

VILLAGE OF DOWNERS GROVE
Report for the Village Council Meeting

4/3/2018

SUBJECT:	SUBMITTED BY:
Discussion of Potential Amendments to Stormwater Management Regulations	Naneil Newlon Director of Public Works

SYNOPSIS

Staff is requesting Village Council discussion of potential amendments to stormwater management regulations.

STRATEGIC PLAN ALIGNMENT

Consider Amendments to Stormwater Regulations was identified as a Priority Action Item for 2017-2019. As part of this item, the Village Council directed staff to consider more stringent stormwater management regulations to lessen the negative impacts of increased runoff generated by construction activity.

FISCAL IMPACT

N/A

RECOMMENDATION

Provide direction to staff on the proposed changes to the stormwater regulations.

Staff does not recommend proceeding with stormwater regulations that rely on the following:

- Use of cost recapture agreements
- A variation process with cost of construction as an approval standard
- Village participation in the construction of the public drainage system

These three concepts were discussed at the [February 13, 2018](#) meeting (additional information is included in this report that explains why, after further investigation, they are not being recommended).

BACKGROUND

Priority Action Item Issue & Objectives

Issue: Code-compliant development activity generates stormwater runoff which sometimes negatively impacts adjacent properties.

Objectives:

- Reduce the negative impacts of runoff caused by development activities
- Permitting process should accommodate residential renovation & redevelopment

The Village Council previously discussed this issue at their [October 10, 2017](#), [December 5, 2017](#) and [February 13, 2018](#) meetings.

Proposed Stormwater Regulations

Based on Village Council direction provided at previous meetings and staff analysis of the identified options, staff is proposing the following regulations:

Require Stormwater Detention for All New Single Family Houses and Major Additions - Stormwater detention must be provided for all new single family houses and major additions to existing houses. Storage volume must be equal to or greater than the storage required for a 100-year rain event as determined by the Northern Illinois Planning Commission.

The proposed definition of a “major addition” is an addition which:

- Expands the footprint of the house (excluding porches, stoops, patios, etc.)
- AND**
- Alters a total of 600 square feet or more (inclusive of the size of the addition and any remodeling of the existing house)

In 2016 and 2017, there were approximately 330 house additions. Twenty-seven of these additions, about 8%, would have qualified as a major addition under the proposed definition.

Connect the Detention Basin to the Public Drainage System - Detention basins must be connected to the public drainage system, provided that the drainage system is located within 200 feet of the subject property and that the connection is a gravity based system (no pumps required).

Provide Additional Stormwater Detention when Connection to the Public Drainage System is not Feasible/Practical - In cases where the connection of the detention basin to the public drainage system is not feasible or practical because the system is more than 200 feet away from the subject property or a gravity based connection cannot be made, detention in the amount of 150% of required volume must be provided.

Proposed Regulation Effectiveness & Estimated Cost

The proposed stormwater regulations are intended to reduce the negative impacts of additional runoff caused by development activities. No stormwater improvement or regulation will “solve”

stormwater issues. Even in cases where detention basins are functioning properly, runoff may negatively impact an adjacent property.

The proposed regulations are intended to achieve the two project objectives noted above. These regulations allow for stormwater to be managed on-site without the use of recapture agreements and Village financial participation. Further, most properties should be able to comply with these regulations without the need to seek a variation.

Downers Grove experiences an average of 103 rain events per year. The proposed regulations are expected to effectively store runoff in 98 to 102 of the annual rain events (95% to 99% of the rain events). In cases where the detention basins are connected to the public drainage system, approximately 99% of the annual rain events should be effectively managed. In cases where detention basins provide 150% of the required storage and are not connected to the public drainage system, approximately 95% to 99% of the annual rain events should be effectively managed.

Post-Construction Best Management Practices (PCBMPs) including drywells or rain gardens are currently required for construction activities resulting in 700 square feet or more of net new impervious area. The PCBMPs are essentially small storage basins not connected to the public drainage system. On average, the PCBMPs effectively store runoff in 88 of these events and overflow about 15 times per year.

*Table 1
Proposed Regulations Summary*

Requirement	Permits Affected	Rain Events Effectively Managed	Estimated Cost of Compliance
Provide On-Site Detention with a Connection to the Public Drainage System within 200 feet of Site	+/- 67% of New Houses +/- 5% of House Additions	+/- 99%	\$15-\$30k without Drainage System Extension \$35-\$80k with 200' Drainage System Extension
Provide On-Site Detention with 150% of Required Volume	+/- 33% of New Houses +/- 3% of Additions	+/- 95% to 99%	\$22-\$45k

*Table 2
Existing Regulations Summary*

Requirement	Permits Affected	Rain Events Effectively Managed	Estimated Cost of Compliance
Provide a Post-Construction Best Management Practice Storage Feature	+/-25% of New Houses Less than 1% of House Additions	+/- 85%	\$2-\$12K

There are conditions or factors which may reduce the effectiveness of the required improvements and/or limit the ability to comply with the regulations:

High Seasonal Groundwater Table - To be effective, detention storage must be provided above the seasonal high groundwater table. In cases where the seasonal groundwater table is high, the amount of space available to provide stormwater storage may be reduced (detention basins will become partially or completely filled with groundwater, reducing the amount of space available for runoff to be stored). In these situations, detention basins are likely to be shallow and take up more surface area on the property. There may not be enough space on the property to construct a detention basin large enough to provide the required storage volume.

