

PORTAGE COUNTY HEALTH DISTRICT



STORM WATER PROGRAM

2016 ILLICIT DISCHARGE DETECTION AND ELIMINATION ANNUAL REPORT



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Introduction

The Portage County Board of Commissioners (BOC) contracts with the Portage County Combined General Health District (PCHD) to implement the Portage County Storm Water District's Minimum Control Measure (MCM) # 3 - Illicit Discharge Detection and Elimination (IDDE) in accordance with the Portage County National Pollution Discharge Elimination System (NPDES) permit requirements and the Portage County Storm Water District's goals to achieve sustainable water quality throughout Portage County.

PCHD is pleased to share the 2016 action plan, implementation activities, achievements, and challenges of the Storm Water Program in this *2016 Illicit Discharge Detection and Elimination (IDDE) Annual Report*. This report is a component of the Portage County Storm Water District's annual report submission to the Ohio Environmental Protection Agency (Ohio EPA).

2016 Action Plan

The Health District's 2016 Storm Water Action Plan is based on, but not limited to the scope of services outlined in the Portage County Storm Water Program contractual agreement between the PCHD and the BOC for storm water services:

1. Ensure compliance with Resolution No. 09-0836 (prohibits the connection to or continued connection of illicit discharges to the Portage County Municipal Separate Storm Sewer System (MS4).
2. Ensure that the PCHD Storm Water Program has adequately trained staff to identify failing household sewage treatment systems (STS) and detect illicit discharges. Training may include the use of sampling and mapping equipment for water quality testing, Global Positioning System (GPS) units for data collection and Geographical Information System (GIS) software for mapping purposes. Staffs will be trained about the Ohio Department of Health's design requirements for STSs and the Ohio Revised Code (ORC) requirements to determine a public health nuisance.
3. Work with partners involved in the Storm Water District's program: Portage County Board of Commissioners (BOC), Portage County Engineer's Office (PCEO), Portage County Soil and Water Conservation District (SWCD). In addition, build on the healthy working relationships with townships, villages, and the citizens to ensure the Storm Water District's success.
4. Assess, organize, and investigate potential illicit discharges throughout Portage County.
5. Evaluate the PCHD STS files, document potential failing STSs and compile information received from villages, townships, county engineer, SWCD, and/or the general public.

6. Update the existing database of suspected and reported illicit discharges to be utilized in the execution of field work, documentation and reporting.
7. Conduct field inspections to identify, evaluate, and confirm failed and illicit discharging systems through random inspections and voluntary property transfer inspections. Issue notices of violation, as necessary, to obtain compliance and abatement.
8. Conduct public educational outreach through distribution of educational materials and performing outreach to inform citizens about the impacts polluted storm runoff can have on water quality.
9. Accept, record, and compile sewage nuisance complaints from villages, townships, government entities, and residents. Investigate complaints, perform dye testing and/or dry weather screening to verify public health nuisances and illicit discharges. Issue notices of violation, as necessary, to obtain compliance.
10. Gather information from SWCD, townships and Ohio EPA regarding discharges that were not from STS.
11. Assist SWCD (when requested) to train village, township, and municipal employees and develop educational materials, public announcements, and information for homeowners.
12. Conduct field inspections to identify and evaluate outfall points, sampling and testing for storm water contamination.
13. Update failing and suspected illicit discharging STS maps.
14. Field verify, screen, and update storm water outfall points database then update maps accordingly.
15. Attend quarterly Portage County Storm Water Program Task Force meetings. Provide quarterly statistical reporting of inspections, consultations and sampling.
16. Compile the 2016 PCHD Storm Water Program annual report for all stakeholders.

Notable Achievements

In pursuance of the Storm Water Program's 2016 action plan for illicit discharge detection and elimination (IDDE) in Portage County's townships and villages, Storm Water Program staff rigorously built upon the 2015 action plan towards achieving the long term objective of sustainable water quality. The PCHD staff continued to enhance the healthy working relationships with townships, villages, County Engineer's office, Water Resources Department, SWCD and the citizenry to achieve our storm water goals. In particular, the Storm water and waste water program staff:

- eliminated 852 public health nuisances between 2010 and 2016 by eliminating malfunction household sewage treatments systems public health nuisances by the repair, replacement or connection to sanitary sewer;
- completed all MS4 outfall verifications and dry-weather screening activities;
- applied for and successfully received \$300,000 in financial assistance for low-to-moderate income homeowners from the 2016 Water pollution Control Loan Program for the repair and/or replacement of household sewage treatment systems.

Personnel Changes

In 2016, the Storm Water Program made a number of personnel changes encompassing new staff additions and promotions. Amos Sarfo, a storm water specialist with the program for the past five years, was promoted to the Storm Water Program Supervisor. Sarfo is responsible for establishing the program goals and objectives, assessing the IDDE data base, tracking the IDDE field verification and dry weather screening activities, and updating the stormwater maps.

Lindsey Smith was hired to implement and enforce the wastewater nuisance complaint program, conduct the voluntary real estate Point-of-Sale (POS) inspection, and perform storm water outfall verification, dry weather screening, and collect photo and geo-coordinate data. Daniel Robinson conducts storm water outfall verification, dry weather screening, and collects photo and geo-coordinate data. Both Smith and Robinson were instrumental in achieving the 2016 Storm Water Program goals and objectives.

Bridget Rinehart was hired as a Storm Water Clerk and is responsible for processing POS inspection reports, nuisance complaint investigation correspondence, STS data entry, illicit discharge service contract monitoring and homeowner notifications.

Chris Novelli was promoted to the Wastewater Program Supervisor position and is responsible for STS and private water systems (PWS) program oversight and provides direct assistance to homeowners to eliminate illicit discharging STS. Craig Davis, a Sanitarian-in-Training (SIT), a wastewater and private water system program inspector assists the storm water program by inspecting Class 1 aeration off-lot discharging STSs when a homeowner fails to provide the required operation and maintenance service agreement.

Suspected Sewage Treatment System Illicit Discharge & Detection Elimination

Suspected Illicit Discharging Household Sewage Treatment System (STS) Database

A database of suspected illicit discharging STS in the Storm Water District has been compiled for the implementation of the Storm Water Program's minimum control measure (MCM) #3 which requires

illicit discharging detection and elimination (IDDE) to ensure sustainable water quality. This database contains approximately 3,200 failed and suspected discharging HSTs and is updated as new information becomes available.

PCHD staff continued to maintain this database to detect and eliminate any of these suspected illicit discharging household sewage treatment system that is confirmed. One-thousand one-hundred nineteen (1,119) of these systems are confirmed non-National Pollutant Discharging Elimination System (NPDES) Class 1 off-lot discharging HSTs. The remaining Two-thousand one-hundred twenty-four (2,124) of these suspected discharging systems include systems such as discharging filter beds, leach/dry wells, and chemical tank systems which were acceptable technology and installed prior to 1997.

A summary of the total suspected discharges compiled per townships and villages in the county as of December 31, 2016 is found in Table 1 and graphically represented in Figure 1 below.

These systems are managed as component of the Health District's operation and maintenance program by one of three processes:

- Non-NPDES Class 1 Aeration Sewage Treatment System Inspections when homeowner fails to provide the required operation and maintenance service agreement;
- investigation upon receipt of a written nuisance compliance in accordance with Ohio Revised Code (OAC) 3718.011;
- identification during a voluntary Point-of-Sale real estate inspection; and
- storm water random inspection.

Any STS identified by these three processes that needs further evaluation is dye tested to determine whether the system is causing a public health nuisance in accordance with Ohio Revised 3718.011.

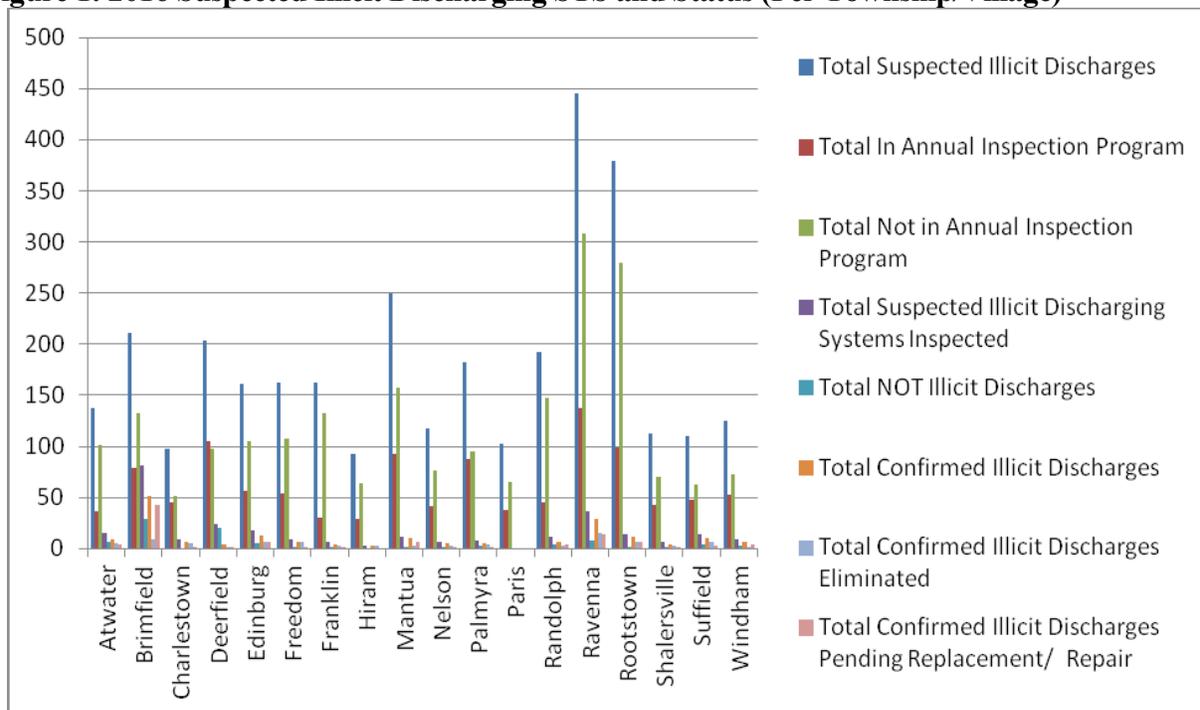
Additionally, PCHD conducted outfall verification inspections, dry weather screening and best management practices mapping. Any industrial, manufacturing or man-made discharges were referred to the appropriate agency for investigation including the Ohio EPA.

