

**DOUGLAS COUNTY
WASHINGTON COUNTY**

STORMWATER MANAGEMENT POLICIES

2007

DOUGLAS COUNTY ~ WASHINGTON COUNTY STORMWATER MANAGEMENT POLICIES

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INTRODUCTORY STATEMENT

The Douglas County-Washington County Stormwater Committee members recognize that comprehensive stormwater management should include a wide range of stormwater BMPs that begin at the lot level with Low Impact Development (LID), Conservation Design (CD), and other techniques that mimic and/or utilize natural hydrology. The Committee opposes stormwater retention facilities (dams with permanent pools), supports full implementation of proven LID, CD, and floodplain management practices that prohibits building in the floodplain, and opposes the use of eminent domain.

POLICY GROUP #1 PEAK FLOW REDUCTION

ISSUE

Urbanization within Douglas, Sarpy, and Washington Counties (the Counties) has and will continue to increase runoff leading to diminished water quality.

ROOT POLICY

Maintain or reduce stormwater peak discharge during development and reduce stormwater peak discharge during redevelopment. On redeveloped or retrofitted property and in new development, no net increase in stormwater runoff is allowed. The baseline for determining stormwater runoff shall be measured at 10% allowable run-off for a 100 year storm event. The 90% of runoff detained as surface water shall be allowed to drain out at minimum, in a 24 hour period, and at maximum, in a 72 hour period.

BASIS FOR INCREASED FLOODING ISSUE

- 1) The levees on the West Papillion Creek System were originally designed for 100-year flood protection under the development conditions that existed at that time. Recent FEMA floodplain remapping efforts indicate that the required 3-foot freeboard for the levees for many segments is being significantly encroached upon under existing development conditions and will be further compromised under full build-out conditions.
- 2) Similar threats most likely exist on the Little Papillion, Big Papillion, and other creek systems within the Counties.

**THIS COMMITTEE RECOMMENDS A PROACTIVE APPROACH TO
ELIMINATE THESE ENCROACHMENTS.**

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POLICY GROUP #2 POLLUTION CONTROL

ISSUE

Waters of the Papillion Creek Watershed are impaired.

ROOT POLICY

Reduce pollution from contributing sources, including but not limited to, agricultural activities, combined sewer overflows, urban chemical and fertilizer overuse, dumping and illicit discharges and hook-ups, such that waters in the Counties can meet applicable water quality standards and community-based goals.

SUBPOLICIES

- 1) Protect surface and groundwater resources from soil erosion (sheet and rill, wind erosion, gully and stream bank erosion), sedimentation, bacterial, nutrient and chemical contamination. Buffer strips and riparian areas should be established along all stream segments.
- 2) Preserve and protect wetland areas to improve water quality by minimizing the downstream transport of sediment, nutrients, bacteria, etc. borne by surface water runoff. Wetlands should be preserved to the fullest extent. Reestablishment of previously existing wetlands and the creation of new wetlands should be promoted. The natural hydrology of wetlands should be maintained.
- 3) Support NDEQ in an accelerated TMDL development process that addresses potential pollutant sources in a fair and reasonable manner based on sound technical data and scientific approach.
- 4) Implement Best Management Practices (BMPs) that reduce both urban and rural pollution sources, restore healthy stream ecosystems and water quality, minimize soil loss, and maintain designated beneficial uses of streams and lakes.

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POLICY GROUP #3 LANDSCAPE PRESERVATION, RESTORATION, AND CONSERVATION

ISSUE

Natural areas are diminishing, thus creating a need to be proactive and integrate efforts directed toward providing additional landscape and green space areas with enhanced stormwater management through restoration and conservation of stream corridors, wetlands, and other natural vegetation, and the incorporation of LID and environmentally sensitive practices in all developments and redevelopments.

ROOT POLICY

Utilize landscape preservation, restoration, and conservation techniques to fulfill the local jurisdiction's responsibility in protecting its natural resources, and to meet the multi-purpose objectives of enhanced aesthetics, quality of life, recreational and educational opportunities, pollutant reduction, and overall stormwater management.

SUBPOLICIES

- 1) Incorporate stormwater management strategies as an integral part of landscape preservation, restoration, and conservation efforts.
- 2) Identify natural resources for the purpose of preservation, restoration, mitigation, and/or enhancement.
- 3) Require the use of low-impact development (LID) and conservation design (CD) to preserve natural resources, benefit water quality, and maintain or reduce the volume of surface runoff.
- 4) There will be no filling-in or building up, as well as no new development in the FEMA defined floodplain. On all other creeks and tributaries shown on the Flood Insurance Rate Map and/or the Flood Boundary and Floodway Map, a 3 to 1 plus 100 foot setback shall apply.
- 5) Any watercourse associated with new or redevelopment shall have its natural course way maintained to the fullest extent as possible, and maintained to prevent erosion and to protect aquatic life communities.

