g. The selection of erosion and sediment control measures shall be based on assessment of the probable frequency of climatic and other events likely to contribute to erosion, and on evaluation of the risks, costs, and benefits involved.
 - h. In the design of erosion control facilities and practices, aesthetics and the requirements of continuing maintenance must be considered.
 - i. Provisions shall be made to accommodate the increased runoff caused by changed soil and surface conditions during and after development. Drainage ways should be designed so that their final gradients and the resultant velocities and rates of discharge will not create additional erosion on-site or downstream.
 - j. Disturbed areas shall be stabilized with temporary or permanent measures within seven (7) calendar days following the end of active hydrologic disturbance, or re-disturbance. Permanent vegetation and structures shall be installed and functional as soon as practical during development.
 - k. Those areas being converted from agricultural purposes to other land uses shall be vegetated with an appropriate protective cover prior to development. Appropriate temporary or permanent stabilization measures shall include seeding, mulching, sodding, and/or non-vegetative measures.
 - l. All waste generated as a result of site development activity shall be properly disposed of and shall be prevented from being carried off the site by either wind or water.
 - m. All construction sites shall provide measures to prevent sediment from being tracked onto public or private roadways. The applicant shall be responsible for cleaning any mud or sediment from roadways daily.
 - n. All temporary soil erosion and sediment control practices shall be maintained to function as intended until the contributing drainage area has been permanently stabilized at which time they shall be removed.
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(c) *Erosion and sediment control plan submittal requirements.* Each applicant shall submit the information depending on development size, see subsection 29-34(d)(1)f, as regulated to ensure that the provisions of this Article are met. The submittal shall include sufficient information to evaluate the environmental characteristics of the property, the potential adverse impacts of the development related to erosion both on-site and off-site, and the effectiveness of the proposed erosion and sediment control plan in reducing sediment loss and meet the provisions of subsection 29-31(b). The applicant shall certify on the drawing that all clearing, grading, drainage, and construction shall be accomplished in strict conformance with the erosion and sediment control plan. The following information shall be submitted for both existing and proposed property conditions; new developments or redevelopments meeting the requirements of subsection 29-31(c).

(1) *Erosion and sediment control plan requirements.* Shall meet the requirements of subsections 29-33(a)(1), 29-33(a)(2), and 29-31(b).

a. *Mapping and descriptions.* The existing and proposed erosion and sediment control features of the property and immediate vicinity including:

1. As required in subsections 29-33(a)(1), 29-33(a)(2), and 29-33(a)(3).
2. Location of the slope disturbance line and grading limits.
3. Location and description of the erosion and sediment control measures to be employed during construction.
4. For any structures proposed to be located on the slope side of the slope disturbance line the map shall include the limits of disturbance including tree removal, erosion and sediment control measures during construction, cross section view of any proposed cut or fill, erosion and sediment control measures during construction, details of method(s) proposed for providing slope stability, permanent stormwater control measures, and permanent erosion and sediment control measures all being certified by a registered professional engineer or a "certified professional erosion control specialist."
5. The predominant soil types on the site, their location, and their limitations for the proposed use as defined by the U.S.D.A. Natural Resources Conservation Service.
6. The proposed use of the site, including present and planned development, areas of clearing, stripping, grading, excavation and filling; proposed contours, finished grades, and street profiles; the stormwater plan as required in section 29-33(a); kinds and locations of utilities, areas and acreages proposed to be paved, sodded or seeded, vegetatively stabilized, or left undisturbed; and the location of specimen trees over eight (8) inches in diameter and their type.
7. The erosion and sediment control plan showing all measures necessary to meet the requirements of this Article throughout all phases of construction and those remaining permanently after completion of the development of the site, including:
 - i. Location and description, including standard details, of all sediment control measures, runoff control measures, including diversions, waterways and outlets, and design specifics of sediment basins and traps including outlet details.

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- ii. Location and description of all soil stabilization and erosion control measures, including seeding mixtures and rates, types of sod, method of seedbed preparation, expected seeding dates, type and rate of lime and fertilizer application, kind and quantity of mulching for both temporary and permanent vegetative control measures, and types of non-vegetative stabilization measures.
 - iii. Location and description of methods to prevent tracking of sediment off-site including construction entrance details, as appropriate.
 - iv. Description of dust and traffic control measures.
 - v. Locations of stockpiles and description of stabilization methods.
 - vi. Location of off-site fills or borrow volumes, locations, and methods of stabilization.
 - vii. Provisions for maintenance of control measures, including type and frequency of maintenance, easements, and estimates of the cost of maintenance.
 - viii. The proposed phasing/staging 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 area, and the sequence of installation of temporary sediment control measures (including perimeter controls), installation of stormwater 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 building and zoning administrator of any significant changes which occur in the site development schedule after the initial erosion and sediment control plan has been approved.

