



Designing 100-Year Solutions for Stormwater Management

The July, 2011 storm that dumped 6.5 inches of rain in Winnetka in the short span of 2.5 hours—causing devastating flood damage—substantially changed the goals of the Village's stormwater management program. Previous studies only modeled protection for moderate rain events that would not have mitigated the extensive flooding Winnetka is experiencing on a more routine basis. By the end of 2011, the Village Council directed Program efforts to focus on developing 100-year solutions for flood risk reduction.

Repeated and severe flooding is a threat to the health, safety, and welfare of all Winnetkans, and in response, Village leaders have transparently developed a Stormwater Management Program that will be financially sustainable and environmentally responsible. Winnetka wants to address the most serious types of flooding that damages residences, businesses, schools, and buildings throughout the community. The goal is to eliminate or significantly reduce the risk of structural flooding from large storms—thereby reducing the negative impacts on home values, public safety, insurance rates, and our quality of life. Reducing the risk of severe structural flooding via the Willow Road Tunnel focuses on mitigating floodwaters that may:

- Enter structures overland through low entry points;
- Contribute to overloading of storm and/or sanitary sewers that result in basement backups; or
- Contribute to saturation of the ground around basements and leading to seepage through foundation cracks.

The Tunnel Project also aims to reduce, but not eliminate, street flooding, in the most hazard-prone areas. The Stormwater Management Program is the result of careful evaluation of hydraulic and hydrologic modeling, but also took into significant consideration resident flood surveys that helped to identify the areas with the most overland and structural flooding. The Willow Road Tunnel alone provides 100-year level protection to 5 drainage areas inside Village boundaries—totaling about 1,200 acres of land and approximately 2,500 properties. About 900 acres of this 1,200 acre area lie west of Green Bay Road.

A stormwater solution of this magnitude requires design, permitting, and engineering before construction can actually begin. While Village projects such as the Winnetka Avenue Pump Station enhancement and Ash Street pump replacement address flooding in the short-term, unless action is taken by the Village to manage significant excess runoff associated with extreme events, floodwaters will continue to accumulate in low-lying areas and flood homes.

The Village recently hired a leading globally recognized engineering firm, MWH, to

perform engineering design and prepare environmental permitting applications and supporting data for the Willow Road Tunnel Project. It is important to note that, while concerns have been raised about the role of green infrastructure in Winnetka's Stormwater Management Program, green infrastructure elements have always been considered as an important component of the Tunnel Project, both to minimize runoff quantity and, more importantly, as a strategy to meet water quality goals and requirements. One of MWH's contractual tasks is to evaluate and design green infrastructure components that will further both runoff reduction and water quality goals, and to share these details with the Village Council and the community as they are developed.

For more information about the Stormwater Management Program, please visit:

www.winnetkastormwaterplan.com



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