

**VILLAGE OF DOWNERS GROVE
REPORT FOR THE VILLAGE COUNCIL MEETING
DECEMBER 2, 2014 AGENDA**

SUBJECT:	TYPE:	SUBMITTED BY:
Stormwater & Flood Plain Ordinance Update	✓ Resolution Ordinance Motion Discussion Only	Nan Newlon, P.E. Director of Public Works

SYNOPSIS

An ordinance has been prepared to amend Chapters 13 and 26 of the Municipal Code concerning the regulation of stormwater impacts.

STRATEGIC PLAN ALIGNMENT

The goals for 2011-2018 include *Top Quality Infrastructure. Consider Amendments to Stormwater Management Regulations* is a Medium Priority Action Item for 2014-2015.

FISCAL IMPACT

N/A

RECOMMENDATION

Approval on the December 9, 2014 active agenda.

BACKGROUND

The purpose of this item is to introduce changes to the Municipal Code that would lower the threshold for providing on-site stormwater storage for new development. The substantive changes to the Ordinance include Section 26.1001, the reduction of the threshold by which new development would be required to provide on-site stormwater storage from 2,500 square feet of new impervious surface to 500 square feet of new impervious surface. An ordinance has also been prepared to amend Section 13.7.(f), to more clearly describe a nuisance created by sump pump and downspout discharges.

The current code requires that on-site stormwater storage be provided when the net new impervious area on the lot is greater than 2500 square feet. The majority of new construction falls under this threshold and is not required to provide on-site storage. The majority of the newer homes are also constructed with deeper basements, which lead to more frequent sump pump discharges with more volume onto adjacent properties and onto the public right-of-way. In the winter, excess water can lead to icy and unsafe sidewalk and road conditions.

Larger home and paved areas, in addition to greater sump pump activity, lead to stormwater issues between neighbors, as well as staff time and money spent addressing negative impacts between properties and onto the public right-of-way. Between April, 2012 and October, 2014, 194 permits were issued with new impervious area between 500 and 2,500 square feet. None of these were required to mitigate runoff from their property. To address these concerns, staff researched available options and recommended amending the Municipal Code to reduce the threshold for new net impervious area from 2,500 square feet to 500 square feet. This change to the threshold will address runoff problems associated with construction related to new homes and substantial home additions, but will not overly encumber small home additions, sheds or patios.

If the amendments are approved, stormwater on-site volume controls such as rain gardens, permeable pavers, dry wells or flo-well systems would be required at the 500 square foot threshold. Examples of costs are provided in the attached staff report to the Stormwater & Flood Plain Oversight Committee.

The Stormwater & Flood Plain Oversight Committee met on November 13, 2014 and recommended the proposed changes in Chapter 26 for approval. A letter was sent to approximately 40 builders who are currently or have recently done projects in Downers Grove soliciting their input. Two builders gave input at that meeting.

Staff is also recommending that Chapter 13 be revised to more clearly describe what would constitute nuisance runoff from sump pump and downspout discharges.

ATTACHMENTS

Ordinance revising Chapter 26, Stormwater & Flood Plain Ordinance

Ordinance revising Chapter 13, Health and Sanitation

Staff Report to Stormwater and Flood Plain Oversight Committee

Stormwater and Flood Plain Oversight Committee November 13, 2014 minutes

Map of Permits with Increased Impervious Area

ORDINANCE NO. _____

AN ORDINANCE AMENDING STORMWATER AND FLOOD PLAIN PROVISIONS

BE IT ORDAINED by the Village Council of the Village of Downers Grove in DuPage County, Illinois, as follows: (Additions are indicated by **shading**/underline; deletions by ~~strikeout~~):

Section 1. That Section 26.301 is hereby amended to read as follows:

26.301 Definitions.

Within the context of this Ordinance, the following words and terms shall have the meanings set forth except where otherwise specifically indicated. Words and terms not defined shall have the meaning indicated by common dictionary definition.

Accessory Structure. A structure which is on the same parcel of property as a principal structure also referred to as an appurtenant structure, and;

- (a) is subordinate to and serves a principal structure; and,
- (b) is subordinate in area, extent, and purpose to the principal structure; and,
- (c) contributes to the comfort, convenience, or necessity of occupants of the principal structure.

Administrator. The person designated by the Village Manager to administer the implementation and enforcement of this Ordinance.

Adverse Hydraulic Impact. An increase of 0.10' or more to the modeled flood profile for a given storm event due to a proposed development activity.

Alternatives Analysis. The process of comparing and evaluating two or more courses of action of the various technical aspects of a development with the intent of selecting the action that best meets the stated Basic Development Purpose, while minimizing environmental effects and costs. A practicable alternatives study should consider possible alternative sites, a reduction in the scale of the development and rearrangement of the proposed facilities. This study assesses actions such as fill site locations, partial and full avoidance of habitats, restoration and enhancement of habitats and development economics.

Applicable Engineering Practice. Procedures, methods, or materials recommended in standard engineering textbooks or references as suitable for the intended purpose.

Applicant. A person applying for a Stormwater Management Permit, which person must be either the owner or the developer of the land specified in the application.

Appropriate Use. The only uses of the regulatory floodway that may be considered for a Stormwater Management Permit.

Authorization. A notice issued by the County to the Village that those aspects submitted to the County for review have been found to be in compliance with this Ordinance.

Base Flood. The flood having a one percent probability of being equaled or exceeded in a given year. It is also known as the 1% chance or 100-year flood. It has been adopted by the NFIP as the basis for

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mapping, insurance rating, and regulating new construction. Within an LPDA it is the elevation as established by the WIIP or as approved by the Administrator.

Base Flood Elevation (BFE). The height of the base flood in relation to the North American Vertical Datum of 1988 (NAVD 88).

Basic Development Purpose. The fundamental, essential function of the proposed activity.

Best Management Practices (BMPs). Design, construction, and maintenance practices and criteria for stormwater facilities that minimize the impact of stormwater runoff rates and volume, prevent erosion, and capture pollutants.

Buffer. The predominately vegetated area with a defined width adjacent to those areas that meet the definition of wetland and waters of DuPage for the purpose of eliminating or minimizing adverse impacts to those areas. Buffer may function to:

- reduce flood flow rates, velocity and volume,
- promote bank stability, filter sediment, nutrients and other pollutants,
- insulate and moderate daily water temperatures,
- promote groundwater infiltration,
- provide habitat corridors for aquatic and terrestrial fauna and flora.

Building. A structure that is constructed or erected partially or wholly above ground and is enclosed by walls and a roof. The term "building" includes manufactured homes and includes both the above-ground and the below-ground portions of the structure. Free standing signs or structures, such as kiosks are not considered to be buildings regulated in this Ordinance.

Channel. Any river, stream, creek, brook, branch, natural or artificial depression, ponded area, lake, flowage, slough, ditch, conduit, culvert, gully, ravine, swale, wash, or natural or man-made drainageway, in or into which surface or groundwater flows, either perennially or intermittently.

Committee. See Stormwater Committee.

Compensatory Storage. An excavated hydrologically and hydraulically equivalent volume of storage created to offset the loss of existing flood storage.

CLOMA. A Conditional Letter of Map Amendment. A FEMA comment letter on a development proposed to be located in, and affecting only that portion of, the area of flood plain outside the regulatory floodway and having no impact on the existing regulatory floodway or base flood elevations.

CLOMR. A Conditional Letter of Map Revision. A letter that indicates that FEMA will revise base flood elevations, flood insurance rate zones, flood boundaries, or floodways as shown on an effective FIRM or FBFM, after the record drawings are submitted and approved.

County. The County of DuPage, Illinois.

Critical Duration. The duration of a storm event that results in the greatest peak runoff.

Critical Wetlands. Wetlands of the highest value by virtue of one or more high ranking characteristics that result in a uniquely valuable environment.

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Dam. Any obstruction, wall, embankment, or barrier, together with any abutments and appurtenant works, constructed to store or direct water or to create a pool (not including underground water storage tanks).

Department. The DuPage County Department of Economic Development and Planning, or successor department or agency.

Developer. Any person who undertakes development or certifies permits development on such person's behalf.

Development. Any activity, excavation or fill, alteration, removal of vegetation, subdivision, change in land use, or practice, undertaken by private or public entities that affects the discharge of stormwater; or any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials in flood plain, flood way, wetland, waters or buffer areas. The term "development" does not include maintenance.

Development Site. The contiguous parcels of land under the Ownership or Control of the land owner or developer who is making Application for a Stormwater Management Permit. When the development includes subdivision of a parcel, the development site includes all land prior to subdivision. When the owner or developer controls only a portion of a larger development which has already been constructed, the Administrator may consider the larger, previously developed site as the "development site" if it was developed under a Stormwater Management Permit issued after February 15, 1992.

Director. The DuPage County Director of Stormwater Management or his or her designee. The Director of Stormwater Management shall be a Professional Engineer.

Direct Impact. Physical impact within wetland, waters or buffer.

Drainage Control Map. The Administrator shall prepare, and as necessary update maps, listings and other information, to be collectively known as the Drainage Control Map, setting forth regulatory flood plains and known Localized Poor Drainage Areas within the Village. The Drainage Control Map, as well as any proposed amendments, shall be submitted to the Oversight Committee for review and approval.

Dry Land. Land that is not a waters of the DuPage, which does not contain hydric soil, or can be shown through a review of historic aerial photos spanning at least 4 decades leading up to development that an area in question did not contain wetland area, but for an incidental construction activity that caused the area to become wet.

Elevation Certificates. A form published by FEMA, or its equivalent, that is used to certify the base flood elevation and the lowest elevation of usable space to which a building has been constructed.

Environmental Scientist: A professional with a four-year degree in an earth or life science curriculum and four years of professional experience in which the scientist has spent more than 50% of their work time on wetland/environmental related tasks with an emphasis on wetland delineation, ecology, restoration and botany.

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BBFM. A Flood Boundary and Floodway Map. A flood plain management map issued by FEMA that depicts, based on detailed analysis, the boundaries of the base flood, the two tenth percent (0.2%) probability flood, and the floodway.

FEMA. The Federal Emergency Management Agency.

FEMA Map Change. Any one or more of the following: CLOMR, LOMR, LOMA, CLOMR-F, LOMR-F and physical map changes and other designations of map change as developed under the NFIP.

FHBM. A Flood Hazard Boundary Map. An official map of a community, issued by FEMA, on which the boundaries of the flood, mudslide or mudflow, or related erosion areas having special hazards have been designated as Zones A, M, or E.

Filter Barrier. A temporary barrier installed below disturbed areas to intercept and retain sediment.

Final Stabilization. A condition when all soil disturbing activities at a site has been completed and a uniform, evenly distributed perennial vegetative cover with a density of seventy-five (75) percent of the cover for unpaved areas and areas not covered by permanent structures has been established, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

FIRM. A Flood Insurance Rate Map. A map issued by FEMA that is an official community map, on which map FEMA has delineated both the special hazard areas and the risk premium zones applicable to the community. This map may or may not depict floodways.

FIS. Flood Insurance Study. An examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations.

Flood or Flooding. A general and temporary condition of partial or complete inundation of normally dry land areas from the unusual and rapid accumulation or runoff of surface waters from any source.

Flood Plain. The area typically adjacent to and including a body of water where ground surface elevations are at or below a specified flood elevation.

Floodproof. Additions, changes, or adjustments to structures or property that prevent the entry of flood water in order to protect property from flood damage.

Floodproofing Certificate. A form published by FEMA that is used to certify that a structure is floodproofed to a minimum one foot above the base flood elevation.

Flood Protection Elevation (FPE). The base flood elevation plus three (3) feet of freeboard. If an approved FEQ watershed plan model produces a higher elevation than the regulatory BFE, the FPE shall be the FEQ flood of record elevation plus one (1) foot of freeboard. For detached garages and accessory buildings the FPE is the base flood elevation plus one (1) foot of freeboard.

Floodway. The channel and that portion of the flood plain adjacent to a stream or watercourse that is needed to convey the base flood without cumulatively increasing the water surface elevation more than 0.1 feet.

Floodway Conveyance. The measure of the flow carrying capacity of the floodway section and is defined using Manning's equation as,

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$K = \frac{1.49}{n} AR^{2/3}$ where "n" is Manning's roughness factor,

"A" is the effective area of the cross-section, and "R" is ratio of the wetted area to the wetted perimeter.

Floristic Quality Index (FQI). A quantitative measure to determine the quality of a plant community as calculated by the methodology contained in Plants of the Chicago Region (Swink, F. and G. Wilhelm. The Morton Arboretum, Lisle, Illinois).

Hydrology. The science of the behavior of water, including its dynamics, composition, and distribution in the atmosphere, on the surface of the earth, and underground.

IDNR-OWR. Illinois Department of Natural Resources - Office of Water Resources.

IEPA. Illinois Environmental Protection Agency.

Indirect Wetland Impact. A change in hydraulics or hydrology that causes a change in plant community that reduces or eliminates wetland function without directly filling or excavating wetland.

