

Town of Chevy Chase
Water Drainage Ordinance
Briefing Paper

THIRTY SECOND SUMMARY:

For large projects, a professionally developed drainage plan is required that will prevent rainwater flowing onto adjacent property except for very large storms.

New employee or contract Town Engineer will advise Town Manager on technical aspects

35% of projects in Town are exempt: (anything under 700 square feet footprint)

Typical cost to Owner if not exempt: \$15,000 (under 5% of typical project cost)

Variations possible if engineering difficulties make these requirements impractical

Water Appeals Board will review grievances

Cost to Town: \$64,000 per year (recoverable by permit fees) and \$35,000 one-time education and outreach costs

Background

In the summer of 2005, concerns about increasing development pressure (including increases in stormwater management problems) led the Town Council to unanimously vote to impose an emergency temporary moratorium on the demolition of existing houses and construction of new houses. During this six-month moratorium, the Water Subcommittee of the Environment Committee was appointed by Mayor Bill Hudnut and charged with devising “feasible steps (in collaboration with the county) that can be taken with regard to water management and impervious surface coverage on individual lots to minimize flooding and drainage issues”.

Over several months, the Water Subcommittee has gathered a significant volume of data regarding water drainage issues in the town. The Subcommittee held over 15 public meetings and held meetings and interviews with numerous experts, including Montgomery County, Maryland Department of the Environment, water engineers, builders, attorneys, and others. The Subcommittee also sought to gain more empirical evidence on the true extent of water drainage problems, if any, from the Town citizens through a survey.

As a result of its extensive research and consultations, the Subcommittee believes that an ordinance to regulate water drainage resulting from new construction and renovations is in the best interests of the town. The primary reasons are:

1) Many people in the town report water drainage issues, both current and long standing. Regardless of the other original moratorium issues (e.g. setbacks and trees), it is obvious that numerous residents have had to deal with water drainage problems in the town. Over 225 residents have spent an average of about \$3,000 to mitigate water problems on their property.

2) The storm drainage system in the town is very old and poorly documented. Some sections in the town are in worse shape than others, possibly due to the age of the system and the gradual increase in impervious surfaces over the years.

3) Because of the hilly terrain in the town, many houses are prone to runoff from adjacent property. Because of the legacy terra cotta foundations, many existing homes in the town are extremely vulnerable to flooding stemming from runoff.

The ordinance has been reviewed by Subcommittee and Steering Committee members, Town staff, external counsel, the Town attorney, civil engineers, builders, and Maryland Department of the Environment staff and others for its relevance, impact, scope, and potential problems. The consensus from experts is this ordinance is reasonable, doable and will help mitigate additional water drainage issues in the Town.

Underlying assumptions in the Ordinance

1) Because of the potential overtaxing of storm drains in the town, and because of the hilly and varied terrain which can lead to runoff issues between adjacent properties, the ordinance focuses on restricting runoff to the street and to adjacent properties.

2) 90% of the potential water drainage in the town is caused by a "3 month" storm event (a 1 1/4 inch rain over 24 hours, which occurs on average every 3 months). The ordinance requires properties to be designed with drainage systems that can keep the water from such a storm on the property, rather than allowing it to run off to the street and to adjacent properties.

3) There is a vast body of drainage and stormwater guidance / standards that have been established by the Maryland Department of Environment. The standard reference tool is the voluminous Maryland Stormwater Design Manual. We drew on this material but did not introduce anything not already practiced by competent builders. In order for the ordinance to have engineering validity, and to give useful guidance to builders, a few parts of it necessarily read like an engineering document.

4) The Subcommittee did not want to craft an ordinance burdensome to existing owners seeking moderate renovations. Consequently, an exemption was created for smaller projects.

5) The Subcommittee felt that the large projects should build in the necessary measures to ensure that water drainage has little or no adverse affect on neighbors and the Town's drainage system.

Ordinance Basics

The overall objective of this ordinance is, for new construction and significant additions, to minimize the water drainage onto adjacent properties, as well as out to the street. The ordinance has the following overall goals for new construction and significant additions:

1) The applicant must submit a drainage plan to control a 3 month storm (1 1/4 inches) within the property. It should not discharge onto the street or adjacent properties.