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POLICY GROUP #4 EROSION CONTROL, SEDIMENT CONTROL, AND OTHER BMPs

ISSUE

Sound erosion and sediment control design and enforcement practices are needed in order to protect valuable land resources, stream and other drainage corridors, and lakes for the parallel purpose of meeting applicable Nebraska Department of Environmental Quality regulatory requirements for construction activities. Sound erosion and sediment control practices are also needed in agricultural fields and farming practices.

ROOT POLICY

Promote uniform erosion and sediment control measures, by implementing consistent rules for regulatory compliance pursuant to State and Federal requirements.

SUBPOLICIES

- 1) Construction site stormwater management controls shall include both erosion and sediment control measures. These controls will be adequate for the construction site and properly maintained through the life of the construction process.
- 2) The design and implementation of post-construction, permanent erosion and sediment controls shall be required in conjunction with meeting the intent of other Stormwater Management Policies.
- 3) The design and location of post-construction BMPs shall be identified pre-development.
- 4) Erosion control shall take precedence and priority over sediment control measures on all property regardless of size.

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POLICY GROUP #5 FLOODPLAIN MANAGEMENT

ISSUE

Continued and anticipated development within the Counties mandates that holistic floodplain management be implemented and maintained in order to protect citizens, property, and natural resources.

ROOT POLICY

Participate in the FEMA National Flood Insurance Program, update FEMA floodplain mapping throughout the Counties, and enforce floodplain regulations to full build-out, base flood elevations.

SUBPOLICIES

- 1) Floodplain management coordination among all jurisdictions within the Counties is required.
- 2) Flood Insurance studies and mapping throughout the Counties shall be updated using current and full-build out conditions hydrology.
- 3) Filling of the Base Floodplain that includes the Floodway is not allowed. Filling of the Base Floodplain that includes the 100 year Floodway Fringe is allowed only if healthy stream function is maintained and a 3 to 1 ratio plus 100-foot setback from the Floodway Fringe is applied.
- 4) The low chord elevation for bridges crossing all watercourses within FEMA designated floodplains shall be a minimum of one (1) foot above the base flood elevation for full-build out conditions hydrology using best available data.
- 5) The lowest first floor elevation of buildings associated with new development or redevelopment that are upstream of and contiguous to stormwater detention or retention facilities within the Counties shall be a minimum of one (1) foot above the 500-year flood pool elevation.

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POLICY GROUP #6 STORMWATER MANAGEMENT FINANCING

ISSUE

Regulatory requirements for stormwater management and implementation of Stormwater Management Policies intended to accommodate new development, redevelopment, and retrofitting in existing development will impose large financial demands for capital and operation and maintenance beyond existing funding resources.

ROOT POLICY

A dedicated, sustainable funding mechanism shall be developed and implemented to meet capital and operation and maintenance obligations as a result of new stormwater management regulations and to implement Stormwater Management Policies to accommodate new development, redevelopment, and retrofitting in existing development.

SUBPOLICIES ~ FOR NEW DEVELOPMENT

- 1) All new development will be required to follow the Stormwater Management Policies outlined in this document.
- 2) All new development will be required to develop and implement strategies, which include a combination of structural and/or non-structural best management practices.
- 3) All new development will be required to develop and implement strategies to fund on-going O&M after construction of public BMPs.

SUBPOLICIES ~ FOR REDEVELOPMENT AND RETROFITTING

- 1) A Stormwater Fee system shall be established to equitably distribute the capital cost of implementing stormwater BMPs among redevelopment and in the retrofitting of existing development within the Counties.
- 2) The cities and counties that are required to secure a stormwater discharge permit shall actively seek legislation from the Nebraska Legislature to allow for the establishment of the Stormwater Fee.

The Stormwater Fee shall be used for the development, establishment, and implementation of a Stormwater Management Plan (SWMP) and shall be applicable only to those cities and counties that are required by federal law to secure a stormwater discharge permit (NPDES permit) under the National Pollutant Discharge Elimination System.