Impervious Area. Land cover that is, including, but not limited to, non-porous asphalt or asphalt sealants, non-porous concrete, roofing materials except planted rooftops designed to reduce runoff, and gravel surfaces used as roadways, driveways or parking lots. Graveled surfaces with high porosity used for storage of materials and wood decks may be counted as only 60% impervious for purpose of Stormwater Management Calculation, provided aggregate gradation has a high porosity. Pondered water shall be considered impervious area (at its normal water elevation), but vegetated wetlands or constructed wetland basins shall not be considered impervious area. The impervious area of a development site pre-development is the maximum extent of the impervious surfaces that existed on the development site at the same time in any of the 3 -years pre-dating the date of the application.

Interim Watershed Plan. A portion of a watershed plan adopted by the County Board that does not yet contain all of the elements in Chapter 3 of the Plan.

Lake. A natural or artificial body of water encompassing an area of two or more acres that retains water throughout the year.

Land Disturbing Activities. Any manmade change to improved or unimproved real estate including, but not limited to, construction of or improvements to buildings or other structures, filling, grading, paving, excavating or demolition of buildings, structures or pavement.

Land Surveyor. A person licensed under the laws of the State of Illinois to practice land surveying.

Letter of Permission (LOP). A request for approval to proceed with an action that is believed to have met certain specified criteria as defined within the Ordinance.

Localized Poor Drainage Area (LPDA): An area, determined to meet the criteria established in Section 26.1302 of this Ordinance and shown on the Drainage Control Map, which, based on historical information and generally accepted engineering practices and principles, has poor or otherwise inadequate drainage resulting in periods of flooding.

LOMA. A Letter of Map Amendment. The official determination by FEMA that a specific structure is not in a regulatory flood plain. A LOMA amends the effective FHBM, FBFM, or FIRM.

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LOMC. A Letter of Map Change. A Letter of Map Amendment or a Letter of Map Revision.

LOMR. A Letter of Map Revision. A letter from FEMA that revises base flood elevations, flood insurance rate zones, flood boundaries, or floodway as shown on an effective FHBM, FBFM, or FIRM.

Lowest Floor. The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usage solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirement of the *Code of Federal Regulations (CFR) 44, Part 60.3*.

Maintenance. The selective removal of woody material and accumulated debris from, or repairs to, a stormwater facility so that such facility will perform the functions for which it was designed and constructed. Partial reconstruction or any resurfacing of existing roadways, walkways, trails and bicycle routes will be considered a form of maintenance.

Major Stormwater System. That portion of a stormwater facility needed to store and convey flows beyond the capacity of the minor stormwater system.

Manufactured Home. A building, transportable in one or more sections, that is built on a permanent chassis and is designated for use with or without a permanent foundation when connected to the required utilities. The term "manufactured home" also includes park trailers, travel trailers, and other similar vehicles placed on a site for more than 180 consecutive days.

Minor Development. The following parameters define Minor Development. The area proposed to be disturbed by the development activities can be defined and limited in the field to three acres or less, and;

- (i) Does not involve any work within a wetland, buffer or within 100 feet of a wetland boundary; and
- (ii) Does not involve any work within a regulator flood plain or LPDA; and
- (iii) Does not involve 2,500 square feet or more of net new impervious area.

A development may also qualify as minor, with the prior concurrence of the Administrator if it exceeds 2,500 square feet of net new impervious area but does not meet the thresholds for providing site runoff storage

Minor Stormwater System. That portion of a stormwater facility consisting of street gutters, storm sewers, small open channels, swales, and similar facilities designed to convey runoff from the 10-year flood event or less.

Mitigation. Measures taken to offset negative impacts by development to wetland, buffer or flood plain areas. When a development unavoidably requires impact or loss of natural resources, that impact must be offset (compensated or mitigated) by replacing or providing substitute resources or environments. Mitigation shall take into consideration functions wetlands and buffers may provide.

Native Vegetation. Plants indigenous to northeastern Illinois as defined within *Plants of the Chicago Region* (Swink and Wilhelm. The Morton Arboretum, Lisle, Illinois).

Natural Areas Restoration Development. A development for which the basic development purpose is the restoration or creation of natural areas including streambank or shoreline restoration.

Net New Impervious Area. The difference between the Impervious Areas associated with an application for a Stormwater Management Permit, and the Impervious Area existing on the pre-development site.

New Construction. For the purposes of determining insurance rates, structures for which the “start of construction” commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and included any subsequent improvements to such structures. For flood plain management purposes, new construction means structures for which the start of construction commenced on or after the effective date of the flood plain management regulation adopted by a community and includes any subsequent improvements to such structures.

New Impervious Areas. Impervious areas constructed under the set of plans associated with an application for Stormwater Management Permit.

New Manufactured Home Park. A manufactured home park for which the construction of facilities for servicing homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of flood plain management regulation adopted by a community.

NFIP. The National Flood Insurance Program. The requirements of the NFIP are codified in Title 44 of the Code of Federal Regulations, Subchapter B.

NRCS. The United States Department of Agriculture, Natural Resources Conservation Service.

Open Space Development. Developments which create only incidental amounts of impervious area, such as trails, picnic shelters or playgrounds, involve grading and vegetation removal but do not alter significantly the pattern of stormwater runoff compared to the pre-development site. Open space developments are limited to 20% impervious coverage in the With-Development Site condition.

Ordinary High Water Mark (OHWM). The line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank (scour line), shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Oversight Committee. The Downers Grove Stormwater and Flood Plain Oversight Committee.

OWR. The Illinois Department of Natural Resources, Office of Water Resources.

Parcel. Contiguous land under single ownership or control.

Performance Standards. A set of criteria which a wetland buffer natural areas development must meet in order to obtain approval as outlined in a Stormwater Management Permit.

Permanent Wetland Impact. The permanent conversion of wetland to non-wetland through direct or indirect activities.

Permit. A statement that a proposed development meets the requirements of this Ordinance.

Person. Any individual, partnership, firm, school district, company, corporation, association, joint stock company, trust, estate, unit of local government, special taxing district, public utility, political

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subdivision, state agency, or any other legal entity, or owner, or any legal representative, agent, or assign thereof.

Plan. The DuPage County Stormwater Management Plan, adopted by the DuPage County Board in September 1989, as amended from time to time.

Post Construction BMPs (PCBMPs). Features or infrastructure permanently installed onsite to treat stormwater runoff for pollutants of concern and to reduce runoff volume, following construction, for the life of the development.

Practicable Alternative. A development that is available and capable of being completed after taking into consideration cost, existing technology, and logistics in light of the overall basic development purpose. A study of practicable alternatives should consider possible alternative sites, a reduction in the scale of the development and rearrangement of the proposed facilities. This study assesses actions such as fill site locations, partial and full avoidance of habitats, and restoration and enhancement of habitats and development economics. See also **Alternatives Analysis**.

Pre-Development Site. On the date of application, the Pre-Development site consists of those existing site features that were either permitted or did not require permits at the time of their construction, or were constructed prior to February 15, 1992. Specifically, such features as pervious and impervious (paved or roof) surfaces, and existing drainage facilities, as well as Wetlands, flood plains/floodways, LPDAs and buffers are important pre-development site features.

Professional Engineer. A person licensed under the laws of the State of Illinois to practice professional engineering.

Professional Engineering. The application of science to the design of engineering systems and facilities, using the knowledge, skills, ability, and professional judgment developed through professional engineering education, training, and experience.

Public Flood Easement. An easement acceptable to the appropriate jurisdictional body that meets the regulation of the OWR, the Department, and the community, that provides legal assurances that all areas subject to flooding in the created backwater of the development will remain open to allow flooding.

Record Drawings. Drawings prepared, signed, and sealed by a Professional Engineer or land surveyor representing the final "as-built" record of the actual in-place elevations, location of structures, and topography.

Recreational Vehicle. Any camping trailer, motor home, mini-motor home, travel trailer, truck camper and van camper as those terms are defined in the Illinois Motor Vehicle Code, or any other habitable vehicle used primarily for recreational purposes.

Regulatory Flood Map (RFM). The flood plain map panels maintained and published by DuPage County which reflect the current effective flood zone boundaries as shown on the FIRM and all effective Letters of Map Change issued by FEMA.

Regulatory Flood Plain. The flood plain as determined by the base flood elevation used as the basis for regulation in this Ordinance.

Regulatory Floodway. The floodway that is used as the basis for regulation in this Ordinance.

Regulatory Wetlands. All wetlands other than critical wetlands.

Repetitive Loss. Flood related damages sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each flood event, on the average, equals or exceeds twenty-five percent (25%) of the market value of the structure before the damage occurred.

Riparian Environment: Land bordering a waterway that provides habitat or amenities dependent on the proximity to water.

Roadway Development. A development on an essentially linear property holding including easements, not a part of a larger development project involving adjacent land holdings, and for the purpose of building a new roadway, expanding the impervious footprint of an existing roadway, or completely reconstructing an existing roadway.

Runoff. The waters derived from melting snow or rain falling within a tributary drainage basin that exceeds the infiltration capacity of the soils of that basin.

Sediment Basin. Settling ponds with pipe outlet, which have both a permanent pool (dead storage) and additional volume (live and sediment storage) component, to detain sediment-laden runoff from disturbed areas to allow sediment and debris to settle out.

Sediment Trap. A small, temporary ponding basin formed by the construction of an embankment or excavated basin to detain sediment-laden runoff from disturbed areas to allow sediment and debris to settle out.

Silt Fence. A temporary filter barrier of entrenched geotextile fabric (filter fabric) stretched across and attached to supporting posts.

Soil Scientist. A person with a four-year degree in which the core curriculum included course work in a minimum of two of the following fields: soil science, pedology, edaphology, and geomorphology, and which person has a minimum of two years of field experience in classifying soils.

Special Flood Hazard Area (SFHA). An area having special flood, mudslide or mudflow, or flood-related erosion hazards, and which area is shown on an FHBM or FIRM as Zone A, AO, A1-30, AE, A99, AH, VO, V1-30, VE, V, M, or E.

Start of Construction. The date the permit was issued provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement or other improvement was within 180 days of the permit date. The actual start date includes the first day of any land preparation, including clearing, grading, filling, or excavation. For substantial improvements, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building whether or not that alteration affects the external dimensions of the building.

Stormwater Committee. The Stormwater Management Planning Committee of the DuPage County Board, authorized by Public Act 85-905.

Stormwater Facility. All ditches, channels, conduits, bridges, culverts, levees, ponds, natural and man-made impoundments, field tiles, swales, sewers, BMPS or other structures or measures which serve as a means of draining surface and subsurface water from land.

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Stormwater Management Permit. A permit established by this Ordinance; and issued by the Village signifying acceptance of measures identified for proposed development to comply with this Ordinance and the Plan.

Structure. The term “structure” includes, without limitation: buildings, manufactured homes, tanks and dams.

Structural Engineer. A person licensed under the laws of the State of Illinois as a structural engineer.

Substantial Damage. Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

Substantial Improvement. Any reconstruction, rehabilitation, addition, or improvement of a structure taking place during a 10-year period in which the cumulative percentage of improvements equals or exceeds 50 percent of the market value of the structure before the improvement or repair is started. "Substantial Improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the building. This term includes structures which have incurred repetitive loss or substantial damage, regardless of the actual work done. The term does not, however, include either: any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions, or any alteration of a “historic structure” listed on the National Register of Historic Places or the Illinois Register of Historic Places, provided that the alteration will not preclude the structure’s continued designation as a historic structure.

Temporary Wetland Impact. A wetland impact that would result in a short-term loss of wetland function. Temporary wetland impacts do not result in a permanent conversion of wetland to non-wetland. Temporary impacts do not include relocation of wetland, or conversion of a vegetated community to open water, unless the conversion is part of an overall wetland restoration/creation program that is submitted for review and approved. Additionally, for the impact to be considered temporary, wetland soil profiles shall be able to be restored to a similar pre-disturbance condition and elevation, vegetative communities shall have the capability of being restored to same or higher quality, function; and the restoration must occur within one year of the disturbance.

Total Impervious Area. The sum of the impervious area on a site.

Usable Space. Space used for dwelling, storage, utilities, or other beneficial purposes, including without limitation basements.

USACE. United States Army Corps of Engineers.

USEPA. United States Environmental Protection Agency.

Variance. An Authorization recommended by the Oversight Committee, and granted by the Village Council, that varies certain requirements of this Ordinance in a manner in harmony with the application of the Ordinance's general purpose and intent, which variance shall be granted only in a case where there are practical difficulties or particular hardships.

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Violation. Failure of a structure or other development to be fully compliant with the regulations identified by Ordinance.

Water and Sewer Improvement Development. A development to construct, replace or upgrade infrastructure to meet current IEPA requirements for public water supply or pollution control (water or sewer system improvements). This definition does not include buildings, substations, pads, parking lots or other associated utility support facilities.

Water Quality Best Management Practices Technical Guidance. This document is a standalone guidance on file with DuPage County. The Guidance was published in March 2008.

Watershed. All land area drained by, or contributing water to, the same stream, lake, or stormwater facility.

Watershed Basin Committee. A technical committee established within a watershed planning area.

Watershed Benefit. A decrease in flood elevations or flood damages or an improvement in water quality, upstream or downstream of the development site.

WIIP. The Watershed Infrastructure Improvement Plan as approved by the Village Council in September 2007, and all subsequent revisions, which identifies areas in the Village where drainage and flooding issues exist and recommends specific solutions.

