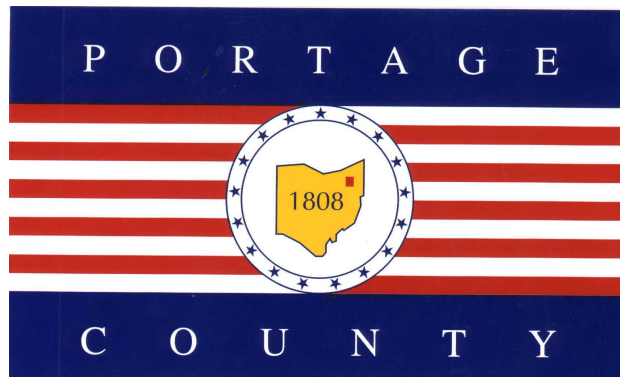


# PORTAGE COUNTY HEALTH DEPARTMENT



## **STORM WATER PROGRAM**

### **2012 ILLICIT DISCHARGE DETECTION AND ELIMINATION ANNUAL REPORT**



## **Summary of the Storm Water Program's Accomplishments**

In pursuance of the Storm Water Program's action plan to detect and eliminate illicit discharges in the jurisdiction of the Portage County Health Department (PCHD), we worked tirelessly in 2012 towards achieving the long term objective of sustainable water quality. The PCHD under the auspices of the health commissioner, the environmental director and all other supporting staffs continued to build on the healthy working relationships with townships, cities, villages, Engineers office, Water Resources Department, Soil and Water Conservation District and the citizenry to achieve our storm water goals.

To this end, all suspected illicit discharging nuisance complaints received from our constituents were investigated as soon as possible. Household sewage treatment systems (HSTS) and laundry lines were dye tested to determine the validity of the complaints when necessary. The components and status of the HSTS serving the affected houses are documented. Additionally, the geographical coordinate points of the locations of all confirmed illicit discharges were captured with handheld GPS units and downloaded into Storm Water GIS database.

Besides verbally informing parties involved the outcome of our investigations, emails and letters were also sent to them whether complaints were found justifiable or unjustifiable. Furthermore, we encouraged people to continue to report to us any future waste water nuisance they may observe even if previous complaints were found unjustifiable. Enforcement action was also immediately initiated after validation of an illicit discharge complaint.

Owners of illicitly discharging septic systems or laundry lines were given twenty-one days (21) upon the receipt of the notice to correct these violations and avoid legal action by installing an approved HSTS in accordance with the PCHD Home Sewage Regulations. Furthermore, the addresses of failing systems that require replacement were referred to our staff sanitarians in charge of replacement/repair to manage and supervise the process. Finally, legal actions were pursued against uncooperative violators to enforce elimination of the determined public nuisance when all reasonable attempts to convince them to ratify their illicit discharging problem failed.

Conscious of the enormous economic hard times today, we work with institutions such as Portage County Regional Planning Commission (PCRPC), Neighborhood Development Service (NDS), and the United States Department of Agriculture (USDA) to secure funding for HSTS replacement, repair, and new public sewer construction or tied into an existing sewer. Thus, homeowners with financial burden who could not afford the replacement or repair from their own resources are referred to the above-mentioned institutions for possibility of funding assistantship. However, financial assistance from these institutions are not guaranteed, but only offered when funds are available. Furthermore, qualification for such assistance is means tested and applicants must meet certain conditions.

### **Suspected Illicit Discharge/Sewage Nuisance Complaint s**

In 2012, the PCHD received 39 illicit discharge/sewage related nuisance complaints. These complaints were fairly distributed across the cities, townships and villages we deal with. The status of the 39 complaints is as follows:

Confirmed sewage illicit discharges	12
No illicit discharge found	17
Investigations pending (homes are vacant or complaint in progress)	10
<b>Total</b>	<b>39</b>

After investigating the thirty-nine (39) illicit discharge/sewage nuisance complaints, we confirmed twelve (12) of them to be in violation, seventeen (17) were found unjustifiable and ten (10) are still pending investigation, because the homes are either vacant or further investigations are needed

### **Status of Illicit Discharging Cases**

Sewer tie-ins ordered	0
Gray water to septic tie-in ordered	1
Correction ordered via PCHD aeration program	0
System repairs/replacement done	2
System repairs/replacement in process	9
<b>Total replacement orders issued</b>	<b>12</b>

A total of twelve (12) replacement orders were issued in 2012 as a result of nuisance complaint investigations. One (1) house was ordered to tie gray water discharging line into existing septic tank. Two (2) replacements were completed and the nuisance complaints were abated. We still have nine (9) systems ordered for repairs/replacement in progress.