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POLICY GROUP #6 STORMWATER MANAGEMENT FINANCING (*continued*)

SUBPOLICIES ~ *FOR REDEVELOPMENT AND RETROFITTING (continued)*

3) The Stormwater Fee initial framework shall consist of the following provisions when and if Nebraska statutes allow for such a fee:

a.) A county or a city shall establish by resolution use charges for a SWMP to be charged against real property within its zoning jurisdiction and may issue revenue bonds or refunding bonds payable from the proceeds of such charges, all upon terms as the county board or city council determines are reasonable. Such charges shall be designed to be proportionate to the stormwater runoff contribution of such real property and based on sound engineering principles that may include allowances and adjustments for impervious surface areas and land uses and credits for stormwater quantity and quality best management practices.

Such charges shall be collected in a manner that the county or city determines as appropriate and shall not be deemed to be special benefit assessments. A county or a city shall also establish a system for exemption from these use charges for the property of the state and its governmental subdivisions to the extent that it is being used for a public purpose. The local elected body shall provide an appeals process for aggrieved parties. A county shall not impose these charges against real property that is being charged use charges by a city. Any funds raised from a Stormwater Fee shall be placed in a separate fund and shall not be used for any purpose other than those outlined in the subpolicies above.

b.) At a minimum of three (3)-year intervals, the Stormwater Fee framework, rates, and construction priority schedule shall be reviewed with respect to availability of needed funds and rate of development within the Counties by the local zoning jurisdictions. Subsequent changes thereto shall be formally approved by the respective local zoning jurisdictions.

c.) Additional funding strategies shall be developed and implemented to fund on-going O&M after construction of public BMPs.

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POLICY GROUP #6 STORMWATER MANAGEMENT FINANCING (*continued*)

BASIS FOR STORMWATER MANAGEMENT FINANCING ISSUE

- 1) Policy development and implementation will be accomplished in a timely manner:
 - a) Under the existing Phase II Stormwater Permits issued by the Nebraska Department of Environmental Quality, permittees should develop strategies, which include a combination of structural and/or non-structural best management practices and incorporate them into existing Comprehensive Development Plans.
 - b) The Sanitary and Improvement District (SID) platting process is typically several years ahead of full occupation of an SID. Therefore, careful pre-emptive planning and program implementation is necessary in order to direct the adoption of BMP's in a timely manner to meet the purposes intended and to avoid conflicts from land use encroachments from advancing development.
- 2) Financing to meet capital and O&M obligations for stormwater management projects requires a comprehensive, uniformly applied approach and not a project-by-project approach.

BASIC FEMA REQUIREMENTS

On March 1, 2003, FEMA became part of the U.S. Department of Homeland Security (DHS). In order for a community to participate in the FEMA National Flood Insurance Program, it must first define base flood elevations and adopt a floodway for all its major streams and tributaries. Once a community adopts its floodway, the requirements of *44 CFR 60.3(d)* must be fulfilled. The key concern is that each project in the floodway must receive an encroachment review; i.e., an analysis to determine if the project will increase flood heights or cause increased flooding downstream. Note that the FEMA regulations call for preventing any increase in flood heights. Projects, such as filling, grading or construction of a new building, must be reviewed to determine whether they will obstruct flood flows and cause an increase in flood heights upstream or adjacent to the project site. Further, projects, such as grading, large excavations, channel improvements, and bridge and culvert replacements should also be reviewed to determine whether they will remove an existing obstruction, resulting in increases in flood flows downstream. [*Adapted from Federal Emergency Management Agency guidance*]

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DEFINITIONS

- Agricultural Activities. Farming, ranching, forestry activities, such as plowing, cultivating, minor drainage, and harvesting for the production of food, fiber, and forest products, and upland soil and water conservation practices. *[Source: U.S. Environmental Protection Agency (EPA)]*
- Base Flood. The flood having a one percent chance of being equaled or exceeded in magnitude in any given year (commonly called a 100-year flood). *[Adapted from Chapter 31 of Nebraska Statutes]*
- Best Management Practice (BMP). “A technique, measure or structural control that is used for a given set of conditions to manage the quantity and improve the quality of stormwater runoff in the most cost-effective manner.” *[Source: U.S. Environmental Protection Agency (EPA)]*
- Conservation Design (CD). A land development and management approach whereby stormwater runoff is managed primarily by using predevelopment natural features. These natural features affect the hydrology of a site to promote infiltration, filtration, storage, evaporation, and temporary detention close to its source. This approach can be viewed as fitting the development to the land rather than shaping the land to fit the development. LID can be used to supplement CD if necessary.
- Comprehensive Development Plans. Existing plans developed by local jurisdictions that serve as the basis for zoning and other land use regulations and ordinances. The Stormwater Management Policies are to be incorporated into the respective Comprehensive Development Plans.
- Erosion Control. Land and stormwater management practices that minimize soil loss caused by surface water movement.
- Floodplain. The area adjoining a watercourse, which has been or may be covered by flood waters. *[Adapted from Chapter 31 of Nebraska Statutes]*
- Floodway. The channel of a watercourse and the adjacent land areas that are necessary to be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot. *[Adapted from Chapter 31 of Nebraska Statutes]*. The Federal Emergency Management Agency (FEMA) provides further clarification that a floodway is the central portion of a riverine floodplain needed to carry the deeper, faster moving water.
- Floodway Fringe. That portion of the floodplain of the base flood, which is outside of the floodway. *[Adapted from Chapter 31 of Nebraska Statutes]*

