PORTAGE COUNTY HEALTH DEPARTMENT

STORM WATER PROGRAM

2013 ILLICIT DISCHARGE DETECTION AND ELIMINATION ANNUAL REPORT

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Introduction

This annual report documents the implementation and status of the Portage County Combined General Health District's (PCCGHD) Storm Water Program. This is in accordance with the tenants of the contractual agreement between PCCGHD and the Portage County Board of Commissioners to execute part of the requirements (responsibilities) of the Portage County Storm Water District program. The purpose of this annual report is to provide a succinct compilation of all PCCGHD Storm Water Program's activities, accomplishments, and analysis in 2013. Furthermore, it will help the Portage County Storm Water District to fulfill its Ohio EPA's annual report submission requirement for the Storm Water Permit Program.

2013 Action Plan

PCCGHD Storm Water Program's 2013 action plan put in place to achieve its objectives consisted of the following pathways:

1. Continue to work with all institutions involved in the program. In addition, build on the working relationships with cities, townships, villages and the citizens for their cooperation to ensure the program's success.

2. Ensure that PCCGHD personnel involved in the program 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, staff will be trained on the parameters of design of new HSTSs, and monitoring of installation of the replacement systems.

3. Compile, organize, and understand the scope of potential illicit discharges. Research PCCGHD 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, documentation and reporting.

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 to enforce compliance.

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 PCCGHD database by knocking at doors to request permission to inspect the entire property to locate and examine the illicit discharging points.

    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 PCCGHD'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 it in the Storm Water Program 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 PCCGHD 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, the PCCGHD Storm Water Program is counting on the understanding, support and cooperation of all stakeholders in the PCCGHD jurisdiction to make the program a success by ensuring that the goal of achieving sustainable water quality is realized in the not too distant future.

Achievements

In pursuance of the Storm Water Program's 2013 action plan to detect and eliminate illicit discharges in areas under the jurisdiction of the PCCGHD, we rigorously followed the roadmap towards achieving the long term objective of sustainable water quality. The PCCGHD under the auspices of the health commissioner, the environmental director, storm water supervisor 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 (HSTSs) and laundry lines were dye tested to determine the validity of the complaints when necessary. The components and status of the HSTSs serving the affected houses are documented. Additionally, the geographical coordinate points of the locations of confirmed illicit discharges were captured with handheld GPS units and downloaded into the Storm Water GIS database.

Besides verbally informing parties involved in nuisance complaints the outcome of our investigations, emails and letters were also sent to them whether complaints were found justifiable or unjustifiable. Additionally, enforcement action was immediately initiated after validation of an illicit discharge complaint. 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.

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 coming into compliance with the PCCGHD Home Sewage Regulations. In addition, the addresses of failing systems that require upgrade, replacement or sewer connection were referred to our staff sanitarians in charge of replacement/repair or sewer connection to manage and supervise the process. Finally, legal actions were pursued against recalcitrant and 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 the Portage County Regional Planning Commission (PCRPC), Neighborhood Development Services (NDS), and the United States Department of Agriculture (USDA) to secure funding for HSTS replacement, repair, and new public sewer construction or connection 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 financial assistance in the form of soft loans or grants is means-tested, and applicants must meet certain conditions determined by the individual funding organization without any influence from the PCCGHD as to how funding is disbursed or who is considered for assistantship.

Suspected Illicit Discharging Complaints

PCCGHD received a little over 50 illicit household wastewater nuisance complaints in 2013. These complaints were fairly distributed across the cities, townships and villages we deal with. Some of the complaints made by phone calls could not be investigated because the complainants wanted to remain anonymous and did not want to continue with the process for fear of offering information they thought could potentially reveal their identity as the complainants to their neighbors. Nonetheless, we were able to investigate 32 of the complaints. The status of these 32 complaints is as follows:

Table1

Confirmed sewage illicit discharges	16
No illicit discharge found	5
Investigations pending (homes are vacant or observation in progress)	11
Total	**32**

After investigating the thirty-two (32) illicit discharging nuisance complaints, we confirmed sixteen (16) of them to be in violation, five (5) were found unjustifiable and eleven (11) are still pending investigation, because the homes are either vacant or further investigations are needed to ascertain validity of the complaints.

Status of Illicit Discharging Complaints

Table2

Sewer tie-ins or repairs ordered	1
Gray water to septic tie-in ordered	0
Correction ordered via PCCGHD aeration program	0
System repairs/replacement done	5
System repairs/replacement in progress	10
Total replacement and sewer connection orders issued	**16**

A total of sixteen (16) HSTS replacement or sewer connection orders were issued in 2013 as a result of nuisance complaint investigations or home sale inspection. One (1) house was ordered to connect to public sewer. Five (5) replacements were completed and the nuisance complaints were abated. We still have ten (10) systems ordered for repairs/replacement or connection to sewer 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 HSTSs as of January 1, through December 31, 2013, 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 as December 31, 2013, can be found in the table below.

Table3

Township	Total Suspected Discharge Systems	Total In Annual Inspection Program	Total Not in Annual Inspection Program	Total Suspected Discharging Systems Inspected	Total Inspected NOT Illicit Discharge	Total Confirmed Illicit Discharge	Total Confirmed Illicit Discharge Eliminated	Total Confirmed Illicit Discharge Pending Repair/ Replacement
Atwater	134	37	97	10	7	3	2	1
Aurora	197	142	55	8	1	7	6	1
Brimfield	202	78	124	70	27	43	0	43*
Charlestown	97	45	52	6	1	5	4	1
Deerfield	197	105	92	17	15	2	1	1
Edinburg	150	56	94	8	5	3	1	2
Freedom	161	54	107	8	3	5	5	0
Franklin	161	30	131	5	2	3	1	2
Hiram	93	29	64	1	0	1	0	1
Mantua	243	93	150	3	1	2	1	1
Nelson	113	41	72	2	1	1	1	0
Palmyra	179	87	92	5	3	2	2	0
Paris	103	38	65	0	0	0	0	0
Randolph	189	45	144	7	4	3	1	2
Ravenna	432	137	295	18	8	10	5	5
Rootstown	373	99	274	6	2	4	3	1
Shalersville	110	43	67	2	1	1	1	0
Streetsboro	89	36	53	2	1	1	0	1
Suffield	104	48	56	7	3	4	2	2
Windham	124	53	71	7	3	4	1	3
Total	**3451**	**1296**	**2160**	**182**	**98**	**104**	**37**	**67**

*Brimfield has an extraordinary high number of total confirmed illicit discharging systems pending repair/replacement because of on-going discussions about the possibility of sewer projects in some communities.

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 HSTSs in the county, townships and villages. Hydrolines (water bodies) and road features are overlayed on the map to put the locations of the suspected discharging HSTSs in geographical context. A selection of these suspected discharging HSTS maps are also provided below.