Watershed Plan. A plan adopted by the County for stormwater management within a watershed consistent with the requirements in Chapter 3 of the Plan.

Watershed Planning Area. That area considered in a specific watershed plan, adopted as part of the Plan.

Watershed Plan Model. The hydrologic and hydraulic model meeting the standards of the Plan and used in developing a watershed plan.

Waters of DuPage. All waters such as lakes, rivers, streams (including intermittent streams), mudflats, wetlands, sloughs, wet meadows, or natural ponds.

Tributaries of waters identified above.

For clarification, waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not Waters of DuPage.

The following are generally not considered to be Waters of DuPage. However, the Administrator, reserves the right on a case-by-case basis to determine that a particular waterbody within these categories of waters is a Waters of DuPage.

- Drainage, irrigation and roadside ditches excavated on dry land.
- Artificially irrigated areas that would revert to upland if the irrigation ceased.

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- Artificial lakes, ponds or **wetlands** created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stormwater storage, stock watering, irrigation, settling basins, or sediment traps.
- Artificial bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons.
- Water filled depressions created in dry land incidental to construction activity and pits or quarries excavated in dry land for the purpose of obtaining fill, stone, aggregate, sand, or gravel unless and until the construction or excavation operation is abandoned for a period of 5 years or more and the resulting body of water meets the definition of waters of DuPage.

Wetlands. Areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Wetland Buffer: Area within 50 feet of a regulatory wetland boundary or 100 feet of a critical wetland boundary.

Wetland Impact. Development affecting the long term function of any wetland.

With-Development Site. The site features illustrated on the final certified plans for a development, including unchanged areas or facilities of the pre-development site.

Section 2. That Section 26.305 is hereby amended to read as follows:

26.305 Requirements for Stormwater and Flood Plain Management, General.

1. All developments shall meet the requirements specified for general stormwater and flood plain development (Article V), site runoff (Article ~~IX~~~~XI~~), sediment and erosion control (Article IX), and performance security (Article VIII).
2. All developments, with consideration given to those developments as noted in paragraph 7 below, shall comply with the site runoff storage requirements provided in Section 26-1101 of this Ordinance if:
 - a. The parcels being developed total three acres or greater for single or two family residential land uses; or
 - b. The parcels being developed total one acre or greater for multiple family or non-residential subdivision land uses; or
 - c. The parcels being developed total one acre or greater for multiple family or non-residential developments and the new development totals either individually or in the aggregate after February 15, 1992, to more than 25,000 square feet; or
 - d. All other developments not subject to the above requirements shall comply with the site runoff conveyance, storage, and drain tile requirements provided in Article ~~IX~~~~XI~~ if the Administrator determines that the development will create a rate of stormwater runoff from such land in excess of that which lawfully existed prior to the proposed development. Provided, upon determination of the Administrator that such increase in stormwater runoff will not adversely impact downstream properties, the developer may, in lieu of compliance with Section 26-1101, pay to the Village an amount equal to the estimated costs of providing stormwater storage which, as determined by the Administrator, is substantially equal to the increased stormwater runoff created by such development. Calculations of such increased amount of stormwater runoff shall be made on the basis of and expressed in terms of an acre foot of volume, or fraction thereof. The fee in lieu of Article XVI compliance shall be based on the cost per acre foot, as listed for each watershed, to be the amount reasonably equivalent to costs incurred by the Village to provide one acre foot of

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stormwater storage, including but not limited to land acquisition costs, engineering expenses, legal fees and other related expenses. Any fees collected by the Village pursuant to this subsection shall be segregated, held and expended within the same watershed as the subject development to enhance existing site runoff storage facilities and related components, construct off-site stormwater facilities and related components or undertake other development that provides a watershed benefit. Provided, however, that a portion of said funds may be budgeted annually for a cost-share program to assist residents with existing drainage concerns. Cost-share funds may be distributed throughout the year per Village policy.

3. Developments shall also meet the more specific requirements of applicable adopted Watershed Plans or adopted Interim Watershed Plans.

4. All development within ~~special management areas~~, flood plain and LPDAs, and substantial improvements within a flood plain, shall also satisfy the requirements specified in Section ~~26.1200~~26.1303 of this Ordinance.

5. All developers shall submit the documents specified in Article VII of this Ordinance to verify compliance with these requirements.

6. Facilities constructed under the provisions of this Ordinance shall be maintained according to the criteria and guidelines established in the Plan. Maintenance is the responsibility of the owner of the land on which the stormwater facilities are constructed unless the responsibility is assigned, pursuant to Section 26.801 of this Ordinance, to an entity acceptable to the governmental unit that has jurisdiction over such land.

7. The Administrator shall consider granting an exception to paragraph 2 above for those developments listed below, if specific requirements are met for such development as listed or required by the Administrator.

A. The development is strictly limited to the grading of pervious areas in which the following specific requirements are met:

i. The Applicant must demonstrate to the Administrator's satisfaction that for all storm events, up to and including the critical duration 100-year event, the grading activity does not:

- a. result in an increase in runoff volume; and
- b. result in an increase in peak release rate; and
- c. result in a time decrease associated with the time concentration; and
- d. contribute to adjacent flood problems; and
- e. alter the direction of run off.

Section 3. That Section 26.504 is hereby amended to read as follows:

26.504 General Stormwater and Flood Plain Requirements.

The following general stormwater and flood plain requirements shall apply to all development.

A. Development shall not:

1. Result in unreasonable new or additional expense to any person other than the developer for flood protection or for lost environmental stream uses and functions attributable to the development; nor
2. Unreasonably increase flood elevations or decrease flood conveyance capacity upstream or downstream of the area under the ownership or control of the developer; nor
3. Pose any unreasonable new or additional increase in flood velocity or impairment of the hydrologic and hydraulic functions of streams and flood plains unless a watershed benefit is realized; nor
4. Violate any provision of this Ordinance either during or after construction; nor
5. Unreasonably or unnecessarily degrade surface or ground water quality.

B. For purposes of this Article, changes in flood elevations or changes in discharges within the limits of modeling tolerance allowed in this Ordinance shall be deemed acceptable.

C. Analysis and design of all stormwater, LPDA and flood plain facilities required for development shall:

1. Meet the standards and criteria established in the Plan and, if available, in Watershed Plans or in

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- Interim Watershed Plans; and
2. Be consistent with techniques specified in the Watershed Plans or the Interim Watershed Plans; and
3. Site runoff storage and compensatory storage facilities shall be either constructed before, or concurrently with, general construction. The facilities shall be functional prior to or concurrent with any building construction that increases a site's total impervious area; and
4. Stormwater facilities shall be functional before building permits are issued for a residential or non-residential subdivision; and
5. Stormwater facilities, including PCBMPs shall be functional where practicable for single parcel developments before general construction begins.

Section 4. That Section 26.600SEC. is hereby amended to read as follows:

26.600SEC. Permits.

Any person proposing a development shall obtain a Stormwater Management Permit, or the development must fit all conditions of a General Certification (Section 26.602), or if applicable, obtain a Letter of Permission (Section 26.601) unless the development meets the criteria of Section 26.6000A or one of the following criteria of Section 26.600.B.

A. The development is:

1. On a Development Site that does not include flood plain, LPDA, wetlands or buffers; and
 2. The development does not add ~~2,500~~ five hundred (500) square feet or more of net new impervious area compared to the pre-development conditions; or
 3. Does not include five hundred (500) square feet or more of land disturbing activities; or
- B. The Development Site does not include wetlands, buffers or flood plains and consists solely of one or more of the following:
1. Cultivation, conservation measures or gardening; or
 2. Installation, renovation or replacement of a septic system, potable water service line, or other utility to serve an existing structure; or
 3. Excavation or removal of vegetation in rights-of-way or public utility easements for the purpose of installing or maintaining utilities; or
 4. Maintenance, repair or at grade replacement of existing lawn areas not otherwise requiring a Stormwater Permit under this Ordinance.

Section 5. That Section 26.610 is hereby amended to read as follows:

26.610 Permit Application Requirements and Submittals.

The specific applicable technical requirements and the extent of documentation required to be submitted may vary depending on existing conditions of the development site. The Applicant shall combine the separate "submittals" referenced in each article into a single application package of materials. Unless superseded by application under either a General Certification or a Letter of Permission, or the Administrator specifically allows a modification of the submittal requirements in writing, the following shall guide the determination that an application for Stormwater Management Permit is complete.

- A. Stormwater Submittal. All developments requiring a Stormwater Management Permit are required to submit the information required in (Section 26.700.A). The requirement for Record Drawings (Section 26.700.B) applies to all developments that construct stormwater facilities, or include wetland, buffer or flood plain onsite. Unless the development fits the definition of Minor Development, the plans and calculations listed in Section 26.700.C will also be required (as relevant to the specific development).
- B. Maintenance Plan. When the development includes construction of a Site Runoff Storage Facility or Post Construction Best Management Practices, a maintenance plan specifying tasks and frequency shall be submitted.

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- C. The provisions of Section 26.801 shall apply to all developments except:
1. Developments classified as Minor Developments; or
 2. Developments which do not include site stormwater storage facilities and which do not include any Best Management Practices with a design drainage area greater than 1-acre.
- D. Performance Security. Performance Security in accordance with Section 26.800 may be combined into a single instrument and is required as follows.
1. Development Security or a Stormwater Bond, in accordance with Section 26.800.B, is required for all developments requiring a Stormwater Management Permit.
 2. Erosion and Sediment Control Security in accordance with Section 26.800.C is required for any development disturbing more than 1-acre, or which disturbs the bed and banks of a channel draining more than 100-acres, or when an Erosion and Sediment Control Plan is required because of impact to ~~W~~wetlands, buffers or flood plains.
 3. A Natural Area, Wetland and Buffer Mitigation Area Security shall be posted per Section 26.800.D. Whenever a natural area is being restored or a wetland or buffer is impacted and mitigated, unless mitigation is provided by fee-in-lieu.
- E. Soil Erosion and Sediment Control. All developments must provide both temporary and permanent Soil Erosion and Sediment Control; however, plans for these measures must be submitted for review only where the development is required to obtain a Stormwater Management Permit (Section 26.600). Developments required to make application may obtain a Letter of Permission (Section 26.601), even if it is not a Minor Development, as long as no other aspect of the development requires review under Articles X, XI, XIII or XIV. All other applications shall include the following based on area of land disturbance of the proposed development:
1. If the land disturbance is less than 1 acre and does not disturb the bed and banks of a channel draining more than 100-acres, and the development does not involve impact to buffer or wetland or flood plain, and is not part of a larger common plan, then the submittal shall be per Section 26.703.B.
 2. If the land disturbance is one 1-acre or greater or disturbs the bed or banks of a channel draining more than 100-acres, or the development includes impact to buffers or wetlands or flood plains, then the requirements of Sections 26.703.C and 26.703.D shall apply.
- F. Post Construction Best Management Practices. When the impervious coverage of the development site is increased by ~~2,500~~ five hundred (500) square feet or more compared to the pre-development site, then PCBMPs, designed in accordance with Section 26.1000 through 26.1003, are required and submittals, in accordance with Section 26.702, are required with the Application, unless one of the exceptions or exclusions listed in Section 26.1000 applies.
- G. Flood Plains, LPDAs and Floodways. All developments shall check the requirements of Section 26.1301 to determine if a flood plain or LPDA exists on a development site. If a flood plain or LPDA does exist on the development site, a BFE shall be established as outlined in Section 26.1301C and shall be drawn on the site topographic map. If the proposed work is outside of the BFE, there shall be no additional requirements from Article XIII that need to be met. Applicants shall determine if floodway exists following Section 26.1301.D. For developments that involve work within the flood plain or, where there is floodway within the disturbed area, the flood plain and floodway shall be delineated on the site plan.
1. For Developments within the flood plain, document that Section 26.1302 requirements are being met with a narrative and appropriate calculations, modeling, cross-sections and plans.
 2. For Developments within the floodway, document that Section 26.1303 requirements are being met with a narrative and appropriate calculations, modeling, cross-sections and plans per Section 26.704.
- H. Wetlands. Stormwater Management Permits are required for developments where the area being disturbed, or developed, is within 100 feet of a wetland located either on-site or off-site. The application shall include the following.

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1. A wetland delineation and report will be required unless the wetland is determined to be greater than 100 feet away from the development's limit of disturbance, and Section 26.1400.A and 26.1400.B is applied with the concurrence of the Administrator.
2. If the development's proposed limit of disturbance is within 100 feet of a wetland, then,
 - a. A wetland delineation and report will be required Section 26.1400, unless the wetland has clearly defined boundaries and there are no proposed wetland or buffer direct impacts or indirect wetland hydrologic impacts that exceed the thresholds found in Section 26.1402.
 - b. If there are direct impacts to the wetland, then the wetland submittal in accordance with Section 26.701 will be required.
 - c. If the thresholds development will cause an indirect impact to a wetland, an indirect impact analysis shall be included in the Wetland Submittal.
 - d. If the development has a direct or indirect permanent wetland impact a hydrologic analysis of the mitigation area (Section 26.1403.L) and a maintenance and monitoring plan (Section 26.1403.M) are required to be submitted, unless Fee in Lieu of mitigation is provided.
- I. Buffers. Direct impacts to buffers (Section 26.1500) will require a Buffer Submittal in accordance with Section 26.701.