### **Suspected Discharging HSTS Database**

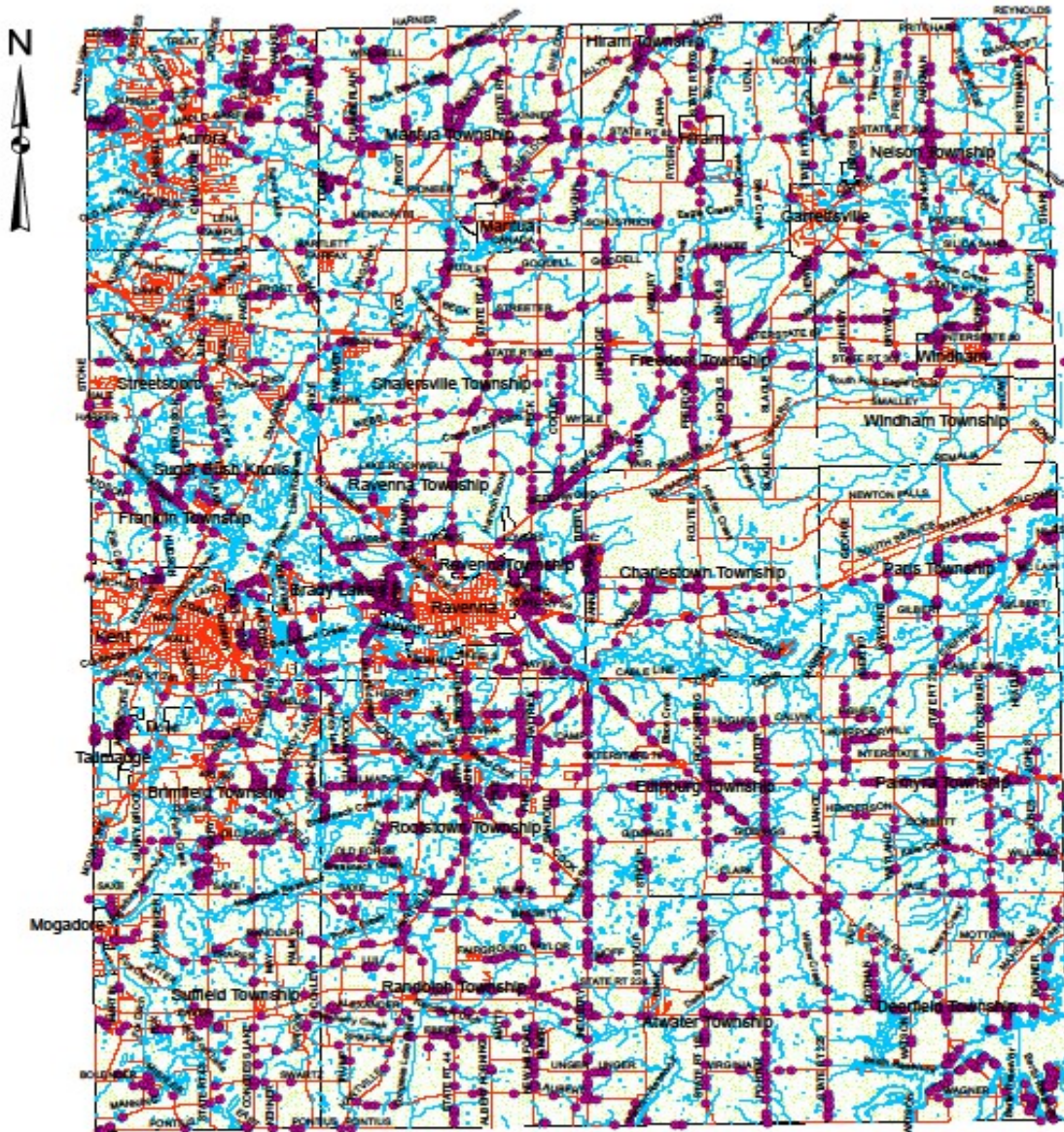
A comprehensive database of suspected discharging systems in the Storm Water District has been compiled for the storm water program. This database containing about 3500 suspected discharging HSTS as of January 1, 2012, is updated continuously as new information becomes available. We believe the actual number of discharging systems far exceeds what is collated in the database. A summary of the total suspected discharges compiled per townships, villages and cities in the county can be found in the table below.

Township	Total Suspected Illicit Discharge	Total In Annual Inspection Program	Total Not in Annual Inspection Program	Total Suspected Illicit Discharging Systems Inspected	Total NOT Illicit Discharge	Total Confirmed Illicit Discharge	Total Confirmed Illicit Discharge Eliminated	Total Confirmed Illicit Discharge Pending Repair/Replacement
Atwater	134	37	97	11	7	4	3	1
Aurora	197	142	55	10	3	7	3	4
Brimfield	200	78	122	44	21	23	0	23
Charlestown	97	45	52	7	2	5	1	4
Deerfield	195	105	90	18	16	2	0	2
Edinburg	150	56	94	8	5	3	2	1
Freedom	162	54	108	8	4	4	2	2
Franklin	161	30	131	4	2	2	1	1
Hiram	91	29	62	0	0	0	0	0
Mantua	243	93	150	3	1	2	1	1
Nelson	113	41	72	2	1	1	1	0
Palmyra	181	87	94	6	3	3	2	1
Paris	103	38	65	0	0	0	0	0
Randolph	190	45	145	12	8	4	1	3
Ravenna	438	137	301	22	11	11	2	9
Rootstown	372	99	273	4	2	2	1	1
Shalersville	111	43	68	7	3	4	1	3
Streetsboro	89	36	53	2	1	1	1	0
Suffield	105	48	57	8	5	3	2	1
Windham	124	53	71	6	3	3	1	2
<b>Total</b>	<b>3456</b>	<b>1296</b>	<b>2160</b>	<b>182</b>	<b>98</b>	<b>84</b>	<b>22</b>	<b>59</b>

## GIS Maps of Suspected HSTS Discharging Systems

Using ESRI GIS software, we have also created maps depicting visual representation of the distribution of the almost 3500 suspected discharging HSTS in the county, townships and villages. Hydrolines (water bodies) and road features are overlaid on the map to put the locations of the suspected discharging HSTS in geographical context. A selection of these suspected discharging HSTS maps are also provided below.