Figure 1

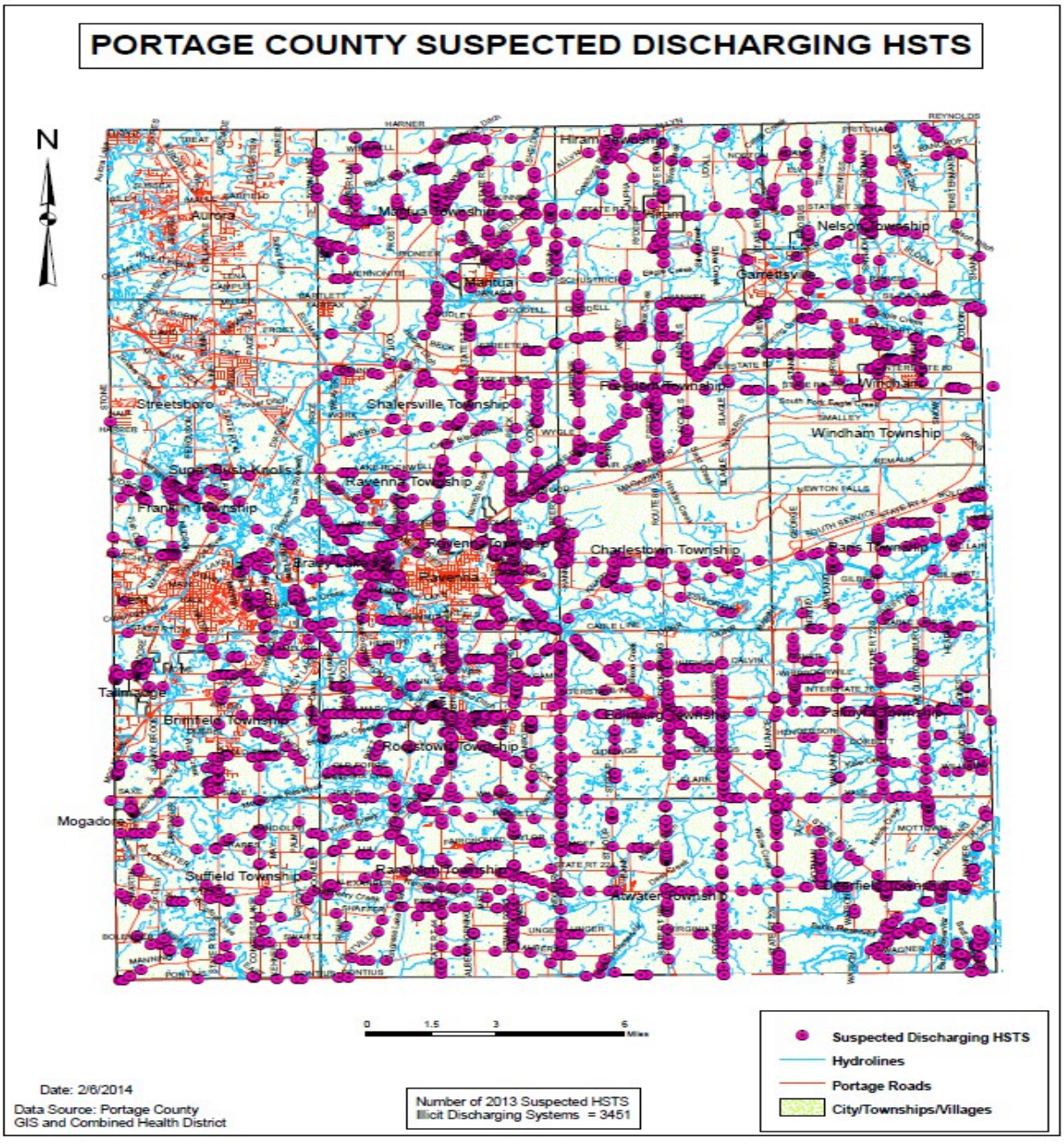


Figure 2

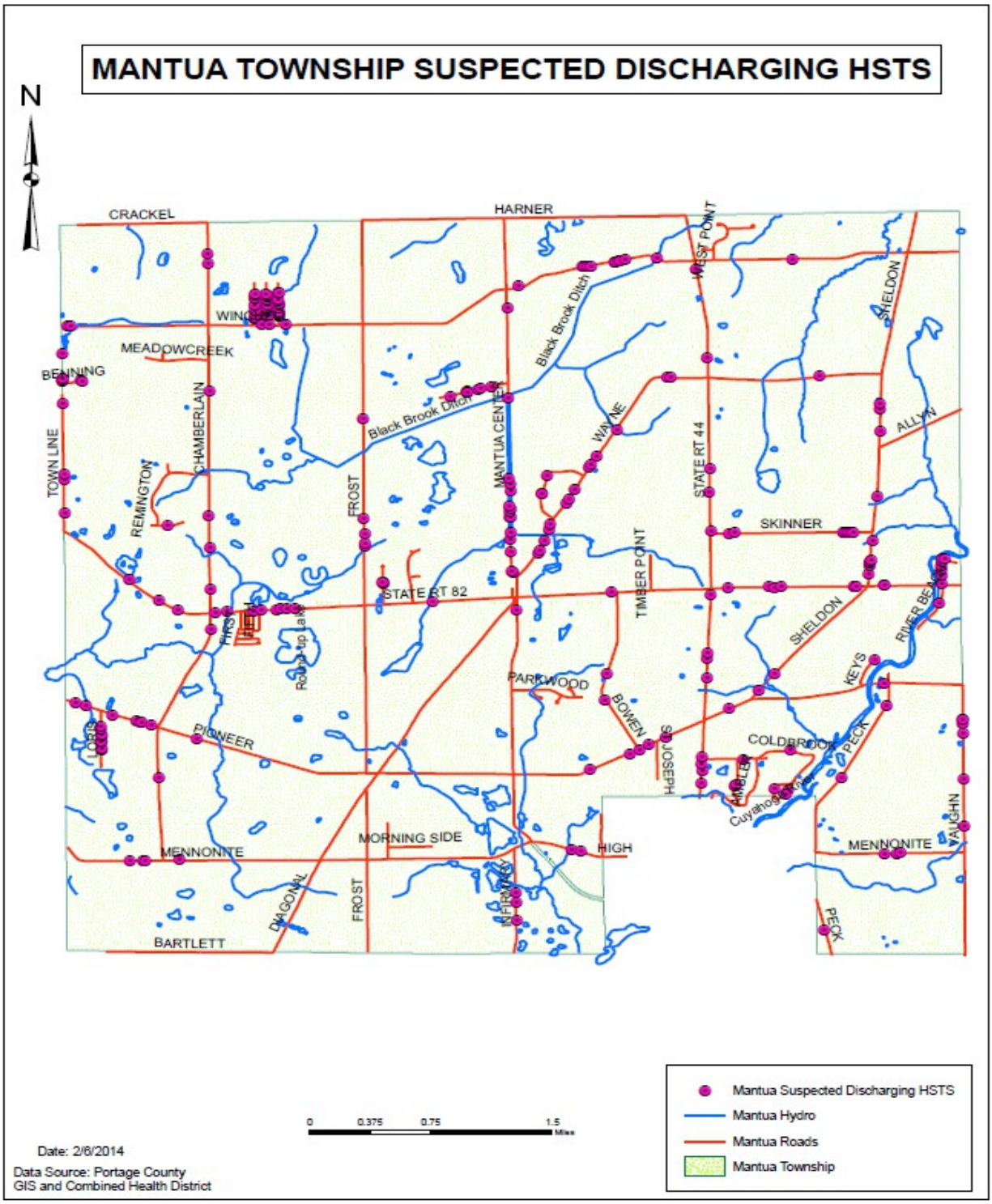

MANTUA TOWNSHIP SUSPECTED DISCHARGING HSTS
N
CRACKEL
HARNER
WEST POINT
SHELDON
WING
MEADOWCREEK
BENNING
Black Brook Ditch
Black Brook Ditch
MANTUA CENTER
WAYNE
STATE RT 44
ALLYN
TOWN LINE
CHAMBERLAIN
REMINGTON
FROST
SKINNER
STATE RT 82
TIMBER POINT
SHELDON
RIVER BEND
KEYS
PARKWOOD
BOWEN
ST JOSEPH
COLDBROOK
PECK
PIONEER
MILLER
Cuyahoga River
MORNING SIDE
HIGH
MENNONITE
MENNONITE
VAUGHN
DIAGONAL
FROST
BARTLETT
PECK
0
0.375
0.75
1.5
Miles
Date: 2/6/2014
Data Source: Portage County
GIS and Combined Health District
Mantua Suspected Discharging HSTS
Mantua Hydro
Mantua Roads
Mantua Township

