

SUCSESSES OF THE WAYNE COUNTY'S IDEP TRAINING PROGRAM

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ABSTRACT

The Wayne County Illicit Connection/Discharge Elimination Training Program was created and implemented in 1999. The program was developed to provide training for local and regional governments responsible for locating and eliminating illicit discharges to surface waters. The key goals of the training program are sharing our expertise with other local units of government involved in stormwater management and collaborating efforts in reducing improper discharges to surface water.

The Wayne County Training Program is consistent with the Illicit Discharge Elimination Plan (IDEP) requirements of the Michigan Voluntary Storm Water Permit (MIG6100000) and the EPA Phase II Stormwater Permit Regulations. The training program consists of five (5) modules and specialty training program sessions. The modules are: Overview, Basic Investigations, Advanced Investigations, Combined Basic/Advanced Investigations, and two (2) specialty training sessions. As a result of the training program efforts through May 1, 2002, 82 illicit discharges are eliminated, preventing an estimated 3.5 million gallons/year of polluted water from entering Michigan surface waters.

PROGRAM INTRODUCTION

Michigan's Voluntary General Storm Water Permit (MIG6100000) requires an IDEP. Over forty-five (45) communities and agencies in the Rouge River watershed, including Wayne County, Washtenaw County, and Oakland County, received coverage under the Michigan Department of Environmental Quality (MDEQ) Storm Water General Permit and initiated its IDEP requirements. Wayne County, recognizing the need for coordination of IDEP efforts, saw an opportunity to share our considerable expertise with other agencies. In response to this need, Wayne County developed the IDEP training program. The training program includes presentations of technical information, "real life" investigative techniques instruction, and demonstrations of program management software. This software is available to communities free of charge. Each participant receives a notebook containing useful information related to IDEP, including recommended standard operating procedures (SOPs) and sample field forms.

PROGRAM DEVELOPMENT

The Wayne County Department of Environment Watershed Management Division developed a training program consisting of five (5) modules. The development phase includes concept formation, structure, course content, format, key messages, examination, and certificate of completion. When designing the program, our 15 years of experience with administering an illicit connection detection and elimination program was joined with the anticipated abilities and needs of local communities. After the Wayne County Watershed Management Division devised the draft program and as modules were developed, staff solicited input from an "ad-hoc" review committee consisting of community, state, and county representatives. This committee reviewed training program objectives and content to ensure each module was beneficial to all types of storm water management agencies. Comments and suggestions from this committee reinforced the necessity of the training modules, the design and advanced sections especially. An unanticipated benefit of the "ad-hoc" committee was its members assisting with finalizing and implementing the program. For example, a neighboring county provided the expertise of a consultant for preparing the audio/visual presentation of one module. Staff from MDEQ and local

communities volunteered to instruct different segments of various training modules. To further collaborative efforts among governmental entities, the communities offer to host the training event and provide a training location, audio visual aids, and other related support functions. Partnerships formed during the training program, along with using common information and reporting procedures, enhances coordination of efforts to resolve identified illicit discharges or water quality problems.

Discussions about formulating a training program began in December 1998, and the modules of Wayne County's IDEP training program were developed according to the following schedule:

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| ◆ Initial Idea/Formulation & Concept Development/Finalization and reviewed by ad-hoc committee | February 1999-May 1999 |
| ◆ Development, ad-hoc review & Presentation of First 2 Modules | February 1999-September 1999 |
| ◆ Design Considerations Module Development, ad-hoc review & Presentation | February 1999-March 2000 |
| ◆ Development of Specialty Courses & Presentations | October 1999-Present |
| ◆ Development of Module 4, ad-hoc review & Presentation | February 1999-September 2000 |
| ◆ Development of Module 5 & Presentation | January 2000-Present |

For each module, staff devised a notebook containing the slide presentation, technical information, field forms, and pollution prevention pamphlets. Each program participant received a copy of the notebook.

PROGRAM STRUCTURE

The training program consists of five (5) modules and two (2) specialty training sessions. Each module has a purpose, key messages, and content summary.

The Modules are:

Module A: OVERVIEW: Introduces why an Illicit Discharge Elimination Program is needed and summarizes each training module.

Purpose: Provide overview of illicit connections/illicit discharge elimination plans.

Key Messages:

- Illicit discharges impact surface water quality.
- It all adds up: Everyone is part of preventing illicit discharges. Simple changes in daily practices at work and home prevents surface water pollution.

Course Content:

- Defines Illicit Discharges/Connections general permit background training module summaries, and Public Education/Awareness of how individual actions effect water quality.
- Case histories

Module B: BASIC INVESTIGATIONS: Introduces IDEP investigation and reporting techniques to employees of varying job duties and responsibilities.

Key Messages:

- Provide knowledge for conducting outfall surveys and investigations, and how to recognize illicit discharges.

Course Content:

- Classroom instruction on how to conduct an outfall survey and search for illicit connections/illicit discharges.
- Personnel safety
- Field forms
- Equipment requirements
- Recognizing suspicious discharges and natural phenomena
- Reporting mechanisms for suspicious discharges
- During the hands-on field demonstrations-course attendees participated with:
 - 1) visual observations at a stormwater outfall
 - 2) use of field test kits
 - 3) GPS unit demonstrations
 - 4) water sampling at a storm water outfall
- Certification examinations:

Attendees have to demonstrate an understanding of the course material by completing a written exam. They earn a certificate of completion for passing the exam.