# PORTAGE COUNTY SUSPECTED ILLICIT DISCHARGING HSTS

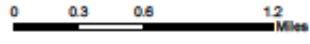
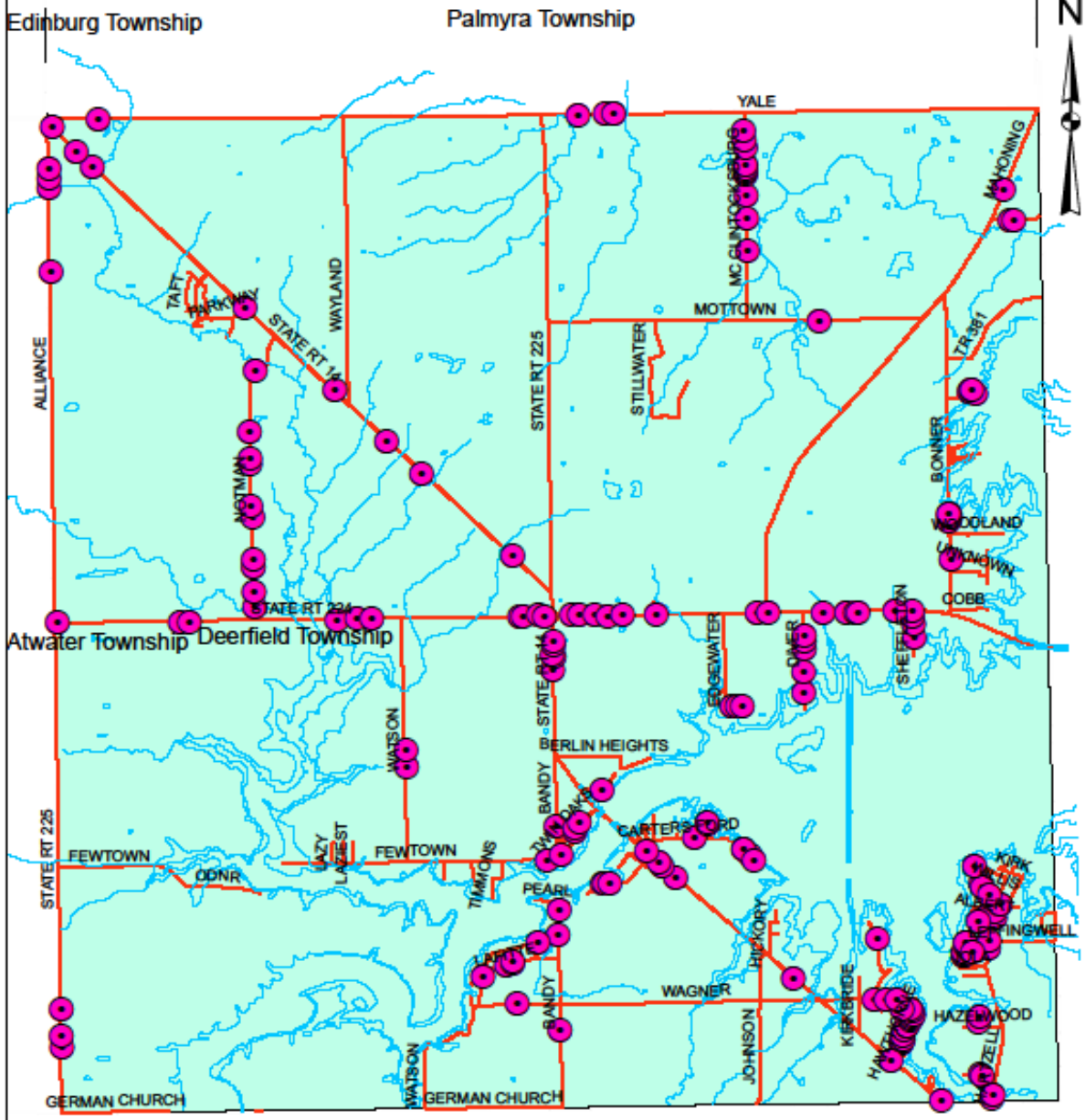


Date: 2/8/2013  
 Data Source: Portage County  
 GIS and Combined Health District

Number of 2012 Suspected HSTS  
 Illicit Discharging Systems = 3456

- Suspected Discharging HSTS
- Hydrolines
- Portage Roads
- City/Townships/Villages