Section 6. That Section 26.700SEC. is hereby amended to read as follows:

26.700SEC. Stormwater Submittals.

A. Drainage Plan. All developments that include between five hundred (500) square feet and one thousand five hundred (1,500) square feet of land disturbing activities shall require the submittal and approval of a drainage plan indicating the direction of existing and proposed stormwater flow on the site. If the development site is located within or adjacent to a flood plain, LPDA or wetland, a Grading and Site Restoration Plan may be required. Other information, as necessary and as determined by the Administrator, may be required to verify compliance with this ordinance.

B. Grading and Site Restoration Plan. All developments that include more than one thousand five hundred (1,500) square feet of land disturbing activities shall require the submittal and approval of a grading and site restoration plan. The Administrator, may approve, in writing, an application without some or all of the following items based on the extent and complexity of the development or the development is eligible for permit under a General Certification or Letter of Permission. The following constitutes a Grading and Site Restoration Plan submittal:

1. A standard engineering scaled drawing that includes or addresses:
 - a. The name and legal address of the applicant and of the owner of the land.
 - b. The common address and legal description of the site where the development will take place.
 - c. Site drainage showing the existing and proposed grades for a particular parcel and for adjoining properties (affected) with a minimum of one foot (1') contour intervals in sufficient detail to clearly indicate drainage flows.
 - d. Extent of existing impervious area, proposed developed impervious area, itemized calculations of the total net new impervious area, and extent of area to be disturbed in the construction of the development.
 - e. Cross-sections of drainage swales, including one at each window well, as applicable.
 - f. Foundation elevation, including the top of foundation and any openings below top of the foundation on all new or existing structures or portions thereof.
 - g. Any proposed PCBMPs, minor and major stormwater facilities using topography and spot elevations and depicting any offsite upstream drainage area and the characteristics of

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- the downstream facilities receiving discharge from the development.
- h. Size, type, length and inverts of conveyance structures including drainage pipes, culverts, manholes, catch basins, inlets, and drain tiles
 - i. The parcel drainage shall be designed to flow away from the top of foundations. Storm water being directed to the side yard of the parcel shall be directed into a formed drainage swale, having a minimum slope of two percent (2%) and a maximum slope of five percent (5%) where practical. In the event that conditions dictate that some parts of the lot be higher than the structure foundation, the grading must show specific drainage configurations for the parcel specifying that all drainage is to be directed to flow away from the foundation. At a minimum, spot grades shall be shown along the foundation and at all window well, their rims and adjacent grade. Cross-section shall be provided for all swales, at a minimum at all window wells or other constrictions. A note shall be added that all swales shall be constructed of sod, subject to Village approval.
 - j. Construction and work such as walkways, driveways, parking lots, landscaping or any structure shall be installed so that the construction of same will not interfere with drainage. All sidewalks, driveways, parking lots, patios and other flat work shall be at an elevation relative to the foundation wall so that water will drain away from the structure on all sides and off the lot in a manner which will provide reasonable freedom from erosion and permanently pocketed surface water.
 - k. The flow from off-site tributary areas that are tributary to an intermittent stream or overflow route that must pass through the parcel must be identified on the grading plan and must be designed in such a way to adequately handle the flow of all water to accommodate a 100-year storm frequency.
 - l. All overflow routes for the 100-year storm and for accumulated storm water runoff from several lots or from off-site catchment areas must be clearly designated on the grading plan with the total width of the flow route contained within an easement for drainage purposes).
 - m. The location of, and direction of, any sump pump or downspout discharge onto the site from the subject property and from adjoining properties. Note if the discharge will splash to grade or show any associated piping. The distance between the discharge and the property line shall be maximized and any piped discharge must terminate no closer than 20 feet from the downstream property line.
 - n. The distance between the property and any regulatory floodplain or LPDA, including as necessary the base flood elevation.
 - o. Areas to be graded and prepared for seeding or sod shall indicate a minimum of four (4) inches of topsoil.
 - p. The following Erosion Control Notes shall be added to the site plan:
 - (1) The sediment and erosion control devices shall be functional before any land is disturbed on the site.
 - (2) Stockpiles of soil shall not be located within any drainageways, floodplains, wetlands, buffers or LPDAs.
 - (3) Sediment and erosion control shall be provided for any soil stockpile if it is to remain in place for more than three days including a double row of silt fence.
 - (4) Properties downstream from the site shall be protected from erosion if the volume, velocity, sediment load, or peak flow rates of stormwater runoff are temporarily increased during construction.
 - (5) Storm sewer inlets shall be protected with sediment trapping or filter control devices during construction.
 - (6) The surface of stripped areas shall be permanently or temporarily protected from soil erosion within fifteen days after final grade is reached. Stripped areas that will remain

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undisturbed for more than fifteen days after initial disturbance shall be protected from erosion.

(7) Water pumped or otherwise discharged from the site during construction dewatering shall be filtered.

(8) A stabilized construction entrance shall be provided to prevent the deposition of soil onto public or private roadways. Any soil reaching a public or private roadway shall be removed before the end of each workday.

(9) All temporary erosion control measures necessary to meet the requirements of the Village of Downers Grove Stormwater and Flood Plain Ordinance shall be kept operational and maintained continuously throughout the period of land disturbance until permanent sediment and erosion and control measures are operational.

pg. Any additional information as necessary to show compliance with the Downers Grove Municipal Code.

2. Affidavits signed by the land owner and the developer attesting to their understanding of the requirements of this Ordinance and their intent to comply therewith, including the submittal of a record drawing in accordance with Section 26.700.B; and

3. A listing of all other required stormwater related permits, a brief description of how the other permits apply to the development, and when requested by the Administrator, complete copies of the applications for the permits; and

4. A statement of opinion by a qualified professional either acknowledging or denying the presence of flood plain in accordance with Section 26.1301, wetlands in accordance with Section 26.1400, and buffers in accordance with Section 26.1500; and

5. A statement from the applicant acknowledging that all stormwater submittals shall be made available for inspections and copying ~~by the County~~, notwithstanding any exemption from inspection and copying for such materials under the Freedom of Information Act, upon ~~with the~~ written request of either (1) the applicant, (2) any subsequent owner of the subject property, or (3) any governmental unit having planning or drainage jurisdiction within one and one half (1 and ½) mile of the subject property.

~~C. As Built Drawings. Upon completion of stormwater facilities, a record drawing signed and sealed by either a Professional Engineer or a Professional Land Surveyor depicting the as constructed size, rim and inverts elevations of pipes, stormwater structures and culverts, and contours and flood storage volumes of all required basins of the major and minor stormwater systems. An informational note acknowledging the presence of on site wetlands, buffers flood plains and PCBMPs with drainage areas one (1) acre or greater shall be recorded against the title to alert all future owners and shall reference the Stormwater Management Permit number.~~

~~D. Final Grading and Site Restoration Plan. All developments shall require the submittal and approval of a final grading and site restoration plan supporting permit compliance. The following items will be submitted to demonstrate and support that the application for Permit is in compliance with this Ordinance. The Administrator may approve, in writing, an application without some or all of these items based on the extent and complexity of the development. All plans and drawings shall be at standard engineering scale:~~

- ~~1. A scaled plan or plans illustrating the major and minor conveyance system, including:~~
- ~~2. Size, type, length and inverts of conveyance structures including drainage pipes, culverts, manholes, catch basins, inlets, and drain tiles.~~
- ~~3. A scaled exhibit illustrating the impervious area of the site prior to the certification along with a~~

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calculation of the percentage of the site that is impervious.

4. A scaled exhibit illustrating the proposed impervious surfaces of the development.
5. Calculations of the percentage of impervious surfaces after complete construction of the proposed development.
6. Scaled plans illustrating the location of and details for site runoff storage.
7. Calculations that establish the required site runoff storage volume along with calculations confirming that the proposed plan achieves either the site runoff storage or the modified site runoff storage.
8. When site runoff storage special is required, calculations that demonstrate the specified post-development discharges have not exceeded the predevelopment values.
9. Scaled plans illustrating the location of a details for any required compensatory storage and supporting calculations.
10. Site drainage showing the as-built grades with a minimum of one foot (1') contour intervals in sufficient detail to clearly indicate drainage flows.
11. Top of foundation elevations of all new structures and spot grades adjacent to the foundations of all new structures.
12. Stoops outside of doorways and window well locations, rim elevations, and the adjacent grade.
13. An accurate as-built location of and details for any PCBMPs, including location of all utilities.
14. Sump Pump discharge location, discharge path, and the location, size, and material of any associated piping.
15. Downspout location, discharge path, and the location, size, and material of any associated piping.
16. All existing and proposed improvements within the right of way, including sanitary and water mains and service locations.

C. Record Drawings. For projects with a stormwater facility other than a PCBMP (as required in Section 26.1000), prior to the issuance of a building permit, the associated stormwater facilities must be completed, and a Record Drawing of such must be submitted for approval. The Record Drawing must depict the as-constructed size, rim and invert elevations of pipes, stormwater structures and culverts, and contours and flood storage volumes of all required basins of the major and minor stormwater systems.

After the completion of the Development, a complete set of Record Drawings must be submitted prior to the return of remaining securities or acceptance of public improvements. The following items must be included in the Record Drawings unless the Administrator, in writing, waives the requirements based on the extent and complexity of the development:

1. All plans and drawings shall be at standard engineering scale.
2. Size, type, length and inverts of conveyance structures including drainage pipes, culverts, manholes, catch basins, inlets, and drain tiles.
3. An impervious area table listing all impervious areas or a drawing with all impervious areas labeled and totaled shall also be included on the As-Built drawings.
4. Calculations that establish the required site runoff storage volume along with calculations confirming that the proposed plan achieves either the site runoff storage or the modified site runoff storage.
5. Location and details for any required compensatory storage and supporting calculations.
6. Site drainage showing the as-built grades with a minimum of one foot (1') contour intervals in sufficient detail to clearly indicate drainage flows.
7. All boundaries of LPDAs, flood plain, wetlands and buffers shall be labeled.
8. Top of foundation elevations of all new structures and spot grades adjacent to the foundations of all new structures.
9. Stoops outside of doorways and window well locations, rim elevations, and the adjacent grade.
10. An accurate as-built location of and details for any PCBMPs, including location of all utilities.
11. Sump Pump discharge location, discharge path, and the location, size, and material of any

associated piping.

12. Downspout location, discharge path, and the location, size, and material of any associated piping.

13. All existing and proposed improvements within the right-of-way, including sanitary and water mains and service locations.

14. An Elevation Certificate is required to be submitted for all additions and new construction within SFHA's or LPDA's.

15. A notice acknowledging the presence of on-site wetlands, buffers, flood plains and PCBMPs with draining areas one (1) acre or greater shall be recorded against the title of the property by the Village to alert all future owners and shall reference the stormwater management permit. All administrative and recording fees will be borne by the permit applicant as established in the Village User-Fee, License and Fine Schedule Regulation.

Section 7. That Section 26.702 is hereby amended to read as follows:

26.702 Post Construction Best Management Practice Submittal.

The Post Construction Best Management Practice (PCBMP) submittal shall include:

- A. A discussion documenting compliance with the requirements of Article X.
- B. A listing and discussion of all PCBMPs to be used, including proposed maintenance and monitoring provisions.
- C. Supporting calculations documenting compliance with the volume reduction BMP requirements.
- D. For manufactured PCBMPs, the manufacturer documentation to support pollutant removal rates shall be supplied.
- E. A BMP specific planting/seeding plan for all areas to be vegetated which shall include:
 1. Identified locations for all plantings (e.g., lawn, upland prairie, wet prairie, etc.), seeding and planting specifications and methodology.
 2. A schedule for installation.
 3. Proposed maintenance and monitoring provisions.
 4. An opinion of probable cost to construct the BMPs.

Section 8. That Section 26.800SEC. is hereby amended to read as follows:

26.800SEC. Performance Security.

- A. General Security Requirements.
 1. As security to the Village for the performance by the developer of the developer's obligations to complete the construction of any stormwater facilities required by the Stormwater Management Permit, to ensure that such stormwater facilities function as designed after construction, to pay all costs, fees, and charges due from the developer pursuant to this Ordinance, and to otherwise faithfully perform the developer's undertakings pursuant to this Ordinance, the developer shall, prior to issuance of a Stormwater Management Permit and in accordance with Section 26.610.D, post performance security and grant easements as hereafter described.
 2. The developer shall bear the full cost of securing and maintaining the securities required by this Article and in accordance with 26.610D.
 3. Performance Security required by this Article may be posted in the form of one or more surety instruments as the Administrator, deems appropriate for the proposed development.
 4. The developer shall grant the Village a temporary easement which authorizes, but does not obligate, the Village to access the development site to perform or complete any act or work the developer is required to do by the Stormwater Management Permit which may include; (i) the construction of any required stormwater facilities; (ii) restoration and/or mitigation of natural areas, wetlands and buffers; (iii) installation and maintenance of soil erosion control; (iv) planting or removal of vegetation; and (v) any other maintenance or monitoring. The term for such

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easements shall be of sufficient duration as necessary to allow the Village to perform and satisfactorily complete any activity or work for which the developer/certificate holder has posted security under this Article.