Low Infiltration Rates - Where there is not a connection to the public drainage system detention basins will rely on groundwater infiltration to empty after rain events. In cases where infiltration rates are low, water will remain in the basins for extended periods of time, sometimes measured in weeks. When this situation occurs, the effectiveness of the detention basins during periods of multiple rain events in a series of days will be reduced.

Presence of Special Management Areas - The presence of Special Management Areas such as wetlands, floodplains and Localized Poor Drainage Areas may reduce the effectiveness of the required improvements and/or limit the ability to comply with the regulations. These Special Management Areas store runoff. It is often difficult to provide additional runoff storage in these areas.

Variation Standards & Process

Most properties should be able to comply with the proposed regulations. Requests for relief from the regulations should be prompted primarily by the conditions noted above. Since these conditions are related to physical characteristics of the property, the current variation standards in the Stormwater & Floodplain Ordinance (Chapter 26 of the Village Code) can be readily applied (see excerpt below).

The Oversight Committee shall consider, and the Village Council may grant, such petition for a variance only when it is consistent with the general purpose and intent of this Ordinance and when the development meets the requirements specified in Section 26.504 of this Ordinance as well as the following conditions:

- 1. Granting the variance shall not alter the essential character of the area involved, including existing stream uses; and*

2. *Carrying out the strict letter of the provisions of this Ordinance would create an undue or particular hardship or difficulty on a specific developer or owner; and*
3. *The relief requested is the minimum necessary and there are no means other than the requested variance by which the alleged hardship can be avoided or remedied to a degree sufficient to permit the reasonable continuation of the development; and*
4. *The applicant's circumstances are unique and do not represent a general condition or problem; and*
5. *The subject development is exceptional as compared to other developments subject to the same provision; and*
6. *When the variance request involves the standards for wetlands and flood plains, the development proposed for a wetland or flood plain could not be constructed if it were limited to areas outside the wetland or flood plain.*

Previous Village Council Meetings

The Village Council previously discussed this issue at their [October 10, 2017](#), [December 5, 2017](#) and [February 13, 2018](#) meetings. At the [October 10, 2017](#) meeting, the Council directed staff to provide additional information for identified potential stormwater management regulation amendments that would address all development that results in increased runoff. At the [December 5, 2017](#) meeting, the Council directed staff to:

- Provide additional information about requiring site runoff storage and the connection of the storage to the public drainage system (including the requirement to extend the public system if it is not adjacent to the subject site) for new single family houses and major additions to existing houses.
- Draft a definition of “major addition.” The definition should reduce the likelihood of an applicant constructing an addition which has many attributes of a new house, but would not be subject to stormwater regulations for new houses.

At the [February 13, 2018](#) meeting, the Village Council directed staff to prepare draft ordinance amendments to require:

- Volume storage (detention) for all new single family houses and major additions
- Connection of the storage basins to the public drainage system
- Extension of the public drainage system to the subject site, if not already present

The Council also directed staff to:

- Draft a proposed cost recapture process for the construction of the public drainage system
- Draft proposed variation review and approval process including standards of approval
- Draft a proposed Village financial and construction participation model for the construction of the public drainage system

As the direction from the February 13 meeting was being carried out, staff identified several significant challenges which were likely to create difficulties meeting the stated objectives of this priority action item. Those challenges are described in greater detail below.

Cost Recapture

Stormwater infrastructure improvements are not well suited for cost recapture agreements because:

- The benefits of the system enure to adjacent properties immediately upon installation and without a direct connection to the system

- There is a low likelihood of cost recovery because many benefitting properties will not make a direct connection into the system (the trigger of a required connection -new house or major addition- is not likely to occur during the term of the recapture agreement)

Likely outcomes include:

- Reluctance to use a recapture agreement
- Diminished development activity in areas where cost of extending the public drainage system are significant
- Reduction in property values in areas where cost of extending the public drainage system are significant
- Increased development activity and increased property values in areas where the cost of connecting to the public drainage system is low
- Legal challenges

Variation Process & Standards

The variation process is not well suited to provide relief from code requirements based on the cost of the project. Including the cost of a project as a standard of approval of a variation is likely to result in the following:

- A large number of petitions for a variation based on cost
- Difficulty determining when the cost standard is met (How much cost is “too much?”)
- Inconsistent application of the standard

Traditionally, variation standards specifically exclude project cost as a basis for granting a variation because of the issues noted above.

Village Participation

Determining the Village’s financial participation in the construction of the public drainage system by building permit applicants is challenging because:

- All funds available for public drainage system construction are generated by stormwater utility (SWU) fees. Use of SWU funds for this purpose would require a change in the SWU program priorities and annual budgets.
- The use of these funds would be determined by new house and major addition construction, not by Village planning.
- The cost of Village participation could be significant with 50 to 60 new houses and additions requiring the extension of the public drainage system projected each year.
 - \$10,000 per case = \$500,000 to \$600,000 per year
 - \$25,000 per case = \$1,250,000 to \$1,500,000 per year

The Village Council meeting on April 3 will allow for discussion of these issues and provide Council an opportunity to comment on the proposed regulations described on pages 1-3.