



STORMWATER MANAGEMENT AND DEICING RUNOFF CONTROL

Indianapolis International Airport

The new \$1.2 billion Midfield Terminal Project at Indianapolis International Airport posed unique stormwater management challenges. Through the innovative use of hydrodynamic modeling, Wessler Engineering was able to help the Airport Authority coordinate drainage design among multiple designers, plan major conveyance routes, and establish the “beat-the-peak” volume management strategy. Wessler was also responsible for the design of the airside stormwater quality treatment system and deicing runoff control management system.

STORMWATER MASTER PLANNER

As stormwater master planner, Wessler developed the Master Stormwater Management Model used to size and plan major conveyances, completed the Direct Discharge Study, and performed stormwater plan review.

The Direct Discharge Study demonstrated that runoff from the New Indianapolis International Airport development would not impact the flood level of the receiving stream, East Fork White Lick Creek. As a result, the entire project was constructed without stormwater detention, saving millions of dollars in construction cost, maximizing land available for future development, and eliminating the aircraft safety hazard of waterfowl associated with detention ponds.

DEICING RUNOFF CONTROLS LEAD DESIGNER

As lead designer for the deicing runoff controls and airside stormwater water quality treatment facilities, Wessler was responsible for segregating stormwater runoff contaminated by aircraft deicing fluid (ADF) from the receiving stream, sending it to the existing Deicing Control Facility roughly two

miles away, and removing total suspended solids (TSS) for all runoff from the new aircraft apron.

The solution was to develop a dual-collection management system utilizing eight SCADA-controlled sluice gates able to identify and isolate runoff with high concentrations of ADF for recycling, construct 1.9 million gallons of underground stor-



age and 8 million gallons of in-ground storage, and utilize dual Vortech-nics treatment units. A 12,000 gpm 4-pump submersible pump station transfers runoff from underground storage to the in-ground EQ

basin. A 1,400 gpm station pumps runoff from the EQ basin to an existing deicing facility for discharge to the city sanitary sewer system.



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