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DEFINITIONS *(Continued)*

- Full Build-Out Land Use Conditions. Fully platted developable land use conditions for the combined portions of Douglas, Washington, and Sarpy Counties that are assumed to occur by the Year 2040; or as may be redefined through periodic updates to the respective County Comprehensive Development Plans.
- Low Chord Elevation. The bottom-most face elevation of horizontal support girders or similar superstructure that supports a bridge deck.
- Low-Impact Development (LID). A land development and management approach whereby stormwater runoff is managed using local controls to achieve a site's predevelopment hydrology by using design techniques that promote infiltration, filtration, storage, evaporation, and temporary detention close to its source. Management of such stormwater runoff sources may include open space, rooftops, streetscapes, parking lots, sidewalks, medians, etc.
- New Development. New development shall be defined as land-disturbing activities that are undertaken to any undeveloped parcel that existed at the time of implementation of this policy.
- Peak Discharge or Peak Flow. The maximum instantaneous surface water discharge rate resulting from a design storm frequency event for a particular hydrologic and hydraulic analysis, as defined in the Omaha Regional Stormwater Design Manual. The measurement of the peak discharge shall be relative to the lower-most drainage outlet(s) from a new development or redevelopment.
- Policy Implementation. The implementation of the policies will be through the development of ordinances and regulations, in years 3 through 5 of the NPDES permit cycle; that is, by the year 2009.
- Redevelopment. Redevelopment shall be defined as that land-disturbing activity which results in the creation, addition or replacement of at least five thousand (5,000) square feet of impervious surface area on an already developed site.
- Sediment Control. Land and stormwater management practices that minimize the transport and deposition of sediment onto adjacent properties and into receiving streams and surface water impoundments.
- Stormwater Detention Facilities. Those facilities that detain stormwater on a temporary basis.
- Stormwater Management Plan (SWMP). A SWMP is a required part of the NPDES Phase II Stormwater Permits issued to many of the governmental jurisdictions in the Counties. Development of Stormwater Management Policies is an integral part of the SWMP, and such policies should be adopted by these governmental subdivisions by the end of the permit cycle.

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DEFINITIONS *(Continued)*

- Stormwater Retention Facilities. Those facilities that retain stormwater on a permanent basis.
- Total Maximum Daily Load (TMDL). A calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. Water quality standards are set by States, Territories, and Tribes. They identify the uses for each waterbody, for example, drinking water supply, contact recreation (swimming), and aquatic life support (fishing), and the scientific criteria to support that use. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and non-point sources. The calculation must include a margin of safety to ensure that the waterbody can be used for the purposes the State has designated. The calculation must also account for seasonal variation in water quality. The Clean Water Act, Section 303, establishes the water quality standards and TMDL programs, and for Nebraska such standards and programs are administered by the Nebraska Department of Environmental Quality. *[Source: EPA and Nebraska Surface Water Quality Standards, Title 117].*
- Updated Flood Hazard Maps. For instance in Douglas, Sarpy, and Washington Counties, the remapping of flooding sources within the Papillion Creek Watershed where Digital Flood Insurance Rate Maps (DFIRMs) are based on 2004 or more recent conditions hydrology and full-build out conditions hydrology. West Papillion Creek and its tributaries are currently under remapping and will become regulatory in future years. Updating flood hazard maps for Big Papillion Creek and Little Papillion Creek are planned to be completed in the future.
- Watercourse. Any depression two feet or more below the surrounding land which serves to give direction to a current of water at least nine months of the year and which has a bed and well-defined banks. *[Adapted from Chapter 31 of Nebraska Statutes]*