

# **DEKALB COUNTY STORMWATER MANAGEMENT PLAN**

## **Introduction**

DeKalb County, Illinois, located approximately 50 miles west of Lake Michigan, is rectangular in shape, with a north/south dimension of 36 miles and an east/west dimension of 18 miles. The County is bordered by LaSalle County to the south, Ogle and Lee Counties to the west, Boone and McHenry Counties to the north, and Kane and Kendall Counties to the east. DeKalb County contains approximately 636 square miles (406,151 acres) and is comprised of 19 Townships. Portions of three major river watersheds are within the County borders, those of the Kishwaukee, the Fox, and a small portion of the Green River. Important waterways are the South Branch of the Kishwaukee River and a number of streams, including Owens, Coon, Battle, Little Rock, Somonauk and Indian Creeks.

Stormwater drainage and stormwater management are critical issues for the environment, economy, land uses and quality of life in DeKalb County. The flood hazard areas associated with the natural and man-made waterways are subject to periodic inundation which can, if improperly managed, result in loss of life and damage to property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base. Improper stormwater management associated with construction and new land uses can have similar negative impacts on adjoining and downstream properties. It is, therefore, in the best interests of the public health, safety, and general welfare that the County have a Plan for the management and mitigation of floodplains and stormwater drainage associated with land use and development.

## **Authority**

Authority to create and adopt this Countywide stormwater management plan is set forth in the Illinois Compiled Statutes, 55 ILCS 5/5-1062.2.

## **Purpose**

The purpose of this Plan is to allow management and mitigation of the possible negative effects of urbanization and development on flooding and stormwater drainage in DeKalb County. This purpose is to be achieved by consolidating the existing stormwater management framework into a united, countywide structure; recommending minimum standards for floodplain and stormwater management; and establishing a countywide Plan for the management of stormwater runoff, including the management of natural and man-made drainage ways, including watersheds.

## **Flood Plains**

DeKalb County typically receives between 35" and 48" of rain fall each year. The combination of flat land and rich fertile soils in DeKalb County creates drainage issues. The major drainage channel for the northern half of the County is the South Branch of the Kishwaukee River. The southern half of the County is drained by several small tributaries which flow into the Fox River. Associated with these natural drainage patterns are several floodplains which pose possible problems for development. These flood prone areas are generally associated with narrow bands of low lying land located near the Kishwaukee River and several smaller creeks. These areas are well established and recorded on the Federal Emergency Management Administration (FEMA) mapping system.

Potential losses associated with flooding are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities, and by the occupancy of flood hazard areas by uses vulnerable to floods or hazardous to other lands which are inadequately elevated, flood-proofed, or otherwise protected from flood damages. Although some development may already exist in the floodplain areas, further development within floodplains is strongly discouraged by this Plan, and should generally be limited to recreational and agricultural uses. If development is proposed in floodplain areas, careful consideration of existing natural resources, adjacent land uses, economic impact and compensatory storage must be included prior to construction.

## **Stormwater Management**

Outside the floodplains within DeKalb County, another potential source of damages and losses is from stormwater runoff associated with new construction and land uses. The County should, therefore, seek to safeguard persons, protect property, prevent damage to the environment, and promote the public welfare by guiding, regulating and controlling the design, construction, use and maintenance of any development or other activity which disturbs or breaks the topsoil or otherwise results in the movement of earth on land situated in DeKalb County. The intent is that land disturbing activities shall not result in an increase in the rate of or the location of storm water runoff from properties, in order to safeguard adjoining properties from the negative impacts of such runoff. Further, the County should require the temporary storage, and control of the rate of release, of post-development stormwater.

## **Agriculture**

Agriculture is the predominant land use in DeKalb County. Approximately 90% of the County's land area is used for agriculture, including farm houses. In 1997 there were 828 farms averaging 445 acres each. DeKalb's agricultural environment is very diverse, and agriculture remains the primary land use throughout the County and an important element of the character and heritage of the communities within the County. It is the intent of this Plan to allow the continuation of traditional agricultural practices and land uses without additional regulation.

## Natural Areas

In addition to floodplains, certain properties in DeKalb County contain significant natural resources, such as wetlands, woodlands, and other unique environments. These areas provide valuable habitats for flora and fauna, water retention and groundwater recharge, filtration of water to improve water quality, and irreplaceable opportunities for recreation, pleasure, and education of the public. Without concerted efforts at preservation of these resources, development may substantially alter or destroy them, depriving future generations of the many benefits provided by such areas. It is the intent of this Plan that protection of the regulatory floodplains and management of stormwater through regulations associated with grading activities should help preserve and enhance these important natural areas.

