

## POLICY STATEMENTS

### I. TULIP INTERCOUNTY DRAINAGE DISTRICT (Revised February 11, 2003)

#### A. EFFECTS AND PURPOSES

These standards provide for the establishment of design criteria for storm water controls and facilities within the Tulip Intercounty Drainage District (herein after referred to as DISTRICT), and recognize the need for approval of the Tulip Intercounty Drain Board (herein after referred to as BOARD) in connection with development within the Watershed. As set forth below, such approval may be obtained by a developer for a development site partly or wholly within the Watershed by the developer's commitment to construct acceptable storm water management facilities and/or by the developer's submission of an acceptable drainage plan and/or by payment of Storm Water Management Contributions, when acceptable to the BOARD, in lieu of construction of Storm Water Management facilities.

The purposes of these standards are to minimize flooding, property damage, erosion, nuisances, and to improve drainage and water quality within the Tulip Intercounty Drain (herein after referred to as DRAIN) Watershed.

The basis for these standards arises from the following findings of the BOARD:

1. The BOARD manages and maintains certain existing drainage facilities in the Watershed which have been developed over a number of years for the purposes of collection, storage and conveyance of storm water.
2. These standards are necessary and essential to manage storm water drainage facilities in connection with new development within the Watershed to minimize flooding and to improve drainage from new development.
3. It will be necessary to construct improvements to and extensions of the existing Storm Water Management System within the Watershed to minimize flooding from new development, to minimize existing periodic flooding from existing development or natural causes, to minimize property damage, to minimize erosion, to minimize nuisances, to improve water quality, and to defray the cost of such improvements and extensions through the acceptance of Storm Water Management Contributions in connection with certain new development.

#### B. DEFINITIONS

For purposes of these standards the words and phrases set forth below shall have the meanings provided. Words used in the singular shall include the plural, and in the plural, the singular. Words used in the present tense shall include the future tense. The word "shall" is mandatory and not discretionary. The word "may" is permissive. Words not defined in this Section or elsewhere in these standards shall be given their common, ordinary meaning unless the context requires otherwise.

1. DEVELOPER means any individual, sub-divider, firm, association, syndicate, partnership, corporation (public or private), trust, or any other legal entity (public or private), trust or any other legal entity (public or private) intending or proposing to effect the development of land where for self or for another.
2. DEVELOPMENT SITE means any land on which work is performed or proposed to be performed which will alter its existing storm water drainage characteristics. For purposes of these standards, a development site shall be considered any land improvement not contained or listed in the exemptions below.
3. DRAINAGE PLAN means a submittal to the BOARD for the review by the Board's Professional Engineer/Consultant which provides information on the location of the development, the development tributary area to each point of discharge from the development site, indication of the method used to calculate the peak discharge rate, hydrologic and hydraulic calculations for the development and any upstream tributary area, calculation of the final peak discharge rate, calculation of any facility or structure size and configuration, the plan of action to be taken to meet the peak discharge criteria, a development drainage drawing showing all drainage related facilities and structures with existing and final grades, an implementation plan for construction of any and all facilities and structures needed to carry out the overall drainage plan, and any other similar information required by relevant watershed or Storm Water Management plan referred to in these standards. The BOARD may require the drainage plan to define the alignment and boundary of the natural drainage courses, existing and proposed drainage facilities, or sub-drainage areas on the land in question, and to include drawings, profiles, and specifications for the construction of channels, conduits, reservoirs, culverts, bridges, and other drainage facilities reasonably necessary to ensure that storm water, including drainage from other lands which will contribute runoff to the property, will be adequately drained, stored, or otherwise controlled. A schedule of the estimated dates of completing construction for storm water facilities shown on the plan shall also be included. Ownership and maintenance responsibility of the proposed storm drainage facilities shall be clearly defined. A plan for the proper maintenance of privately owned facilities shall be included
4. STORM WATER MANAGEMENT CONTRIBUTIONS mean fees, money or other contributions approved by the BOARD contributed by the developer as provided in these standards for the purpose of defraying the costs of the Storm Water Management System. These Storm Water Management Fees are paid by the developer, at the BOARD's option, in lieu of constructing drainage facilities.
5. TULIP INTERCOUNTY DRAINAGE DISTRICT or DISTRICT means the drainage district for the Watershed established pursuant to Chapter 21 of the Drain Code of 1956, as amended, the funds of which are administered by the BOARD.
6. TULIP INTERCOUNTY DRAIN or DRAIN means the storm water drain or conveyance system established pursuant to Chapter 21 of the Drain Code of 1956, as amended, which is continuously or periodically maintained or administered by the BOARD.