Table 1: 2016 Suspected Illicit Discharging STS and Status (Per Township/Village)

PORTAGE COUNTY								
2016 STORMWATER DISTRICT SUSPECTED ILLICIT DISCHARGE AND STATUS								
Township	Total Suspected Illicit Discharges	Total In Annual Inspection Program	Total Not in Annual Inspection Program	Total Suspected Illicit Discharging Systems Inspected	Total NOT Illicit Discharges	Total Confirmed Illicit Discharges	Total Confirmed Illicit Discharges Eliminated	Total Confirmed Illicit Discharges Pending Replacement/Repair
Atwater	138	37	101	15	6	9	5	4
Brimfield	211	79	132	81	29	52	9	43*
Charlestown	97	45	52	9	2	7	5	2
Deerfield	203	105	98	24	20	4	2	2
Edinburg	161	56	105	18	5	13	7	6
Freedom	162	54	108	9	2	7	6	1
Franklin	162	30	132	6	2	4	3	1
Hiram	93	29	64	3	0	3	3	0
Mantua	250	93	157	12	2	10	3	7
Nelson	117	41	76	6	1	5	3	2
Palmyra	182	87	95	8	3	5	4	1
Paris	103	38	65	0	0	0	0	0
Randolph	192	45	147	11	4	7	3	4
Ravenna	445	137	308	37	8	29	15	14
Rootstown	379	99	280	14	2	12	6	6
Shalersville	113	43	70	6	2	4	3	1
Suffield	110	48	62	14	4	10	7	3
Windham	125	53	72	9	3	6	2	4
Total	3243	1119	2124	282	93	187	86	101

* Brimfield has an extraordinary high number of total confirmed illicit discharging systems pending repair/replacement suspended enforcement due to on-going discussions of sewer project possibilities in some Brimfield communities.

Figure 1: 2016 Suspected Illicit Discharging STS and Status (Per Township/Village)



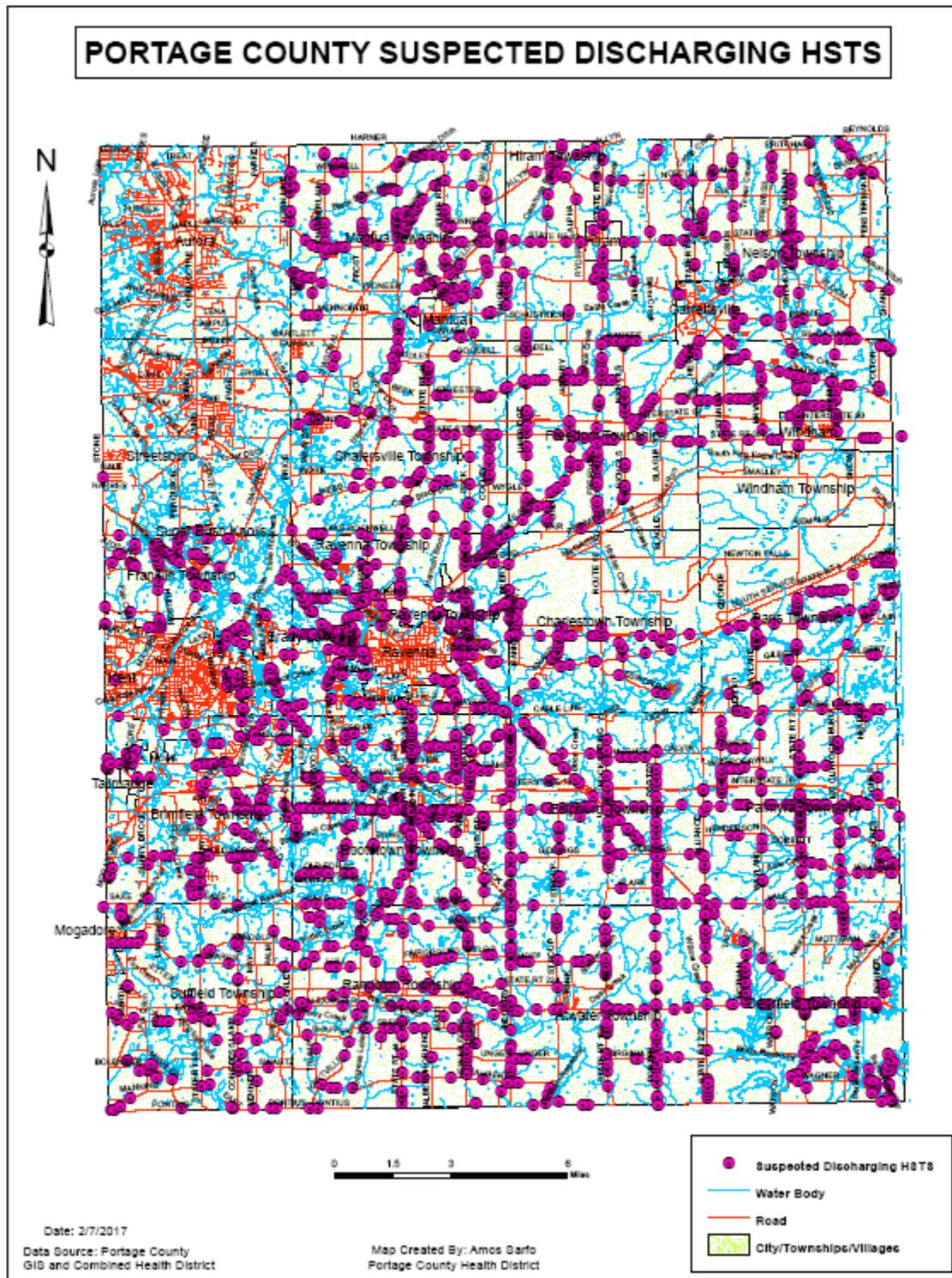
Maps of Suspected Illicit Discharging STS

In 2016, using *ESRI* Geographical Information System (GIS) software, Storm Water Program staff created maps depicting visual representations of the suspected discharging HSTSs distribution. PCHD.s Health District Information System (HDIS) database shows 852 HSTS replacements in the county, townships, and villages since 2010, which is linked mostly to the inception of the Storm Water Program and its enforcement activities.

Hydrolines (water bodies) and road features are overlaid on the maps to put the locations of the suspected discharging HSTSs in spatial context. The spatial relationship between the location of suspected illicit discharging HSTSs and water bodies helps to define illicit discharging point of entry into the waters of the state. Figure 3 below show the map of the suspected discharging HSTSs.

Going forward, this map will be updated as new information becomes available. During 2017, Portage County will map the 852 eliminated discharges in comparison to the water quality standards and attainment status of the five Portaged County watersheds.

Figure 2: Map of Spatial Distribution of 2016 Suspected Illicit Discharging STS



Sewage Treatment Systems Suspected Illicit Discharge & Detection Elimination Activities

Non-NPDES Class 1 Off-lot Discharging Aeration STS Inspection Activities

In 2016, one hundred nineteen (119) of these Class 1 off-lot discharging aeration HSTSs were inspected by PCHD because the homeowner failed to provide the required operation and maintenance service contract in accordance with the Ohio Administrative Code (OAC) 3701-29 and the Health District's Supplemental Sewage Treatment System regulations.

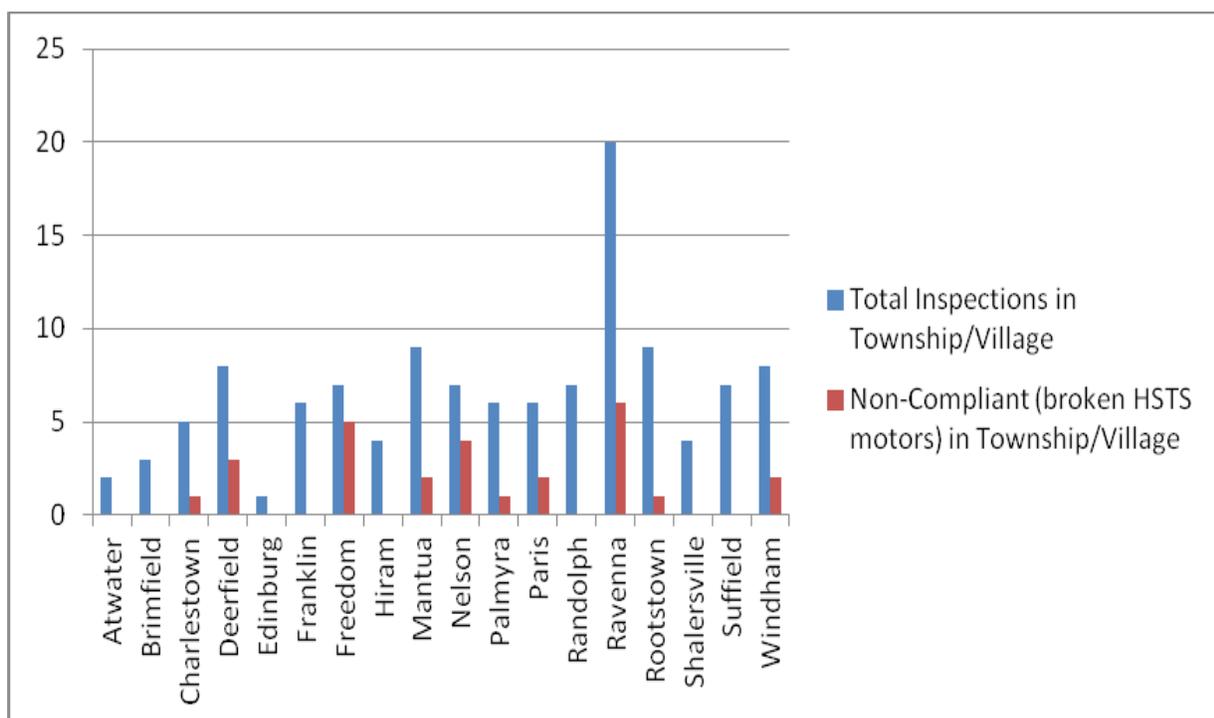
Twenty-seven (27), representing 22.69% of the one hundred nineteen (119) systems inspected, were found to be non-complaint (most having broken motors). Letters of violation and enforcement were sent to the owners to repair the systems. Table 2 provides a summary of off-lot discharging Class 1 Aeration STS system and the inspection results by township.

Table 2: 2016 Off-lot discharging Class 1 System Inspections and Outcomes

Township	Inspections by Township/Village	Non-Compliant outcome by Township/Village
Atwater	2	0
Brimfield	3	0
Charlestown	5	1
Deerfield	8	3
Edinburg	1	0
Franklin	6	0
Freedom	7	5
Hiram	4	0
Mantua	9	2
Nelson	7	4
Palmyra	6	1
Paris	6	2
Randolph	7	0
Ravenna	20	6
Rootstown	9	1
Shalersville	4	0
Suffield	7	0
Windham	8	2
Total	119	27

Figure 3 shows the graphical representation of inspection data of off-lot discharging STS without NPDES permits found in the townships and villages across Portage County as quantified in Table 2.