Figure 3

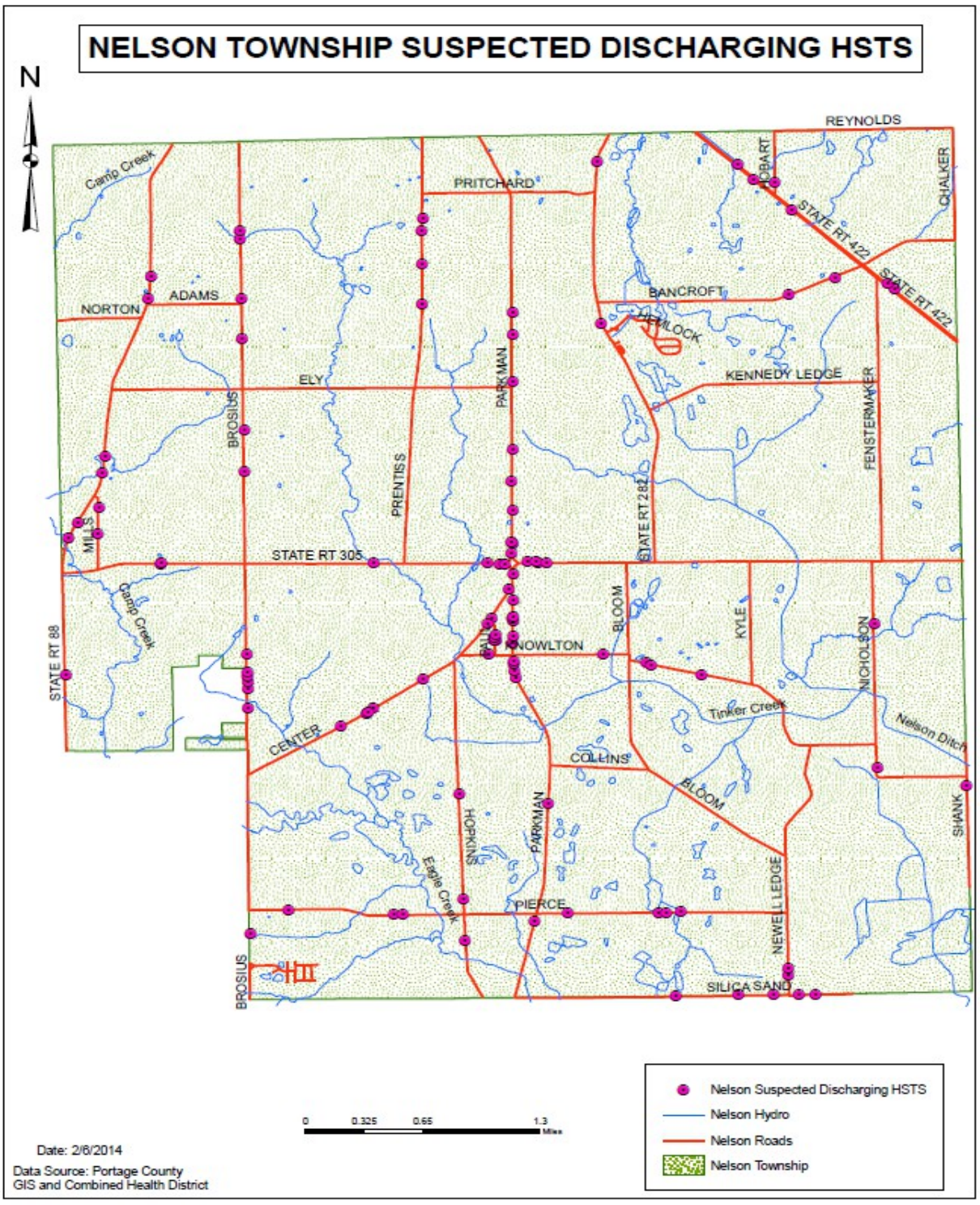
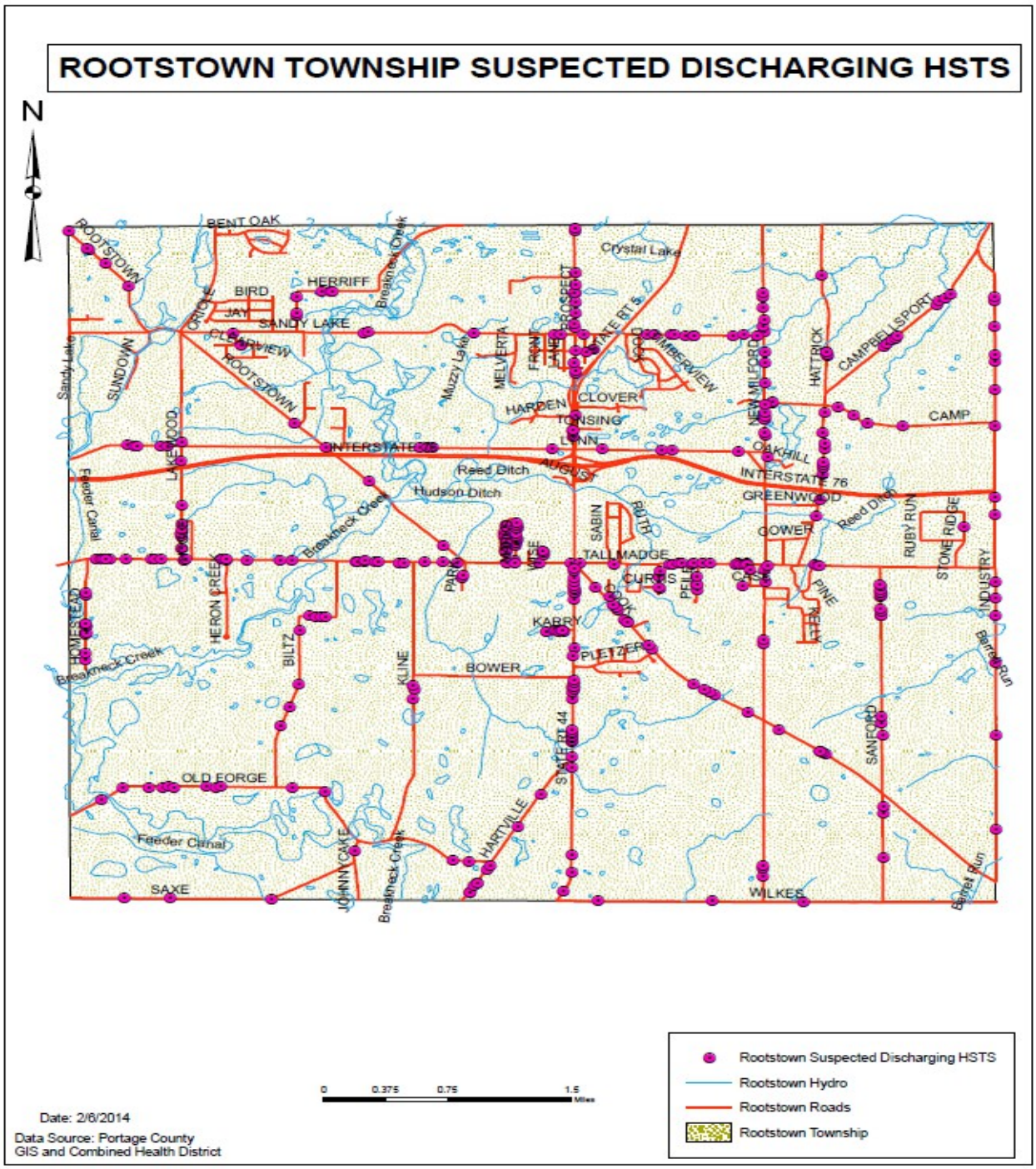

