Illicit Discharge Detection and Elimination Plan (IDDEP)
December 2019

Prepared by:

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Patrick C. Monahan, Mayor

Table of Contents

Appendices

1. Overview/Background

The Illicit Discharge Detection and Elimination Plan (IDDEP) is a program designed to prohibit and effectively eliminate illicit discharges and connections to the Village's municipal separate storm sewer system (MS4). This IDDEP is one component of the Village's overall Illicit Discharge Detection and Elimination Program, which includes, municipal storm sewer mapping, ordinances, the IDDEP, public education, reporting, recordkeeping, and staff training.

An illicit discharge is defined as any direct or indirect non-storm water discharge to the MS4. The National Pollutant Discharge Elimination System (NPDES) regulates the discharge of storm water under the authority of the Federal Clean Water Act. The Ohio Environmental Protection Agency (OEPA) is the designated authority to administer NPDES within the State of Ohio.

Under this authority, OEPA has issued NPDES permits regulating the discharge of storm water. The Village of Shawnee Hills is under the regulation on the Small Municipal Storm Water Permit issued on September 11, 2014. The current permit will remain in effect until September 10, 2019, after which a new permit will be issued. As of January 1, 2020. a new permit has not been approved and issued by the Ohio EPA.

This document was created by the Village of Shawnee Hills to address public health concerns and water quality issues related to illicit discharges in the Village of Shawnee Hills. It has been determined that illegal connections to storm sewer lines, and spills as the major illicit discharges in the Village's jurisdictional area.

Please note that the Village does not have any home sewage treatment systems (HSTS), within the Village limits. Therefore, we have excluded discussions of HSTS from this document.

This plan describes specific responsibilities of the Village under the Storm Water Management Plan (SWMP). The Village's IDDEP includes a dry weather storm water outfall screening protocol, the plan and approach for investigation and the elimination of specific types of discharges. The Village has been conducting inspections of the outfall for several years however this document will help establish a set reporting protocol.

Table 1 lists Ohio EPA permit requirements for Illicit Discharge Detection and Elimination and the Village's corresponding responsibility as contained in its SWMP.

The Village is responsible for administering the plan and compiling compliance data for annual reporting to Ohio EPA.

Table 1. OEPA and the Village's Requirements for IDDE

Ohio EPA NPDES General Permit Requirements	Storm Water Management Plan Requirements
Ordinance or Other Regulatory Mechanism	Ordinance prohibiting illicit discharges into the storm sewer system and post to the Village website and develops procedures to enforce the ordinance. https://www.amlegal.com/codes/client/shawnee-hills_oh/ [Section 929]
Storm Sewer System Map	Complete storm system inventory that locates outfalls including catch basins, pipes, ditches, flood control facilities, and post construction best management practices.
HSTS Mapping and List	N/A since there are no HSTS locations in the Village limits.
IDDE Plan	Development of a plan to eliminate significant sources of pollution.
Dry-Weather Screening of Outfalls	Dry weather screening of all known outfalls within the Village per the IDDE Plan developed in the above listed BMP's.

2. General Permit Information

The Village of Shawnee Hills's Small MS4 Storm Water General Permit (OHQ000003) issued by the Ohio EPA. Requirements for the SWMP are regulated by the Ohio EPA through the National Pollutant Discharge Elimination System (NPDES) general permit for Small Municipal Separate Storm Sewer Systems (MS4). The permit requirements addressing six minimum measures:

1) Public Education and Outreach
2) Public Participation/ Involvement
3) Illicit Discharge Detection and Elimination
4) Construction Site Stormwater Runoff Control
5) Post Construction Stormwater Management in New Development and Redevelopment
6) Pollution Prevention/Good Housekeeping for Municipal Operations.

This document is required to assist the Village is obtaining the regulations for fulfilling Minimum Control Measure #3 of the MS4 Permit.

3. Collaborating Agencies

The Village collaborates with several other departments within and around Delaware County that are dedicated to protecting and managing water resources. The following agencies that are involved with this effort include:

Delaware County Engineer's Office
Delaware County General Health District
Delaware Soil and Water Conservation District

4. Authority for Stormwater Regulations

The Village of Shawnee Hills has the authority to enforce the Village's Ordinance No. 01-2012 https://www.amlegal.com/codes/client/shawnee-hills_oh/ [Section 929.09] and Ohio Revised Code 6111, 3718, 3767, 3718.011 and any others that pertain to storm water health for the resolution of known illicit discharges.