Figure 3: Graph of 2016 Non-NPDES Off-lot Discharging STS Inspections in Townships/Villages



Wastewater Nuisance Complaint Activities

Wastewater nuisance complaint investigations are one of the most effective tools employed by PCHD for illicit discharging detection and elimination. Consequently, all nuisance complaints received are investigated promptly. With homeowners and residents permission, STSs and laundry drains are dye tested or sampled to determine the validity of the complaint and determination of a public health nuisance. Figure 4 illustrates a dye test of a malfunction sewage treatment systems discharging to waters of the state.

When HSTSs are determined to be causing a public health nuisance the staff issues a written notice of violation (NOV). Owners are given sixty (60) days to correct these violations by making repairs and/or replacing the sewage treatment system in accordance with Chapter 3701-29 of the Ohio Administrative Code (OAC). During the investigation, the type and status of the STSs serving the affected houses is documented and the geographical coordinate points of the locations of the public health nuisances captured with GPS units and uploaded into the Storm Water GIS Program database.

When necessary enforcement actions were pursued to ensure the elimination of the determined public health nuisance when all reasonable attempts to achieve compliance proved futile.

Figure 4: Dye Test Showing Illicit Discharges to Waters of the State during HSTS Evaluation



Wastewater Nuisance Complaint Data Analysis

In 2016, PCHD received twenty-three (23) suspected illicit household wastewater discharging written complaints. These nuisance complaints were fairly distributed across Portage County's townships and villages. Investigation of the twenty-three (23) suspected nuisance complaints confirmed eight (8), representing 34.78%, were in violation, eleven (11), constituting 47.83%, were determined to be not illicitly discharging, and four (4), representing 17.39%, are still pending because the homes are either vacant or there is difficulty of getting access to the properties to complete the investigation.

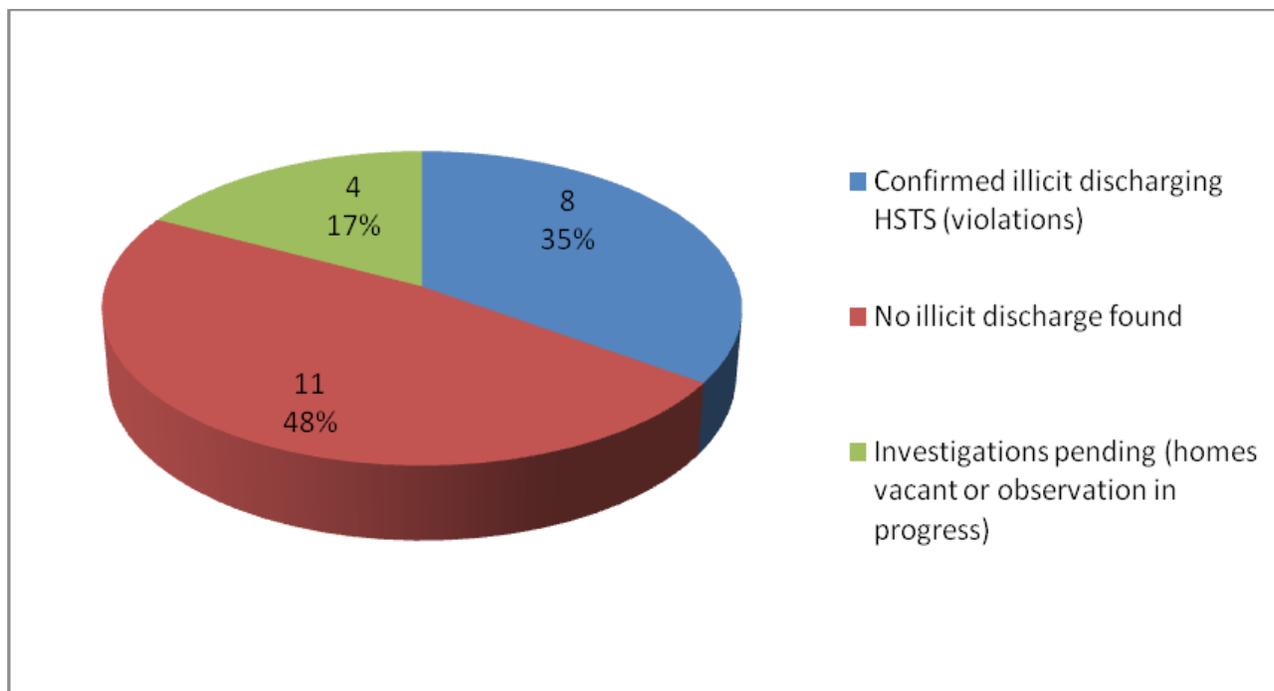
Several nuisance complaints could not be investigated because the complainants wanted to remain anonymous and did not continue with the process for fear of offering information they thought could potentially reveal their identity to the people they were complaining about. In these instances, complainants are provided alternatives such as contacting a public official to submit a complaint on their behalf or to contact the Ohio EPA's northeast district office for assistance.

The public health nuisance complaint data analysis is summarized in Table 3 and Figure 6 below.

Table 3: Suspected Illicit Discharging Nuisance Complaints

Confirmed illicit discharging STS (violations)	8	34.78%
No illicit discharge found	11	47.83%
Investigations pending (homes vacant or observation in progress)	4	17.39%
Total	23	100.00%

Figure 5: Graph of Suspected Illicit Discharging Nuisance Complaints



In the summer of 2016, Ohio EPA was contacted by complainant alleging sewage odor and black water discharges in the complainant's backyard and along Red Brush Road. Ohio EPA's initial sampling exceeded the water quality standards for wastewater discharges as indicated in OAC 3745-1-04, *Criteria Applicable to All Waters*. After discussion and at the request of the Ohio Environmental Protection Agency Northeast District office, PCHD and Portage County Water Resources began assessing the nuisance complaint alleging public health nuisance exceedances in the vicinity of the Chinn Allotment located in Ravenna Township.

Because a preliminary assessment of the issue appears to affect upwards of two hundreds properties, portage County officials created a plan to implement an investigation using a holistic approach to: determine locations of the public health nuisance standards as defined in OAC 3718.011, to quantify the number of affected properties, identify the ultimate wastewater effluent discharge point(s), and potential solutions to alleviate the problem.

Voluntary Point-of-Sale Real Estate Transfer STS Inspection Activities

Storm Water Program Staff also perform real estate transfer inspections of STSs upon request. Real estate transfer inspections of STSs are effective and efficient methods of IDDE. It offers the best compliance rate among all the programs offered to eliminate confirmed illicit STS discharges because all the parties involved in real estate transfer transactions typically have vested interested to purge the violation to ensure that the deal could be closed on a timely manner.

The enforcement process of illicit discharging HSTS found during property transfer STS inspection is the same as dealing with illicit discharges found during a storm water routine inspection. The homeowners are given sixty (60) days time limit from the date a notice of violation certified letter is

received to correct confirmed violations. The homeowners are required to install an approved STS in accordance with the ODH sewage treatment system regulations and in order to avoid escalated enforcement through court. It must be noted that PCHD does not stop the sale or transfer process when a STS is causing a public health nuisance during a real estate transfer inspection despite the issuance of replacement/repair orders to enforce rectification of the public health problem. The elimination of any public health nuisance becomes the responsibility of the new property owner if the property transfers before returning to compliance.

In 2016, twenty-nine (29) STS failing systems were identified among eighty-two (82) real estate transfer STS inspections. These failing STSs were added to the nuisance complaint database. Similar to the nuisance complaint enforcement process, all failing STSs were referred to the Storm Water Program for repair/ replacement enforcement in accordance with ORC 3718 and OAC 3701-29 Sewage Treatment System regulations.

Portage County Facility Planning and Prioritization

Priority Area Facility Planning Activities

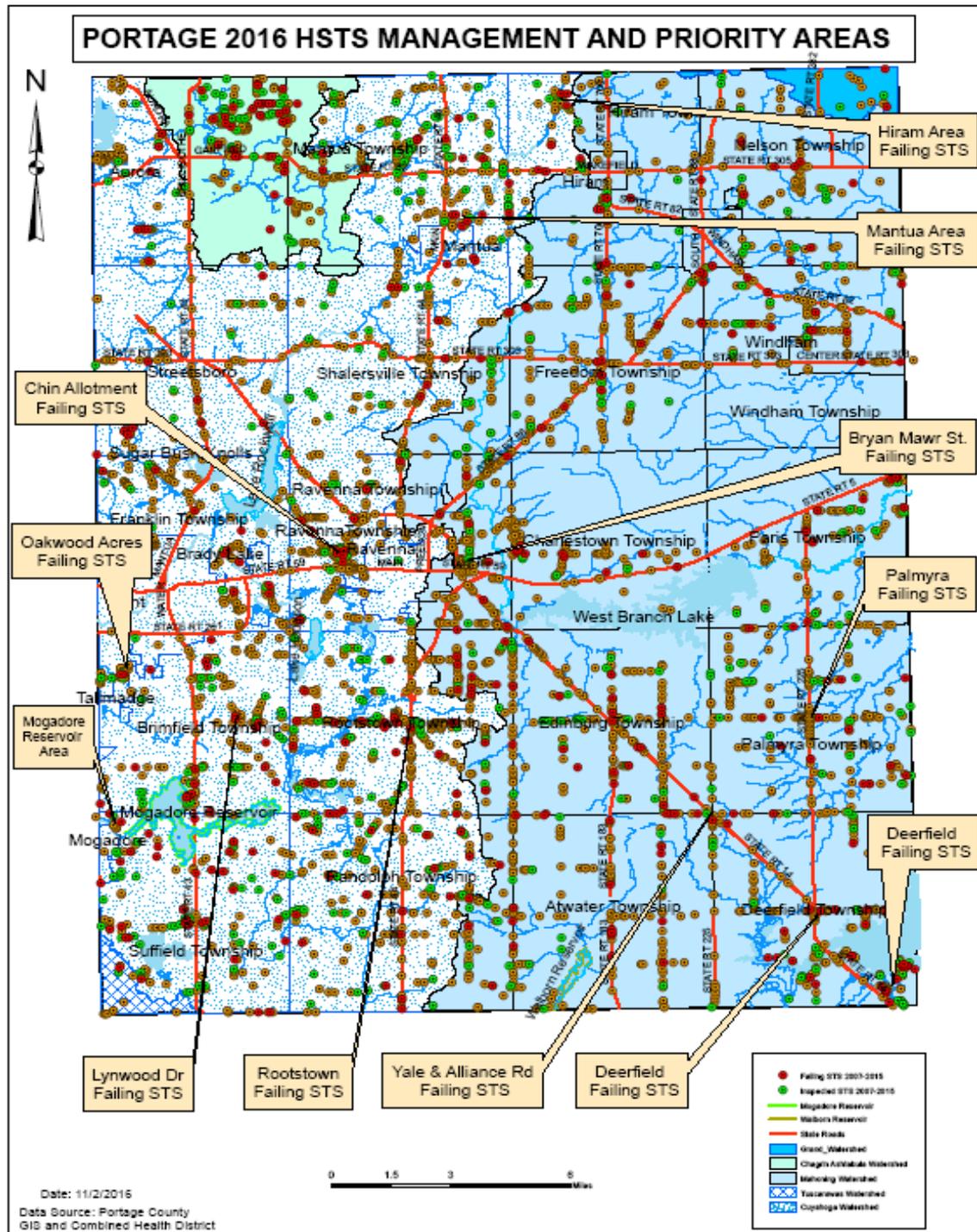
The Portage County Health District (PCHD) Storm Water Program collaborates with the Portage County Water Resources (PCWR), Board of Commissioners, County Engineer, Soil and Water Resources Conservation District (SWCD), and other stakeholders to discuss the following issues during quarterly Steering Committee and Task Force meetings:

- homeowner STS operation and maintenance education and outreach;
- township and village best management practices and updates;
- Identification of potential areas within the Storm Water District that may have high concentrations of failing STSs due to age and small lot sizes;
- Prioritization of current sanitary sewer projects in the county; and
- Identification and prioritization of funding and economic impacts for STS repairs and/or replacement or sanitary sewer projects.