# DEERFIELD SUSPECTED HSTS DISCHARGING SYSTEMS

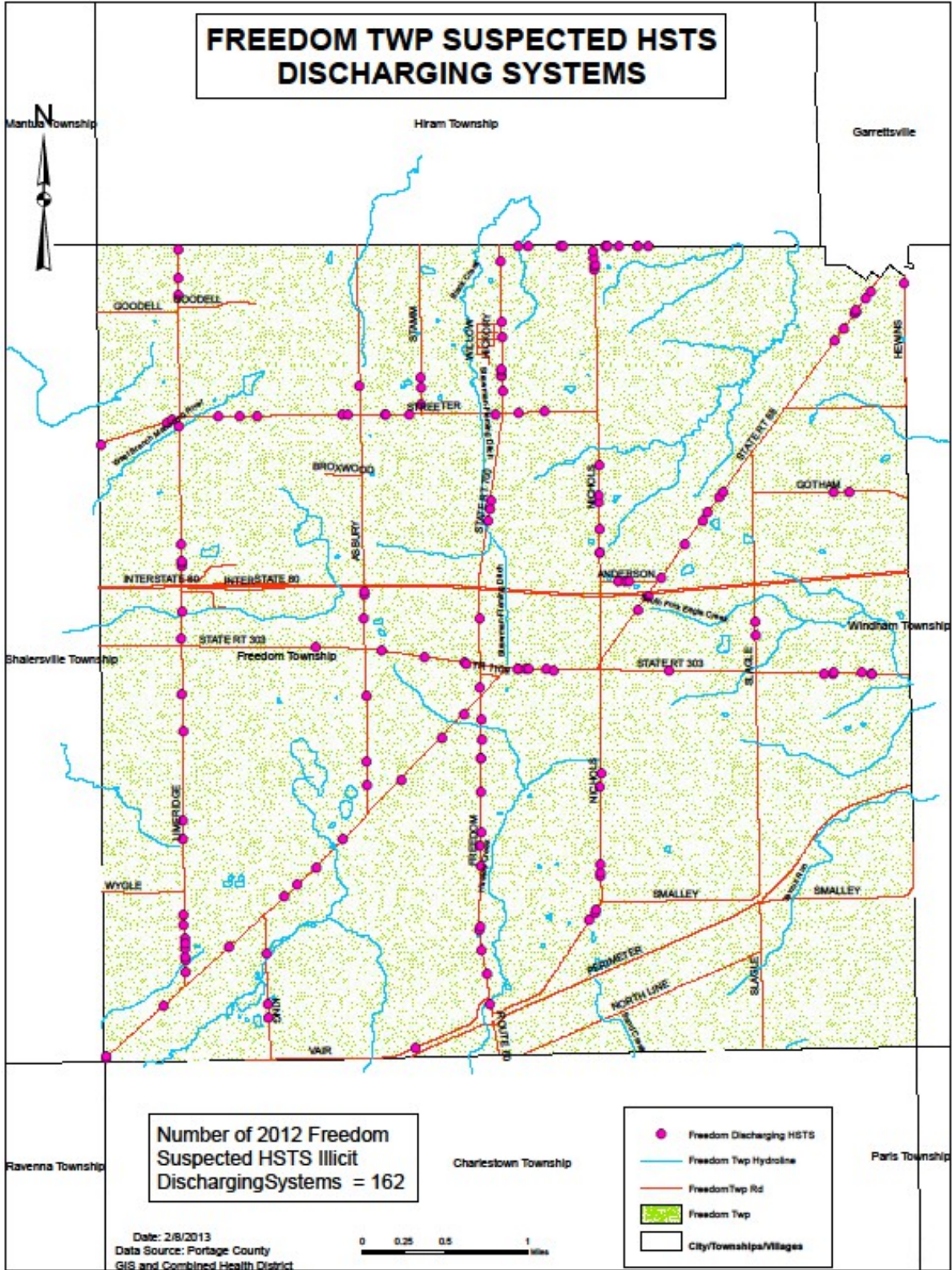


	Deerfield_Discharging_HSTS
	Deerfield Hydroline
	Deerfield Road
	City/Townships/Villages
	Deerfield Twp

