Team 13: H₂O

Industrial Consultant Brief

- Project Description

Team 13 will be assessing the undersized water distribution system for the city of Hudsonville. The city has grown over time and new developments have exceeded the capacity of the current storm water system causing many areas of the city flood regularly during storms. Solutions will be explored to equalize the water flow and relieve stress in low capacity areas. Hydraulic modeling will be used to find the most effective area to place new and expanded piping and inlets as well as a detention pond or an alternative solution.

- The Team

Britton Evans  Colin Finch  Nicole Ryan  Michael DeKock

- Requirements

The primary goal of the project is to correct the storm water flooding problems in the City of Hudsonville. This first step will be to assess the current system and identify problem areas. The second will be to determine optimal solutions to the problems which could include, but are not limited to additional storm water piping, expanding current pipes and designing a new retention pond. The final product should eliminate recurring flooding problems from the city. All designs will need to be within city code and meet the approval of city officials. The team will be working with three primary representatives of the city:

Dan Strikwerda – Planning Director/Zoning Administrator, dstrikwerda@hudsonville.org
Pauline Luben – City Manager, pluben@hudsonville.org
Phil Leerar – Civil Engineer of Access Business Group and City Commissioner, Philip_leerar@accessbusinessgroup.com
Secondary objectives will include learning to communicate with a client (the City of Hudsonville officials), learning to work in a project team and acquiring a vast knowledge of storm water engineering techniques.

- Status

The team met with the three city representatives on Friday, October 17 and discuss the need for the project, determined the objectives of the project and a rough schedule.

We currently have maps of the storm water piping network with flow directions, roads, catchments, and contours. Through Dan Strikwerda any other city data can be obtained. We are also working with the City and REGIS to be able to access any layers we would require and produce our own maps and models from our personal workstation.

Next Steps include:

- Contact Paul Geerlings at Ottawa County and request rainfall history and watershed data for the City of Hudsonville.

- Assess the county-shared detention pond flow and downstream effects of restricting flow through contacting Ottawa County and MDEQ.

- Find areas of flooding through developing a model of the storm water system as well as communication with the City of Hudsonville and its residents to determine historically flooded areas.