2) For storms exceeding a 3 month storm up to a 10 year storm (5.1 inches), water can be discharged to the street and adjacent properties but no more than the property did in its previous state, which is called the "pre-construction" rate. A water engineer can calculate the "pre-construction" rate and the "post-construction" rate based upon the lot characteristics, topography, amount of impervious surface, etc.

Exemptions

To prevent the ordinance from being overly burdensome and expensive for smaller renovations, no drainage plan need be submitted if the planned development activity covers a footprint of under 700 square feet.

Costs to Homeowners

The Subcommittee determined that 700 square feet was an appropriate threshold based upon an analysis of recent renovations in TOCC. It was felt that a drainage system should ideally add no more than 5% to the total cost of a project. The average estimated cost for the owner to plan and install a typical drainage system is \$15,000. A 700 square footprint renovation in TOCC is ordinarily around \$300,000, which is at the 5% threshold ($\$300K \times .05 = \$15K$). At 700 square feet, approximately 35% of the renovations in the Town over the past several years would have been exempted.

Drainage Plan Specifics

The plan is considered to be part of the permit and it should be prepared by a licensed professional civil engineer. Once the Town receives the plan, it will be delivered by the Town to all owners of adjacent and confronting properties and an opportunity made available to all members of the public to inspect and comment upon the proposals.

The plan should depict the potential impact on adjacent properties; the applicant must obtain easements from other owners if the plan directs runoff onto adjacent properties.

The plan should depict before and after runoff flows on the property, including hydraulic computations, topology, soil test results and drainage volume computations according to the Maryland Design Manual. It should describe the structure and construction of the proposed drainage system including materials, sequence of development, grading, stripping, soil replacement, along with an estimate of costs.

It should also describe any periodic maintenance and maintenance schedule. The maintenance schedule conveys with deed to that property, ensuring that any future owners have both access to the information and an understanding of their responsibility (which usually will just mean keeping things cleared out and functional).

Performance Bond and Enforcement

The ordinance has a refundable performance bond provision that ensures that for approximately twelve months after final inspection, monies will be held in escrow for use if necessary in fixing a water drainage problem that was not effectively controlled by the water drainage plan.

Enforcement of the ordinance has been coordinated to mesh with the updated Chapter 4 of the Town Code. Violation of any provision of ordinance or of an approved Water Drainage Plan is a municipal infraction, subject to a fine of up to \$1,000 for each day. Repeated violation is a misdemeanor, with a fine of up to \$1,000 per day or prison up to six months or both. The Town Manager may issue a stop work order in appropriate circumstances.

Accompanying Supplementary Guidelines

The Subcommittee also devised supplementary guidelines that are referenced in the ordinance. These are not mandatory and may be changed administratively as the Town gains more expertise and as new technologies emerge. Examples include impervious surface limits relative to lot size; use of permeable materials for driveways, patios, and sidewalks; and downspouts pointing onto property, not to neighbors or street.

Variations and Appeals

Variations can be granted by the Town Manager in cases of unnecessary hardship due to engineering difficulties (only) if the intent of the ordinance can still be accomplished with the variance.

Appeals will be to a Water Appeals Board (similar to the Tree Board) composed of three members, one of whom will be a civil engineer. Further appeals of decisions of this Board can be made to the Circuit Court of Montgomery County.

Town Engineer Function

The committee envisions a Town Engineer (an employee or contractor) that will advise the Town Manager on technical aspects of drainage, and may also carry out inspections, monitor development activity, prepare educational programs related to drainage and water management, and perform other duties.

Cost to Town

Additional costs to the Town would in essence be the cost of the Town Engineer. Based on past data, we assume 23 permittees per year requiring this work for additions and another ten new home permittees (demolition permits) per year, resulting in 33 construction projects costing an average of \$1,950 to pay the town engineer. Thus, the incremental cost to the Town would be \$64,350 per year. These costs can be offset by permit fees.

In addition, we project a one-time cost for education program development of \$20,000 and a one-time cost (perhaps to a contract civil engineering firm or perhaps done by Town staff) for establishing formal procedures, design guidelines, agreements, forms, etc., of \$15,000. Thus, we project total one-time (start-up) costs of \$35,000.