(d) *Design and operation standards and requirements.* The preparation of soil erosion and sediment control plans, the design criteria, standards, and methods shall be prepared in accordance with the requirements of this Article and the standards and specifications contained in "Illinois Urban Manual" prepared for the Illinois Environmental Protection Agency by the U.S.D.A. Natural Resources Conservation Service, which standards and methods are hereby incorporated into this Article by reference. In the event of conflict between the provisions of said manuals and of this Article, this Article shall govern.

- (1) Erosion and sediment control design requirements: New developments or redevelopments shall comply with subsection (c) of this section and meet the following:
- a. Control measures shall be constructed to control runoff from the property to such an extent possible that sediment is retained on-site.
 - b. Temporary on-site control measures required shall be constructed and functional prior to initiating clearing, grading, stripping, excavating or fill activities on the site.
 - c. Disturbed areas shall be stabilized with permanent measures within seven (7) calendar days following the end of active disturbance, or re-disturbance consistent with the following criteria:
 - 1. Appropriate permanent stabilization measures shall include seeding, mulching, sodding, with non-vegetative measures as a last resort.

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2. Areas having slopes greater than thirty-three (33%) percent shall be stabilized with sod, mat, or blanket in combination with seeding or equivalent.
- d. All temporary and permanent erosion and sediment control practices must be maintained and repaired as needed to assure effective performance of their intended function. Repair, replace, or maintain erosion and sediment control structures after a singular or cumulative rainfall event(s) of 0.5 inches or more over a 24-hour period. Make adjustments to the sedimentation and erosion control plan and methods, as needed, to accomplish the intended purpose.
 - e. All temporary erosion and sediment control measures shall be disposed of in a proper manner within 30 days after final site stabilization is achieved with permanent soil stabilization measures. Trapped sediment and other disturbed soils resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation. If a Notice of Intent (NOI) was required for the new developments or redevelopment site, then after seventy (70%) percent ground cover has been achieved as required by the NOI, the applicant must submit a Notice of Termination (NOT) to the responsible government entity.
 - f. Site development requirements. On-site sediment control measures, as specified by the following criteria, shall be constructed as specified in the referenced handbooks, and functional prior to initiating clearing, grading, stripping, excavating or fill activities on the site:
 1. For new developments or redevelopments less than one acre, or for a tract of land where a single-family dwelling is being erected and less than 10,000 square feet of impervious surface is being developed, filter barriers (including filter fences, or equivalent control measures) shall be constructed to control all on-site runoff. Vegetated filter strips, with a minimum width of twenty-five (25) feet, may be used as an alternative only where runoff in sheet flow is expected.
 2. For new developments or redevelopments more than one acre but less than five acres, a sediment trap designed in accordance with the Illinois Urban Manual or equivalent control measure shall be constructed at the downslope point of the disturbed area.
 3. For new developments or redevelopments greater than five acres, a sediment basin or equivalent control measure shall be constructed at the downslope point of the disturbed area.
 4. Sediment basin and sediment trap designs shall provide for both "dry" detention and "wet" detention sediment storage. The detention storage shall be composed of equal volumes of "wet" detention storage and "dry" detention storage and each shall be sized as regulated in section 29-33. The release rate of the basin shall be that rate as regulated in section 29-33. The elevation of the outlet structure shall be placed such that it only drains the dry detention storage. If the detention basin for the proposed development condition of the site is used for the 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.
 5. The sediment storage shall be sized to store the estimated sediment load generated from the site over the duration of the construction period with a minimum storage equivalent to the volume or sediment generated in one year. For construction periods exceeding one year, the one-year sediment load and a sediment removal schedule may be substituted.
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6. Sediment shall not be deposited into sinkholes. The alteration of sinkholes by filling, grading or excavation is prohibited, including an area within twenty-five (25) feet from the rim.