NELSON TOWNSHIP SUSPECTED DISCHARGING HSTS
N
REYNOLDS
HOBART
CHALKER
STATE RT 422
STATE RT 422
Camp Creek
PRITCHARD
BANCROFT
HEMLOCK
NORTON
ADAMS
ELY
PARKMAN
KENNEDY LEDGE
FENSTERMAKER
BROSIUS
PRENTISS
STATE RT 282
MILLS
STATE RT 305
Camp Creek
STATE RT 88
KNOWLTON
BLOOM
KYLE
NICHOLSON
Tinker Creek
Nelson Ditch
CENTER
COLLINS
BLOOM
SHANK
HOPKINS
PARKMAN
Eagle Creek
PIERCE
NEWELL LEDGE
BROSIUS
SILICA SAND
0
0.325
0.65
1.3
Miles
Nelson Suspected Discharging HSTS
Nelson Hydro
Nelson Roads
Nelson Township
Date: 2/6/2014
Data Source: Portage County
GIS and Combined Health District

Figure 4


ROOTSTOWN TOWNSHIP SUSPECTED DISCHARGING HSTS
N
ROOTSTOWN
BENT OAK
HERRIFF
BIRD
JAY
SANDY LAKE
CLEARVIEW
ORIOLE
Breakneck Creek
Crystal Lake
PROSPECT
STATE RT 5
WOODLAND
TIMBERVIEW
NEW MILFORD
HATTRICK
CAMPBELLSPORT
CAMP
Sandy Lake
SUNDOWN
Muzzy Lake
MELVERTA
FRANKLANE
HARDEN
CLOVER
TONSING
LYNN
INTERSTATE 76
OAKHILL
GREENWOOD
Reed Ditch
AUGUSTA
Hudson Ditch
LAKEWOOD
Feeder Canal
SABIN
RUTH
GOWER
RUBY RUN
STONE RIDGE
INDUSTRY
TALLMADGE
CURTIS
PINE KELLY
HOMESTEAD
HERON CREEK
BILTZ
KLINE
KABRY
SPLETZER
BOWER
Barrel Run
OLD FORGE
STATE RT 44
SANFORD
Feeder Canal
JOHNNY CAKE
HARTVILLE
SAXE
WILKES
0 0.375 0.75 1.5 Miles
Date: 2/6/2014
Data Source: Portage County GIS and Combined Health District
Rootstown Suspected Discharging HSTS
Rootstown Hydro
Rootstown Roads
Rootstown Township

HSTS Inspections

The Storm Water Program staff continued the routine random inspection of the 3500 suspected discharging HSTSs in our database, to detect and eliminate illicit discharges. One thousand two hundred and ninety-six (1296) of these systems are confirmed off-lot discharging systems inspected annually by PCCGHD or private service providers. Sixty (60) out of about three hundred (300) off-lot discharging systems inspected by PCCGHD were found to be non-complaint. Letters were sent to the owners to ratify the problems which are quite often associated with electrical and system motor issues. The table below is a summary of off-lot system inspection activities.

Table 4

Township	System in Annual Inspection	Non Compliant Systems	Number of Problems Fixed	Number of Problems Pending
Atwater	9	2	2	0
Aurora	Not Part of the Program			
Brimfield	14	5	1	4
Charlestown	23	7	4	3
Deerfield	26	9	7	2
Edinburg	11	3	1	2
Franklin	5	2	2	0
Freedom	22	5	2	3
Hiram	6	1	1	0
Mantua	24	2	1	1
Nelson	10	1	1	0
Palmyra	18	2	0	2
Paris	14	3	0	3
Randolph	8	0	0	0
Ravenna	31	6	1	5
Rootstown	21	4	1	3
Shalersville	12	2	1	1
Streetsboro	Not Part of the Program			
Suffield	13	2	0	2
Windham	24	4	4	0
Total	**291**	**60**	**29**	**31**

The remaining suspected discharging systems (2160) that are not in the annual inspection program are routinely inspected randomly. During storm water inspection of these systems, a suspected illicit discharging HSTS such as a filterbed 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 the Storm Water GIS database. When discharging HSTSs are determined to be illicitly discharging wastewater, the owners are offered six (6) months limit upon notification to

correct these violations by installing an approved HSTS in accordance with the PCCGHD Home Sewage Regulations in order to avoid legal enforcement through the court system.

The routine random storm water inspections conducted so far indicate that some communities are replete with overwhelming numbers of illicitly discharging HSTSs. These systems are completely failing or do not meet current Federal Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) standards. We are working with some of the residents of these communities who have expressed a desire to get sewer systems to achieve their objective. This collaboration is yielding positive results; and support from the Engineer's office, the Water Resources Department, and the County Commissioner's Office have directed the Water Resources Department to initiate feasibility studies of providing sanitary sewer service for Oakwood Acres in Brimfield Township, Lynwood Drive in Brimfield, and Bryn Mawr Street and Seabury Drive in Ravenna Township.

In addition to the nuisance complaints, annual inspection program, and routine random storm water inspections, we also performed point of sale inspections of HSTSs upon request. The enforcement is the same as dealing with illicit discharges found during a storm water routine inspection. The owners of illicit discharging HSTSs found during point of sale inspections are given six (6) months limit from the date we serve them notice to correct these violations. Homeowners are required to install an approved HSTS in accordance with the PCCGHD Home Sewage Regulations in order to avoid legal enforcement through court. It must be noted that PCCGHD does not stop the sales process when we determine the HSTS is causing a nuisance during a point of sale inspection despite the issuance of replacement/repair orders to enforce correction of the public health problem.

Education and Community Outreach

As part of our educational outreach, we have created a brochure and a flier offering a succinct explanation for the storm water program. Additionally, the brochure explains the importance of proper maintenance of a HSTS, and offers information on myths and facts about HSTSs. We gave homeowners copies of this brochure during inspections. We also notified them instantly 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. Furthermore, the PCCGHD health commissioner, environmental director, storm water supervisor and storm water specialists attended city, township and village public meetings and forums as part of our community outreach engagement whenever the opportunity presented itself.

