

STORM WATER DRAINAGE SYSTEMS

Watersheds: The University of Illinois at Urbana-Champaign campus consists of two watersheds. Storm water on the northern portion of campus is drained into the Boneyard Creek. Storm water on the southern portion of campus drains into the Embarras River. The specific dividing between the two watersheds varies considerably, however, it is generally the area between Pennsylvania Avenue and Kirby Avenue / Florida Avenue in the campus area.

U of I Drainage Systems: The U of I owns, operates and maintains the underground storm water drainage systems that serve the majority of campus. As stated above, each of these systems empty into either the Boneyard Creek or the Embarras River. They do this either directly or indirectly through either the City of Champaign, the City of Urbana or the Village of Savoy storm drainage systems. It is the goal of the U of I to minimize the usage of these other systems while maximizing the usage of U of I-owned systems. This should be taken into consideration when planning or designing expansions or reconfiguring the storm water management system on campus. Design shall incorporate sustainable and low impact design storm water drainage concepts and principles.

Compliance: The design and construction of all storm water drainage systems on campus shall be in complete compliance with the current revision of the *Standard Specifications for Water and Sewer Main Construction in Illinois*. These standards are to be viewed as the “final authority” for establishing the minimum requirements of storm water drainage systems. They shall also be in full compliance with all applicable requirements of any municipality whose sewer system is located downstream of a particular U of I system. The requirements of these documents often exceed the minimum requirements referenced above. When they do, the stricter of the two shall apply.

Storm Water Management Policy: The U of I has adopted a policy to reduce or, at a minimum, maintain the existing peak storm water runoff characteristics of all land and

buildings that are or will be under U of I control. All new construction work and associated storm drainage system work on campus shall be accomplished so as to have, at worst, no impact on any downstream drainage system (i.e. no increase in storm water flow rate under the most extreme condition). Design shall incorporate sustainable and low impact design storm water drainage concepts and principles. This requires that a provision be made for storm water detention and/or the use of pervious surfaces as an integral part of new construction projects. (See *Calculations* below for detailed requirements.)

Scope of Policy: This storm water management policy pertains to any Project that will change the peak storm water runoff characteristics, including but not limited to new buildings, renovations of existing buildings, additions to existing buildings, construction of new parking lots, and renovation of existing parking lots.

Calculations: The U of I requires that the AE or designer prepare and submit calculations comparing the peak storm water characteristics of the construction site before the construction begins to the peak storm water runoff characteristics of the site after the construction is complete. The AE must also prepare and submit plans detailing the retention/detention method chosen to reduce the peak storm water runoff to that which existed on the site prior to construction. Calculations shall be provided to the U of I during the project design review process. These calculations shall be based on the following design criteria:

1. The controlled release rate of storm water runoff from a fully developed project site should not exceed the rate of .018 cfs per acre for sites larger than five acres, and 0.9 cfs per acre for sites less than five acres.
2. The design rate at which storm water runoff is delivered to a designated storm water storage area should be based on the occurrence of a 100-year storm event after the project site has been fully developed.

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3. In the event that the existing downstream channel or storm drainage piping system is inadequate to accommodate the required release rate, the allowable release rate shall be reduced to that rate permitted by the capacity of the downstream channel or storm drain system without overflowing of banks or surcharging of piping.

Future Considerations: All storm drainage piping shall be sized and configured appropriately to serve the ultimate future need for drainage in the geographical area being served.

Manholes: A manhole shall be provided at each change in direction of the piping system as well as at not greater than 400 feet.

Storm Grates: All storm grates shall be "bicycle safe" in design and include an integrally cast label stating, "No Dumping – Drains to Stream".

Surface Drainage: Positive surface drainage shall be provided such that storm water drains away from all structures. Surface runoff shall not be allowed to flow across pedestrian walkways, bicycle paths, drives or parking areas in a manner compatible with sustainable and low impact storm water management design.

Specific Design Information: Information about storm drainage systems and/or their extension/modification to serve new facilities/areas should be obtained via a *Utility Program Statement*. Clarifications and further information are available from the Energy Service Division within F&S.

Documentation and Submittals: The AE shall review the *Project Submittal Requirements*.