Number of 2012 Deerfield Suspected HSTS Illicit Discharging Systems = 195

Date: 2/8/2013  
 Data Source: Portage County GIS and Combined Health District

# FREEDOM TWP SUSPECTED HSTS DISCHARGING SYSTEMS



Number of 2012 Freedom Suspected HSTS Illicit Discharging Systems = 162

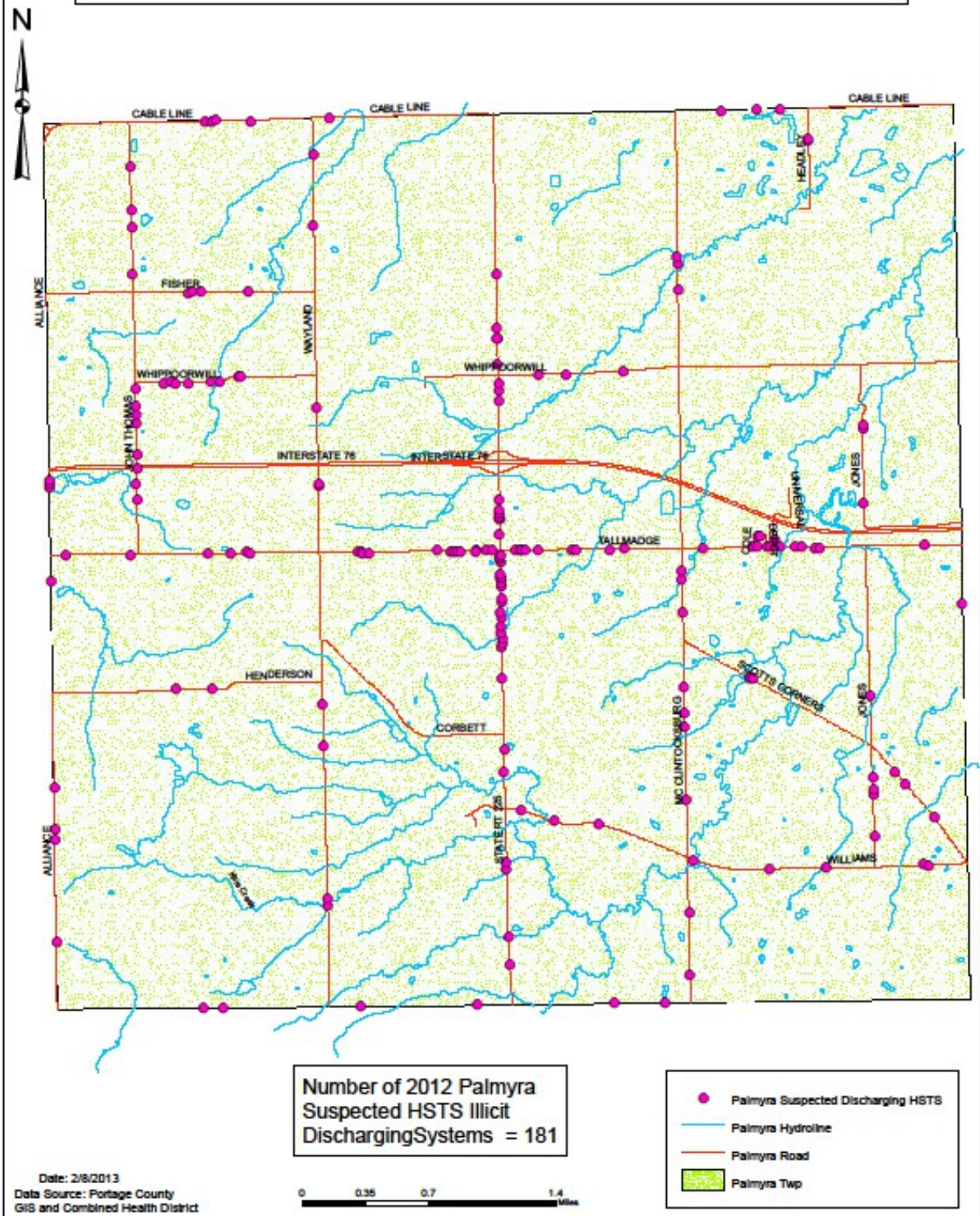
Date: 2/8/2013  
 Data Source: Portage County GIS and Combined Health District

0 0.25 0.5 1 Miles

- Freedom Discharging HSTS
- Freedom Twp Hydroline
- Freedom Twp Rd
- Freedom Twp
- City/Township/Villages



# PALMYRA TWP SUSPECTED HSTS DISCHARGING SYSTEMS



Storm water staff started random routine inspection of the 3500 suspected discharging HSTS in our database in the summer of 2012, to detect and eliminate illicit discharges. As part of our educational outreach, we have created a brochure and a flier offering succinct explanation for the storm water program, importance of proper maintenance of HSTS, myths and facts about HSTS. Homeowners were giving a copy of this brochure during inspection. They were also instantly notified about findings of the inspection of their systems by a check mark as to whether it (a) passed visual survey, (b) is failing, needs repaired/replaced, or (c) needs further evaluation. Front and back copies of the flier are shown below.

## Myths and Facts about Household Sewage Treatment (Septic) Systems

**MYTH:** A septic system will work forever once installed; you do not need any maintenance or pumping. "If it ain't broke why fix it?" If you are not having problems, don't worry about a septic system.

**FACT:** A septic system properly maintained on regular basis could last between 20-30 years on the average. Lack of proper maintenance shortens the lifespan of a septic system and eventually leads to costly repairs or replacement, if it is allowed to get to the "problem" stage.

**MYTH:** Regular maintenance of a septic system is more expensive than fixing the system once it has failed.

**FACT:** It is far cheaper to prevent a system failure than it is to correct.

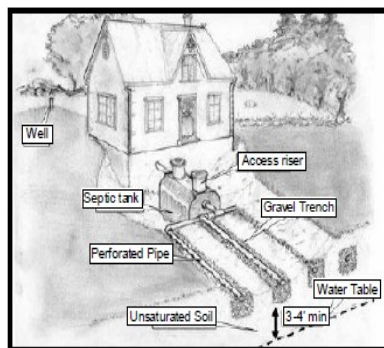
**MYTH:** Septic system additives will help grow the bacteria needed and take the place of having the septic tank pumped regularly.

**FACT:** Scientific study of experts in Canada and the United States have found that septic system additives do not keep a system "healthy" and definitely do not take the place of regular maintenance of a septic system.