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.*

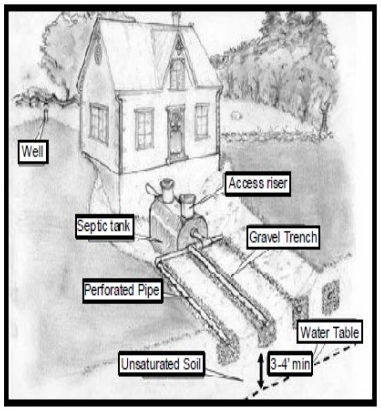
MYTH: *Septic system additives will help grow the bacteria needed and take the place of having the septic tank pumped regularly.*

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.*

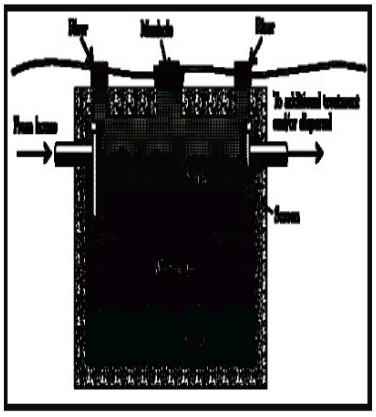
MYTH: *Household chemicals, such as disinfectants, medicines, paint thinner, water softener brine, etc. are not harmful to a septic system.*

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

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

The Portage County Health District is conducting an EPA-mandated storm-water 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

For more information please visit 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.

Microbiological Sampling

The PCCGHD storm water program performed microbiological sampling of roadside ditches and catch basins to detect and eliminate illicit discharges in prioritized areas of the county. These areas were selected based on the number of nuisance complaints received or a high concentration of suspected illicit discharging HSTSs in an area based on the suspected illicit discharging HSTS maps shown above. In most cases we took the samples during a dry weather period of 72 hours to avoid precipitation wash off or dilution of water in drainage ways.

We sampled fifty-two (52) roadside ditches and catch basins for E. coli contamination across the PCCGHD storm water program jurisdiction. We took these microbiological water samples from nine (9) townships of the county as weather permitted. Initially, we intended taking four samples from each township or village in the program. However, the uncooperative inclement weather conditions, time constraints, and difficulty in accessing the water source from acceptable locations made it difficult for us to achieve our overall goal. In 2014, we will give earliest attention to the areas that we could not sample in 2013, if they are accessible.

The laboratory results determined that twenty-six (26) of the samples, representing 50% of the total collected, exceeded the acceptable E. coli colony count of 1030 MPN/100mL NPDES permit limit for secondary contact. The remaining twenty-six (26), 50% were within the satisfactory limits. With this information, the areas exceeding the acceptable E. coli count limits will receive prioritized attention to detect and eliminate the source of the contamination to prevent public health hazards during future endeavors. Table 5 offers a summary of the microbiological sampling of roadside ditches.

Table 5

Ditch E. coli Sampling			
CTV	**Date Sampled**	**Location**	**MPN Value**
Atwater	10/11/2013	1886 St Rt. 183, Roadside Ditch	23,000
Atwater	10/11/2013	5815 Moff Rd, Roadside Ditch	13,000
Atwater	10/11/2013	1695 Stroup Rd, Roadside Ditch	3,200
Atwater	10/11/2013	Stroup Rd, Roadside Ditch	600
Atwater	10/11/2013	2019 Stroup, Roadside Ditch	200
Atwater	10/11/2013	Across 2374 Stroup Rd, Roadside Ditch	20
Atwater	10/11/2013	Intersc. St Rt. 224 & 183 Road Ditch	24,000
Brimfield	8/21/2013	4187 Lynwood Rd, Roadside ditch	28,000
Brimfield	8/21/2013	Inters. Lynwood Rd & Tallmadge Rd ditch	62
Brimfield	8/21/2013	4157 Lynwood Rd, Roadside ditch	83,000
Brimfield	8/21/2013	4188 Lynwood Rd, Roadside ditch	1,100
Brimfield	10/15/2013	4957 Sherman Wood, Roadside Ditch	1,300
Brimfield	10/15/2013	4145 Estes Dr Catch Basin	63
Brimfield	10/15/2013	5000 Sherman Dr, Roadside Ditch	740
Brimfield	10/15/2013	4958 Sherman Wood Dr. Roadside Ditch	200,000
Brimfield	10/15/2013	4177 Sherman Rd, Roadside Ditch	63

Brimfield	10/15/2013	4187 Sherman Rd, Roadside Ditch	200
Brimfield	10/15/2013	4073 Sherman Rd, Roadside Ditch	5000
Brimfield	10/15/2013	41333 Sherman Rd, Roadside Ditch	28,000
Franklin	12/20/2013	Brady Lake Park, Roadside Ditch	370
Franklin	12/26/2013	Glad Blvd, Roadside Ditch	171.0
Franklin	12/26/2013	5646 Horning rd, Roadside Ditch	10
Freedom	8/19/2013	10304 Limeridge Rd, Roadside Ditch	20
Freedom	8/19/2013	10319 Limeridge Rd, Roadside Ditch	100
Freedom	8/19/2013	6101 Streeter Rd, Roadside Ditch	12,000,000
Freedom	8/19/2013	6361 Streeter Rd, Roadside Ditch	20,000
Palmyra	8/15/2013	3974 St Rt. 225 Roadside Ditch	20
Palmyra	8/15/2013	9033 Tallmadge Rd, Roadside Ditch	4,400
Palmyra	8/15/2013	9302 Tallmadge Rd, Roadside Ditch	3,300
Palmyra	8/15/2013	9049 Tallmadge Rd, Roadside Ditch	1,200
Palmyra	8/15/2013	Bridge near 9454 &9470 Tallmadge Rd	240,000
Palmyra	8/15/2013	10372 Tallmadge Rd, Roadside Ditch	2,200
Randolph	12/20/2013	2596 Ranfield Rd, Roadside Ditch	110
Randolph	12/20/2013	2607 Ranfield Rd, Roadside Ditch	41
Randolph	12/22/2013	2281 Randolph Road, Roadside Ditch	540
Randolph	12/20/2013	3323 Randolph Road, Roadside Ditch	1,500
Randolph	12/20/2013	2638 Randolph Road, Roadside Ditch	10
Randolph	12/20/2013	2990 Randolph Road, Roadside Ditch	20
Randolph	12/20/2013	2989 Randolph Road, Roadside Ditch	20
Ravenna	12/20/2013	6436 Red Brush Rd, Roadside Ditch	48,000
Ravenna	9/29/2012	6763 Red Brush, Roadside Ditch	2900
Rootstown	10/29/2013	Across 3616 St Rt. 44, Roadside Ditch	520
Rootstown	10/29/2013	3307 St Rt. 44, Roadside Ditch	1,600
Rootstown	10/29/2013	3776 St Rt. 44, Roadside Ditch	10
Rootstown	10/29/2013	2984 Hartville, Rd, Roadside Ditch	52
Rootstown	10/29/2013	4092 New Milford Rd, Roadside Ditch	8,700
Rootstown	10/29/2013	4189 New Milford Rd, Roadside Ditch	10
Rootstown	8/22/2013	5090 Prospect Rd, Roadside Ditch	200
Rootstown	8/22/2013	3905 St Rt. 44, Roadside Ditch	2,700
Suffield	9/9/2013	1704 Congress Lake Rd, Roadside Ditch	2,300
Suffield	9/9/2013	1255 Inglewood Dr, Roadside Ditch	340
Suffield	9/9/2013	1699 Congress Lake Rd, Roadside Ditch	3,300

Micro Biochemical Sampling

PCCGHD staff also performed micro biochemical sampling of rivers, creeks, and tributaries to detect any biochemical activity indicative of water contamination or illicit discharging in the county. Sampling locations were largely selected from areas downstream or adjacent to higher concentrations of residential homes, commercial, or agricultural land use where and when water was accessible. Overall, we took eighty-two (82) samples from sixteen (16) townships and villages during the year.