 7. To the extent possible or as otherwise regulated in this Article, all desirable trees eight inches in diameter and larger shall be protected for their present and future value for erosion protection and other environmental benefits. Trees that have been selected for preservation shall be marked prior to the beginning of any clearing, grading, stripping, excavation, or filling of the site. A "No" construction zone shall be established and marked at the perimeter of the drip line of each tree which is to be preserved. This "No" construction zone should have temporary fence or silt fence to designate the area to be undisturbed adjacent to the tree.
 - g. Stormwater conveyance channels, including ditches, swales, and diversions, and the outlets of all channels and pipes shall be designed and constructed as regulated in section 29-33. All constructed or modified channels shall be stabilized within 48 hours, consistent with the standards as required in the Illinois Urban Manual.
 - h. Land disturbance activities in stream channels shall be avoided, where possible, or as regulated in section 29-33. If disturbance activities are unavoidable, the following requirements shall be met:
 1. Construction vehicles shall be kept out of the stream channel to the maximum extent practicable. Where construction crossings are necessary, temporary crossings shall be constructed of non-erosive material, such as riprap, gravel, or other approved material.
 2. The time and area of disturbance of stream channels shall be kept to a minimum. The stream channel, including bed and banks, shall be stabilized within 48 hours after channel disturbance is completed, interrupted, or stopped.
 - i. Storm sewer inlets and culverts shall be protected by sediment control barriers, inlet filters or traps meeting accepted design standards and specifications.
 - j. Soil storage piles containing more than ten (10) cubic yards of material shall not be located with a downslope drainage length of less than 25 feet to a roadway, drainage channel, or sinkhole. Filter barriers, including filter fence, or equivalent, shall be installed immediately on the downslope side of the piles.
 - k. If dewatering devices are used, discharge locations shall be protected from erosion. All pumped discharges shall be routed through appropriately designed sediment traps or basins, or equivalent and shall not be deposited into a sinkhole.
 - l. Each site shall have graveled (or equivalent) entrance roads, access drives, and parking areas of sufficient length and width to prevent sediment from being tracked onto public or private roadways. Any sediment reaching a public or private road shall be removed by shoveling or street cleaning (not flushing) before the end of each workday and transported to a controlled sediment disposal area.
- (e) *Maintenance of control measures.* All soil erosion and sediment control measures necessary to meet the requirements of this Article shall be maintained periodically by the applicant or subsequent landowner during the period of land disturbance and development of the site in a satisfactory manner to ensure adequate performance.
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- (f) *Control of construction site wastes.* All waste materials generated during construction activities must be properly disposed. Examples of construction site waste may consist of, but not be limited to; all building materials, raised structure debris, concrete (including concrete truck wash), asphalt, brick, excess soil, rebar, erosion and sediment control materials, cleared vegetation, chemicals, temporary bathroom facilities and all other construction site wastes.
- (g) *Construction site stormwater pollution prevention plan.* A stormwater pollution prevention plan (SWPPP) shall be provided for all construction activities that are applicable to this Article, per subsection 29-31(c).
- (1) The SWPPP may be a full-sized plan sheet with necessary notes for requirements or may be a narrative explaining construction site operating procedures to minimize or eliminate stormwater pollution as a result of construction activities.
- (2) The items covered in an approvable SWPPP are dependent on the activities and the materials required on-site to complete the project. Therefore, the detail of the plan may be more or less depending on site activities planned. The SWPPP shall include the items required by NPDES Permit No. ILR10. Standard items included in a SWPPP are, but are not limited to:
- a. Purpose;
 - b. Construction site description;
 - c. Activities/materials to be addressed in the SWPPP;
 - d. Construction site operating procedures;
 - e. Activities/materials monitoring and maintenance;
 - f. Emergency and spill procedures.
- (3) Should construction site activities/materials change during construction, the SWPPP must reflect the changes. Therefore, the plan must be kept on-site at all times and be altered as necessary with the approval of the inspector. Should major changes be warranted, a revised plan must be submitted for review and approval.

Sec. 29-35. - Long-term maintenance responsibility.