7. WATERSHED means all property within the boundaries of the DRAINAGE DISTRICT as generally described in Appendix Q which is incorporated herein by reference.

#### C. EXEMPTIONS

These standards shall apply to any development site within the Tulip Watershed which requires approval of a plat, a site condominium, a site development plan, building permit, or any other permit for work which will alter storm water drainage characteristics of the development site, provided, however, that these standards shall not apply to the following:

1. The construction of, or additions, extensions, or modifications to individual single-family or two-family detached residential structures located outside mobile home parks.
2. The installation or removal of individual mobile homes within a mobile home park. This exemption shall not be construed to apply to the construction, expansion, or modification of a mobile home park.
3. Plowing, tilling and drainage for the purposes of agricultural production and the construction of any agricultural buildings not requiring building permits.
4. Public streets and right-of-way approved on or before the effective date of these standards (January 26, 1999).

#### D. DEVELOPMENT SITE STANDARDS

A developer shall not alter the storm water drainage characteristics of a development site or any portion thereof except in accordance with a drainage plan approved pursuant to these standards or as otherwise permitted under these standards.

#### E. FEDERAL, STATE AND LOCAL REQUIREMENTS

Nothing in these standards shall be construed to relieve the developer from complying with all federal, state and local requirements for design and construction of drainage facilities or from complying with all applicable laws, ordinances, rules or regulations. The BOARD recommends building and/or occupancy permits be issued only when a development site plan is in compliance with Tulip Storm Water Management Standards.

#### F. CRITERIA

1. All development sites west of M-40 will be required to construct a system for storage and the controlled release of storm water runoff. All development sites east of M-40 that abut the DRAIN will be required to provide either increased floodplain storage or deposit the cost of designing and constructing, including engineering field inspection, an acceptable storm water detention system to the account of the DISTRICT. Those development sites east of M-40 that do not abut the DRAIN and will discharge to a branch drainage system that has adequate capacity shall either deposit the estimated

cost of designing and constructing an acceptable storm water detention system to the account of the DISTRICT or they shall construct increased floodplain storage along the DRAIN on off-site land. The funds deposited to the DISTRICT's account shall be used to design and construct improvements to and extensions of the existing Storm Water Management System within the Watershed to minimize flooding from new development, to minimize existing periodic flooding from existing development or natural causes, to minimize property damage, to minimize erosion, to minimize nuisances, to improve water quality and to provide a sound scientific basis for such activities through study and survey of the existing DRAIN.

2. Storm Water Management Design and Criteria (page 25 - 39) shall meet the criteria of the respective County that the development is in.

#### G. DEVELOPMENTS EAST OF M-40

The purpose of Storm Water Management west of M-40 is to insure that the flow of the DRAIN is maintained at or below the existing flow prior to development. However, as development occurs closer to the outlet of the DRAIN, Storm Water Management might delay the time storm water discharges from the site to the point where it will increase the total peak flow for the DRAIN. Therefore, it is in the best interest of the entire DISTRICT if the storm water from development east of M-40 discharges prior to the time that the DRAIN reaches its peak flow. Since it is also the BOARD's desire to be fair and equitable to all parties, while at the same time doing everything possible to maintain or lower flood levels within the DISTRICT, new development sites east of M-40, next to the DRAIN, may have an option, exercised by the BOARD's sole discretion, of construction of increased flood plain storage, or of depositing of an amount of money necessary to design and construct an acceptable Storm Water Management System to the DISTRICT's account, using the same rules as for the area west of M-40. If increase floodplain storage is provided, it shall be equal to the volume of storm water detention required for the rest of the DISTRICT and shall be measured between the 2 year floodplain elevation and the 100 year floodplain elevation. The floodplain elevation used shall be approved by the Michigan Department of Environmental Quality.