The laboratory test results found that eight (8) of the samples exceeded the acceptable E.coli colony count of 1030 MPN/100mL NPDES permit limit for secondary contact. Four out of those samples had elevated total suspended solids (TSS) as well. This understandably seems to suggest correlation between high levels of E. coli colony count and TSS in these samples. In those results where higher TSS levels did not show a correlation with higher values of other tested biochemical parameters, it is suspected they may have resulted from stream disturbances caused during the sampling process.

Furthermore, phosphorous levels exceeded the not-uncommon level of 1.0mg/L for agricultural areas in only two samples, both of which correlated with high E. coli values. Only one of the sample results for total dissolved solids (TDS) exceeded the 1500mg/L standard and this also correlated to a high E. coli value. Only one sample result for carbonaceous biochemical oxygen demand (CBOD) exceeded the 15mg/L NPDES standard for direct discharge, and this reasonably correlated to the highest E. coli value as well as elevated TSS and phosphorous levels.

The results also determined that only one sample result for nitrate/nitrite exceeded the 10mg/L limit for drinking water. This sample's pH value was highly acidic. In addition to this sample, one other yielded highly acidic pH, but in that sample no other parameters were outside acceptable limits. The laboratory results also indicated that none of the samples showed values outside of the acceptable ranges for ammonia, fluoride, hardness, or potassium. We will prioritize rivers, creeks, and tributaries that have poor sample results and give them special attention. This will help the PCCGHD to determine the cause and source of the problems as well as find sustainable measures to eliminate and prevent future occurrences. A table showing the detail results of the sampling is found in *Appendix* A.

Storm Water Task Force Meeting

The Health Commissioner, the Director of Environmental Health, the Storm Water Supervisor and the Registered Sanitarian managing the Storm Water Program attended quarterly Portage County Storm Water Task Force meetings. At these meetings, the PCCGHD presented a written summary of the statistics of inspections, consultations, and correspondence concerning the Storm Water Illicit Discharge Program. Table 6 below shows a summary of 2013 storm water/illicit discharge program activities. The table shows the inspections, dye testing, microbiological (E. coli) and micro biochemical 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.

Table 6

STORM WATER/ILLICIT DISCHARGE PROGRAM ACTIVITIES												
ANNUAL 2013	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
TOWNSHIPS												
Atwater	20	6	7	0	0	0	0	0	0	31	10	74
Brimfield	88	62	10	9	9	0	2	2	0	65	24	271
Charlestown	1	0	0	0	0	0	0	0	0	1	0	2
Deerfield	26	31	4	6	6	0	2	2	1	46	34	158
Edinburg	8	11	1	1	1	0	0	0	0	18	5	45
Franklin	41	10	7	1	1	0	0	0	0	18	15	93
Freedom	16	10	0	0	0	0	0	0	0	12	2	40
Hiram	6	5	0	2	2	0	0	0	0	7	4	26
Mantua	16	6	2	0	0	0	0	0	0	44	17	85
Nelson	2	1	0	0	0	0	0	0	0	3	2	8
Palmyra	26	14	0	5	5	0	0	0	0	36	19	105
Paris	10	4	0	2	2	0	0	0	0	12	6	36
Randolph	22	7	3	0	0	0	0	0	0	5	4	41
Ravenna	66	64	6	4	4	0	3	3	0	52	32	234
Rootstown	31	16	2	6	6	0	0	0	0	35	6	102
Shalersville	19	23	3	6	6	0	0	0	0	27	11	95
Suffield	19	14	3	4	4	0	0	0	0	42	24	110
Windham	15	14	2	2	2	0	0	0	0	19	0	54
General	26	55	8	0	0	0	1	1	0	58	54	203
Township Totals	458	353	58	48	48	0	8	8	1	531	269	1,782
CITIES/VILLAGES												
*Aurora	24	27	3	5	5	0	3	3	0	34	45	149
Brady Lake	0	0	0	0	0	0	0	0	0	0	0	0
Garrettsville	0	2	0	0	0	0	0	0	0	9	0	11
Hiram Village	0	0	0	0	0	0	0	0	0	0	0	0
Mantua Village	0	0	0	0	0	0	0	0	0	0	0	0
Mogadore	0	0	0	0	0	0	0	0	0	0	0	0
*Streetsboro	1	0	0	0	0	0	0	0	0	5	0	6
Sugar Bush Knoll	0	0	0	0	0	0	0	0	0	0	0	0
Windham Village	1	2	0	0	0	0	0	0	0	0	4	7
Cities/Villages T	26	31	3	5	5	0	3	3	0	48	49	173

TOTAL INSP	484
TOTAL TELE	579
OFFICE: CON/R	384
OFFICE: GIS & D	61
FIELD RESEAR(	318
TOTAL CON	448
OVERALL TOTA	2274

PCCGHD recognizes that there are also many illicit discharging sewage systems without any permit on file, in addition to other illicit discharges which are from non-sewage sources. Both types will be dealt with when discovered in the future.