5. Stormwater and HSTS Identification

Mapping of the stormwater infrastructure is almost complete with only minimal portions of the system needing to be identified and put into the Village's GIS system. There are no known HSTS in the Village limits.

The Village of Shawnee Hills has located all the outfalls to the Scioto River (O'Shaughnessy Reservoir) and has completed dry weather visual screening on these outfalls.

Dry Weather Outfall Identification

Dry weather outfall screening involves locating all known outfalls within the MS4 and performing inspections at these locations. The objective of dry weather field screening is to develop an assessment of dry weather discharges from MS4s in order to target future illicit discharge investigations toward sources with the highest probability of causing water quality concerns.

Dry weather inspections are a visual inspection of the outfall location. Dry weather is defined as a minimum of 72 hours of no rainfall (<0.1") within an area. When dry weather flows are observed at an outfall, the flow is non-storm water related which can be from an illicit discharge or other action. Likewise, if no flow is observed during a dry weather screening, it does not mean there are no problems upstream.

The known storm water outfall locations within the Village are shown on **Figure 1**.

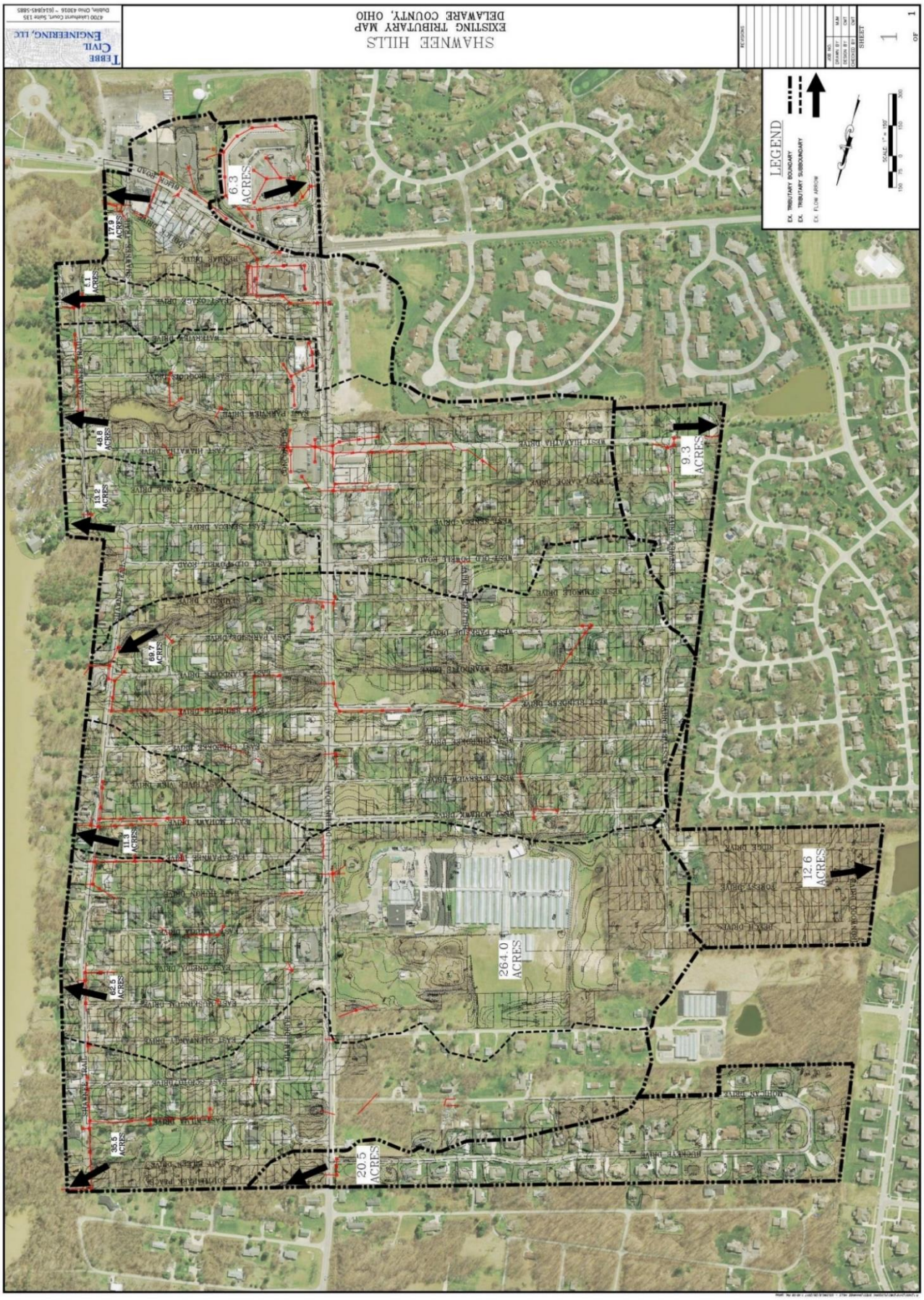

Figure 1 – Known outfall locations within Village Boundaries

Priority Areas

A priority area within the community is an area where the potential for an illicit discharge exists. These can be broken down into a list of common, high-probability locations where illicit discharges may occur such as:

- Past problems – Areas where problems have occurred in the past. This may include locations with known problematic water quality data as well as areas where numerous complaints have been received.
- Older areas – Areas within the community that are older and may be more suspect of illegal connections and/or have deteriorating sewer lines leading to stormwater infiltration.
- Commercial areas – Development areas within the Village of commercial users that have historically significant numbers of water quality concerns.

A list of the Village's priority areas has been identified in **Table 2**.

Table 2. Priority Areas within the Village of Shawnee Hills for Illicit Discharges

Priority Area	Suspected Source
Unincorporated areas	HSTS
Commercial Properties	Spills/Accidents
Roadway Areas	Spills/Accidents

6. Inspection Process