Maintenance of stormwater drainage, and erosion and sediment control facilities located on private property shall be the responsibility of the owner of that property. Before an appropriate permit is obtained from the Village, the applicant shall execute a maintenance agreement with the Village guaranteeing that the applicant and all future owners of the property will maintain its stormwater drainage and erosion and sediment control system. Such agreement shall be recorded with the Recorder of Deeds of Madison County, Illinois. The maintenance agreement shall include a schedule for regular maintenance of each aspect of the property's stormwater drainage and erosion and sediment control system and shall provide for access to the system for inspection by authorized personnel of the Village. The maintenance agreement shall also stipulate that if the appropriate personnel of the Village notify the property owner in writing of maintenance problems which require correction, the property owner shall begin such corrections within 24 hours and shall not extend beyond seven (7) calendar days of such notification. If the corrections are not made within this time period the Village may have the necessary work completed and assess the cost to the property owner. The Village has the option of requiring a bond to be filed by the property owner for maintenance of the stormwater drainage and erosion and sediment control system.

(a) *Owners requirements:*

- (1) The owner shall maintain all stormwater management facilities in good working order in accordance with the approved O&M Plan.
- (2) The owner shall convey to the Village easements to assure access for inspections and maintenance, if required.
- (3) The owner shall keep on file with the Village the name, address, and telephone number of the person or company responsible for maintenance activities: in the event of a change, new information will be submitted to the Village within ten (10) days of the change.
- (4) Enumerate permanent stormwater management facilities as permanent real estate appurtenance and record as deed restrictions or easements that run with the land.
- (5) The record owner of the development site shall sign and record an Operation and Maintenance (O&M) Agreement covering all SWM facilities, including riparian buffers and riparian forest buffers, which are to be privately owned. The O&M Plan and Agreement shall be recorded as a restrictive covenant agreement that runs with the land.
- (6) The owner of a development shall convey ownership and maintenance responsibilities of common areas of the development related to operation and maintenance of the stormwater management system to the association established by the restrictive covenant agreement when at least fifty (50%) percent of the lots in the development have been conveyed to lot owners other than the developer. The stormwater management system shall be in substantial compliance with the terms of the NPDES permit at the time of transfer.
- (7) Bodies of water, channels, and natural streams located on privately owned property outside of recorded drainage easements or common areas shall be maintained by the property owner.

Sec. 29-36. - Inspections.

(a) *Inspections.*

- (1) The Village engineer shall make inspections as hereinafter required and shall either approve that portion of the work completed or shall notify the permittee; wherein the work fails to comply with the stormwater drainage or erosion and sedimentation control plan as approved. Plans for grading, stripping, excavating, and filling work bearing the stamp of approval of the Village engineer shall be maintained at the site during progress of the work. To obtain inspections and to ensure compliance with this Article, the permittee shall notify the Village engineer within two (2) working days of the completion of the construction stages specified below:
 - a. Upon completion of installation of the stormwater drainage and erosion and sediment control measures (including perimeter controls and diversions), prior to proceeding with any other earth disturbance or grading; and
 - b. After stripping and clearing; and
 - c. After rough grading; and
 - d. After final grading; and

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- e. After seeding and landscaping deadlines; and
 - f. After final stabilization and landscaping, prior to removal of sediment controls.
If stripping, clearing, grading and/or landscaping are to be done in phases or areas, the permittee shall give notice and request inspection at the completion of each of the above work stages in each phase or area. If an inspection is not made and notification of the results given within five working days after notice is received by the Village from the permittee, the permittee may continue work at his/her own risk, without presuming acceptance by the Village. Notification of the results of the inspection shall be given in writing at the site.
- (2) Inspection reports. The permittee shall perform required inspections and maintain necessary reports according to their stormwater pollution prevention plan and NPDES permit, as prepared by qualified personnel, including whether drainage construction and erosion control has been installed in accordance with construction plans. Report shall define whether maintenance has been provided as needed for the erosion control. The Village can request, at any time, a copy of the inspection reports from the permittee. Any violations (issues) that the Village observes, the Village will, by written notification, describe the nature of the violations (issues) and the required corrective action and date by which the corrective action must be completed.
- (b) *Special precautions.* If at any stage of the grading of any development site the Village engineer determines by inspection that the nature of the site is such that further work authorized by an existing permit is likely to imperil any property, public way, stream, lake, wetland, or drainage structure, the Village engineer may require, as a condition of allowing the work to be done, that such reasonable special precautions to be taken as is considered advisable to avoid the likelihood of such peril. "Special precautions" may include but shall not be limited to; a more level exposed slope, construction of additional drainage facilities, berms, terracing, compaction, or cribbing, installation of plant materials for erosion control, and recommendations of a registered soils engineer and/or engineering geologist which may outline requirements for further work. Where it appears that storm damage may result because the grading on any development site is not complete, work may be stopped and the permittee required to install temporary structures or take such other measures as may be required to protect adjoining property or the public safety. On large developments or where unusual site conditions prevail, the Village engineer may specify the time of starting grading and time of completion or may require that the operations be conducted in specific stages so as to ensure completion of protective measures or devices prior to the advent of seasonal rains.
- (c) *Amendment of plans.* Major amendments to stormwater drainage and detention or erosion and sediment control plans shall be submitted to the building and zoning administrator and shall be processed and approved or disapproved in the same manner as the original plans. Field modification of a minor nature may be authorized by the Village engineer by written authorization to the permittee.