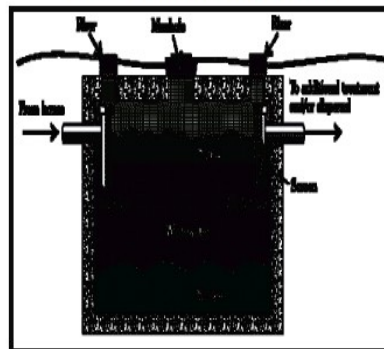
**MYTH:** Household chemicals, such as disinfectants, medicines, paint thinner, water softener brine, etc. are not harmful to a septic system.

**FACT:** The septic tank and leaching system are full of living organisms (bacteria) that make the septic system work properly. Normal household cleaners that are introduced into the septic system in moderation will not adversely affect it. Excessive amounts of these products can have a detrimental effect on the organisms.

A Typical Trench-Style Septic System



Cross Section of a Septic Tank



Portage County  
Health District  
Environmental  
Division

Proper  
Maintenance For  
Your Septic System



Portage County Health Department  
Administration Building  
449 South Meridian Street  
Ravenna, OH 44266  
Phone: 330-296-9919  
Fax: 330-297-3597  
Email: pchd@portageco.com  
<http://www.co.portage.oh.us/healthdepartment.htm>



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449 South Meridian Street  
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The Portage County Health District is conducting an EPA-mandated stormwater management program. This program is based on the premise that areas with illicit septic discharging systems have a greater potential to impact water quality. Currently, a stormwater specialist is inspecting all suspected illicit discharging septic systems and septic nuisances in the entire Health District, for the purpose of detecting and correcting failing systems. Homeowners with properly functioning systems will not be required to upgrade to meet today's standards.

**Maintenance of Your Septic System Protects Your Investment, Saves Money, and Reduces Risk to Streams and Drinking Water**

- Properly maintained septic system can last over 20 years.
- Improper maintenance leads to costly damage, repair and replacement.
- New septic systems currently cost between \$9,000 and \$25,000.
- Improperly maintained system pollutes soil, streams and drinking water systems.

**THERE IS NO FEE FOR THE INSPECTION CONDUCTED.**

You do not have to contact the Portage County Health District, unless instructed in the Findings Section.

**Findings of Stormwater Inspection**

We included a copy of your septic system record.

- Yes
- No, not available

We determined your system:

- Passed the visual survey
- Is failing, needs repaired/replaced. Please contact the district stormwater specialist listed below.
- Needs further evaluation. Please contact the district stormwater specialist listed below.

**AMOS SARFO: 330-296-9919,  
Ext. 111 or [asarfo@portageco.com](mailto:asarfo@portageco.com)**

For more information please visit [www.co.portage.oh.us/healthdepartment.htm](http://www.co.portage.oh.us/healthdepartment.htm) or contact the district stormwater specialist listed above.

**Proper Maintenance Is Very Important For Your Septic System**

- Have your system inspected periodically by a septic expert and pump the tank at least every 3 years. A list of sewage tank cleaners could be obtained from this department or the Yellow Pages.
- Avoid using any type of chemical or biological septic tank additive. They are not necessary for proper functioning of a septic tank, nor do they reduce the need for routine tank pumping.
- Avoid dumping paints, household cleaners, oils, or fats down your drains. Never flush items such as cat litter or paper towels.
- Avoid driving and parking vehicles on your septic system.
- Direct rainwater and surface water away from the leachfield.
- Avoid "flooding" your system by using too much water at one time.
  - Wash laundry throughout the week instead of all on one day.
  - Repair leaky faucets, and toilets.
  - Run the washing machine and dish washer only when they are full.

During storm water inspection, a suspected illicit discharge HSTS that needs further evaluation is dye tested as soon as possible to determine whether the system is illicitly discharging or not. Similar to nuisance complaints, the geographical coordinate points of the locations of all confirmed illicit discharges are captured with GPS and downloaded into Storm Water GIS database. Owners of illicit discharging HSTS found during storm water inspection were given six (6) months limit upon the

receipt of the notice to correct these violations and avoid legal action by installing an approved HSTS in accordance with the PCHD Home Sewage Regulations

The routine random storm water inspections done so far indicates that some communities have an overwhelming number of illicit discharging HSTS. These systems are completely failing or do not meet current Federal Environmental Protection Agency (EPA) National Pollutant Discharging Elimination System (NPDES) standards. We worked with some of the residents of these communities who expressed strong desire to get a sewer system to start a petition drive. This collaboration is yielding positive results and support from Engineer's office, Water Resources Department, and the county commissioners who have directed the Water Resources Department to initiate a process to access the feasibility of providing sanitary sewer service for Oakwood Acres in Brimfield Township. We are also working with the residents of Lynwood Drive in Brimfield about the possibility of getting sewer as well.

In addition to the nuisance complaints and routine random storm water inspections, we also performed point of sale inspections of HSTS upon request. The enforcement is the same as dealing with illicit discharge found during a storm water routine inspection. The owners of illicit discharging HSTS found during point of sale inspection were given six (6) months limit upon the receipt of the notice to correct these violations and avoid legal action by installing an approved HSTS in accordance with the PCHD Home Sewage Regulations. It must be noted that PCHD does not stop sales process when HSTS found causing nuisance during sales inspection in spite of the issuance of replacement/repair order.