Additionally, the PCHD Storm Water Program formed a work group with the Water Resources Department that meets bi-monthly to discuss failing STS and illicit discharges in the priority areas for sanitary sewer facilities planning and IDDE enforcement areas. These proactive area-wide planning activities focus attention on public investments in wastewater treatment facilities and elimination of point source water pollution aimed at achieving preventable surface water contamination and sustainable water quality. Figure 6 below shows the priority map.

This collaboration is yielding positive results and helps focus attention in areas that have concentrated numbers of illicit discharging household sewage treatment systems. To date, actions have included resolution for Lynwood residences in Brimfield Township, a discussion about nuisance conditions with residents and their attorney in the Bryn Mawr area of Ravenna Township, a successful sanitary sewage grant application for remediation of the Oakwood neighborhood in Brimfield Township, and the current Chinn Allotment assessment in Ravenna Township. Additional facility planning and prioritization activities will continue in 2017 with the assistance of the Northeast Ohio Four County Regional Planning and Development Organization (NEFCO).

Figure 6: Priority Area STS Map



Storm Water Illicit Discharge Detection and Elimination (IDDE) Activities

Storm Water Training

In response to PCHD's invitation, Ohio EPA Northeast District staff trained PCHD Storm Water Program staff in storm water outfall identification and surface water sampling. In particular, the Division of Surface water Storm Water Program Specialists, Dan Bogoevski and Mandy Razzano assisted with field verification and discussion for outfall conveyances into waters of the state. This training was crucial to the decision making process during field verification to add or remove previously identified outfalls.

Also during the summer of 2016, William Zwiski, Ohio EPA Northeast District Surface Water Supervisor, conducted sampling and analysis training for Portage County Staff: Mary Helen Smith, Amos Sarfo, Lindsey Smith, and Dan Robinson and Craig Davis. Training included: sampling procedures, methods, holding times and temperatures. The protocol focused on the Ohio EPA water Quality standard Guidance #3 titled, "*Sampling Methods for Documentation of a Public Health Nuisance Under OAC Rule 3745-1-04(F) & (G)*". The protocol can be accessed online at <http://www.epa.state.oh.us/portals/35/guidance/wqs3.pdf>.

Storm Water Mapping

The following Portage County Storm Water GIS maps (Figures 7 – 11) were reviewed at the Storm Water Steering Committee:

1. Storm Water District's Outfall Points map depicting the location of all outfalls and the name and location of all state surface waters that receive discharges from those outfalls;
2. Storm Water District's discharging household sewage treatment systems (STSs);
3. Storm Water District's municipal small separate sewage system (MS4) outfall points;
4. Storm Water District's MS4 catch basins;
5. Storm Water District's MS4 water quality best management practice (BMP) facilities; and
6. Storm Water District's MS4 pipe inlet and outlets.