B. Development Security

1. A development security shall be posted and shall include:
 - a. A schedule, agreed upon by the developer and the Administrator, for the completion of the construction of any stormwater facilities required by the permit; and
 - b. An irrevocable letter of credit, cash bond or such other adequate security as the Administrator may approve, in an amount equal to not less than one hundred ten percent (110%) of the estimated probable cost to complete the construction of any stormwater facilities required by the Stormwater Management Permit, which estimated probable cost shall be approved by the Administrator or an amount established by the Administrator for development on a single family residential parcel as set forth in Administrative Regulation entitled "User-Fee, License and Fine Schedule"; and
 - c. A statement signed by the applicant granting the Administrator the right to draw on the security and the right to enter the development site to complete required work in the event that work is not completed according to the work schedule; and
 - d. A statement signed by the applicant that the applicant shall indemnify the Village for any additional costs incurred attributable to concurrent activities of or conflicts between the applicant's contractor and the Village's remedial contractor at the site.
2. The security required by this Section 26.800.B shall be maintained and renewed by the applicant, and shall be held in escrow by the Administrator until the conditions set forth in Section 26.800.B.3 and Section 26.801 or other applicable provision are satisfied.
3. After approval of record drawings and final inspection of any constructed stormwater facilities by the Administrator, not more than ninety percent (90%) of the security provided for in this Section 26.800.B or other applicable provision may be released. A minimum of ten percent (10%) of the security shall be retained after completion of construction of such stormwater facilities, for a period of time not less than one (1) year, to ensure the satisfactory performance of such stormwater facilities. The remaining development security shall be released after the Administrator verifies, by an inspection performed not sooner than one-year following the final construction inspection, that such stormwater facilities function as provided for in the certification.

C. Soil Erosion and Sediment Control Security

1. If a soil erosion and sediment control security is required pursuant to Section 26.610.D.2 of this Ordinance, such a security shall include:
 - a. An irrevocable letter of credit, or such other adequate security as the Administrator shall approve, in an amount equal to not less than one hundred ten percent (110%) of the estimated probable cost to install and maintain the erosion and sediment control measures, which estimated probable cost shall be approved by the Administrator; and
 - b. A statement signed by the applicant granting the Administrator, as applicable, the right to draw on the security and the right to enter the development site to complete erosion and sediment control measures in the event that such measures are not installed and maintained according to the established schedule.
2. The security required by Section 26.800.C shall be maintained and renewed by the applicant, and shall be held in escrow by the Administrator, as applicable, until the conditions set forth in Sections 26.800C.2 and 26.801. After establishment of vegetation, removal of all sediment from stormwater facilities unless designed otherwise, and final inspection and approval by the Administrator, as applicable, one hundred percent (100%) of the erosion and sediment control security shall be released.

D. Natural Area Restoration, Wetland and Buffer Mitigation Area Security

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1. Natural area restoration or wetland and buffer mitigation area security, in accordance with Section 26-610.D.3 shall be posted and shall include:
 - a. A schedule, agreed upon by the developer and the Administrator, for the completion of a natural area restoration development or completion of wetland or buffer mitigation development; and
 - b. An irrevocable letter of credit, or other such adequate security as the Administrator may approve, in an amount equal to, not less than, one hundred ten percent (110%) of the estimated probable cost to plant, maintain and monitor all vegetated areas and/or complete the restoration or mitigation development for the agreed upon maintenance and monitoring period as required by the permit. The estimated probable cost shall be approved by the Administrator; and
 - c. A statement signed by the applicant granting the Administrator the right to draw on the security and the right to enter the development site to complete the work in the event that work is not completed according to the work schedule; and
 - d. A statement signed by the applicant that the applicant shall indemnify the Village for any additional costs incurred attributable to concurrent activities of, or conflicts between, the applicant's contractor and the Village's remedial contractor at the site.
 2. The security required by Section 26.800.D shall be maintained and renewed by the applicant, and shall be held in escrow by the Administrator until the conditions set forth in this Section 26.800D.4 and Section 26.801, or other applicable provision are satisfied.
 3. The natural area restoration or wetland and buffer mitigation areas security may be reduced at the discretion of the Administrator as conditions are met, but must not be less than one hundred ten (110%) of the estimated probable cost to continue to meet all conditions or other applicable provisions.
 4. After approval by the Administrator, not more than ninety percent (90%) of the security provided for in this Section 26.800.D, or other applicable provision may be released. A minimum of ten percent (10%) of the security shall be retained for the length of the required monitoring period, which period shall not be less than one (1) year from the completion of the initial restoration or mitigation activities, to ensure the satisfactory establishment of any vegetated areas required by the certification.
- E. Letters of Credit
1. Letters of credit posted pursuant to Section 26.800B, C and D of this Ordinance shall be in a form satisfactory to the Administrator.
 2. Each letter of credit shall be from a lending institution: (a) acceptable to the Administrator (b) having capital resources of at least ten million dollars (\$10,000,000), or such other amount acceptable to the Administrator; (c) with an office in the Chicago Metropolitan Area; and, (d) insured by the Federal Deposit Insurance Corporation.
 3. Each letter of credit shall, at a minimum, provide that:
 - a. It shall not be canceled without the prior written consent of the Administrator; and
 - b. It shall not require the consent of the developer prior to any draw on it by the Administrator; and
 - c. If at any time it will expire within forty-five (45) or any lesser number of days, and if it has not been renewed, and if any applicable obligation of the developer for which its security remains uncompleted or is unsatisfactory, then the Administrator may, without notice and without being required to take any further action of any nature whatsoever, call and draw down the letter of credit and thereafter either hold all proceeds as security for the satisfactory completion of all such obligations or employ the proceeds to complete all such obligations and reimburse the Village for any and all costs and expenses, including legal fees and administrative costs, incurred by the Village, as the Administrator shall determine.

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4. If at any time the Administrator determines that the funds remaining in the letter of credit are not, or may not be, sufficient to pay in full the remaining unpaid cost of all stormwater facility construction or erosion and sediment control measures, then, within ten (10) days following a demand by the Administrator, the developer shall increase the amount of the letter of credit to an amount determined by the Administrator to be sufficient to pay such unpaid costs. Failure to so increase the amount of the security shall be grounds for the Administrator to draw down the entire remaining balance of the letter of credit.
5. If at any time the Administrator determines that the bank issuing the letter of credit is without capital resources of at least ten million dollars (\$10,000,000), is unable to meet any federal or state requirement for reserves, is insolvent, is in danger of becoming any of the foregoing, or is otherwise in danger of being unable to honor such letter of credit at any time during its term, or if the Administrator otherwise reasonably deems the bank to be insecure, then the Administrator shall have the right to demand that the developer provide a replacement letter of credit from a bank satisfactory to the Administrator. Such replacement letter of credit shall be deposited with the Administrator not later than ten (10) days following such demand. Upon such deposit, the Administrator shall surrender the original letter of credit to the developer.
6. If the developer fails or refuses to meet fully any of its obligations under this Ordinance, then the Administrator may, in his or her discretion, draw on and retain all or any of the funds remaining in the letter of credit. The Administrator thereafter shall have the right to take any action he or she deems reasonable and appropriate to mitigate the effects of such failure or refusal, and to reimburse the Village from the proceeds of the letter of credit for all of its costs and expenses, including legal fees and administrative expenses, resulting from or incurred as a result of the developer's failure or refusal to fully meet its obligations under this Ordinance. If the funds remaining in the letter of credit are insufficient to repay fully the Village for all such costs and expenses, and to maintain a cash reserve equal to the required letter of credit during the entire time such letter of credit should have been maintained by the developer, then the developer shall, upon demand of the Administrator therefore, immediately deposit with the Administrator such additional funds as the Administrator determines are necessary to fully repay such costs and expenses and to establish such cash reserve.

Section 9. That Section 26.1000SEC. is hereby amended to read as follows:

26.1000SEC. Post Construction Best Management Practices.

A. PCBMPs (Post Construction Best Management Practices), are required to treat the stormwater runoff for pollutants of concern and reduce runoff volume for all developments, with the exceptions and exclusions noted below. Upon a documented finding by the Administrator that providing PCBMPs is impractical, then the appropriate PCBMP fee-in-lieu shall be paid by the applicant in lieu of providing full or partial PCBMPs. On-site PCBMPs are waived for the following developments:

1. When comparing the impervious area of the pre-development site to the with-development impervious area of the same development site, excluding any areas of the development site which PCBMPs have already been provided and maintained, and the net new impervious area is less than ~~2,500~~ five hundred (500) square feet in the aggregate since ~~April 23, 2013~~ January 1, 2015 or ~~two thousand five hundred (2,500) square feet since April 23, 2013~~; or
2. The development is limited to the resurfacing of an existing roadway or reconstruction of an existing roadway with less than 2,500 square feet of net new impervious area per quarter mile being added compared to the pre-development condition or the replacement of an existing culvert or bridge; or
3. The development is a Regional Stormwater Management Development or a Flood Control development which are also considered to be PCBMPs; or
4. The development is a stream bank stabilization, natural area restoration, or wetlands mitigation bank development, or off-site wetland mitigation which in itself is considered a PCBMP; or

SW Review

5. The development is limited to the construction, or re-construction, of a pedestrian walkway/bike path, in which the pedestrian walkway/bike path shall not exceed sixteen (16) feet in width, including shoulders; and is being constructed for general public use; or
 6. The development is limited to the modification of an existing stormwater management facility to incorporate Best Management Practices which in itself is considered PCBMPs; or
 7. The development is a Water or Sewer Improvement Development; or
 8. The development is limited to construction or maintenance of an underground or overhead utility conduit or line, with supports and appurtenances.
- B. The following are prohibited from the providing on-site infiltration PCBMPs.
1. Fueling and vehicle maintenance areas.
 2. Areas within four hundred (400) feet of a known community water system well as specified, or within one hundred (100) feet of a known private well, for runoff infiltrated from commercial, industrial and institutional land uses. The applicant shall use their best efforts to identify such zones from available information sources, which include the Illinois State Water Survey, IEPA, USEPA, DuPage County Health Department and the local municipality or water agency.
 3. Areas where contaminants of concern, as identified by the USEPA or the IEPA prior to development, are present in the soil through which infiltration would occur. For sites with a No Further Remediation (NFR) letter from the USEPA or IEPA, the applicant shall determine whether or not structural barriers are part of the mitigation strategy and account for such measures in the design.
 4. Development in soils classified as Hydrologic Soils Group A by the NRCS.
 5. Developments over soils with the seasonably high groundwater table within two (2) feet of the surface.

Section 10. That Section 26.1001 is hereby amended to read as follows:

26.1001 Post Construction Best Management Practices Design Criteria.

- A. PCBMPs shall provide volume and pollutant control using one of the following practices:
1. Infiltration of 1.25 inches for all new impervious surfaces; or
 2. Native vegetated wetland bottom site runoff storage basin; or
 3. PCBMPs not constructed pursuant to Sections 26.1001A.1 or 26.1001A.2 shall be constructed in accordance with 26.1001C.
- B. Design criteria may be taken from the DuPage Appendix E Water Quality Best Management Practices Technical Guidance Manual or approved equivalent.
- C. If the practices listed under Sections 26.1001A.1 or 26.1001A.2 are not utilized, then volume control and pollutant control shall be provided separately for all new impervious surfaces in accordance with the following criteria:
1. The required volume control shall be calculated as the product of the new impervious area and a 1.25.inch rainfall event (New Impervious area in square feet x 1.25" x (1 ft/12")). ~~No abstractions-~~ abstractions are taken on the rainfall depth.
 2. The volume calculated shall be subtracted from any volume of site runoff storage that is also required.
- D. A control structure or underdrain, may be used, provided that the draw down time is between 48 and 96 hours. On-site testing to ensure that the draw down time meets the requirements, and a report regarding the testing, must be submitted with the permit application.
- E. When a trench or other excavation is used, the expected void space (typically no greater than 36%) within the uniformly graded stone, sand or aggregate portion of the fill material may be included in the volume calculation. Silt sized particles (1/16 mm) or smaller may not be used to complete this calculation. The design shall incorporate measures to protect the void space from long term deposition of fine sediments. If testing is completed on samples of the proposed fill material which indicates a higher level

of porosity, the applicant may submit the analysis completed on the material along with the storage calculations.

F. The bottom/invert of the trench shall be set above the seasonally high water table.

G. A notice acknowledging the presence of a PCBMP and the responsibility to maintain shall be recorded against the title of the property by the Village to alert all future owners and shall reference the stormwater management permit. All administrative and recording fees will be borne by the permit applicant as established in the Village User-Fee, License and Fine Schedule Regulation.