Sec. 29-37. - Permitting.

- (a) *Application for permit.* Application for a development permit shall be made by the owner, of the property or his authorized agent to the building and zoning administrator on a form furnished for that purpose. Each application shall bear the name(s) and address(es) of the owner or developer of the site, the contractor(s) and any consulting firm retained by the applicant together with the name of the applicant's principal contact at such firm, and shall be accompanied by a filing fee of two hundred dollars (\$200.00) for any permit subject to the requirements of section 29-33, stormwater drainage and detention. No permit fee is assessed for those developments where only the requirements of section 29-34, soil erosion and sediment control, apply. Each application shall include certification that any land clearing, construction, or development involving the movement of earth shall be in accordance with the plans approved upon issuance of the permit.

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- (b) *Bond required.* The applicant for a development permit may be required to file with the Village a faithful performance bond or bonds, letter of credit, or other improvement security satisfactory to the Village attorney in an amount deemed sufficient by the Village engineer to cover all costs of improvements, landscaping, maintenance of improvements and landscaping, and soil erosion and sediment control measures for such period as specified by the Village, and engineering and inspection costs to cover the cost of failure or repair of improvements installed on the site.
- (c) *Review and approval.* Each application for a development permit shall be reviewed and acted upon according to the following procedures:
- (1) The building and zoning administrator will review each application for a development permit to determine its conformance with the provisions of this Article. The building and zoning administrator shall refer applications to the Village engineer for review and approval and may also refer any application to the county soil and water conservation district or a consulting engineer retained by the Village. Within thirty (30) days after receiving an application, the building and zoning administrator shall in writing:
 - a. Approve the permit application if it is found to be in conformance with the provisions of this Article, and issue the permit; or
 - b. Approve the permit application subject to such reasonable conditions as may be necessary to secure substantially the objectives of this Article, and issue the permit subject to these conditions; or
 - c. Disapprove the permit application, indicating the deficiencies and the procedure for submitting a revised application and/or submission.
 - (2) No development permit shall be issued for an intended development site unless:
 - a. The development, including, but not limited to, subdivision or planned unit development, has been approved by the Village, where applicable; or
 - b. Such permit is accompanied by or combined with a valid building permit issued by the Village; or
 - c. The proposed earth moving is coordinated with any overall development program previously approved by the Village for the area in which the site is situated; and
 - d. All relevant federal and state permits have been received for the portion of the site subject to soil disturbance as noted in subsection 29-31(b).
 - (3) Failure of the building and zoning administrator to act on an original or revised application within thirty (30) days of receipt shall authorize the applicant to proceed in accordance with the plans as filed and in compliance with the regulations contained herein, unless such time is extended by agreement between the building and zoning administrator and the applicant. Pending preparation and approval of a revised plan, development activities shall be allowed to proceed in accordance with conditions established by the building and zoning administrator.
- (d) *Final certification.* Prior to final approval by the Village, the Village engineer or another registered professional engineer shall certify that detention basin has been constructed in accordance with construction plans and proposed volume has been provided. An "as-built" survey of the detention basin, prepared by a
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licensed surveyor, shall be included with the certification for approval. Failure to submit an "as-built" survey will result in rejection of the final improvements of the site.

- (e) *Expiration of permit.* Every development permit shall expire and become null and void if the work authorized by such permit has not been commenced within one hundred and eighty (180) days, or if not completed by a date which shall be specified in the permit; except that the building and zoning administrator may, if the permittee presents satisfactory evidence that unusual difficulties have prevented work being commenced or completed within the specified time limits, grant a reasonable extension of time if written application is made before the expiration date of the permit. The building and zoning administrator may require modification of the erosion control plan to prevent any increase in erosion or off-site sediment runoff resulting from any extension.