Figure 8: Portage County MS4 Storm Water Outfall Points Map

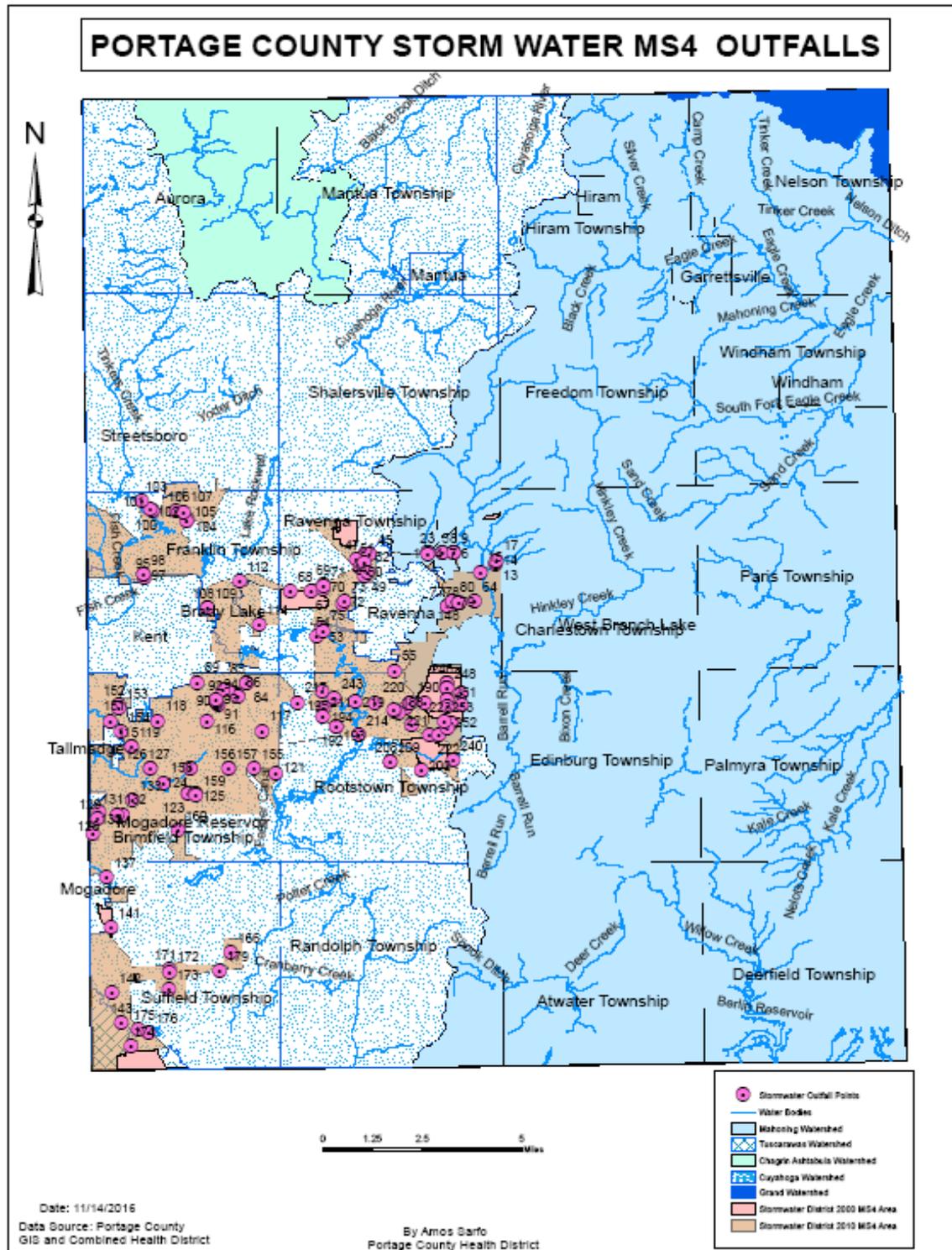


Figure 9: Portage County MS4 Storm Water Catch Basins Map

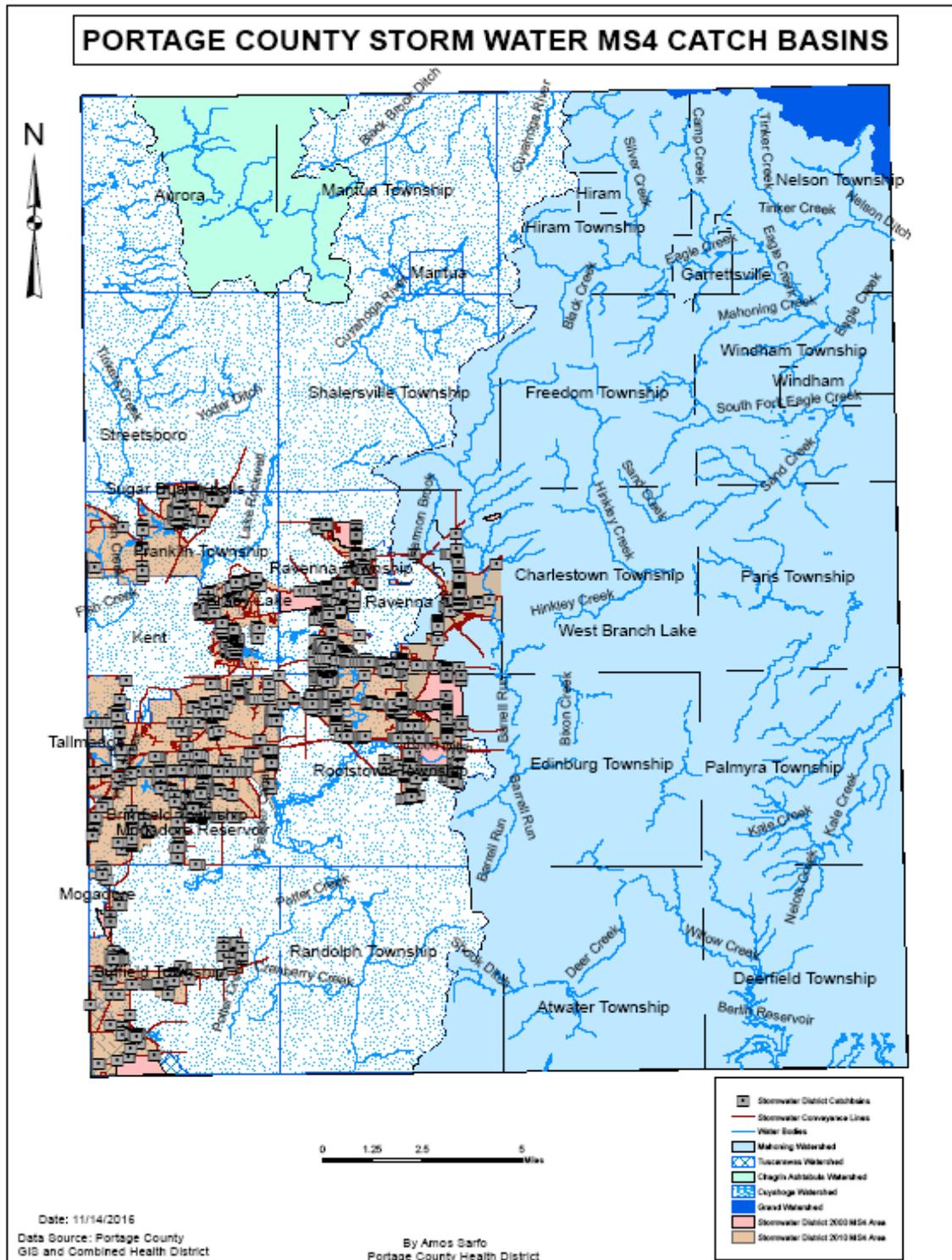


Figure 10: Portage County MS4 Storm Water Pipe Inlets and Outlets Map

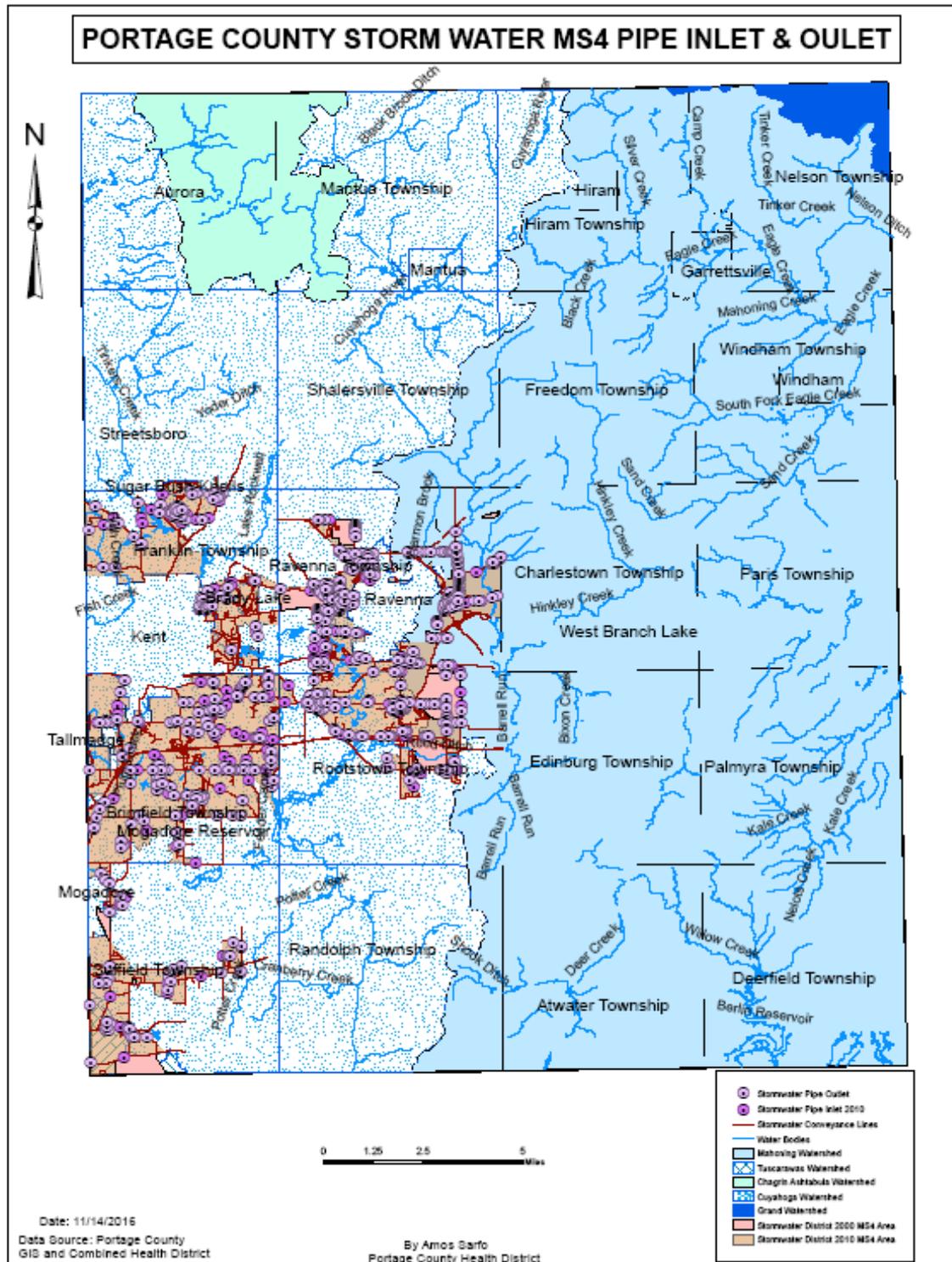
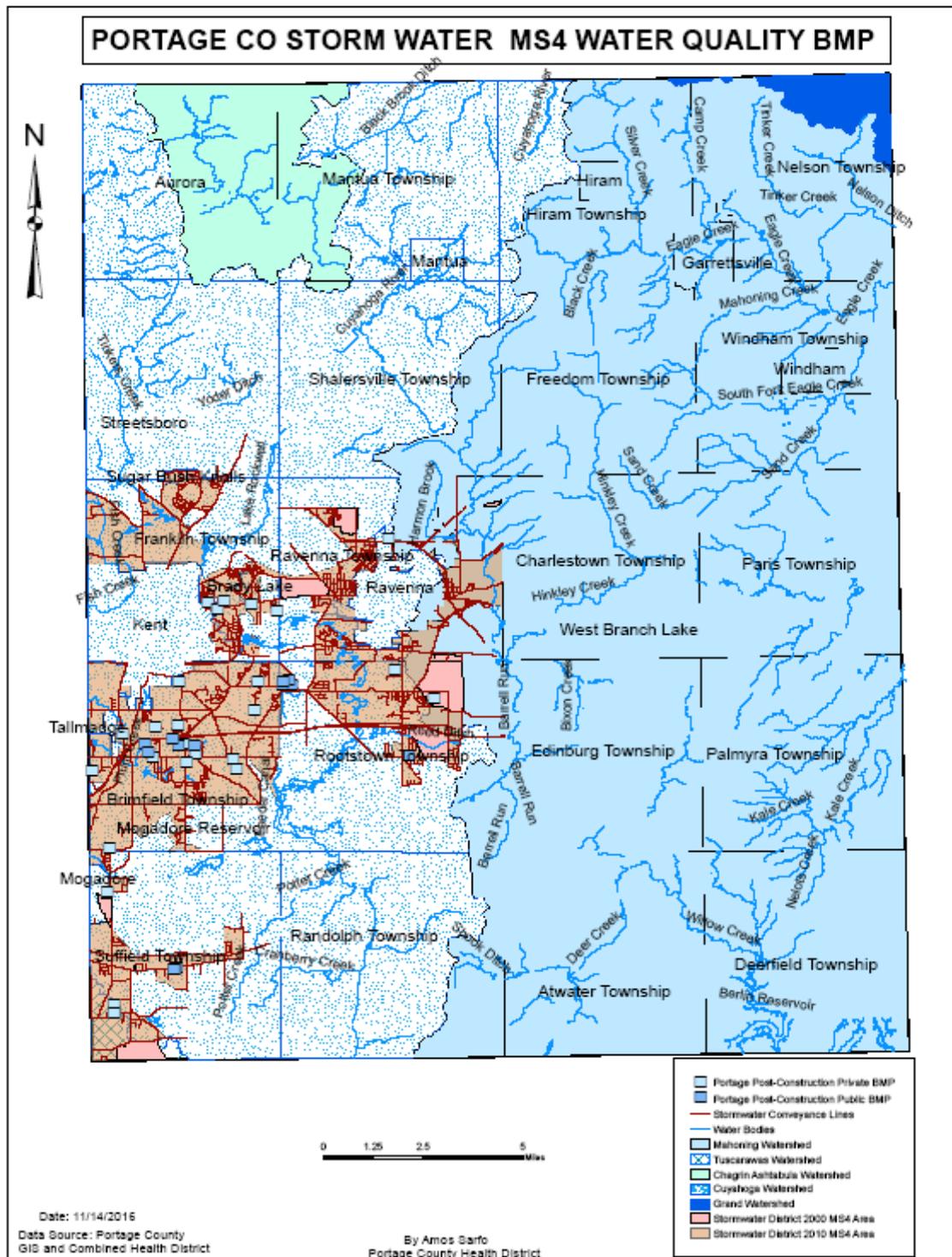


Figure 11: Portage County MS4 Storm Water Quality BMP Map



Non-Storm Water IDDE Screening and Mapping

In 2016, PCHD Storm Water Program staff analyzed the 2014 storm water system GIS maps to facilitate IDDE activities aimed at preventing non-storm water discharges including illegal dumping into Portage County storm sewer system and implement appropriate enforcement procedures and actions. Using the storm water system GIS maps, PCHD Storm Water staff inspected and verified all the outfall points in the MS4 communities provided by SWCD. Any new storm water outfall points found during the verification were identified, photographed, and the coordinate points captured with hand-held GPS units for mapping.