Section 11. That Section 26.1303 is hereby amended to read as follows:

26.1303 Regulatory Flood Plain and Localized Poor Drainage Area Development Performance Standards.

A. *General Performance Standards*

1. No development activity within the flood plain or LPDA shall result in an adverse hydraulic impact to upstream or downstream properties.
2. Proposed developments that meet the following criteria shall be exempt from the hydrologic and hydraulic modeling requirements set forth in the Ordinance:
 - a. A development that is located in the regulatory flood plain but is located entirely outside of the regulatory floodway, provided the development meets the compensatory storage requirements of Section 26.1303.D.
 - b. The construction of an at-grade pedestrian path located within the regulatory floodway, provided the proposed development meets the following requirements which results in a development that does not increase the BFE:
 1. The development must have an at-grade intention, with a reasonable balance of cut and fill at each cross-section based on the judgment of the Director. Net cut over the length of the development is acceptable where a balance of cut and fill at every cross-section cannot be achieved.
 2. The maximum width of the proposed path is sixteen (16) feet of traveled lane, including shoulders.
 - c. The construction of a public safety feature, such as a pedestrian bridge railing or a guard rail for a roadway, provided the proposed construction of a public safety feature does not result in a loss of ten percent (10%) or more of the existing conveyance cross-sectional area.
 - d. Developments replacing culverts with a hydraulically equivalent culvert(s).
 - e. A development that is located in an LPDA and is providing the compensatory storage requirements.
3. A CLOMR shall be required for any development that either: (1) revises the regulatory floodway boundary or (2) encroaches upon a floodplain and causes a specified increase in the BFE, in accordance with FEMA and State regulations.
4. In accordance with NFIP Regulations, a building permit shall not be issued for construction in the SFHA until a LOMR is issued by FEMA unless the building meets the building protection standards in Section 26.1303.B. A building permit for a compliant structure can be issued without a LOMC.
5. A copy of an application for a LOMC to remove a property from the SFHA including all the required information, calculations, and documents shall be submitted to the Village concurrent with the application to FEMA or OWR or its designee.
6. In areas outside the regulatory floodway but within the flood plain, maximum flow depths on new parking lots that are used for permanent parking shall not exceed one foot during the base flood condition and shall be designed for protection against physical flood damages. Parking areas that are used solely for the purpose of overflow, temporary, or short-term parking may allow flood

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depths greater than one foot. Parking in areas below the base flood elevation shall be clearly posted with Flood Hazard signs.

B. *Building Protection Standards*

1. If a proposed building is located in a SFHA or LPDA, all new construction and substantial improvements shall (i) be designed (or modified) and adequately anchored to prevent flotation, collapse, or lateral movement of building resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy. (ii) be constructed with materials resistant to flood damage, (iii) be constructed by methods and practices that minimize flood damages, and (iv) be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding. Existing buildings that have not incurred substantial damage or meet the substantial improvement criteria may also be modified based on the above criteria. All construction below the FPE shall be of flood resistant materials and conform to provisions in FEMA/FIA Technical Bulletin 2. All electrical, heating, ventilation, air conditioning, plumbing, and other appliances shall be located above the FPE. Storage of materials shall be in accordance with Section 26.1303C.1, which states that there can be no storage of certain listed materials below the FPE.
2. New construction or substantial improvements of residential buildings within a SFHA or LPDA shall have the lowest floor, including basement, elevated to at least the FPE and that the fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered Professional Engineer or Architect or meet or exceed the following minimum criteria: A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters. Adequate drainage shall be provided.
3. New construction and substantial improvements of non-residential buildings within a SFHA or LPDA shall (i) have the lowest floor, including basement, elevated to at least the FPE or, (ii) together with attendant utility and sanitary facilities be designed so that below the FPE the building is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Where a non-residential structure is intended to be made watertight below the FPE, (i) a registered Professional Engineer or Architect shall develop and/or review structural design, specifications, and plans for the construction, and shall certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the applicable provisions of 44CFR60.3 and (ii) a record of such certificates which includes the specific elevation (in relation to sea level) to which such buildings are floodproofed shall be maintained by the official designated by the community under 44CFR59.22.
4. Manufactured homes that are placed or substantially improved within the SFHA on sites (i) outside of a manufactured home park or subdivision, (ii) in a new manufactured home park or subdivision, (iii) in an expansion to an existing manufactured home park or subdivision, or (iv) an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage as the result of a flood be elevated on a permanent foundation such that the lowest floor of the manufactured homes to at least the FPE, be securely anchored to an adequately anchored foundation system to resist floatation, collapse and lateral movement in accordance with the rules and regulations for the Illinois Mobile Home Tie-Down Act issued pursuant to 77 Ill. Adm. Code 870, provide adequate access and drainage and if pilings are used for elevation,

SW Review

- applicable design and construction standards for pilings shall be met.
5. Manufactured homes to be placed in an existing manufactured home park or subdivision within the SFHA not subject to the provisions of Section 26.1303B.4 shall be elevated so that either (i) the lowest floor of the manufactured home is at least the FPE, or (ii) the manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and be securely anchored to an adequately anchored foundation system to resist floatation, collapse, and lateral movement accordance with the rules and regulations for the Illinois Mobile Home Tie-Down Act issued pursuant to 77 Ill. Adm. Code 870, provide adequate access and drainage and if pilings are used for elevation, applicable design and construction standards for pilings shall be met.
 6. Recreational vehicles placed on sites within a SFHA be either (i) be on the site for any period not exceeding any aggregate of ten (10) days (which may or may not be consecutive) within any period of thirty (30) consecutive days, (ii) be fully licensed and ready for highway use, or (iii) meet the permit requirements of 44CFR60.3(b)(1) and the elevation and anchoring requirements of Section 26.1303.B.4, (iv) and in compliance with provisions found in Section 28.1408 of the Zoning Ordinance. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by a quick disconnect type utilities and security devices, and has no permanently attached additions.
 7. Accessory structures such as detached garages and sheds may be constructed within a SFHA and LPDA if they meet all of the following criteria:
 - a. Must be non-habitable, used for the storage of vehicles and tools, and cannot be modified later into another use.
 - b. Shall be located outside of the regulatory floodway.
 - c. Shall be on a single lot and be accessory to an existing principal building on the same lot.
 - d. ~~When the floor of an accessory structure is below the BFE, the walls of the accessory structure shall include openings to allow floodwater to enter the structure from the adjacent grade to the BFE. The location of the openings and the size of each opening shall be in accordance with FEMA Technical Bulletin 1.~~ All new and added usable space must be elevated to at least one (1) foot above the BFE.
 - e. All electrical, heating, ventilation, air conditioning, plumbing, and other appliances, or fixed mechanical or electrical devices shall be located above the FPE.
 - f. The detached garage must be less than fifteen thousand dollars (\$15,000) in market value or replacement cost, whichever is greater, or less than five hundred and seventy six (576) square feet in size.
 - g. Shall be anchored to resist floatation and overturning.
 - h. All flammable or toxic materials (gasoline, paint, insecticides, fertilizers, etc.) shall be stored above the FPE.
 - i. All construction below the FPE shall be of flood resistant materials.
- C. *Public Health Protection Standards*
1. Temporary or permanent storage in the flood plain of the following are prohibited unless elevated or floodproofed to one foot above the base flood elevation:
 - a. Items susceptible to flood damage; or
 - b. Unsecured buoyant materials or materials that may cause off-site damage including bulky materials, flammable liquids, chemicals, explosives, pollutants, or other hazardous materials; or
 - c. Landscape wastes.
 2. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.
 3. Sanitary sewer systems shall be designed to eliminate infiltration or inflow of flood waters and minimize discharge of sewage.

SW Review

D. *Compensatory Storage Volume Standards*

1. Any placement of fill, structures, or other materials above grade in the flood plain shall require compensatory storage equal to at least 1.5 times the volume of flood plain storage displaced. The storage shall be provided incrementally using one of the following methods: i) between the 0 - 10-year and the 10 - 100-year flood recurrence intervals; or ii) an approved equivalent, at a minimum 1:1 ratio. The remaining 0.5:1 required storage ratio can be provided at any elevation below the BFE. Compensatory storage for fill in LPDAs shall be provided non-incrementally at a ratio of 1:1. Grading in wetland, floodplain, LPDA, or buffer areas shall be done in such a manner that the existing flood plain or stormwater storage is maintained at all times. Compensatory storage is not required for flood protection of existing buildings within the flood plain or LPDA for flood plain or stormwater volume displaced by the building and within the area of ten (10) feet adjacent to the building; or
2. For areas where there is no defined regulatory floodway and a tributary drainage area less than 640 acres, the compensatory storage requirements set forth in Section 26.1303.D.1 shall be waived for developments that meet either of the following criteria:
 - a. The cross-sectional flood plain area, as defined by cross-sections through the development site, is not reduced by more than 0.5% at any one cross-section; or
 - b. The total fill volume does not exceed two hundred (200) cubic feet.
3. Existing flood storage that is lost due to channel modification shall require compensatory storage at a 1:1 ratio.
4. Flood Plain fill resulting from public roadway developments shall require incremental compensatory storage at a 1:1 ratio.
5. Any removal, replacement, or modification of stormwater facilities that has an adverse hydraulic impact shall provide a watershed benefit and shall require compensatory storage to mitigate for any potential increases in flow or Flood elevations. All structures and their associated low entry elevations within the created backwater of the existing stormwater facility shall be identified

Section 12. That all ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

Section 13. That this ordinance shall be in full force and effect from and after its passage and publication in the manner provided by law.

Mayor

Passed:
Published:
Attest: _____
Village Clerk

Sump Pump Discharge

ORDINANCE NO. _____

AN ORDINANCE REGULATING SUMP PUMP/DOWNSPOUT DISCHARGE

BE IT ORDAINED by the Village Council of the Village of Downers Grove in DuPage County, Illinois, as follows: (Additions are indicated by **shading**/underline; deletions by ~~strikeout~~):

Section 1. That Section 13.7. is hereby amended to read as follows:

13.7. Enumeration.

The following shall constitute nuisances:

(a) To permit any premises where any animal is kept to become offensive or detrimental to any adjoining or adjacent property or neighborhood. For the purposes of this subsection, the offensive or detrimental quality of such a premises shall be determined on the basis of the following factors:

- (1) The area of the premises in terms of square feet;
- (2) The number of animals on the premises;
- (3) The type or types of animal on the premises;
- (4) The location of the animal or animals on the premises and the proximity of such location to adjoining properties;
- (5) The type and adequacy of any shelter, if any, for such animal;
- (6) The noise created by the presence of the animal;
- (7) The odor created, directly or indirectly, by the presence of the animal;
- (8) The presence, or lack thereof of facilities for proper collection and removal of refuse or waste materials resulting, directly or indirectly, from the presence of the animal;
- (9) The presence of rats or other vermin as a result of the presence of the animal;
- (10) The zoning district in which the premises is located.

(b) To intentionally feed any wild animals within the Village such that as a natural and predictable result of the amount and type of food given a wild animal or animals, and/or the repetitive nature of the feedings made, the wild animal or animals does any of the following:

- (1) Creates a habitat on occupied property which becomes offensive or detrimental to the neighborhood;
- (2) Causes substantial damage to a neighboring or adjacent property owner's tangible personal property or real property; or
- (3) On more than one occasion, leaves feces on real or personal property.

For the purposes of this section, wild animals include, but are not limited to, raccoons, deer, skunks, coyotes, squirrels, possum and fox.

(c) To throw, deposit or allow the accumulation of any garbage, refuse, waste or similar material on any public or private property unless such material is contained in a receptacle of proper size and design so as to prevent the dissemination or release of such material to adjacent properties.

(d) To interfere with the natural flow of stormwater or surface water in any of the following ways:

- (1) By obstructing any floodway or floodplain, as defined in Section 26-05 of this Code, so as to interfere with runoff or temporary storage of surface water through or upon the premises.
- (2) By causing, suffering or permitting any obstruction to the flow of storm or surface water within any drainageway.
- (3) By depositing, maintaining, suffering or permitting the deposit of any object or material within or adjacent to any drainageway so as to create a reasonable likelihood of an obstruction of the drainageway. The likelihood of an obstruction shall be determined on the basis of the following factors: the nature of the particular object or material, including without limitation, its size, density, and structure; the

Sump Pump Discharge

topography of the site; the distance from the drainageway and the measures taken to prevent dislocation of the object or material.

For purposes of this subsection, the term "drainageway" shall mean the entire width of any open channel, either natural or manmade, which collects and transports surface water and storm water runoff from dominant to servient lands.

(e) To keep or deposit, or to cause, suffer or permit to be kept or deposited, whether on public or private property, any inoperable automobile, watercraft, or other motor vehicle of the type which would be required under applicable state statute to be registered for operation on any public highway or waterway, or any part or parts intended for use in any such vehicle or watercraft or any inoperable accessory apparatus for use in connection with any such vehicle or watercraft, unless:

(1) Such vehicle or watercraft or part or parts therefor shall be wholly enclosed within a building; or

(2) Such vehicle or watercraft or part or parts therefor shall be located within the premises of any business for wrecking or junking vehicles maintained and operated in accordance with applicable provisions of this Code and other ordinances of the Village; or

(3) Such vehicle shall be an antique or historic vehicle registered or eligible for registration under Section 3-804 of the Illinois Motor Vehicle Code, as amended.