Module C: DESIGN CONSIDERATIONS

Purpose: Educate municipal building ordinance enforcement agencies on how to prevent illicit discharges, and connections during the site plan review process and building construction.

Key Messages:

- Designers are key to preventing illicit discharges/connections.
- Inspectors should serve as “eyes and ears” for illicit connection/discharge referral.
- Anticipating building usage and addressing it properly before construction minimizes future disruption and costs.

Course Content:

- Basic introduction to illicit connection/illicit discharges
 - 1) Techniques used in detecting illicit connection/discharges post construction
 - 2) Case histories of WCDOE and MDEQ
 - 3) Soil erosion control planning at construction sites
- Education/Awareness
 - 1) Illicit discharges are caused by decisions, actions (or non-actions) taken by individuals
 - 2) Identification of utilities (sewer, electrical, site drainage patterns, and storage areas.)
 - 3) Soil erosion control plan at construction sites.
 - 4) Historical use of sites
- Building-related issues
 - 1) Original design vs. modifications or additions
 - 2) Thoroughly understand building usage

- Potential illicit connection/discharge situations
 - 1) Examples: mobile floor washing machines, interior truck wells and carpet cleaning vans.
 - 2) What to do to avoid illicit connections
- Construction-related topics
 - 1) Inspectors should serve as “eyes and ears” for illicit connection/discharge referral

Module D: ADVANCED INVESTIGATIONS

Purpose: Train staff techniques and procedures to conduct through investigations for detecting and eliminating illicit connections/illicit discharges.

Key Messages:

- There are multiple approaches to remove illicit discharges and use a variety of techniques; utilize the ones that fit the situation.

Course Content:

- 1) Prioritizing IDEP program efforts based on areas with known storm water quality problems.
- 2) Interpreting sampling data, observations and field investigation results.
- 3) Introduction of illicit connection investigations techniques (dye testing of plumbing fixtures, televising sewers, smoke testing, water sampling, and public education.)
- 4) Participants engage in a problem solving exercise that emphasizes topics discussed during the course.
- 5) Case histories
- 6) Participants receive a certificate upon successful completion of a written exam.

Module E: COMBINED BASIC/ADVANCED INVESTIGATIONS:

Purpose: Presenting IDEP Training Module content 1-4 in a concise course with all key messages from other modules included.

Key messages:

- Advanced investigations are key in tracking and eliminating illicit discharges. There is no “right” way or technique for finding the sources.

Course Content:

- Streamlines key points of Modules 1-4.
- Maintains field and problem solving exercises, case studies and practical information.

SPECIALTY TRAINING SESSION I:

Introduces illicit discharge identification and pollution prevention concepts to all levels of field personnel who may discover illicit discharges during their routine work assignments. This session educates staff to identify signs of illicit discharges, reporting field observations, and the importance of preventing pollution by altering their daily activities.

SPECIALTY TRAINING SESSION II:

Provides a brief overview of IDEP tracking techniques. The participants utilize the techniques to find illicit discharges as part of a group problem-solving session.

Wayne County's IDEP training program employs state-of-the-art technology such as use of real-time capabilities of Global Positioning System (GPS) for recording the location of outfalls, identifying "hotspots", and inspection sites. The program includes an ArcView™ – and Access™ – based software package developed by the County for complaint/site investigation. The goal of the software package is to promote coordination in reporting/tracking of illicit connections/discharges. A portion of the training program includes hands-on use of GPS units and chemical analysis field kits. Field kits utilized identify water quality parameters of ammonia, surfactant, and conductivity.

PROGRAM BENEFITS

Seven hundred and thirty-four (734) persons representing various agencies and communities throughout Michigan have attended the training sessions. The information these individuals gained from attending the training session helped them create their own IDEP. Successful programs include those implemented by neighboring counties. Through May 1, 2002, 82 illicit discharges were identified by IDEP investigations performed in the counties of Oakland, Washtenaw, and Wayne. The types of discharges found include twelve (12) septic systems in Wayne County that were failing or had direct discharges to surface water. Road division staff trained in recognizing illicit discharges discovered these failing systems. Neighboring counties found 70 illicit connections and discharges during their investigations. The pollutant load into Michigan surface waters from these discharges is an estimated 3.5 million gallons/year of polluted water, and 7200 pounds/year (lbs/yr) Biological Oxygen Demand (BOD) and 25, 000 lbs/yr Total Suspended Solids (TSS).

Ninety-eight percent (98%) of training session participants surveyed would encourage persons with similar responsibilities to attend the training course(s). A sample of participant comments from the surveys are: "Excellent job-the class was very informative and the interactive session was fun", "This is the best training session I've had in twenty (20) years", and "all presentations were very informative". The positive feedback generated by training program attendees resulted in Wayne County receiving numerous requests for training from other agencies in the State of Michigan and throughout the Midwest.