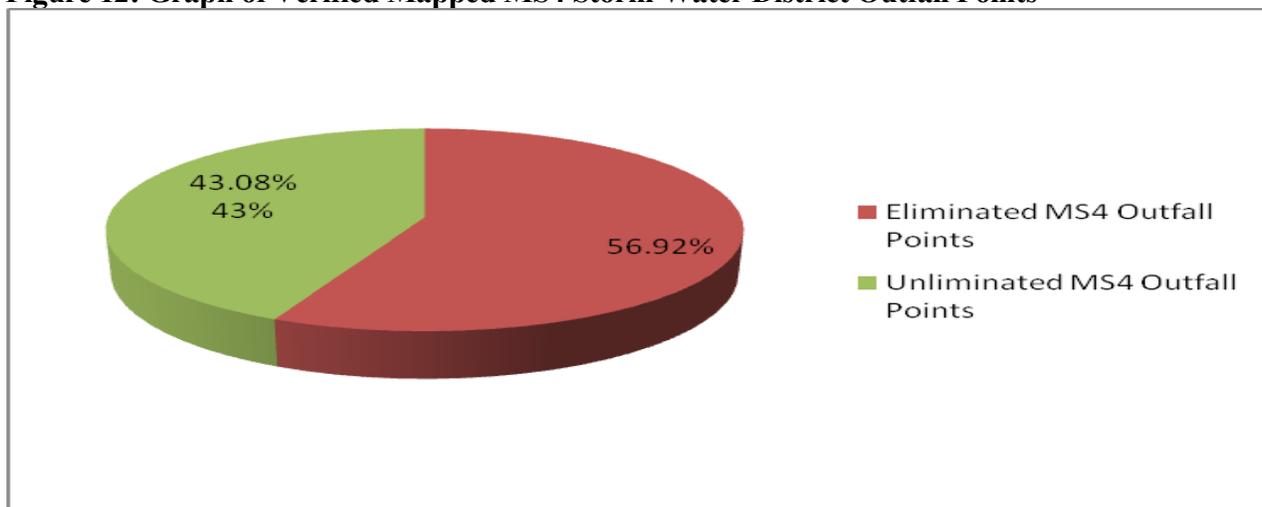
Verified MS4 Outfall Assessment

The Storm Water staff inspected and verified one hundred thirty (130) MS4 outfall points during 2016. Of those MS4 outfall points, seventy-four (74) (56.92%) were found not to be outfalls and eliminated. Among the remaining fifty-six (56) (43.08%) MS4 outfall points, thirty-six (36) (65.29% of 56) were dry weather screened, and twenty (20) (35.71% of 56) are pending dry weather screening due to weather limitations. This information is detailed in Tables 4 & 5 and Figures 12 & 13.

Table 4: Verified Mapped MS4 Storm Water District Outfall Points

Mapped MS4 Storm Water District Data		
Eliminated MS4 Outfall Points	74	56.92%
Acceptable MS4 Outfall Points	56	43.08%
Total Verified MS4 Outfall Points	130	100.00%

Figure 12: Graph of Verified Mapped MS4 Storm Water District Outfall Points

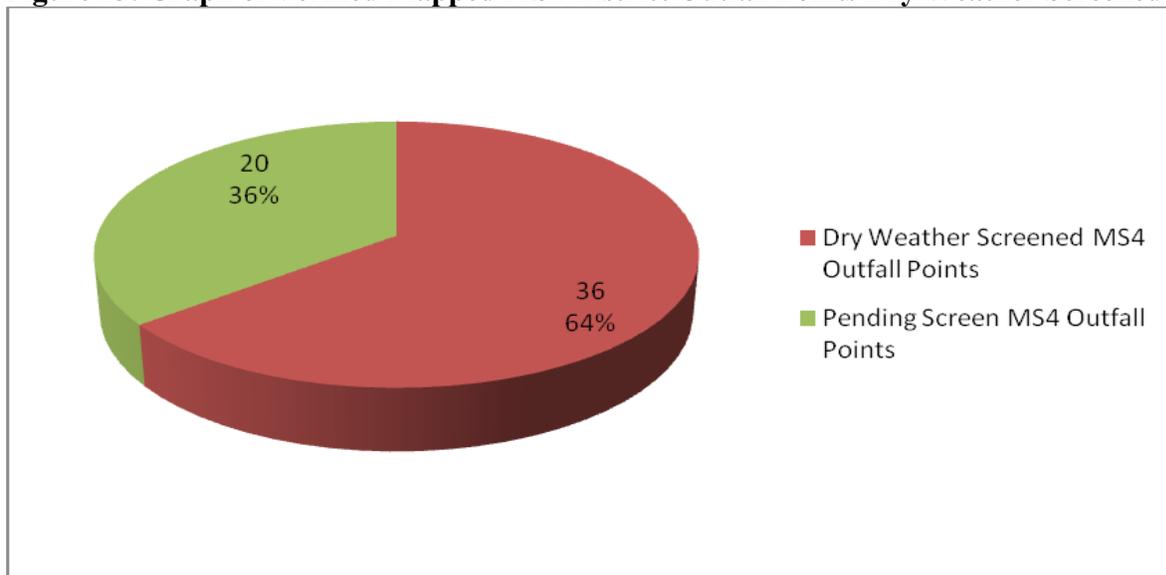


*It must be noted that three (3) illicit discharges were identified during inspection, verification, and dry weather screening of outfall points. Immediate enforcement to eliminate these illicit discharges was pursued by PCHD staff. Additionally, there were added to PCHD illicit discharging database.

Table 5: Distribution of Acceptable Mapped MS4 Outfall Points Dry Weather Screened

Acceptable Mapped Storm Water MS4 District Outfall Points		
Dry Weather Screened Acceptable MS4 Outfall Points	36	64.29%
Acceptable MS4 Outfall Points pending screening	20	35.71%
Total Acceptable Mapped MS4 Outfall Points	56	100.00%

Figure 13: Graph of Verified Mapped MS4 District Outfall Points Dry Weather Screened



Verified Non-MS4 Outfall Assessment

The Storm Water staff inspected and verified 106 non-MS4 outfall points during 2016. Of the one hundred six (106), fifty-three (53) (50%) were eliminated because they were found not to be outfalls. Of the remaining fifty-three (53) (50%) points, thirty-three (33) (66%) of them were dry weather screened and twenty (20) (37.74%) non-MS4 mapped outfalls are pending dry weather screening due to weather limitations. This information is detailed in Tables 6 & 7 and Figures 14 & 15.

Table 6: Verified Non-MS4 Mapped Storm Water Outfall Points

Non-MS4 Mapped Storm Water District Data		
Eliminated Mapped Non-MS4 Outfall Points	53	50.00%
Acceptable Mapped Non-MS4 Outfall Points	53	50.00%
Total Verified Non-MS4 Outfall Points	106	100.00%

Figure 14: Graph of Verified Mapped Non-MS4 District Eliminated and Uneliminated Outfalls

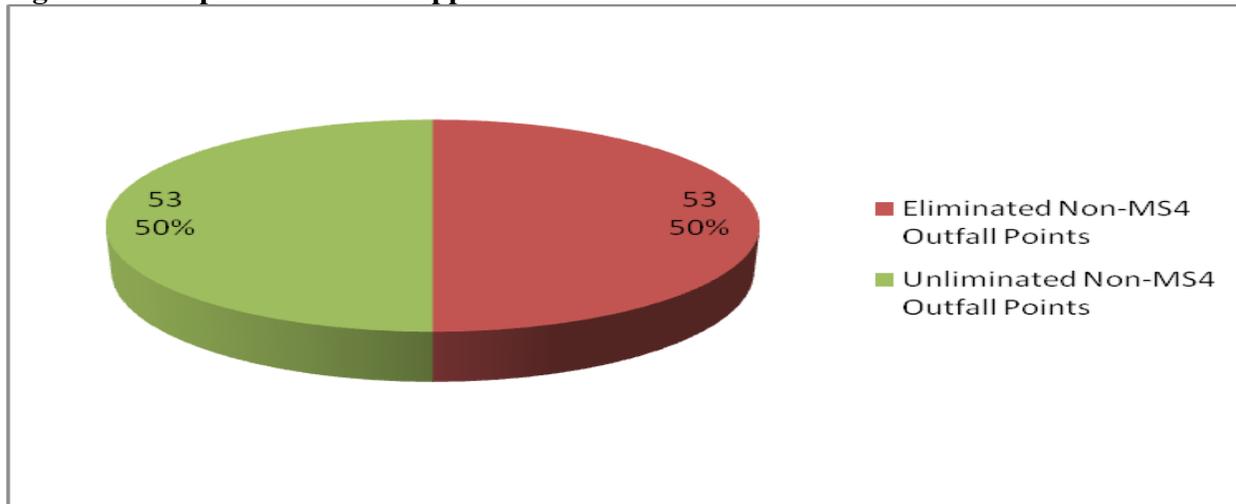
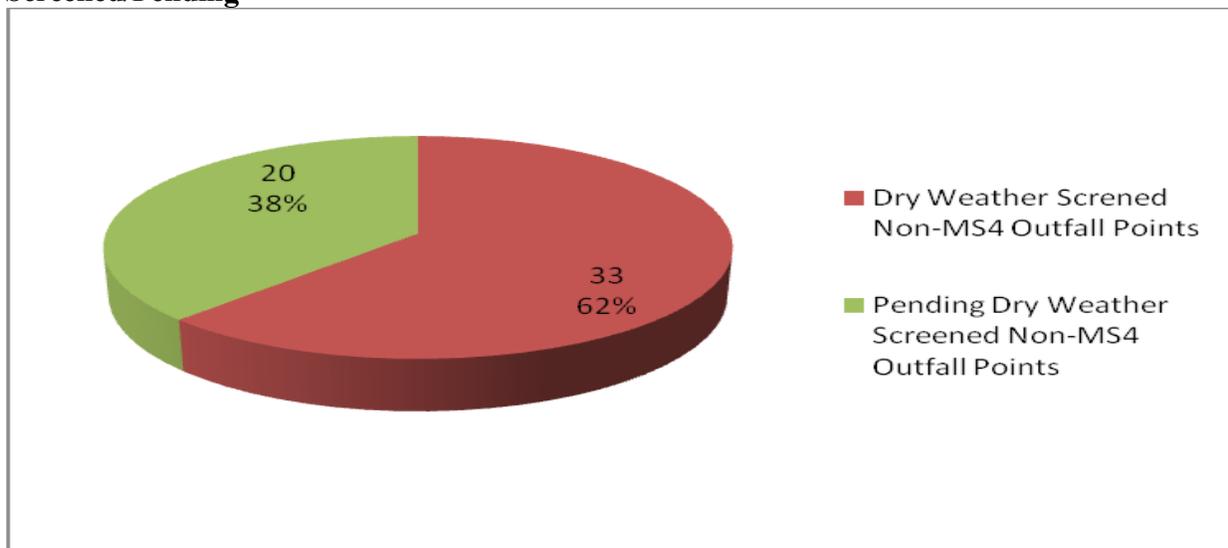


Table 7: Distribution of Acceptable Mapped Non-MS4 Outfall Points Dry Weather Screened Storm Water Non-MS4 District Data from SWCD

Storm Water Non-MS4 District Data from SWCD		
Dry Weather Screened Non-MS4 Outfall Points	33	62.26%
Pending Dry Weather Screened Non-MS4 Outfall Points	20	37.74%
Verified Non-MS4 Outfall Points	53	100.00%

Figure 15: Graph of Verified Mapped Non-MS4 District Outfalls Dry Weather Screened/Pending



