

TRUMP TOWER IRRIGATION DESIGN

Chicago, Illinois

Project Purpose

As one of the most recognizable names in the world, the design of the Trump International Hotel & Tower in Chicago had to live up to this worldwide reputation. The irrigation design and functioning irrigation system for the high-end landscapes were no exception. The goal was to provide a functional irrigation system for an artificial urban environment in the building's many different levels.

The irrigation design helped to transform this site, which was not conducive for landscape, to the seasonal and year-round establishment of a new Chicago landmark. From the dog park at the lowest level, to the riverwalk overlooking the Chicago River, to the street level plaza areas and street planters along Wabash Street, to the three green roofs soaring on the upper floors of the tower, the irrigation system was designed as an integral part of the site's infrastructure and as a piece of the whole of this very identifiable building.



Special Factors

It's hard to believe that installing a landscape irrigation system without a shovel or a trencher would be possible - the biggest, and most unique, challenge to the system design and installation. Most of the pipe was hung from the structures below or the adjacent bridges; or embedded into the lightweight concrete structural deck slab via sleeves. Pipe also had to be sleeved and placed around large structural columns to prevent too many penetrations in the structural deck.

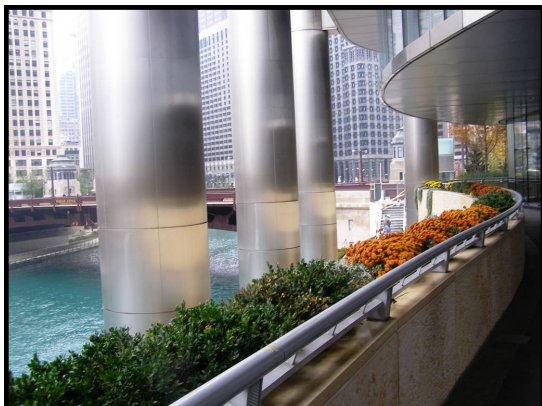
To meet seasonal requirements, permanent irrigation quick-connects were designed to make exchanging seasonal planters a "snap" with little obstruction of the building's daily operations. As part of the irrigation-system integration into the landscape, the irrigation controllers were placed in hidden compartments along the planter walls themselves.



Role of Irrigation Consultant

The Irrigation Consultant provided:

- Support to the lead landscape architect and the building's architect with irrigation engineering and specific green-roof irrigation expertise.
- Creative design solutions for the special conditions that this building and design would need to make the project a complete success.
- Site-specific design solutions working closely with other essential design team members, such as the plumbing and structural engineers.
- Precise and specific detailing of some of the more complex design solutions.



Significance

Opened in 2009 and situated near the busy shopping and entertainment district, Trump Tower is a new landmark in the Chicago skyline and the second tallest building in the city. At 92 stories, the Tower sits at the pedestrian level with its high-end landscape and irrigation design. Continuing Chicago's tradition as one of the "greenest" cities in the U.S., the building incorporates three green roofs at different levels with full irrigation systems to keep the plantings alive in windy, harsh conditions.

While the gardens strive to create the visually pure experience of an oasis in an urban center, their integration with high technology is hidden. The system is modular, adaptable and precise, but required to be "out of sight". Ultimately, the project is significant because it shows the relevance of irrigation technology in the sustainability of heavily used and abused urban landscapes at a very high-end scale.