### **Illicit Discharging Detection through Microbiological Sampling**

The PCHD storm water program started microbiological sampling of surface water in waterways to detect and eliminate illicit discharging in prioritized areas of the county. These areas were selected based on the large number of nuisance complaints coming from there or the concentration of suspected illicit discharging HSTS in an area as depicted on the suspected illicit discharging HSTS maps shown above. The samples were taken in most cases during a dry weather period of 72 hours to avoid dilution of the effluent from precipitation.

We sampled about twenty-nine roadside ditches, catch basins and streams for E. coli contamination across the PCHD storm water program jurisdiction. The 2012 microbiological water samples were taken from nine (9) townships of the county as weather permitted. The initial intention was to take four samples from each city, township or village in the program. However, weather conditions, time constraints and difficulty in accessing water sample from acceptable locations prevented us from getting four samples from all the cities, townships and villages. In future, the areas that could not be sampled in 2012 would receive earliest attention as we continue.

The laboratory results determined that eleven (11) of the samples exceeded 1030 colonies, the EPA's acceptable level of E. coli contamination. The remaining eighteen (18) were within the satisfactory limits. With this information, the areas exceeding the acceptable E. coli count limits would be given prioritized attention to eliminate the source of the contamination to prevent public health hazards.

<b>Storm Water 2012 Ditch E. coli Sampling</b>			
<b>CTV</b>	<b>Date Sampled</b>	<b>Location</b>	<b>MPN Value</b>
Atwater	11/6/2012	Roadside Ditch	185
Atwater	11/6/2012	Roadside Ditch	110
Atwater	11/6/2012	Roadside Ditch	75
Atwater	11/6/2012	Roadside Ditch	420
Brimfield	10/25/2012	Doralee Dr #1 Catch Basin	>9678.4
Brimfield	10/25/2012	Doralee Dr #2 Catch Basin	>9678.4
Brimfield	10/25/2012	Howe Rd Ind. Park Upstream	992.4
Brimfield	10/25/2012	Howe Rd Ind. Park Downstream	2068.8
Deerfield	11/6/2012	Roadside Ditch	24196
Deerfield	11/6/2012	Stream	86
Deerfield	11/6/2012	Roadside Ditch	1198
Deerfield	11/6/2012	Catch Basin, Ditch near Bridge	85
Franklin	10/26/2012	Roc Marie Catch Basin	82000
Freedom	11/28/2012	Roadside Ditch/Stream	233
Hiram	11/27/2012	St Rt. 700 #1 Roadside Ditch	122
Hiram	11/27/2012	St Rt. 700 #2 Roadside Ditch	497
Hiram	11/27/2012	Cheryl Dr. Roadside Ditch	63
Hiram	11/27/2012	Alpha Rd Roadside Ditch/Stream	10
Mantua	11/27/2012	Vincent Dr Ditch/Catch Basin	1989
Mantua	11/27/2012	Samuel Dr. Ditch/Catch Basin	148
Mantua	11/27/2012	Frost Rd Roadside Ditch	9208
Randolph	11/7/2012	Catch Basin	24196
Ravenna	10/26/2012	Peck Rd Roadside Ditch	140
Ravenna	9/29/2012	Red Brush Roadside Ditch	24196
Ravenna	11/29/2012	Red Brush & Lovers Ln Catch Basin	3654
Ravenna	11/29/2012	Lovers Ln Roadside Ditch	867

## **Storm Water Task Force Meeting**

The Health Commissioner, the Director of Environmental Health, and the Registered Sanitarian managing the storm water program attend quarterly Portage County Storm Water Task Force meetings. At these meetings, the PCHD presents a written summary of the statistics of inspections, consultations, and correspondence concerning the storm water Illicit Discharge Program. Provided below is a table depicting the 2012 annual inspection report. The table shows the inspections, dye testing, microbiological (E. coli) sampling, office/field consultations or research, GIS and data search. It also summarizes orders issued for replacement/repairs, court appearances, telephone consultations and field research as they occur during our daily activities.