For the purposes of this subsection (e), the phrase "inoperable automobile, watercraft, or other motor vehicle" shall mean any motor vehicle or watercraft from which, for a period of at least ten consecutive days, the engine, wheels or other functional parts have been removed, altered, damaged or otherwise affected so that the vehicle or watercraft is incapable of being driven under its own motor power or otherwise used as intended.*

For the purposes of this subsection (e), the phrase "inoperable accessory apparatus" shall mean, but is not limited to, semi-trailers and trailers as defined in the Illinois Vehicle Code,** and other similar vehicle or watercraft accessories which are not roadworthy. An accessory apparatus is not roadworthy if any one or more of the following exists:

(1) Wheels or other functional parts which make the semi-trailer, trailer, or other similar vehicle accessory roadworthy have been removed, altered, damaged, or otherwise affected so that the semi-trailer, trailer, or other similar vehicle accessory is, for a period of at least ten (10) consecutive days, incapable of being drawn by a motor vehicle; or

(2) The semi-trailer, trailer, or other accessory apparatus, is not registered with the state as required by the Illinois Vehicle Code*** and has not been moved from the property for a period of at least ten (10) consecutive days.

(f) To discharge sump pumps and/or downspouts in any of the following manners or locations:

(1) Into parkways, drainage ditches or storm sewers on public property without permit approval from the Village; or onto adjacent property. In a location which does not provide at least five feet of pervious surface between the point of discharge and any property line, unless such discharge is

~~(i) Into any open drainage ditch located within the site or on public right of way; or
(ii) Into a storm sewer, provided that adequate capacity exists in the system and that the hydraulic grade of the system will not cause a backup into buildings on the premises or other premises.~~

(2) In any manner and in any location that results in standing water for a period of more than seventy-two (72) hours; of a depth of three inches or more or formation of ice of any thickness; or the creation of any other hazardous or unsafe condition on public property, including, but not limited to, sidewalks or the paved portion of the roadway within the public right of way.

(g) To allow graffiti to remain on any property owned or controlled by such person for a period of three (3) days or more. It shall be the responsibility of the property owner(s) or person(s) in control of the premises to remove any graffiti on any structure or building within the Village of Downers Grove.

For the purpose of this paragraph, "graffiti" shall mean any unauthorized inscription, word, figure, or design or collection thereof, which is marked, etched, scratched, painted, drawn or printed on any

Sump Pump Discharge

structural component of any building, structure, fence, or other similar type of property.

(h) To permit any dumpster or other garbage container exceeding four (4) cubic yards in capacity to be placed on any residential property for more than ten (10) consecutive days; provided this section shall not prohibit the placement and use of such dumpsters and containers during the term of a valid building permit issued for the property on which the dumpster or container is located, nor prohibit dumpsters or containers placed in a Village street or parkway pursuant to a valid permit issued under Section 19-22. (R.O. 1925, § 266; Ord. No. 1840, § 1; Ord. No. 1847, § 1; Ord. No. 2798, § 1; Ord. No. 2802, § 1; Ord. No. 3264, § 1.)

*For state law authorizing village to require disposal of unenclosed inoperable vehicles, see Ill. Rev. Stat., ch. 24 § 11-40-3.

**Ill. Rev. Stat., Ch. 95-1/2, Secs. 1-187, 1-209.

***Ill. Rev. Stat., Ch. 95-1/2, Secs. 3-400 et al.

Section 2. That all ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

Section 3. That this ordinance shall be in full force and effect from and after its passage and publication in the manner provided by law.

Mayor

Passed:

Published:

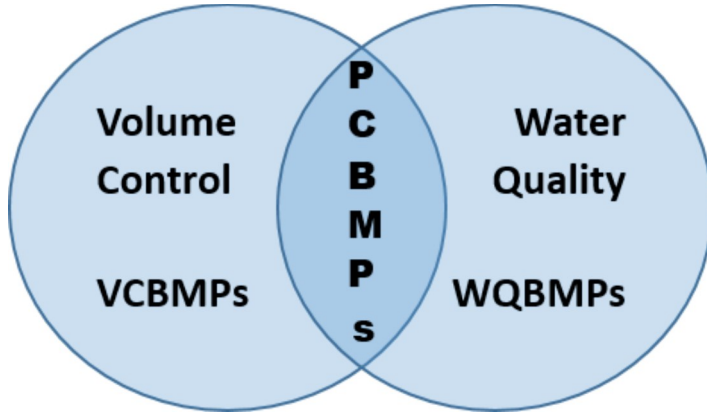
Attest: _____

Village Clerk

Proposed Stormwater Ordinance Amendments

Purpose

The purpose of this memorandum is to review options for reducing the negative impacts of stormwater runoff in conjunction with development. What is being considered is reducing the threshold by which new development would be required to provide on-site stormwater storage from 2,500 square feet of new impervious to 500 square feet.



Background

In 2012, the Village adopted the new County stormwater and flood plain standards, which for the first time included Volume Control with the Post Construction Best Management Practices. Prior to that, PCBMPs consisted only of Water Quality Best Management Practices (WCBMPs).

Simply, VCBMPs are practices that encourage infiltration and reduction of runoff. Examples include rain gardens, dry wells, and infiltration trenches. WQBMPs reduce the pollutants of concern, such as oils, metals and suspended solids, and often the two types of BMPs can function together. Examples include wetland style storage basins, permeable pavers, and native vegetated swales with underdrains.

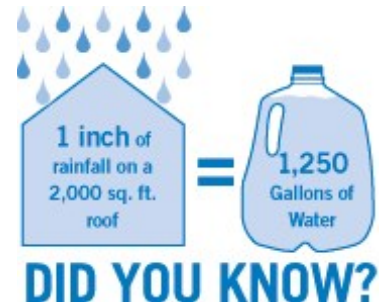
The current ordinance requires that both water quality and volume control BMPs be provided when a development has more than 2,500 square feet of net new impervious area. Once the development reaches the 2,500 square foot threshold, both BMPs must be provided for the *entire* development.

The volume is calculated based on a 1.25", 2-hour rain event for all new impervious surfaces. For example, if a home was torn down and there was a total of 1,900 square feet of impervious coverage, and a new home was built with a total of 4,300 square feet of impervious coverage, no volume control would be required ($4,300 - 1,900 = 2,400$ which is less than the 2,500 sf threshold). If, however, the new home had 4,400 square feet of impervious coverage, the BMP threshold would be met ($4,400 - 1,900 = 2,500$) and they would be required to provide storage on all new impervious:

$$(1.25" \times 4,400 \text{ SF})(1 \text{ FT}/12") = 459 \text{ CF of on-site infiltration}$$

Issues

Many of the new, larger houses are under the current threshold of 2,500 square feet and are not required to provide BMPs. In addition, many of the new homes have deeper basements, causing sump pump water discharging more frequently and with more volume onto adjacent properties and onto the public right-of-way. In the winter, excess water onto the right-of-way can lead to icy and unsafe sidewalk and road conditions.



These disruptions lead to stormwater issues between neighbors, as well as staff time and money addressing negative impacts between properties and onto the public right-of-way.

Items to Consider

Property Development - As a mature community, the Village of Downers Grove's residential districts are largely developed, leaving most of the new residential development in the form of additions or by way of teardown development, where older homes are replaced by new construction. Most commercial redevelopment does not trigger the BMP provisions of the stormwater ordinance since the properties are typically already impervious.

It is important that the permitting process make it easy for property owners to reinvest in their homes. Reducing the threshold of when BMPs are required would not substantially increase the permit review time or permit fees as the stormwater reviews are already being done for many projects.

Costs - The cost of providing PCBMPs varies with site constraints, volume required, and method chosen. Some recent costs provided by contractors for providing BMPs are:

Rain Gardens: \$15-\$20/CF of storage (includes native plants)

Permeable Pavers: \$40-\$50/CF of storage (includes removal of existing drive)

Dry Wells: \$20-\$30/CF of storage

Flo-Well Systems: \$95-\$125/CF of storage

Depending on the volume and placement needed to meet the code requirements, a combination of methods are chosen.

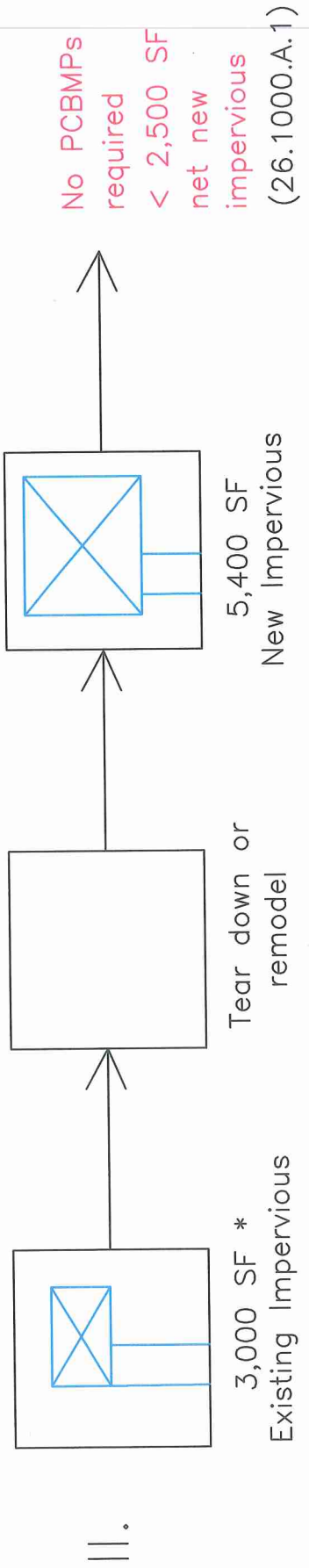
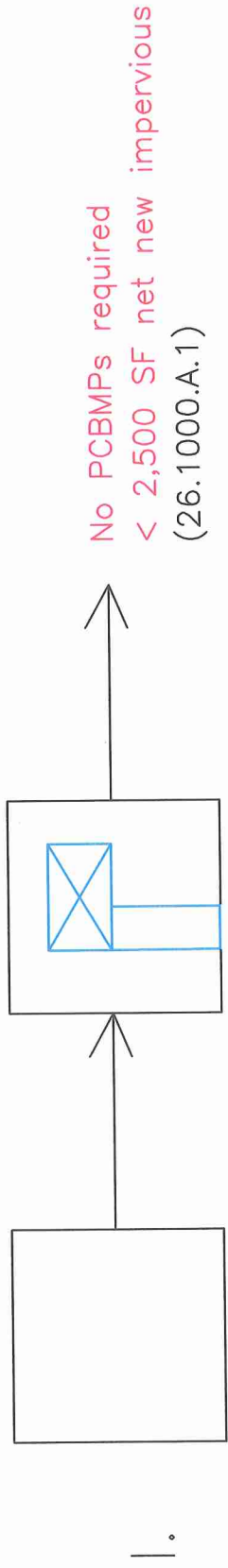
The expense of providing additional volume control storage above the current County required threshold is minimal when considering the scope of new construction that would trigger the additional volume.

For example, 1,000 SF of additional new impervious would require an additional 104 CF of storage. This equates to an additional cost of anywhere from \$1,500 to \$10,000, depending upon the method chosen. This equates to approximately 0.6% to 4.1% of the cost of building that additional 1,000 SF of a home in Downers Grove. The costs of new homes are based on new construction for sale in mid-October, 2014 in Downers Grove.

Sump Pump Discharge - Currently there are no provisions in the County Stormwater & Flood Plain Ordinance that addresses sump pump discharge. We no longer allow direct connections into the storm sewer, as the capacity of the sewers are limited, and adding this additional volume of water can cause more frequent and serious flooding to downstream properties.

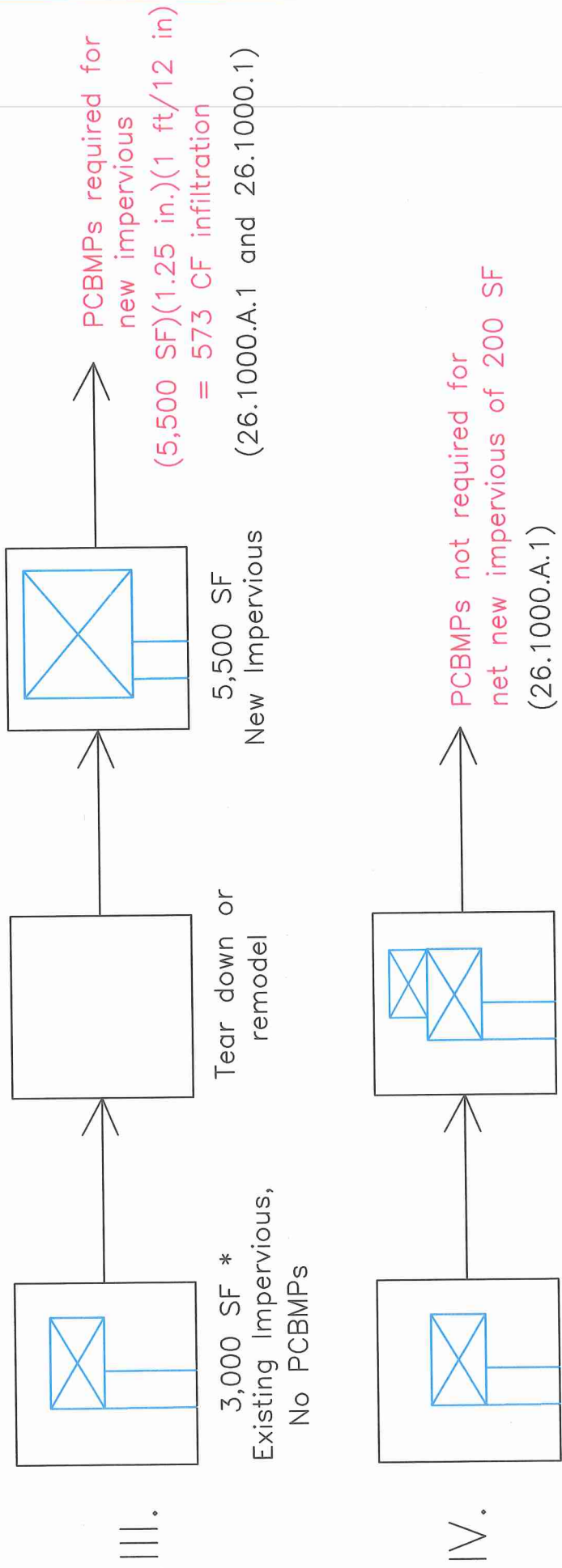
New construction codes require piped discharge to be no closer than 20' from the downstream property line and not to cause a nuisance on adjacent properties (26.700.B.1.m.) During the plan review process, we encourage a separate VCBMP to handle the sump discharge. We suggest if the sump is active, to provide the equivalent infiltration of 25% of the volume required for the impervious area on the site. This has not yet been codified.