An Illicit Discharge Detection and Elimination Plan has been established to inspect and identify illicit discharges within the Village MS4. Once priority areas are established within the Village as hot spots, visual inspection/identification and sampling/analysis will be conducted.

Dry Weather Outfall Visual Screening

The dry weather inspection process will include the following steps:

1) Notify the public prior to the field inspection visit via utility bill, Village website, newsletter or other by direct notification.
2) Field team will consist of a minimum of two (2) Village Staff (and\or Village Engineer).
3) Current Village GIS storm system mapping information will be used showing the outfall.
4) Complete a field form (**See Appendix A**). This data is incorporated into an electronic database that allow the outfall information to be tracked and otherwise integrated with the Village's GIS system.

   At a minimum, this will involve observations of the following:

   - Outfall Number
   - Date, Time, Field Crew names
   - Time of last rainfall
   - Flows during dry weather conditions
   - Water clarity and color
   - Presence of foam, oil sheen, trash, and/or floatable materials*
   - Presence of bacterial sheen or slimes*

- Staining of the banks, outfall structure, and/or vegetation*
- Excessive vegetative growth*
- Odor*

* These characteristics are to be documented even if no flow is observed at the time of inspection.

The field data collection form used in the outfall screening process in provided in **Appendix B.**

Citizen Complaint Calls

The Village maintains records of citizen complaints, including storm water related issues. The Village will work to identify relevant citizen complaint records to assist in identifying potential illicit discharge issues. We have included copies of the *Wet Basement & Stormwater Questionnaire* and *Drainage Assistance Request and & Response* Forms that are used for tracking complaints. (**See Appendix C**)

Staff Observations

During normal daily operations conducted by Village Staff they may observe evidence of illicit discharges. In addition, these staff may conduct their routine activities in a manner that results in an illicit discharge. Under this Plan, staff will be trained regarding illicit discharges and provided information on appropriate channels for reporting them. This training is closely aligned with training regarding pollution prevention/good housekeeping activities under Minimum Control Measure # 6 and will be incorporated as part of the Village's annual training program.

