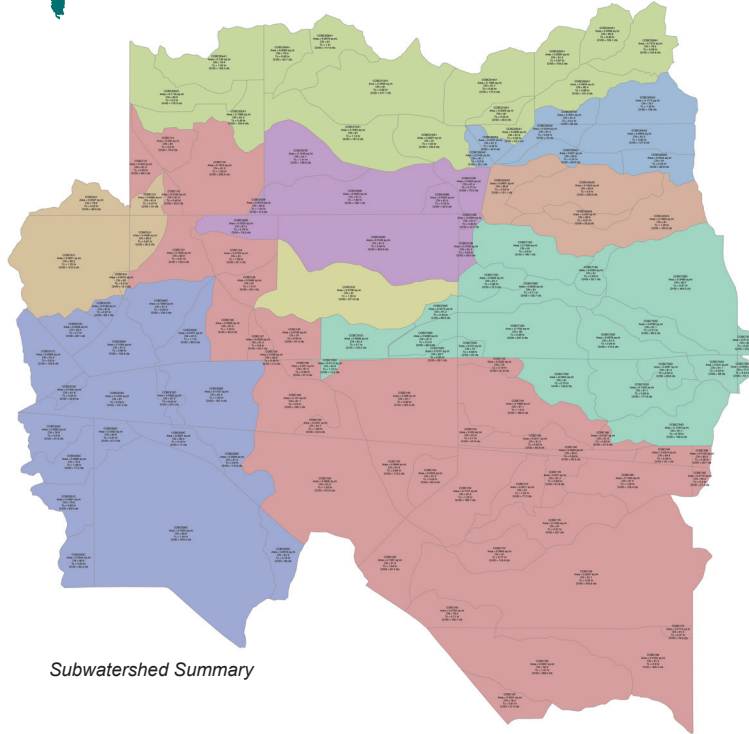




# Floodplain & Stormwater Management

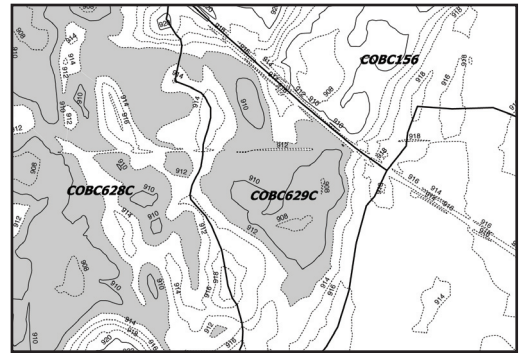
Burlington Creek and Tributaries Hydrologic & Hydraulic Analysis  
Burlington, Illinois



Subwatershed Summary



Burlington Creek



Storage Summary

The Village of Burlington has seen significant development interest in the Burlington Creek watershed. Burlington Creek upstream of French Road is currently designated a Zone A special flood hazard area. To protect future residents and to preserve the function of the creek, the Village retained EEI to perform a regional study of the Burlington Creek watershed to define base flood elevations and delineate regulatory floodplain and floodway boundaries within the Village planning boundary. Regulatory floodplain and floodway boundaries are currently being delineated and will be submitted to FEMA for a Letter of Map Revision upon approval from the Illinois Department of Natural Resources, Office of Water Resources.

HEC-HMS was used to complete the hydrologic analysis of the 12.0 square mile Burlington Creek watershed upstream of French Road. The analysis was performed using the SCS Curve Number,

SCS Unit Hydrograph, and Modified Puls Channel/Reservoir Routing options in HEC-HMS, utilizing ISWS Bulletin 70 rainfall values applied to Huff quartile rainfall distributions.

HEC-RAS was also used to complete the hydraulic analysis of approximately 7.2 river miles of Burlington Creek. Stream geometry was developed from field surveys performed by EEI. Stream cross sections were taken approximately every 400 feet, at channel transition sections, and just upstream/downstream of hydraulic structures (culverts, bridges, etc.). Hydraulic profiles were generated for the 10-year and 100-year recurrence interval critical duration events. A floodplain encroachment analysis was completed using the 100-year critical duration flood profile as the baseline condition. The HEC-RAS floodplain encroachment option was utilized to determine floodway limits in accordance with IDNR-OWR guidelines.