- (f) *Appeals.* The applicant, or any person or agency that received notice of the filing of the application, may appeal the decision of the building and zoning administrator to the planning and zoning commission of the Village. Upon receipt of an appeal, the planning and zoning commission of the Village shall schedule and hold a public hearing at their next regularly scheduled meeting, after giving fifteen (15) days' notice thereof. The planning and zoning commission shall render a recommendation within thirty (30) days after the hearing to the board of trustees and the board of trustees of the Village shall enter a final decision on the appeal within thirty (30) days after the receipt of said recommendation. Factors to be considered on review shall include, but need not be limited to, the effects of the proposed development activities on the surface water flow to tributary and downstream lands, any comprehensive watershed management plans, or the use of any retention facilities; possible saturation of fill and unsupported cuts of said fill by water, both natural and domestic; runoff of surface waters that produce erosion and silting of drainageways; nature and type of soil or rock which when disturbed by the proposed development activities may create earth movement and produce slopes that cannot be landscaped; and excessive and unnecessary scarring of the natural landscape through grading or removal of vegetation.

Sec. 29-38. - Enforcement.

- (a) *Stop-work order; revocation of permit.* In the event any person holding a development permit pursuant to this Article violates the terms of the permit, or carries on-site development in such a manner as to materially adversely affect the health, welfare, environment, or safety of persons residing or working in the neighborhood of the development site or so as to be materially detrimental to the public welfare or injurious to property or improvements in the neighborhood, the development permit may be suspended or revoked as provided below:
 - (1) Suspension of a permit shall be by a written stop-work order issued by the building and zoning administrator and delivered to the permittee or his agent or the person performing the work. The stop-work order shall be effective immediately, shall state the specific violations cited, and shall state the conditions under which work may be resumed. A stop-work order shall remain in effect unless appealed pursuant to the procedures of subsection 29-37(f).
 - (2) No development permit shall be revoked until a hearing is held by the planning and zoning commission. Written notice of such hearing shall be served on the permittee, either personally or by registered mail, and shall state:
 - a. The grounds for complaint or reasons for suspension or revocation, in clear and concise language; and
 - b. The time when and place where such hearing will be held.

Such notice shall be served on the permittee at least five (5) days prior to the date set for the hearing. At such hearing, the permittee shall be given an opportunity to be heard and may call witnesses and present evidence on his behalf. At the conclusion of the hearing the planning and zoning commission shall recommend whether the permit shall be revoked. Final determination of whether the permit shall be revoked shall be by the board of trustees of the Village.

- (b) *Violations and penalties.* No person shall construct, enlarge, alter, repair, or maintain any grading, excavation or fill, or cause the same to be done, contrary to or in violation of any terms of this Article. Any person violating any of the provisions of this Article shall be deemed guilty of a misdemeanor, and each day during which any violation of any of the provisions of this Article is committed, continued, or permitted shall constitute a separate offense. Upon conviction of any such violation, such person, partnership, or corporation shall be punished by a fine of not more than seven hundred and fifty dollars (\$750.00) for each offense. In addition to any other penalty authorized by this section, any person, partnership, or corporation convicted of violating any of the provisions of this Article shall be required to restore the site to the condition existing prior to commission of the violation, or to bear the expense of such restoration.

Secs. 29-39—29-60. - Reserved.

ARTICLE III. - FILLING OF PROPERTY AND DIVERTING THE NATURAL FLOW OF SURFACE WATER

Sec. 29-61. - Obstruction to drainage prohibited.

The damming, filling, relocating or otherwise interfering with the natural flow of surface water in a natural drainage course, the intended flow of surface water in an approved subdivision or the existing flow between other properties, shall not be permitted, except with the approval of those State, County and Municipal agencies having jurisdiction.

Sec. 29-62. – Definitions

The Definitions set forth in Article II, Section 29-32 are adopted and incorporated by reference as and for the applicable Definitions for the provisions of this Article III.

Sec. 29-63. - Natural drainage.

Land may be drained in the general course of drainage by either opened or covered drains.

Sec. 29-64. - Landowner.

The landowner shall not willfully and intentionally interfere with any ditches or natural drains which cross his lands in such manner that such ditches or natural drains shall fill or become obstructed with any matter which shall materially impede or interfere with the flow of water. If the landowner violates the provisions of this section, he commits a petty offense.

Sec. 29-65. - Penalty for obstructing or injuring drain.

