

Lane Drain - CLOMR

Troy, Michigan



OWNER / CLIENT

Mondrian Properties

PROJECT START - END

January 2008 - August 2008

SDA PROJECT NO.

MN08-002

Mondrian Properties was in the process of developing the Villas of Troy Site Condominiums in Troy, Michigan along the Lane Drain. The condominium development contained single family residential units, dedicated open space, and a detention basin. The Lane Drain's floodplain was identified on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps as unstudied.

Spalding DeDecker Associates, Inc. (SDA) was requested to provide a hydraulic study and submit a Conditional Letter of Map Revision (CLOMR) to FEMA. SDA prepared a hydraulic study to establish the base flood elevation, as well as a floodplain, and floodway boundary for the proposed site condominiums.

SPECIAL FEATURES

Unique features of this development included the dedication of natural open space along the drain and the construction of a detention basin within the floodplain.

Due to the nature of the site condominium development, it was necessary to identify the extents of the existing floodplain and floodway and the effects the development would have on them. The project combined a topographic survey, field investigations, Natural Resource Conservation Service Soil Survey, and Oakland County Geographic Information System map layers which include aeriels, two foot contours, and parcel maps. A hydrologic analysis was performed to determine the base flow contribution from upstream areas. The data was incorporated into hydraulic modeling software to establish flood elevations and floodway. The hydraulic modeling included evaluating the effects of an outlet weir control structure and its effects on the upstream floodplain and floodway. Site improvements were modeled in the software to verify that they would not increase the base flood elevation.