Village of Downers Grove Current PCBMP Residential Scenarios



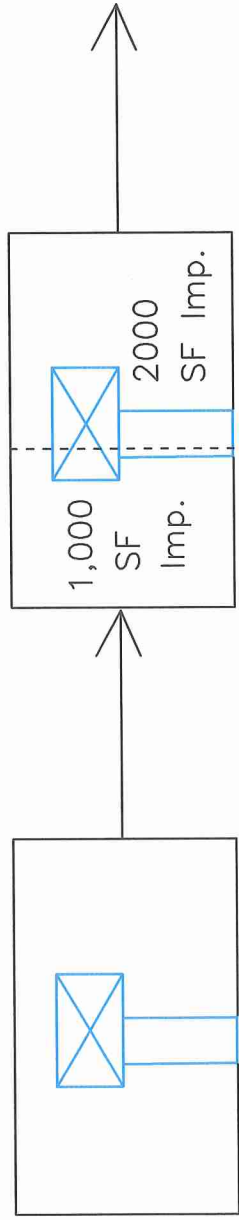
* As of April 23, 2013

Village of Downers Grove Current PCBMP Residential Scenarios



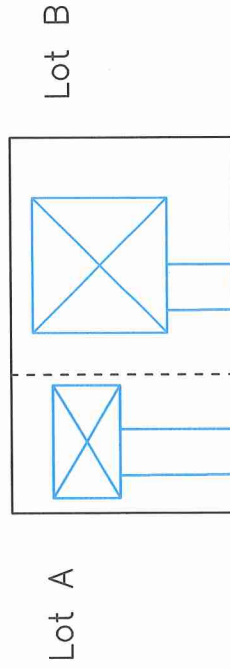
* As of April 23, 2013

Village of Downers Grove Current PCBMP Residential Scenarios



3,000 SF *
Existing Impervious
No PCBMPs

Subdivide
and tear down
(Maximum 2,500 SF net
new impervious allowed
for entire development)



3,200 SF
New Impervious

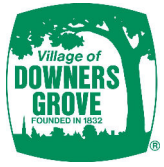
5,000 SF
New Impervious

8,200 SF - 3,000 SF = 5,200 SF
5,200 SF > 2,500 SF Threshold
Therefore, PCBMPs required
(26.1000.A.1)

Lot A: (3,200 SF)(1.25 in.)(1 ft/12 in)
= 333 CF infiltration required

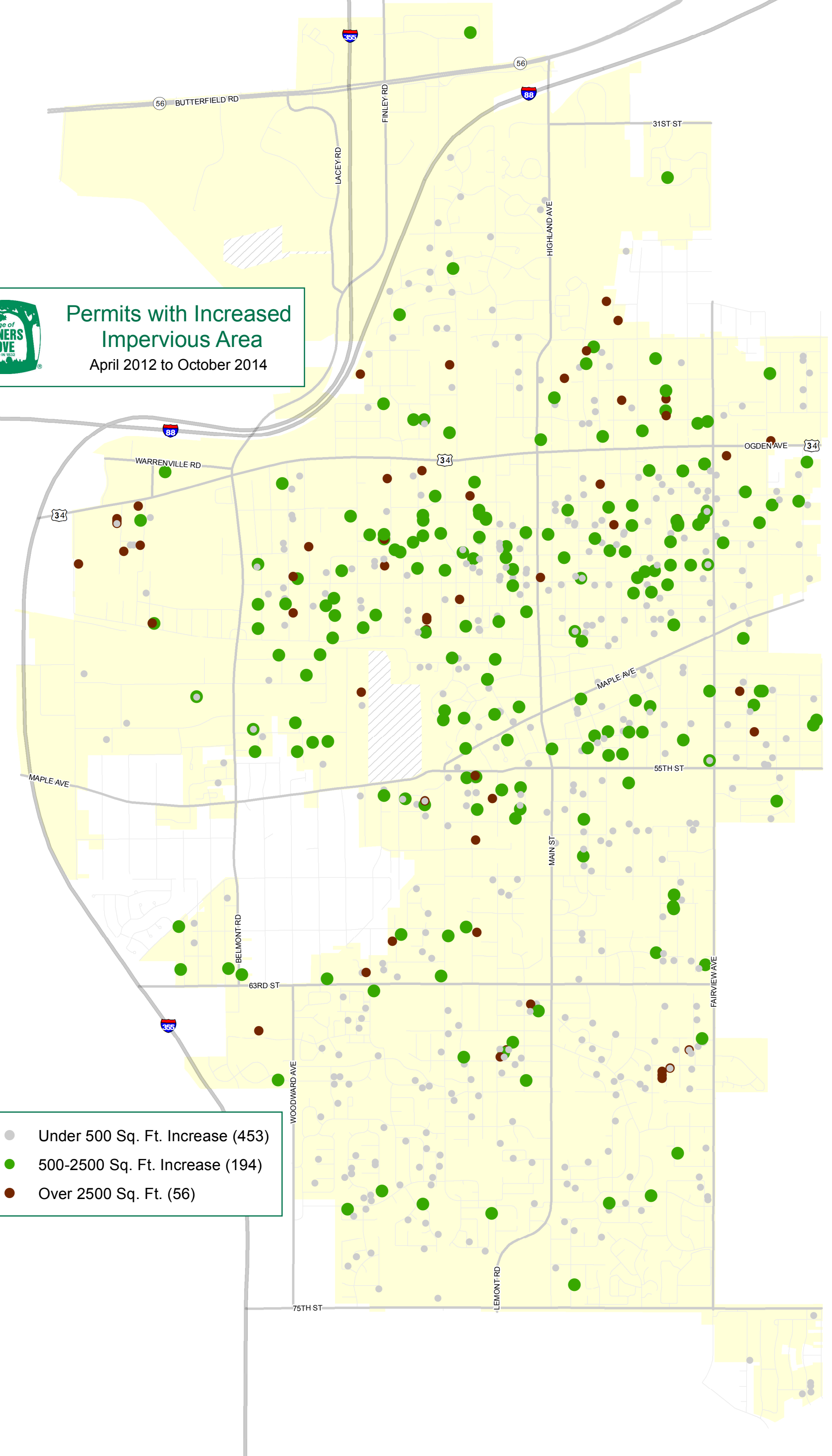
Lot B: (5,000 SF)(1.25 in.)(1 ft/12 in)
= 521 CF infiltration required

* As of April 23, 2013



Permits with Increased Impervious Area

April 2012 to October 2014



- Under 500 Sq. Ft. Increase (453)
- 500-2500 Sq. Ft. Increase (194)
- Over 2500 Sq. Ft. (56)

VILLAGE OF DOWNERS GROVE
Stormwater and Flood Plain Oversight Committee Meeting
November 13, 2014 7:00 p.m.

Downers Grove Public Works Facility
5101 Walnut Avenue, Downers Grove, Illinois

I. CALL to ORDER

Chair Gorman called the meeting to order at 7:00 p.m. A roll call followed and a quorum was established.

II. ROLL CALL

Members Present: Chair Gorman, Mr. Civito, Mr. Crilly, Mr. Ruyle, Mr. Scacco, Mr. Schoenberg,

Members Absent: Mr. Ruyle

Staff Present: Karen Daulton Lange, Stormwater Administrator; Julie Lomax and Kerry Behr, Development Engineers

Public Present: Michael Ricklefs, Greenscape Homes, LLC; P. Boroumand, 1906 Concord Dr.; Liam Doherty, Doherty Custom Homes

III. APPROVAL of July 10, 2014 MINUTES

Mr. Crilly made a motion, seconded by Mr. Civito, to approve the October 9, 2014 minutes as presented. Motion carried by voice vote of 6-0.

IV. PUBLIC COMMENTS

None at this part of the meeting.

V. NEW BUSINESS

A. Code change consideration of reducing the 2,500 square foot threshold of when Post Construction Best Management Practices (PCBMPs) are required to 500 square feet. Code Section 26.1000.A.1.

Staff reported that the current code requires that on-site stormwater storage be provided when the net new impervious area on the lot is greater than 2,500 square feet. The majority of new construction falls under this threshold and is not required to provide on-site storage. The majority of the newer homes are also constructed with deeper basements, which lead to more frequent sump pump discharges with more volume onto adjacent properties and onto the public right-of-way. In the winter, excess water can lead to icy and unsafe sidewalk and road conditions.

Larger home and paved areas, in addition to greater sump pump activity, lead to stormwater issues between neighbors, as well as staff time and money spent addressing negative impacts between properties and onto the public right-of-way. Between April, 2012 and

October, 2014, 194 permits were issued with new impervious area between 500 and 2,500 square feet. None of these were required to mitigate runoff from their property. Staff sent letters notifying over 40 builders and developers of the proposed changes and an invitation to tonight's meeting.

To address these concerns, staff researched available options and recommended amending the Municipal Code to reduce the threshold for new net impervious area from 2,500 square feet to 500 square feet. This change to the threshold will address runoff problems associated to construction related to new homes and substantial home additions, but will not overly encumber small home additions, sheds, patios, etc.

Discussion ensued regarding the merits of providing PCBMPs on an individual lot basis, where it can have a small but immediate improved impact to a neighboring property to a more regional basis where a larger stormwater basin might be installed to help a larger project area. A combination of the two could help both scenarios.

The increase in sump pump discharge with larger and deeper basements was also discussed, and it was reiterated that our current practice is to not allow a direct sump pump connection into a storm sewer and that if it was an active sump pump it would need a separate BMP to mitigate drainage onto downstream properties and Village right of way.

Maintenance and recording of PCBMPs was recognized as being important elements to the long-term success of the infiltration measures to reduce run-off from new development. Staff reported that at this time there are no plans for inspections by staff to ensure on-going maintenance, but it would be handled through education and on a complaint basis, as many code enforcement items are currently. Recording a note to title will alert a new owner to that a PCBMP exists and must be maintained.

Chair Gorman asked for public comment. Mr. Boroumand asked about how deep drywells had to be constructed. It was explained they had to be a foot above the seasonally high ground water elevation, so in some cases there may be a shallower but larger drywell than in other locations. Rain gardens and permeable pavements were discussed as common PCBMPs that were used as well. Mr. Ricklefs noted it was sometimes difficult to fit a PCBMP on a lot because the houses were so large and with the foundation over-dig it would put them in or near the right-of-way.

Mr. Scacco reiterated an earlier comment by Chair Gorman that standard drawings would be beneficial to homeowners and developers to assist them with PCBMP options. Ms. Lomax and Behr both stated that they discuss with applicants PCBMP choices and direct them to our website that has information on the topic. Ms. Daulton Lange said she was working with other staff to develop a guidance manual and details that should be ready by time the code takes effect on January 1, 2015.

Mr. Schoenberg offered a standard detail of a level spreader sump drainage detail which he has found helpful in other communities; it is a perforated pipe system placed underground in a bed of washed stone with risers for access and overflow.

Mr. Wicklander asked if a fee may be easier to collect and track, and use that money to install regional facilities. Discussion ensued how fees may be collected in one area, but spent in another, and collecting fees did nothing to mitigate the additional run-off that new development was creating.

A motion was made by Mr. Scacco and seconded by Mr. Civito to recommend that the Village Council adopt the proposed changes to the Stormwater & Flood Plain Ordinance. Messrs. Gorman, Civito, Crilly, and Scacco voted yes, Messrs. Schoenberg and Wicklander voted no. Motion passed 4-2.

VI. STAFF REPORT

See Attachment 1.

VII. PUBLIC COMMENTS

No further public comment.

VIII. OLD BUSINESS

A draft of proposed 2015 meeting dates was presented, generally the second Thursday of the month. The Committee requested Staff forward to the Village Clerk for publiciaton.

IV. ADJOURN

Mr. Schoenberg made a motion, seconded by Mr. Scacco to adjourn the meeting at 8:50 p.m. Motion carried by voice vote of 6-0.