

# Antecedent Moisture Model

For Sanitary or Stormwater Systems

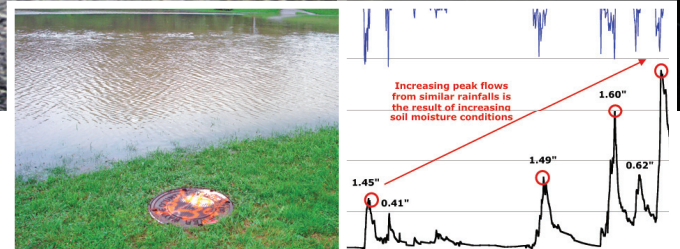
*"OHM saved Wayne County's constituents \$175 Million."*

Kurt Heise, Director (Speaking about OHM's innovative modeling approach)  
Wayne County Department of Environment

This hydrologic modeling technique, called inflow and infiltration identification (i3D) is an advanced and accurate method for modeling flows. It is a unique approach that fully takes account the effects of varying preceding wetness conditions on the flow response to rainfall.

## Antecedent Moisture Effects

- Facility sizing and costs depend directly on the flow projections
- Traditional approaches tend to rely on the wettest conditions for design, leading to level of service that is far greater and more expensive than intended
- Better understanding of antecedent moisture improves the accuracy in facility sizing
- Saves money on capital upgrades

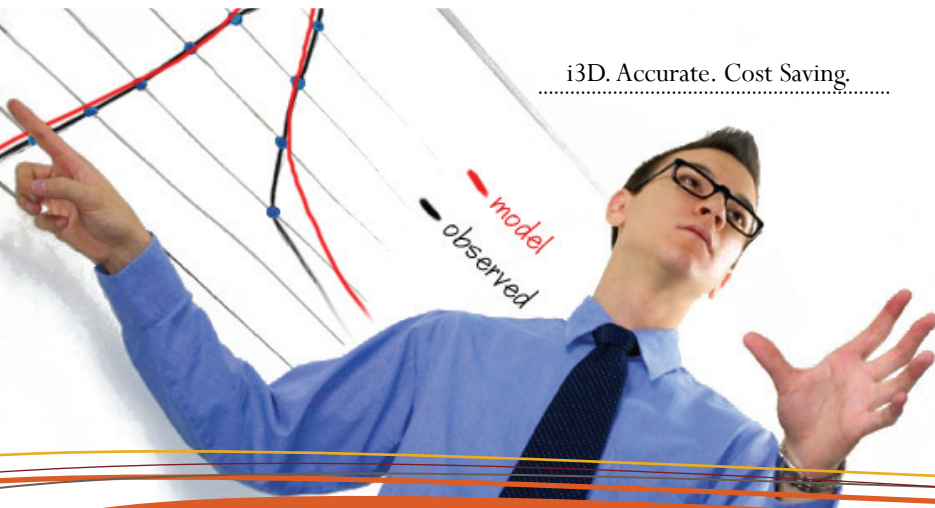


## Modeling Approach

- Tracks the wetness condition preceding each storm
- Adjusts flows based on antecedent moisture level
- Results in a continuous model for years of data
- Used for frequency analysis for system design

## Applications

- Separate sanitary sewers systems
- Combined sewer systems
- Surface water hydrology
- Evaluation of system rehabilitation effectiveness
- Isolation of flow components (inflow versus infiltration).



*"OHM's innovative technical analysis, coupled with an effective presentation of periodic and final results to the Michigan Department of Environmental Quality, set the stage for the successful negotiation of an acceptable Final Order of Abatement between Wayne County's North Huron Valley/Rouge Valley Sewer System and the State of Michigan."*

Josephine Bradley, President of Board of Public Affairs  
Village of Urbancrest



**OHM** has expertise & specialists in:  
 Antecedent Moisture Modeling  
 Inflow and Infiltration Analysis  
 Advanced & Accurate System Hydrology

**WHAT WE DO BEST**

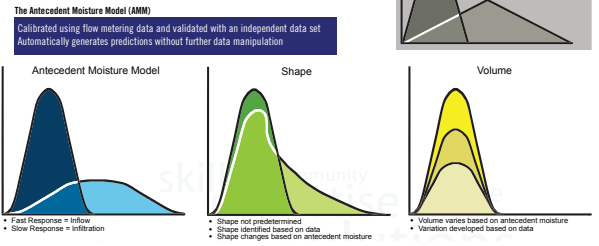
Nearly 160 professionals dedicate their time and talents to OHM. Our team includes architects, civil, electrical, environmental and mechanical engineers, planners, urban designers, surveyors, grant writers, LEED accredited professionals and information technology professionals.

We use collaboration, attention and long-term involvement to serve as the trusted advisor to clients.

~ John Hiltz - President

- Architecture
- Municipal Engineering
- Planning & Urban Design
- Environmental & Water Resources
- Water & Wastewater Treatment
- Transportation
- Parks & Recreation
- Construction Engineering
- Geographic Information Systems
- Surveying
- Information Technology

**How Does AMM Work?**



**ABOUT OHM**

Orchard, Hiltz & McCliment, Inc. (OHM) is a firm of architects, engineers and planners committed to Advancing Communities. Leaders rely on OHM's proven public and private sector expertise, insightful counsel and forward thinking to create lasting, viable places and communities.

We opened our doors in Detroit, Michigan in 1962 and have been growing ever since. Headquartered in Livonia, we have offices across Michigan, and in Tennessee and Ohio.

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| Counties & Townships          | Parks Authorities   |
| K-12, Colleges & Universities | Road Agencies       |
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| Fortune 500 Companies         |                     |



*"OHM has proven that they are leaders in our industry. Their involvement with recent high profile projects and leadership with statewide initiatives clearly demonstrates that they are living their tagline of Advancing Communities."*

Kirk T. Steudle, PE

Director, Michigan Department of Transportation