STORM WATER/ILLICIT DISCHARGE PROGRAM												
ANNUAL 2012	Inspection/ Dye Testing	Office: Consultation/Research	Office: GIS and Data	Field Consultation	Orders Issued	HSTS Replacements	Prosecutor Consultation	Court Appearance	Eng/Soil Water Consultation	Telephone	Field Research	Totals
<b>TOWNSHIPS</b>												
Atwater	21	20	6	0	0	0	9	9	1	40	12	118
Brimfield	66	35	6	5	5	0	0	0	0	39	2	158
Charlestown	7	6	1	0	0	4	0	0	0	11	5	34
Deerfield	37	23	2	0	0	0	0	0	0	34	7	103
Edinburg	12	14	1	0	0	1	0	0	0	15	8	51
Franklin	32	19	2	2	2	0	1	1	0	17	0	76
Freedom	14	17	6	0	0	0	3	3	0	22	0	65
Hiram	14	13	1	2	2	0	0	0	0	16	3	51
Mantua	25	23	1	1	1	0	0	0	0	46	6	103
Nelson	7	7	2	1	1	0	0	0	0	18	0	36
Palmyra	8	7	7	0	0	0	0	0	0	10	0	32
Paris	3	3	1	0	0	0	0	0	0	12	0	19
Randolph	27	24	1	0	0	0	0	0	0	19	3	74
Ravenna	115	40	5	11	11	0	0	0	0	72	6	260
Rootstown	52	24	8	0	0	0	0	0	0	49	7	140
Shalersville	51	25	6	3	3	0	0	0	0	46	5	139
Suffield	14	18	2	0	0	0	2	2	1	24	0	63
Windham	4	7	3	0	0	0	0	0	0	15	0	29
General	0	156	17	0	0	0	4	4	0	65	0	246
<b>Township Totals</b>	<b>509</b>	<b>481</b>	<b>78</b>	<b>25</b>	<b>25</b>	<b>5</b>	<b>19</b>	<b>19</b>	<b>2</b>	<b>570</b>	<b>64</b>	<b>1,797</b>
<b>CITIES/VILLAGES</b>												
*Aurora	21	13	3	1	1	0	0	0	0	24	0	63
Brady Lake	0	0	1	0	0	0	0	0	0	0	0	0
Garrettsville	1	1	1	0	0	0	0	0	0	1	0	3
Hiram Village	0	0	1	0	0	0	0	0	0	2	0	2
Mantua Village	0	0	1	0	0	0	0	0	0	4	0	4
Mogadore	0	1	1	0	0	0	0	0	0	4	0	5
*Streetsboro	8	13	3	0	0	0	0	0	0	21	0	42
Sugar Bush Knolls	0	0	1	0	0	0	0	0	0	0	0	0
Windham Village	0	0	1	0	0	0	0	0	0	0	0	0
<b>Cities/Villages Totals</b>	<b>30</b>	<b>28</b>	<b>13</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>56</b>	<b>0</b>	<b>119</b>
<b>TOTAL INSP</b>	<b>539</b>											
<b>TOTAL TELE</b>	<b>626</b>											
<b>OFFICE: CON/RES</b>	<b>509</b>											
<b>OFFICE: GIS &amp; DATA</b>	<b>91</b>											
<b>FIELD RESEARCH</b>	<b>64</b>											
<b>TOTAL CON</b>	<b>559</b>											
<b>OVERALL TOTAL</b>	<b>2388</b>											

PCHD recognizes that there are also many illicit discharging sewage systems for which there is no permit on file, plus there are other illicit discharges which are from non-sewage sources. Both types would be dealt with when discovered in future.

## **2013 Action Plan**

The 2013 action plan for the PCHD Storm Water Program consists of the following objectives, namely:

1. Continue to work with all institutions involved in the program as mentioned earlier. We will also continue to build on the working relationships with cities, townships, villages and the citizens for their cooperation to ensure the program's success.
2. Ensure health department personnel are adequately trained to be able to identify and recognize failed sewage treatment systems and illicit discharges. Training will be offered on the use of necessary equipment such as water quality testing equipment, GPS and GIS for data collection and mapping. Furthermore, staffs will be trained on the parameters of design of new HSTS, and monitoring of installation of the replacement systems.
3. Compile, organize, and understand the scope of potential illicit discharges. Research PCHD HSTS files, document noted discharges and compile information received from townships and county engineer.
4. Develop a comprehensive database of suspected and reported illicit discharges to be utilized in the execution of field work and documentation.
5. Accept, record, and compile sewage nuisance complaints from residents, townships, and municipal entities. Investigate complaints and perform dye testing to confirm illicit discharges. Issue official orders as necessary.
6. Gather information from Portage County SWCD regarding discharges that are not from HSTS. Assist SWCD (when requested) with training of township and municipal employees, education, public announcements, and information to homeowners.

However, a significantly larger portion of time will be spent in the field locating, identifying, and investigating possible illicit discharges. These field activities will be prioritized in the following manner:

1. Upon receipt from residents, townships, or municipal entities of a reported illicit discharge, PCHD will investigate, confirm with dye testing, and begin legal action to enforce correction immediately if necessary.
2. Routinely inspect sites for confirmation of suspected illicit discharges recorded in the PCHD database by knocking at the door of the home to request permission to inspect the entire property to locate and examine the illicit discharge spot.

- a. If the owner is home and grants permission, we will conduct inspection.
  - i. If a suspected illicit discharge is located, we will request permission to conduct a dye test.
  - ii. If permitted to conduct a dye test, we will proceed with the test.
  - iii. If an illicit discharge is confirmed, we will follow the enforcement procedure mentioned above.
- b. If the owner refuses permission to inspect the property or to dye test, apply for a search warrant to conduct the inspection and dye test.
- c. If no one is home, use PCHD's right of inspection, granted by the original sewage system permit on file, to inspect the property for the illicit discharge.
  - i. If no illicit discharge is observed, record that data in the database.
  - ii. If an illicit discharge is observed, contact the owner to schedule dye testing as soon as possible.
3. During inspections of suspected illicit discharges on file, any other unrelated potential illicit discharges that are discovered will be investigated.
4. After all discharges in PCHD sewage permit files have either been confirmed or eliminated as illicit discharges, we will visually search all road ditches in the Storm Water District for possible undiscovered illicit discharges.
5. Finally, we will GPS the locations of all confirmed illicit discharges in conjunction with inspection and download into the GIS database.

In conclusion, PCHD storm water program is counting on the understanding, support and cooperation of all stakeholders in the PCHD jurisdiction to make the program a success by ensuring that the goal of achieving sustainable water quality is realized in the not too distance future.