Field staff that will participate in illicit discharge detection and elimination related activities will be trained regarding:

- The definition of illicit discharges/connections
- Techniques for finding, identifying and reporting
- Techniques for analyzing and recording observations
- Methods/procedures for eliminating

7. Visual Inspections/Manhole Observations

This technique involves following dry-weather flows from the identified illicit discharge outfall upstream along the drainage system to determine the potential boundaries of the source. The Village's storm sewer mapping will be useful to determine the next upstream manhole with a junction to search for evidence of discharge.

Staff shall utilize the mapping to determine if other junction lines are entering the main storm system that might need inspected. The visual inspection/observation is repeated until a junction is found with no evidence of flow. Key observations at this stage can include flow, odor, color, stains/deposits, oil sheen/scum/foam or standing water.

Sampling can also assist with this process. This investigation method is generally necessary before conducting other investigation efforts.

8. Communication and Outreach

The success of the IDDE plan relies on educating the public and stakeholders and providing opportunity for community participation. The information being communicated to the public will help them understand the IDDE plan, why it is required, its purpose, who is responsible for its implementation, how it will be implemented, and how it affects their community.

Sources

This document used sources to compile relevant information and tailor to the Shawnee Hills community. The sources reviewed include:

The City of Delaware, Ohio Illicit Discharge Detection and Elimination Plan, October 2014

Center for Watershed Protection and Robert Pitt. Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments. October 2004. U.S. Environmental Protection Agency, Washington, D.C.

Cuyahoga County Board of Health. Illicit Discharge Detection and Elimination Manual: A Guidance Manual for Municipalities in the State of Ohio. July 2006. Parma, Ohio.

Franklin County Stormwater Management Program. Illicit Discharge Detection and Elimination Plan. November 2013. Columbus, Ohio.

Appendix A

TEMPLATE FOR COMPLAINT CALL TRACKING

Illicit Discharge Hotline Incident Tracking Sheet

Incident ID:	
Responder Information	
Call taken by:	Call date:
Call time:	Precipitation (inches) in past 24-48 hrs:
Reporter Information	
Incident time:	Incident date:
Caller contact information (*optional*):	

Incident Location *(complete one or more below)*			
Latitude and longitude:			
Stream address or outfall #:			
Closest street address:			
Nearby landmark:			
Primary Location Description	**Secondary Location Description:**		
☐ Stream corridor *(In or adjacent to stream)*	☐ Outfall	☐ In-stream flow	☐ Along banks
☐ Upland area *(Land not adjacent to stream)*	☐ Near storm drain	☐ Near other water source (storm water pond, wetland, etc.):	
Narrative description of location:			

Upland Problem Indicator Description		
☐ Dumping	☐ Oil/solvents/chemicals	☐ Sewage
☐ Wash water, suds, etc.	☐ Other: _____	

Stream Corridor Problem Indicator Description				
Odor	☐ None	☐ Sewage	☐ Rancid/Sour	☐ Petroleum (gas)
	☐ Sulfide (rotten eggs); natural gas	☐ Other: Describe in "Narrative" section		
Appearance	☐ "Normal"	☐ Oil sheen	☐ Cloudy	☐ Suds
	☐ Other: Describe in "Narrative" section			
Floatables	☐ None:	☐ Sewage (toilet paper, etc)	☐ Algae	☐ Dead fish
	☐ Other: Describe in "Narrative" section			
Narrative description of problem indicators:				
Suspected Violator (name, personal or vehicle description, license plate #, etc.):				

Investigation Notes	
Initial investigation date:	Investigators:
☐ No investigation made	Reason:
☐ Referred to different department/agency:	Department/Agency:
☐ Investigated: No action necessary	
☐ Investigated: Requires action	Description of actions:
Hours between call and investigation:	Hours to close incident:
Date case closed:	
Notes:	

Appendix B

TEMPLATE FOR OUTFALL SCREENING

STORM WATER OUTFALL DRY WEATHER SCREENING INSPECTION FORM
VILLAGE OF SHAWNEE HILLS, OHIO

Pipe/Outfall Location & Description: _____ Weather: _____

Waterway: _____ Outfall ID: _____ Pipe Size: _____ Pipe Material: _____

NOTES:

Inspector(s) Name(s): _____

Date of Inspection: _____

Time of Inspection: _____

Date of Last Rainfall: _____

Amount of Last Rainfall (in): _____

Is pipe/outfall active? _____

If active, is flow sufficient to sample? _____

FLOW/DISCHARGE ESTIMATE (for active outfalls)

Velocity: slow (<2 ft/s) Moderate (2-5ft/s) Fast (> 5ft/s)

Water Level in Pipe/Channel: _____inches.