All development sites east of M-40 that are not next to the DRAIN shall either deposit the cost of constructing an acceptable Storm Water Management System, including the cost of the land for the system, to the DISTRICT's account or shall construct acceptable increased floodplain storage next to the DRAIN on off-site land, as long as the drain or storm sewer system that will carry the site's storm water runoff to the DRAIN has adequate capacity of its own. If the development site's receiving drain or storm sewer system does not have adequate capacity, an on-site Storm Water Management System may be required or the receiving stream may be required to be improved to the capacity needed to pass the total required design flow. All floodplain storage areas shall be within easements in the name of the Tulip Intercounty Drain Drainage District.

#### H. REQUIREMENTS FOR DEVELOPMENTS ABUTTING THE TULIP INTERCOUNTY DRAIN

All development sites abutting the DRAIN shall include an easement for the DRAIN, in the name of the Tulip Intercounty Drain Drainage District, in care of the Drain Commissioner in whose county the land is located. The easement shall be at least equal to 100' of land on each side of the DRAIN. For development sites east of M-40, the easement shall include sufficient additional land to construct increased floodplain storage.

**NOTE:** The BOARD reserves the right to require the Developer to furnish additional calculations acceptable to the BOARD including, but not limited to, a comparison of the site's discharge hydrograph to the hydrograph for the DRAIN at the point of discharge. The decision on the need for additional calculations shall be by recommendation of the BOARD's engineer(s).

I. PERMANENT SEDIMENTATION BASINS

Permanent sedimentation basins shall be installed on all sites that do not have storm water detention basins (or ponds) at the outlet end of the site's storm sewer system. However, the peak discharge rate from the basin shall reach the drain at the 60% to 70% drain lag time, depending on the accuracy of determining said lag time. The sedimentation basin shall be approved by the BOARD's engineer(s).

J. DEVELOPMENT WITHIN THE ONE HUNDRED YEAR FLOOD PLAIN

It is the BOARD's position that it is not advisable to place fill within the 100 year floodplain area. However, if the developer shows that it is not feasible to develop a site without placing fill below the 100 year floodplain elevation and the Michigan Department of Environmental Quality approves fill, there shall be a mitigation amount of cut below the 100 year floodplain in an area close to the proposed development, within the same hydraulic drainage area. The amount of cut shall be equal to at least one and a quarter (1.25) times the amount of fill placed below the 100 year floodplain elevation, unless the developer's engineer shows that the incoming and outgoing rate of flow to the flood storage area is approximately equal to the rate prior to development. The BOARD's reviewing engineer(s) shall make the final decision as to the acceptability of the location of the cut.