Whoever willfully or negligently obstructs, injures, cuts, breeches, or destroys a private, mutual, Village, other municipal, federal, or district drain or drainage structure, levee or pumping plant is liable for the cost of repairing or reconstructing the same and for any damage to lands, crops or other property that may have resulted therefrom.

Sec. 29-66. - Permit required.

Whenever any party desires to deposit fill in any amount in excess of one (1) foot, except any fill used for topsoil dressing on any lands in the Village of Godfrey's jurisdictional boundaries, such party shall first obtain a fill permit from the Village's engineering department. A permit shall not be required for fill deposited at a licensed landfill site or for any lands for which a valid building permit has been issued. Filling required as part of the process of construction are allowed so long as appropriate building permits have been obtained and the site plan is approved and adhered to. Topsoil dressing is defined as an application of topsoil to existing turf. Permits are required in all zoning classifications throughout the Village of Godfrey.

Sec. 29-67. - Fill in excess of eight feet.

The design and construction of fill greater than eight (8) feet or as directed by the Village engineer must be sealed and certified by a professional engineer registered in the State of Illinois with demonstrated expertise in geotechnical engineering.

Sec. 29-68. - Soil erosion control.

Soil erosion control devices must be installed immediately upon the exposure of any raw soil/fill on any property in accordance to IEPA regulations. Soil erosion control devices must be maintained on a regular basis.

Sec. 29-69. - Applications.

The Village engineer or his designee, shall provide application forms for fill permits, which shall show the following information:

- (1) Name and address of applicant; and
- (2) Place where fill is to be deposited and the owner thereof; and
- (3) Existing and proposed elevation of area to be filled at a distance of not more than twenty-five (25) foot intervals; and
- (4) Existing elevation of adjacent lands within fifty (50) feet of land to be filled at distance of not more than twenty-five (25) foot intervals; and
- (5) A sketch showing the above information and the route to be traveled to the fill site; and
- (6) Approximate quantity of fill; and
- (7) Time required for filling; and
- (8) Party responsible for leveling/seeding/sodding of area; and

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- (9) Method of erosion control during filling; and
 - (10) Neighboring property owners to the north, south, east and west of the subject property will be notified of the fill permit by certified mail at the expense of the applicant.

Sec. 29-70. - No excess grading.

Large scale grading for the purpose of creating lots on excessive slopes shall not be permitted.

Sec. 29-71. - Grading at property line.

To protect adjacent property owners from possible damage due to changes in existing grades, there shall be a five (5) foot grassy buffer surrounding the fill area including the front, rear, and side yards. No change in the existing topography within twenty-five (25) feet of the property line shall result in the slope to a ratio greater than five (5) horizontal to one (1) vertical. In no case shall any slope exceed the normal angle of slippage of the soil involved and no fill shall be placed in the five (5) foot grassy buffer area. The total elevation change shall not exceed the total elevation of the maximum slope ratio. The exception to this shall be where retaining walls are built with the written consent of the abutting property owner and with the approval of the planning and zoning commission and the Village board of trustees.

Sec. 29-72. - Issuance or denial.

If the Village Engineer, or his designee, is satisfied that the issuance of a fill permit is not in the best interest of the owners of adjacent lands, or of the Village, no permit shall be issued. Staff will review the project prior to the issuance of the permit and upon completion of all fill work will review the project and issue a letter of compliance.

Sec. 29-73. - Fee.

The Engineering Department shall collect a one hundred dollar (\$100.00) flat fee prior to the issuance of the fill permit.

Sec. 29-74. - Leveling of fill.

All fill deposited pursuant to a fill permit shall be leveled within thirty (30) days of the last deposit.

Sec. 29-75. - Enforcement.

The Engineering Department and/or Board of Trustees of the Village, shall enforce the regulations of this Article and all other laws relating to the filling of property. All permits are valid for one year. If work under any fill permit has not been completed within twelve (12) months the applicant must re-apply. The Village reserves the right to review the new application with consideration to the regulatory environment and circumstances, which may have evolved over the elapsed time period.

Sec. 29-76. - Violations and penalties.

No person shall deposit any fill in the Village of Godfrey without a valid fill permit. Any person who violates, disobeys, neglects, omits, or refuses to comply with shall forfeit not less than one hundred dollars (\$100.00), nor more than seven hundred fifty dollars (\$750.00) per day for each offense, together with the costs of prosecution, and in default of payment of such forfeiture and costs of prosecution.

Secs. 29-77—29-100. - Reserved.