OUTFALL SCREENING RESULTS

VISUAL OBSERVATIONS (evaluate and add notes as applicable at each item or in the comments section)

Is outfall submerged? _____

Damaged? _____

Stains/Deposits/Sediment at Outfall? _____

Algae Growth at Outfall? _____

Abnormal Vegetation at Outfall? _____

Unusual Water Color? _____

Unusual Odor? _____

Turbidity? _____

Floatables? _____

Surface Sheen? _____

Detergents? _____

SAMPLE RESULTS Outfall

pH:_____S.U.

TSS: _____MG/L

CL2: _____MG/L

Temp: _____F

NH3: _____MG/L

CU: _____MG/L

Additional Comments/Observations:

_____

_____

_____

_____

Appendix C

WET BASEMENT & STORMWATER QUESTIONNAIRE

DRAINAGE ASSISTANCE REQUEST FORM

DRAINAGE ASSISTANCE RESPONSE FORM

VILLAGE OF SHAWNEE HILLS
WET BASEMENT & STORMWATER QUESTIONNAIRE

If you believe your Village neighborhood has sanitary sewer or stormwater drainage issues that need to be addressed, please complete the following survey for the Village of Shawnee Hills to review and investigate.

1. **Name** _____ **Home Phone:**_____

   Address _____ **Daytime Phone:** __

2. **How long have you lived at this address?** _____(years)

3. **Check any problems you have observed:**
   _____ Street flooding. Name the street(s) and nearest intersection or address: _____
   _____
   _____ Yard flooding
   _____ Water backing up through a basement floor drain
   _____ Water coming in the structure other ways, such as through the wall or window
   _____ Streambank erosion
   _____ Other - please describe: _____
   _____

4. **Describe the location affected by these problems.** Attach a sketch or additional information if it may be helpful.
   _____
   _____

5. **Describe the problem in detail, including the date**. Enclose photos or video if available. Use additional paper if necessary.
   _____
   _____
   _____
   _____

6. **If the problem is street flooding:** Date of last occurrence? _____
   a. How deep does the water get during each occurrence? _____
   b. How long does the problem last during each occurrence? _____
   c. How often does this problem occur in a typical year? _____
   d. How long has this problem existed, to your knowledge? (check one)
   ___Less than 1 year ____ 1-5 years ___ 5-10 years ____ 10-20 years ____ Over 20 years
   e. Does the problem result in any damage? ___No ___Yes. Describe:_____
   _____

7. **If the problem is yard flooding:** Date of last occurrence? _____
   a. How deep does the water get during each occurrence? _____
   b. How many of the neighboring properties are you aware of that are also affected by this problem?_____

c. How often does this problem occur in a typical year? _____

d. How long has this problem existed, to your knowledge? (check one)

___Less than 1 year ____ 1-5 years ___ 5-10 years ____ 10-20 years ____ Over 20 years

Yard Flooding (continued)

e. Describe the problem:

____ Flowing water that occurs during a storm, which is usually gone within one day after the rain event. If longer, how long? _____

____ Pockets of standing water or soggy yard due to yard grading, problem usually gone 1-2 days after the rain event. If longer, how long?_____

____ Yard flooding due to a stream or ditch

____ Other – please describe:_____

f. Does the problem result in any damage? ___No ____Yes Describe:_____

_____

8. **If your property has had basement or interior flooding:** Date of last occurrence? _____

a. Describe the appearance of the water:

_____ Clear with minimal odor

_____ Muddy with minimal odor

_____ Muddy with strong sewer odor

_____ Other (describe) _____

b. How deep was the water when the problem occurred? _____

c. How long does the flooding last during each occurrence? _____

d. How many of the neighboring properties are you aware have the same problem? _____

e. Describe how the water entered the basement or lower level:

____ Floor Drains

____ Toilet or sink

____ Cracks in the floor/walls

____ Windows/doors

____ Don't know

f. How often does this problem occur in a typical year? _____

g. How long has this problem existed, to your knowledge? (check one)