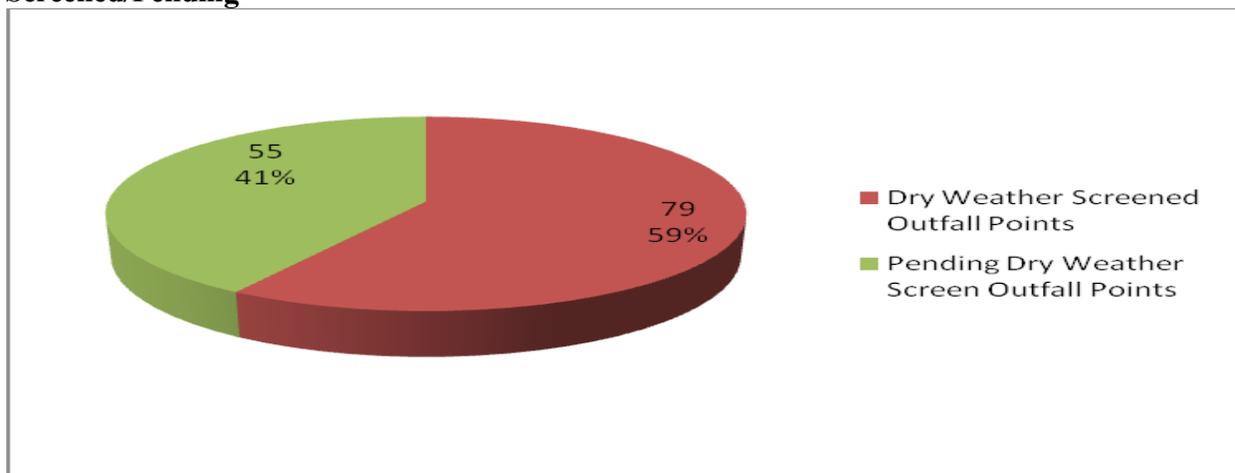
Additional Outfalls Identified and Assessed During Outfall Inspections

The Storm Water Staff identified and mapped an additional hundred thirty-four (134) outfall points identified during outfall inspections that were not included in the Storm Water District’s database. Of the hundred thirty-four (134) additional outfall points, seventy-nine (79) (58.96%) were screened, and fifty-five (55) (41.04%) outfalls are pending dry weather screening due to weather limitations. This information is detailed in Table 8 and Figure 16.

Table 8: Distribution of Additional Unmapped Outfall Points Dry Weather Screened or Pending

Additional Unmapped Points Identified In MS4 and Non-MS4 Areas		
Dry Weather Screened Unmapped Outfall Points	79	58.96%
Unmapped Outfall Points pending dry weather screening	55	41.04%
Total additional Unmapped Outfall Points	134	100.00%

Figure 16: Graph of Additional Unmapped Outfalls in MS4 and Non-MS4 Areas Dry Weather Screened/Pending



MS4 Storm Water Map Annual Updates

During November of 2016, Mary Helen Smith presented a review of the storm water mapping activities at the Portage County Township Association Dinner. During November and December, Amos Sarfo and Dan Robinson met with representatives from each MS4 communities to review and obtain data for the annual update of the following maps:

- Outfalls (verified, added and eliminated)
- Catch basins

- Pipe inlets, outlets and conveyances
- Water Quality Private & Public Best Management Practices (BMPs)

Status of Illicit Discharge Elimination Enforcement Activities

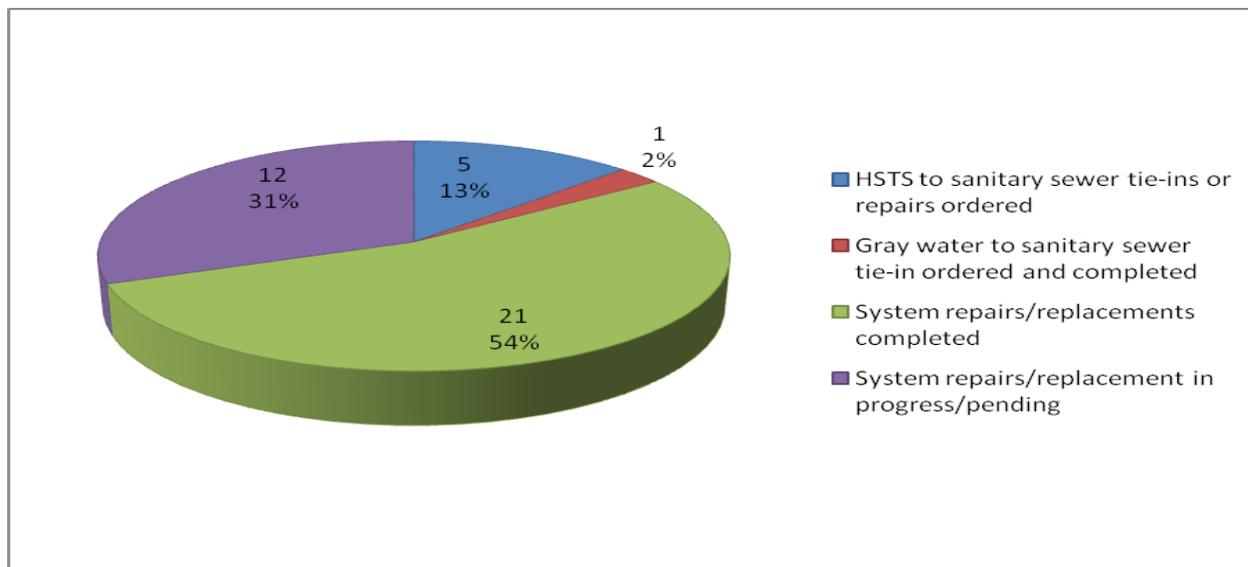
In 2016, Portage County Storm Water Program staff issued thirty-nine (39) illicit discharge elimination Notices of Violation (NOV) as summarized in Table 9 and graphically represented in Figure 17:

- Five (5), representing 13%, are pending malfunctioning STS that were required to make repairs/replacement or connect to sanitary sewer;
- One (1), representing 2%, concerned gray water (laundry) that redirected the wastewater to the sanitary sewer;
- Twenty-one (21), representing 54%, made required repairs to or the replacement of the STS systems;
- Twelve (12), representing 31%, are in the process of the STS repair and/or replacement process.

Table 9: Notice of Violation and Enforcement Status

STS NOV letters for either sanitary sewer tie-ins or repairs	5	13%
Gray water NOV letter tie-into sanitary sewer	1	2%
STS repairs/replacements completed	21	54%
System repairs/replacement in progress/pending	12	31%
Total repair/replacement orders	39	100.00%

Figure 17: Graphical Distribution of Notice of Violation Enforcement Status



Financial Assistance for Elimination of Illicit Discharges

Financial Assistance for the Repair/Replacement of Failing STS

PCHD is aware of the substantial cost to replace a household sewage treatment system with a NPDES approved off-lot discharging aeration system at approximately \$10 – 12,000, a conventional on-lot trench system at ~ \$12-15,000 and a drip system at approximately ~ 20-23,000; and thus, the financial difficulty for property owners to comply with a notice of violation and eliminate the illicit discharge.

Based on the enormity of the financial needs for illicit discharge elimination in the county, the Storm Water Program is constantly looking for new funding sources to broaden the base of the financial assistance for our homeowners for septic replacement, repair, and sewer connection. The PCHD Storm Water Program staff continue to collaborate with the Portage County Board of Commissioners, Portage County Regional Planning Commission (PCRPC), Neighborhood Development Services (NDS), Community Action Council, and the United States Department of Agriculture (USDA), to assess possible funding sources for: 1) STS repair or replacement, 2) connection into an existing sanitary sewer and 3) construction of new sewer projects.

Homeowners who could not afford the replacement or repair are referred to the above-mentioned institutions for possibility of funding assistantship. However, financial assistance from these institutions are not guaranteed and only offered when funds are available. 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. Available financial support to qualified applicants is usually disbursed on first-come, first-served basis.

Water Pollution Control Loan Fund (WPCLF) Program

In 2016, the Storm Water Program, with the support of our stakeholders, applied for and received \$300,000 from Ohio Environmental Protection Agency (EPA) Water Pollution Control Loan Fund (WPCLF) to assist low to moderate income homeowners to repair or replacement a malfunctioning STS.

WPCLF program is a principal forgiveness fund for qualifying applicants who meet the guidelines for funding on first come first serve basis. PCHD is currently publicizing the program and expects to assist 15 homeowners with this program.

Following the successful application for the 2016 WPCLF funds, PCHD submitted an application and will received \$300,000 in 2017. One change to the program will allow Portage County to utilize up to 50% of the funds to assist low-to-moderate owner-occupied properties with a sewer connection. This new grant will also be disbursed commencing 2017 over an eighteen month period.

Education and Outreach Activities

Community Outreach

In collaboration with our stakeholders, the Storm Water staff organized and attended public forum sponsored by the Soil and Water Conservation District to provide educational sessions to participants with the aim of informing them of our goals and objectives to achieve sustainable water quality in accordance with the EPA's Clean Water Act demands as well as elicit public cooperation and support for the successful implementation of the program.

PCHD strives to bring to the attention of public employees, business and the general public the hazards associated with illegal discharges and improper disposal waste that could potentially contaminate surface and groundwater. Storm Water Program staff extended our education and outreach program to township trustees and roads department representatives during a 2016 quarterly Task Force Meeting.

Education and Informational Brochure

The PCHD Storm Water Program utilizes a brochure and flier (Attachment One) offering a succinct explanation of the Storm Water Program mandate as part of our educational outreach. Furthermore, the brochure explains the importance of proper maintenance of a STS, and offers information on myths and facts about STSs. Storm Water staff give homeowners copies of this brochure during field inspections.

Staff also notifies property owners instantly about findings of the STS inspection by a check mark as to whether it:

- (a) Passed visual survey,
- (b) Is failing, needs repaired/replaced, or
- (c) Needs further evaluation.

Storm Water Program staff offered information and education on STS operation management, evaluation of STS, repairs/replacement of STS, and prevention of storm water contamination by phone, email, office, and field consultation on an on-going basis.

Illicit Discharging Sewage Treatment Systems Policy

Effective April 24, 2014, PCHD established an official written *Illicit Discharging Sewage Systems Policy* to clearly define appropriate procedures in addressing illicit discharging sewage systems detected through various health department Storm Water and Sewage Treatment System Program activities.

This policy outlines corrective requirements/options and enforcement timeframes for all illicit discharging sewage systems discovered via: property transfer evaluations, home use changes, lot split proposals, nuisance complaints; and the Class 1 Aeration Inspection Program. A copy of this policy is provided below (Attachment Two).

During 2017, PCHD will review this policy and make any necessary changes in accordance with the newly revised Ohio Environmental Protection Agency's 2017 National Pollution Discharge Elimination Permit (NPDES).