## Goals and Objectives

This Plan echoes the goals and objectives of the DeKalb County Unified Comprehensive Plan that relate to floodplains and stormwater management, including:

**Goal:** Preserve floodplain and wetland areas.

Objectives:

1. Avoid development of flood plain areas except for limited recreational uses and development permitted by the County Stormwater Management Ordinance.
2. Encourage use of regional wetland banking to maximize wetland benefits while reducing costs associated with numerous isolated wetlands within individual developments.
3. Avoid development of septic sanitary systems in areas where soil conditions and other geological factors present possible problems in relation to ground water contamination.
4. Promote mitigation of floodprone structures within the floodplain through programs to buy-out, demolish, elevate or move such structures out of the floodplain.

**Goal:** Promote policies and development which protect and preserve natural resources.

Objectives:

1. Before development in rural areas is allowed, impact on environmental features such as flood plains, site drainage and water features, soil stability and sanitary waste disposal, should be analyzed. Woodlands and natural drainage-ways should be considered as amenities rather than development obstacles.
2. Jurisdictions of the County under the guiding rules of the National Pollution Discharge Elimination System (NPDES) should assure development practices follow

each jurisdiction's stormwater NPDES permit as pertains to limiting surface water quality degradation.

**Goal:** Reduce the potential for flood damage to homes, businesses, and farms.

Objectives:

1. Work in cooperation with the municipalities within the County to develop County-wide stormwater management practices, including policies, plans and regulations that recognize the regional nature of stormwater management and encourage a watershed approach to storm water management issues.
2. Require appropriate water retention and detention, including off-site impacts and relationships, on land slated for development to control surface run-off and contamination of water resources.
3. Update County and municipal subdivision control regulations to implement best storm water management practices.
4. Work with drainage districts, property owners, and other interested parties to clear debris from the Kishwaukee River and tributaries to reduce potential flooding.

**Coordination with Surrounding Counties** -- In an effort to assure that the goals, objectives and recommendations of this Plan are coordinated with the stormwater management plans, ordinances and practices of surrounding counties, a draft of this Plan and accompanying technical stormwater management ordinance was forwarded to representatives of the counties of Winnebago, McHenry, Kane, Kendall, LaSalle, Lee and Ogle for review. Comments from each of these counties on the draft Plan and ordinance were considered by the DeKalb County Stormwater Management Planning Committee, and any changes deemed necessary and desirable as a consequence of those comments were included in this final draft of this Plan.

## **Recommendations and Implementation**

This Plan recommends a three-phase approach toward floodplain and stormwater management.

Phase One: Regulate and restrict uses and development within or in close proximity to existing floodplains, and regulate stormwater management associated with new growth and development throughout the County. To this end, this Plan endorses the regulations set forth in the FP/C, Floodplain/Conservation District of the DeKalb County Zoning Ordinance, dated April 20, 2005, for the regulation of uses and protection of the floodplains within DeKalb County. The FP/C District regulations incorporate, by reference, the Flood Insurance Rate Maps for DeKalb County for identification of the limits of the regulatory floodplain, and have been approved by the Federal Emergency Management Agency for compliance with the requirements of the National Flood Insurance Program. This Plan further recommends the adoption of stormwater management regulations and minimum standards applicable to new construction and alteration of topography throughout the

County which shall serve as the administrative and technical requirements for stormwater management associated with new construction. Municipalities that have adopted stormwater management ordinances containing standards that are at least as restrictive as those of the County stormwater management ordinance should be permitted to appeal to the County Stormwater Management Planning Committee for exempt status. This will allow such municipalities to administer their regulations within their boundaries and within 12 miles of their boundaries. Within unincorporated DeKalb County, traditional farming or other agricultural activities on property zoned for agriculture should not be subject to stormwater management regulations, with the exception of new agricultural buildings and structures. The implementation of this Phase One should occur as soon as possible following adoption of this Plan. The DeKalb County Zoning Administrator and County Engineer, or their designees, shall monitor implementation of this Plan.

Phase Two: At such time as an adequate funding program is available, the limits of the major and minor watersheds within DeKalb County should be accurately delineated. This Plan should then be updated to reflect a watershed-based approach to stormwater management. Such an approach should include the preliminary identification of needed regional stormwater management projects throughout the County. The attendant County Stormwater Management Ordinance should be updated and revised as necessary to include watershed-based regulations, and municipalities may be required to re-apply or re-certify their exempt status in the light of new and revised stormwater regulations. The limits of the regulatory floodplain should be updated at least every 10 years Countywide, and within urbanizing areas as soon as practical. The watershed-based Plan may also include a fee-in-lieu of detention/retention program whereby downstream projects provide funds rather than stormwater management facilities, said funds being used by the County to create more substantial and effective stormwater facilities upstream within the same watershed. Finally, the second phase Stormwater Plan should evaluate issues related to stormwater, including but not limited to, water quality protection and enhancement, identification of areas critical to regional stormwater management, groundwater recharge, and coordination with related plans such as the County and municipal comprehensive plans, plans for greenways and trails, and for parks and forest preserves.

Phase Three: At such time as funding becomes available, the County should update this Plan to include the identification, design, financing and construction plans for needed regional stormwater management facilities within each watershed.

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