Appendix A

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Name	Sample Point	Stream	TSS (mg/L)	Ammonia (mg/L)	E.Coli (MPN/100 mL)	CBOD (mg/L)	Fluoride (mg/L)	Hardness (mg/L)	Nitrate/Nitrite (mg/L)	pH (S.U.)	Phosphorus (mg/L)	TDS (mg/L)	Potassium (mg/L)
2	ATW-1	W. side of Stroup Rd., 0.5 mi. S. of Waterloo Rd.	Unnamed Trib. Of Mahoning R.	6.2	0.99	40	2.83	0.198	220	0.37	7.7	0.06	340	4.3
3	ATW-2	SR 183, just S. of SR224	Unnamed Trib. Of Mahoning R.	11.6	0.34	41	2.09	0.145	140	0.19	7	0.18	300	6.3
4	ATW-3	Alliance Rd., N. of SR224	Willow Cr.	250	ND	47.6	ND	0.142	180	0.19	7.5	0.39	340	6.4
5	ATW-4	Stroup Rd., at #1502	Unnamed Trib. Of Mahoning R.	4.2	0.32	260	2.53	0.192	200	0.92	7.4	0.07	380	6.6
6	ATW-5	W. side of Industry Rd. at #1045	Unnamed Trib. Of Mahoning R.	4.6	0.63	290	1.96	0.191	250	1.14	7.6	0.06	410	3.8
7	BRI-2	S. side of Lynn Rd., between Lakewood & Sandy Lake	Fedder Canal	42	0.41	240	2.28	0.141	200	0.2	7.1	1	390	8
8	BRI-4	Old Forge Rd., between Congress Lk. & Randfield Rd.	Morrow Ditch	6.4	0.53	140	2.47	0.104	100	0.46	7.1	0.06	250	4.3
9	BRI-5	N. side of Howe Rd., just E. of Sunnybrook Rd.	Plum Cr.	60	0.96	320	2.3	0.141	210	0.21	7.7	0.13	390	3.6
10	BRI-6	Tallmadge Rd., just E. of Sunnybrook Rd.	Plum Cr.	175.2	1.14	52	2.06	0.158	190	0.18	7.6	0.18	330	3.3
11	BRI-7	Sunnybrook Rd., 0.5 mi. S. of Howe Rd.	Unnamed Trib. Of Plum Cr.	3.8	0.54	620	2.09	0.149	200	0.45	7.9	0.13	420	2.9
12	CHA-1	N. side of SR 5, W. of drive at #6175	Hinckley Cr.	1.6	0.1	68	1.68	0.153	310	<0.1	7.9	<0.04	600	2.3
13	DEE-2	Notman Rd., S. of SR 14	Unnamed Trib. Of Willow Cr.	2	ND	395.2	ND	0.155	210	1.53	7.7	0.2	420	5.8
14	DEE-3	SR 224, just E. of Notman Rd.	Unnamed Trib. Of Willow Cr.	49	ND	44	ND	0.168	190	0.19	7.5	0.13	410	5.7
15	DEE-4	Yale Rd., just E. of #9661	Unnamed Trib. Of Willow Cr.	1200	ND	285.6	2	0.191	160	0.19	7.5	0.57	490	7.4
16	DEE-5	McClintocksburg Rd., N. of Mottown Rd.	Unnamed Trib. Of Mahoning R.	12	ND	58	ND	0.181	88	0.74	7.5	0.06	170	3.2
17	DEE-6	Yale Rd., just E. of #9554	Unnamed Trib. Of Mahoning R.	890	ND	180	ND	0.133	150	0.22	7.4	0.12	380	5.4
18	DEE-7	Mahoning Rd., just S. of Woodard Rd.	Unnamed Trib. Of Mahoning R.	410	ND	59.2	2.1	0.151	160	0.28	7.5	0.15	250	5.3
19	EDI-1	N. side of Tallmadge Rd., at #5600	Barrel Run	78	ND	620	ND	0.157	180	0.64	7.6	0.31	280	7.4
20	EDI-2	S. side of Giddings Rd., just E. of Industry Rd.	Barrel Run	11	ND	200	2.5	0.158	130	0.85	7.4	0.14	240	7.3
21	EDI-3	E. side of Rockspring Rd., just N. of Tallmadge Rd.	Unnamed Trib. Of W. Br. Res.	672	1.02	470,000	91.78	0.401	250	1.35	7.4	1.26	920	7.1
22	EDI-4	W. side of Porter Rd., just S. of Tallmadge Rd.	Unnamed Trib. Of W. Br. Res.	400	1.15	34,000	12.66	0.174	280	0.37	7.6	2.84	380	10
23	EDI-5	S. side of Tallmadge Rd., between Alliance & Porter	Silver Cr.	198	0.04	400	3.27	0.155	120	57.2	2	0.29	370	4.8
24	EDI-6	N. side of Booth Rd., just W. of Rockspring Rd.	Unnamed Trib. Of W. Br. Res.	44.8	0.34	120	2.21	0.181	280	0.54	8.2	0.1	550	4.2
25	FRE-1	E. side of King Rd.	Unnamed Trib. Of Mahoning R.	1.1	0.11	155	2.37	0.127	98	0.18	7.6	0.04	190	3.1
26	FRE-2	E. side of Freedom Rd.	Hinckley Cr.	1.87	0.03	470	2.01	0.139	120	0.58	7.6	0.07	270	2.5
27	FRE-3	E. side of Slagle Rd., between SR 303 and Smalley	South Fork Eagle Creek	15.33	0.07	400	2.34	0.127	130	0.06	7.8	0.06	190	3.2
28	FRE-4	E. side of Slagle Rd., just S. of Turnpike	South Fork Eagle Creek	3.33	0.02	20	2.5	0.17	260	0.08	7.9	0.06	690	3
29	HIR-1	Hankee Rd., just W. of SR 700	Unnamed Trib. Of Eagle Cr.	3.07	0.01	1,400	2.11	0.182	280	1.86	8	0.07	2100	4.3
30	HIR-2	SR 82, just E. of Rolling Meadow Dr.	Silver Cr.	6.93	0	390	1.94	0.132	160	0.76	7.8	0.08	280	2.2
31	HIR-3	Pioneer Tr., just E. of Limeridge Rd.	Unnamed Trib. Of Eagle Cr.	79.6	0	26	3.01	0.123	120	1.05	7.7	0.05	160	<2.0
32	HIR-4	Winchell Rd., just E. of Washburn Rd.	Cuyahoga R.	5.6	0.03	66	2.13	0.111	140	2.93	7.6	0.05	290	2.4
33	HIR-5	Norton Rd., just E. of SR 700	Silver Cr.	6.6	0.01	95	1.54	0.108	130	0.46	7.6	0.06	220	2.4
34	MAN-1	E. side of SR 44	Cuyahoga R.	79.6	0.02	10	3.2	0.137	180	1.42	7.3	0.3	380	2.5
35	MAN-2	S. side of Wayne Rd.	Herbert Ditch	1.6	0.04	5	2.38	0.111	120	0.72	7.6	0.06	220	2
36	MAN-3	N. side of Winchell Rd.	Black Brook	1.8	0.04	43	2.26	0.136	240	0.51	7.8	0.04	360	2.4
37	MAN-4	SR 82, just W. of Vaughn Rd.	Cuyahoga R.	5.2	0.01	30	1.94	0.109	120	0.34	7.6	0.06	260	2.6
38	NEL-1	N. side of Bancroft Rd.	Grand R.	4.4	2.13	640	1.68	0.161	85	0.96	7.4	0.1	250	2.4
39	NEL-2	N. side of Kennedy Ledge Rd.	Grand R.	2.4	0.33	67	2.26	0.119	81	<0.1	7.3	<0.04	180	2.6
40	NEL-3	E. side of Nicholson Rd.	Tinkers Cr.	2.8	0.23	200	2.03	0.131	140	0.36	7.7	0.32	290	2.6
41	NEL-4	S. side of Silica Sand Rd., across from #9645	? Ditch	4.8	0.27	<5	1.92	0.197	190	2.04	7.6	0.04	470	<2.0
42	PAL-1	S. side of Whippoorwill Rd., just W. of Jones Rd.	Unnamed Trib. Of Kale Cr.	83.6	0.13	100	2.19	0.17	180	<0.1	7.8	0.08	390	5.5
43	PAL-2	N. side of Tallmadge Rd., just W. of Jones Rd.	Kale Cr.	85.6	0.24	1	<2	0.172	140	0.25	7.6	0.13	330	5.3
44	PAL-3	Williams Rd., just E. of SR 225	Unnamed Trib. Of Kale Cr.	70	0.03	<20	3.02	0.154	160	0.73	7.5	0.06	300	6.3
45	PAL-4	Yale Rd., just E. of SR 225	Unnamed Trib. Of Kale Cr.	32.8	0.29	<100	2.21	0.135	120	1.71	2.2	0.55	440	5.5
46	PAL-5	SR 225, just N. of Yale Rd.	Unnamed Trib. Of Kale Cr.	23.8	0.08	520	1.82	0.134	200	0.19	7.7	0.15	410	5.4
47	PAR-1	S. side of drive at 10165 Newton Falls Rd.	Outlet of Spring Sunshine Lake	4.8	0.14	<10	2.36	0.181	140	0.85	7.9	<0.04	390	4.9
48	PAR-2	N. side of McClintocksburg Rd., just N. of #6145	Unnamed Trib. Of Mahoning R.	4	0.19	2,100	5.81	0.197	190	<0.1	8	0.05	410	4.8
49	PAR-3	N. side of Gilbert Rd., between Windham & McClint.	Unnamed Trib. Of Mahoning R.	58	0.26	150	4.24	0.188	250	1.35	7.8	0.08	390	5.2
50	PAR-4	W. side of Windham Rd., N. of Gilbert	Mahoning R.	34.4	0.11	81	4.56	0.16	110	0.1	7.8	<0.04	210	3.3
51	PAR-5	E. side of Windham Rd., N. of Griffith	Unnamed Trib. Of Mahoning R.	18.4	0.12	1,400	2.13	0.189	250	<0.1	7.9	<0.04	460	6.4
52	PAR-6	S. side of Cable Line Rd. at #9058	Unnamed Trib. Of Mahoning R.	27.2	0.14	240	2.73	0.196	210	0.12	7.9	<0.04	360	4.7
53	RAN-1	New Milford Rd., just S. of Wilkes Rd.	Unnamed Trib. Of Potter Cr.	6	ND	130	ND	0.143	150	0.41	7.1	0.11	230	4
54	RAN-10	S. side of Laubert Rd., E. of #3462	Congress Lake Outlet	ND	ND	320	ND	0.164	230	1.37	7.7	0.11	340	4.1