Storm Water District Management Plan Review and Updates

Storm Water District's Steering Committee & Task Force Participation

As members of the Portage County Storm Water Task Force and Steering Committee, the PCHD Director of Environmental Health, Storm Water Program Supervisor and the Wastewater program Supervisor attended Portage County Storm Water quarterly meetings to discuss all pertinent storm water issues.

At these meetings, the PCHD presented a written summary of the statistics of inspections, consultations, and correspondence concerning the Storm Water Illicit Discharge Program including inspections, dye testing, office/field consultations or research, GIS and data search, notices of violation issued for replacement/repairs, court appearances, telephone consultations and field research as they occur during the performance of our daily activities.

Storm Water District's Management Plan Update

To fulfill Ohio EPA's requirement for general permit coverage to operate a Small Municipal Separate Storm Sewer Systems (MS4s), the Portage County Storm Water District and its Co-Permittees submitted a storm water management program (SWMP) pursuant to US EPA's Storm Water Phase II Rule and Ohio Law.

This SWMP document outlined the Portage County Storm Water District's program to develop, implement and enforce a storm water management program to reduce the discharge of pollutants to the maximum extent practicable, to protect water quality and to satisfy the appropriate requirements of the Clean Water Act in accordance with the Ohio Environmental Protection Agency's Phase II NPDES program.

Thereafter, the Ohio EPA granted the Portage County Storm Water District NPDES Permit authorization for Small MS4 to discharge storm water under the NPDES regulation. Since then the original SWMP has been updated three times. As a result of Ohio EPA recommendations the SWMP was first revised and resubmitted to the Ohio EPA on June 20, 2004. A second revision was performed on June 20, 2004, followed by a third one in March 2007.

In 2016, the Storm Water Steering Committee updated the SWMP to meet the new guidelines including at a minimum the need to address water quality total maximum daily load (TMDL) limits.

During 2016, PCHD updated the language pertaining to Minimum Control Measure (MCM) #3 language.

Conclusion

Conclusion

The Storm Water Program was very successful in completing the Municipal Small Storm Sewer System (MS4) demands. The personnel changes led to reorganization of job responsibilities and duties in the program, which made it impossible to finish the field verification of the outfalls. Furthermore, the acquisition of software and hardware for the program was delayed due to technical difficulties with vendors. Financial problems affecting our homeowners also made it difficult for us to achieve illicit discharging STS elimination compliance from all of the violators.

Overall the Storm Water Program continues to be one of the most effective and efficient environmental programs for illicit discharge detection and elimination of waste water from non-storm water sources such as STS to prevent surface water pollution aimed at achieving sustainable water quality in accordance with EPA Clean Water Act. Therefore, PCHD Storm Water Program is counting on the understanding, support and cooperation of all stakeholders for successful implementation of the program to achieve its laudable goals and objectives in the near future.

Attachment I: STS Inspection Brochure

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.

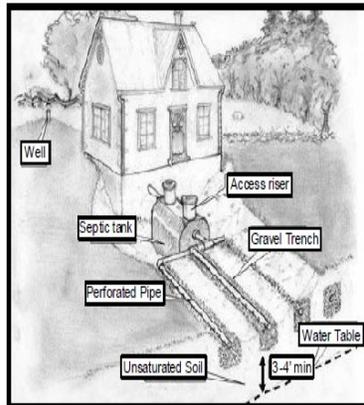
MYTH: Septic system additives will help grow the bacteria needed and take the place of having the septic tank pumped regularly.

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.

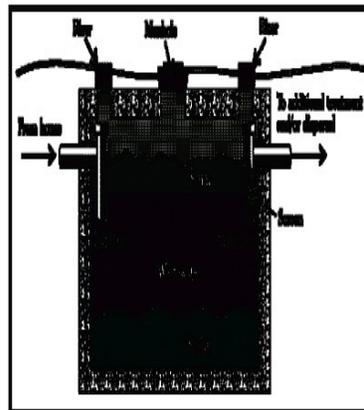
MYTH: Household chemicals, such as disinfectants, medicines, paint thinner, water softener brine, etc. are not harmful to a septic system.

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

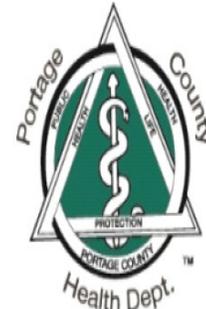


Cross Section of a Septic Tank



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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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**

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.

Attachment II: Illicit Discharging Sewage System Enforcement Policy



**Portage County Health Department
Ravenna, Ohio**

Title: Illicit Discharging Sewage Systems Policy	Program area: Wastewater/Stormwater (Environmental)
Approved by: <i>[Signature]</i> Health Commissioner	<i>[Signature]</i> Director
Date 4/24/2014	Date 4-23-14
Original Effective Date: 4/24/2014	<i>[Signature]</i> Supervisor
Reviewed/Revised Dates:	Date 4/23/14

POLICY PURPOSE:

To clearly define for all employees the accurate procedures to follow in addressing illicit discharging sewage systems discovered through various programs/activities.

PROCEDURES:

Home Sale/Property Transfer Evaluations:

ALL discharging systems not covered under an NPDES permit will be deemed unacceptable as an illicit discharge and will be required to be replaced: with an on-lot soil-absorption based system if possible; or an NPDES permitted discharging system IF an on-lot system is not possible, and there is an acceptable discharge point, and there is no sewer available and accessible within 400 feet of the property. * ' **

•Enforcement action will proceed after 6 months if system replacement has not been initiated.

Home Use Changes – Addition or Home Replacement:

ALL discharging systems not covered under an NPDES permit will be deemed unacceptable as an illicit discharge and will be required to be replaced: with an on-lot soil-absorption based system if possible; or an NPDES permitted discharging system IF an on-lot system is not possible, and there is an acceptable discharge point, and there is no sewer available and accessible within 400 feet of the property. * ' **

•For those homes serviced by “Class I” aeration discharging systems installed between 1986 and 2006 that fall within the Portage County Health Department’s Annual Inspection Program, IF the homeowner chooses NOT to proceed with the proposed home use changes, no enforcement action will be taken at that time, with notification of the status as an illicit discharge indicating that replacement will become necessary in the future upon any property transfer, home use changes, lot split, malfunction that cannot be repaired to original manufacturer’s specifications, or other further enforcement action enacted by the Ohio EPA and/or the Health Department. **

Lot Splits – Lots with Existing Home and Sewage System On Them:

Evaluation/Inspection of the existing sewage system will be required as part of the lot review. **ALL** discharging systems not covered under an NPDES permit will be deemed unacceptable as an illicit discharge and will be required to be replaced with an on-lot soil-absorption based system in order to approve the splitting off of the lot. In addition to this required new system to be installed, an approved designated replacement system area will also be required to approve the split.

•Enforcement action will proceed after 6 months if system replacement has not been initiated.

•In the event that the lot split is not approvable, and/or the homeowner chooses NOT to proceed with the proposed lot split, for those homes serviced by “Class I” aeration discharging systems installed between 1986 and 2006 that fall within the Portage County Health Department’s Annual Inspection Program and are found upon inspection to be operating properly and not creating an observable nuisance, no enforcement action will be taken at that time, with notification of the status as an illicit discharge indicating that replacement will become necessary in the future upon any property transfer, home use changes, lot split, malfunction that cannot be repaired to original manufacturer’s specifications, or other further enforcement action enacted by the Ohio EPA and/or the Health Department. **

Nuisance Complaints:

ALL discharging systems not covered under an NPDES permit, or that are not “Class I” aeration systems installed between 1986 and 2006 that fall within the Portage County Health Department’s Annual Aeration Inspection Program will be deemed unacceptable as an illicit discharge and will be required to be replaced: with an on-lot soil-absorption based system if possible; or an NPDES permitted discharging system IF an on-lot system is not possible, and there is an acceptable discharge point, and there is no sewer available and accessible within 400 feet of the property. * * **

“Class I” aeration discharging systems installed between 1986 and 2006 that fall within the Portage County Health Department’s Annual Aeration Inspection Program and are found upon inspection to be operating properly and not creating an observable nuisance will “pass” the inspection, with notification of the status as an illicit discharge indicating that replacement will become necessary in the future upon any property transfer, home use changes, lot split, malfunction that cannot be repaired to original manufacturer’s specifications, or other further enforcement action enacted by the Ohio EPA and/or the Health Department. **

“Class I” systems found upon inspection to be malfunctioning will be required to be repaired to original manufacturer’s specifications and will then be sampled by the Health Department to ensure they meet the 20/40 BOD/SS standards.

Those “Class I” systems that cannot be repaired to original manufacturer’s specifications, cannot meet the 20/40 BOD/SS standards, or that remain in non-compliance with noted repair requirements will be required to be replaced: with an on-lot soil-absorption based system if possible; or an NPDES permitted discharging system IF an on-lot system is not possible, and there is an acceptable discharge point, and there is no sewer available and accessible within 400 feet of the property. * * **

Portage County Health Department's Annual Aeration Inspection Program:

"Class I" aeration discharging systems installed between 1986 and 2006 that fall within the Portage County Health Department's Annual Aeration Inspection Program and are found upon inspection to be operating properly and not creating an observable nuisance will "pass" the inspection and be designated a "Working System", with notification of the status as an illicit discharge indicating that replacement will become necessary in the future upon any property transfer, home use changes, lot split, malfunction that cannot be repaired to original manufacturer's specifications, or other further enforcement action enacted by the Ohio EPA and/or the Health Department. **

Systems found upon inspection to be malfunctioning will be required to be repaired to original manufacturer's specifications and will then be sampled by the Health Department to ensure they meet the 20/40 BOD/SS standards.

Those that cannot be repaired to original manufacturer's specifications, cannot meet the 20/40 BOD/SS standards, or that have repeatedly been found to be malfunctioning or in non-compliance with noted repair requirements will be required to be replaced: with an on-lot soil-absorption based system if possible; or an NPDES permitted discharging system IF an on-lot system is not possible, and there is an acceptable discharge point, and there is no sewer available and accessible within 400 feet of the property. * ' **

* In the event that an on-lot soil-absorption based system is not possible, there is no acceptable discharge point for an NPDES permitted discharging system, and there is no sanitary sewer service available and accessible to the property, a sealed vault holding tank will be the only available replacement system option for the required elimination of the illicit discharge.

** "Class I" aeration discharging systems installed between 1986 and 2006 that fall within the Portage County Health Department's Annual Aeration Inspection Program MAY be able to be upgraded to NPDES standards and thus qualify for NPDES permit coverage with the inclusion of additional treatment components, in lieu of full system replacement, if such additions are approvable per the manufacturer, ODH/TAC, the Ohio EPA, and the Health Department.