K. FEES

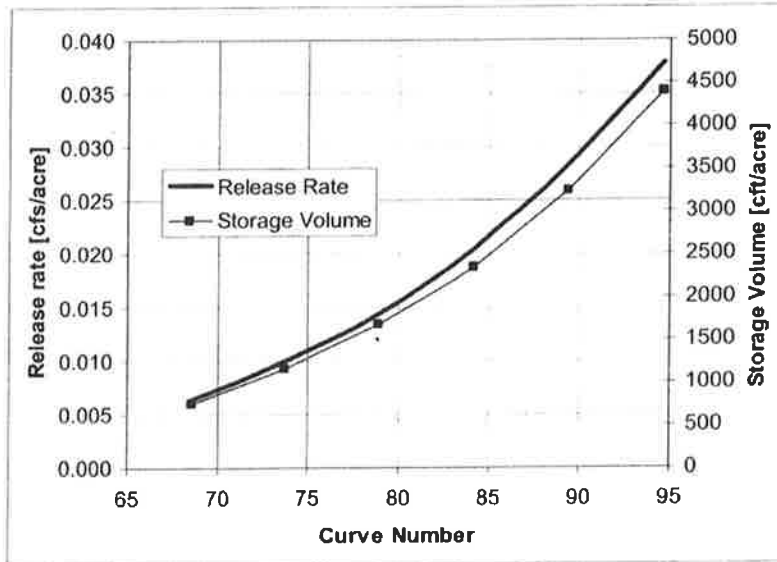
The minimum engineering review fee for development sites within the Tulip Intercounty Drain Drainage District shall be based on the fee structure of the respective County. If the actual cost of the BOARD's consultant(s) to review the proposed development exceeds the fees collected, additional fees will be charged based on the current actual hourly rate charged to the BOARD by their consultant(s).

**SPECIAL NOTE:** It should be noted that the compliance to the above standards does not relieve the developer from obtaining any and all other permits or approvals from other reviewing agencies, such as from local units of governments and from State agencies such as the Michigan Department of Environmental Quality.

## II. Discharge in the Gun River Intercounty Drain Basin.

- A. A Hydrologic and Hydraulic (H&H) study was completed as part of the U.S Environmental Protection Agency, Clean Water Act, Section 319 grant project – Gun River Watershed Planning (2000-0164) by Fishbeck, Thompson, Carr & Huber (FTC&H) for the Allegan Conservation District. The Allegan & Barry County Drain Commissioner’s offices have accepted this study as the tool to use when reviewing development in their counties, within the Gun River Basin, downstream of Gun Lake. Therefore, the “Allegan Conservation District Gun River Watershed Hydrologic & Hydraulic Study” shall be included as part of these standards by reference. Anyone planning on developing land within this watershed will be required to comply with the recommendations included within the study and therefore, are encouraged to review a copy of the study prior to starting any development plans. A copy of the study may be reviewed at the offices of the Allegan County Drain Commissioner and the Barry County Drain Commissioner. A reprint of the study may be purchased from FTC&H for the cost of reproduction.
- B. While it is not the intent of this section to completely reproduce the H&H study completed by FTC&H, in order to enforce the adaptation of the recommendations of the study, the following key points are included with these standards:
1. The allowable storm water detention basin release rate shall be 0.06 cfs/acre (instead of 0.13 cfs/acre) for all development within the Otsego-Plainwell, Monteith Drain, and the Scott-Whitcomb Drain sub-basins. The volume of the detention basin shall be based on a 100 Year rainfall if the “Modified Chicago Method” ( a form of the Rational Formula) or on a 25 Year rainfall if acceptable routing procedures are used.
  2. The Required Stream Protection Volumes and Release Rates for Detention Basins shall be determined from Appendix 6 of the H&H Study. Figure 4 from Appendix 6 is shown below:

Figure 4 - Release Rate as a Function of Curve Number



The above Figure 4 is based on using the U.S. Soil Conservation Service (SCS) Runoff Curve Numbers (CN). (For those who do not know how to determine the CN for the developed watershed, this author refers them to “Computing Flood Discharges for Small Ungaged Watersheds, by Richard C. Sorell, P.E. of the MDEQ Land and Water Management Division. This document may be obtained by going to the website: <http://www.deq.state.mi.us/documents/deq-glm-water-scs2003.pdf> and downloading it.) The results obtained from the above figure will be used in designing the downstream (lower) end of a detention basin with extended duration and shall be used instead of 0.05 cfs per impervious acre for the low flow discharge with a volume to facilitate the low outlet release of  $V_{sp} = 5000$  cft/impervious acre. For example, with a  $CN = 75$  the required volume of water in the low end of the basin is 1250 cft/acre of development with an allowable maximum release rate of 0.011 cfs/acre of development.

**SECTION 6**  
**SEVERABILITY CLAUSE**