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
55	RAN-2	E. side of New Milford Rd., just N. of Bassett Rd.	Unnamed Trib. Of Potter Cr.	ND	ND	330	ND	0.163	160	0.77	7.9	0.12	260	4.2
56	RAN-3	E. side of Ranfield Rd., W. of SR 44	Congress Lake Outlet	ND	ND	510	ND	0.144	170	1.36	7.3	0.09	290	4
57	RAN-4	E. side of Hartville Rd., just N. of Bassett Rd.	Unnamed Trib. Of Potter Cr.	500	ND	3,500	3.1	0.161	140	0.78	7.8	0.28	220	6.7
58	RAN-5	Johnnycake Rd., just N. of Hartville Rd.	Potter Cr.	4	ND	390	ND	0.159	190	1.61	7.8	0.15	310	5.2
59	RAN-6	Hartville Rd., just N. of Randolph Rd.	Potter Cr.	11	ND	440	ND	0.165	220	2.46	7.6	0.12	340	4.3
60	RAN-7	Waterloo Rd., W. of SR 44	Congress Lake Outlet	ND	ND	230	ND	0.166	240	1.65	7.6	0.09	350	3.7
61	RAN-8	Hartville Rd., N. of Eberly, at #1250	Unnamed Trib. Of Congress Lk. O.	12	ND	120	ND	0.134	220	1.02	7.6	0.16	370	3.1
62	RAN-9	S. side of Laubert Rd., E. of Hartville Rd.	Congress Lake Outlet	64	ND	560	ND	0.157	290	4.71	7.3	0.13	400	2.7
63	ROO-1	E. side of New Milford Rd., just S. of Greenwood Rd.	Unnamed Trib. Of Breakneck Cr.	8	0.61	830	1.88	0.159	190	0.8	7.6	0.06	380	4
64	ROO-2	N. side of Tallmadge Rd., just W. of Biltz Rd.	Breakneck Cr.	5	0.9	160	2.57	0.162	240	0.69	7.7	0.08	350	6
65	ROO-3	Tallmadge Rd., between Rootstown Rd. & Kline Rd.	Hudson R.	9.4	0.41	920	2.43	0.155	180	1.76	7.4	0.07	300	3.2
66	SHA-1	W. side of Diagonal Rd.	Unnamed Trib. Of Cuyahoga R.	6	0.17	<20	2.17	0.21	140	1.56	7.6	0.18	940	5.3
67	SHA-2	S. side of Frost Rd.	Unnamed Trib. Of Cuyahoga R.	7.6	0.23	150	1.87	0.211	140	2.92	7.3	0.08	270	5
68	SHA-3	S. side of SR 303	Mahoning R.	2	0.22	67	1.55	0.2	130	1.09	7.6	0.05	380	5.3
69	SHA-4	W. side of SR 44	Harper Ditch	2.6	0.1	100	<2	0.134	100	0.13	7.4	0.04	220	2.9
70	SHA-5	S. side of Lake Rockwell Rd.	Ravenswood Golf Course Ditch	5	0.09	<20	2.82	0.137	80	0.43	7.4	0.08	180	3.2
71	SUF-1	Martin Rd., just S. of Sunnybrook Rd.	Mogadore Res. Outlet	91	ND	400	3.8	0.13	220	0.24	7.5	0.51	250	3.2
72	SUF-2	Congress Lake Rd., N. of Randolph Rd.	Unnamed Trib. Of Mogadore Res.	140	ND	960	2.6	0.132	230	1.23	7.7	0.26	330	2.8
73	SUF-4	E. side of Martin Rd., at Etter Rd.	Fox Ditch	ND	ND	150	ND	0.138	320	1.15	7.7	0.09	440	2.2
74	SUF-5	Congress Lake Rd., just S. of Waterloo Rd.	Unnamed Trib. Of Potter Cr.	190	ND	6,500	ND	0.1	140	3.86	7.1	0.67	260	4.5
75	SUF-6	Canfield Rd., just E. of May Rd.	Potter Cr.	20	ND	4,400	ND	0.139	220	1.37	7.8	0.33	330	5.6
76	WIN-1	W. side of Parkman, just S. of SR 82	Unnamed Trib.	2.8	0.02	190	2.45	0.137	160	0.2	7.8	0.05	280	2.5
77	WIN-2	W. side of Stanley Rd., just S. of Werger Rd.	Unnamed Trib.	263.2	0.02	410	2.48	0.148	180	0.22	7.8	0.06	320	2.7
78	WIN-3	E. side of Parkman Rd., 0.5 mi. N. of SR 82	Unnamed Trib.	10	0.02	980	2.85	0.138	160	0.48	7.8	0.05	290	2.7
79	WIN-4	Silica Sand Rd., just E. of Parkman Rd.	? Ditch	7.2	0.02	350	2.65	0.13	160	0.69	7.9	0.07	290	3.1
80	WIN-5	Silica Sand Rd., just W. of Colton Rd.	? Creek	4.93	0.04	420	2.67	0.142	160	0.52	7.7	0.06	270	2.7
81	WIN-6	S. side of SR 82, just W. of Colton Rd.	Unnamed Trib.	4.3	0.01	290	2.35	0.159	150	0.58	7.5	0.04	250	2.1
82	WIN-7	SR 82, just W. of Horn Rd.	Unnamed Trib.	22.8	0.04	170	2.38	0.216	150	0.38	7.5	0.81	470	3.2
83	WIN-8	N. side of Gotham Rd., just W. of Stanley Rd.	Unnamed Trib.	19.2	0.02	160	2.63	0.184	140	1.36	7.7	0.24	540	3.8