___Less than 1 year ____ 1-5 years ___ 5-10 years ____ 10-20 years ____ Over 20 years

h. Do you consider the problem to be: ____ severe or _____ a nuisance

i. Does the problem result in any damage? ____ No ____ Yes Describe:_____

_____

9. **If the problem is streambank erosion:**

a. Does the erosion appear to be endangering any structures? ____ No ____ Yes Describe: _____

b. How many of the neighboring properties are you aware have the same problem? _____

10. When was the worst flooding or wet basement event in the last 10 years that you remember? Please describe and give date of occurrence if known._____

_____

11. Have you called the Village to check the area storm or sanitary sewer lines for blockages during these occurrences? _____Yes ____ No
How often would you say you have had to call them over the past five years? _____

12. Have you needed to hire a private plumbing company to service your private property lines or your lateral (connection to Village line) in the last five years? ____Yes ____No
Result: ____ line or lateral replaced ____ line or lateral repaired or cleaned ____ other

13. Property characteristics (please check all that apply):

____ Property has a basement
____ No basement, sits on concrete slab
____ No basement, sits above a crawl space
____ Drainage ditch or swale
____ Buried storm sewer pipe
____ Sump pump
____ A "depressed driveway" (driveway sloping down to a garage on the lower level)
____ Foundation perimeter drains connected to the sanitary sewer (drains through basement drains)
____ Foundation perimeter drains connected to the storm sewer (usually drains to the curb)
____ Roof and gutter drains connected to the sanitary sewer
____ Roof and gutter drains connected to the storm sewer
____ Yard grading that slopes toward the house
____ Yard grading in your area that is very flat, creating ponds of water after a rain in some areas
____ Curb and gutter at the street
____ No curb/gutter but grate top catch basin near the street
____ Roadside ditch at the street with culvert under the driveway
____ Single family home
____ Multi-family home
____ Commercial property

Thank you for your input. Public input is used to help identify infrastructure and rehabilitation needs and to help prioritize capital improvement projects in the Village of Shawnee Hills. Please send your completed survey to:

Christopher M. Tebbe, P.E.
Owner
Tebbe Civil Engineering, LLC.
4700 Lakehurst Court, Suite 135
Columbus, Ohio 43016
Tel: 614-845-5885
chris@tebbecivil.com

or drop it off at the Village Hall

Village of Shawnee Hills, Ohio
9484 Dublin Road
Shawnee Hills, Ohio 43065
Phone: (614) 889-2824
e-mail: info@shawneehillsoh.org
Website: www.shawneehillsoh.org

Drainage Assistance Request Form

To Request Drainage Assistance, Please Complete and Submit This Form.

Your Name: _____

Home Telephone: _____

Daytime Telephone: _____

E-mail Address: _____

Mailing Address: _____

_____

Location of Problem (Street Address): _____

_____

Describe Drainage Problem:

_____

_____

_____

_____

Date Drainage Issue Occurred: _____

Other Useful Information:

_____

_____

_____

_____

_____

_____

***Please e-mail any photos or additional information to info@shawneehillsoh.org ***

If you prefer, you can print and forward the Drainage Assistance Request Form along with any additional material to the Municipal Building at 9484 Dublin Road.

Village of Shawnee Hills, Ohio
9484 Dublin Road
Shawnee Hills, Ohio 43065
Phone: (614) 889-2824
e-mail: info@shawneehillsoh.org
Website: www.shawneehillsoh.org

Drainage Assistance Response Form

_____Year_____ - __Investigation #_____.

Date Inspected: ___ / ___ / ___ Inspected By: _____ Conditions: _____

(Insert Location Map)
(Insert Site Visit Photo)

Village of Shawnee Hills, Ohio
9484 Dublin Road
Shawnee Hills, Ohio 43065
Phone: (614) 889-2824
e-mail: info@shawneehillsoh.org
Website: www.shawneehillsoh.org

(Insert Site Visit Photo)

Site Condition Assessment: _____
_____
_____
_____
_____
Recommended Corrective Measures: _____
_____
_____
_____
Party Responsible for Corrective Measures: _____
Response Sent to Resident:
Date: ___ / ___ / ___ By: _____ Via: _____