

Memorandum

To: Dan Fabian, BWSR Board Conservationist
From: Jen Koehler, PE, and John Hanson, PE
Subject: State of Minnesota Clean Water Fund (CWF) grant (C15-2471), VBWD Kelle's Creek Septic System Inspection Program
Date: 12/7/2018
Project: 23/82-1116 001 0030
C: VBWD Board of Managers

1.0 Introduction/Background

Kelle's Creek is a perennial, spring-fed creek located in the city of Afton, Washington County, Minnesota, in the southern portion of the Valley Branch Watershed District (VBWD). Kelle's Creek discharges to the St. Croix River just south of downtown Afton and has a watershed that is approximately 2.5 square miles in size. Land use in the watershed is predominantly agricultural and very low-density residential (MPCA 2016). Karst features, including springs, are found within the Kelle's Creek watershed. Karst features can cause an area to be highly susceptible to groundwater pollution because rainwater and pollutants can easily flow through networks of subsurface passages created by dissolved rock. The uplands in the upper portions of the Kelle's Creek watershed are identified as sensitive karst areas (EOR 2007).

Kelle's Creek does not meet Minnesota water quality standards for pathogen indicator bacteria *Escherichia (E.) coli*. The creek has been listed on the Clean Water Act Section 303(d) List of Impaired Waters since 2012 due to *E. coli* levels that typically exceed the monthly geometric mean standard of 126 *E. coli* organisms per 100 mL. *E. coli* bacteria is used in water quality monitoring as an indicator organism to identify water that is contaminated with human or animal waste and disease-causing organisms which accompany this waste. Bacterial abundance in excess of the water quality standards can pose a human health risk (MPCA 2016).

In 2015, Barr Engineering Co. developed a TMDL for the Minnesota Pollution Control Agency (MPCA) to address the bacterial impairment on Kelle's Creek. Barr analyzed sources of bacterial loading and used daily water quality and discharge data to develop a loading curve for Kelle's Creek. Non-point sources of *E. coli* in Kelle's Creek included the following:

- Septic systems and human waste
- Stormwater runoff and pets
- Fecal matter from livestock and grazing animals
- Land application of manure and biosolids
- Fecal matter from wildlife

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For each non-point source of pollution, Barr considered *E. coli* availability and delivery potential to the creek to determine which sources contribute the most pollution to Kelle's Creek. Loading from humans, primarily from inadequately treated wastewater, is the dominant source of bacteria to Kelle's creek in both wet and dry weather conditions. This is due to the fact that wastewater generated in the watershed is treated entirely by septic systems (SSTS), and the high sensitivity of the groundwater to pollution due to karst topography makes it likely that pollution from SSTS can easily move through the subsurface environment to Kelle's Creek. Non-compliant SSTS made up 60–84 percent of all bacterial load to Kelle's Creek, depending on flow conditions. Barr's analysis calculated a total maximum daily bacterial loading capacity between 3.12 and 0.77 billion organisms per day, depending on the amount of daily flow. To meet water quality standards, the required reductions from existing loads ranged from 96 percent to 50 percent, depending on the amount of daily flow.

A total of 160 septic systems (SSTS) serving 381 people are in use in the Kelle's Creek watershed. Many of the SSTS in the watershed are located very close to the groundwater table and are very old. Combined with subsurface karst topography, this creates a high risk for surface water pollution from SSTS. At the time of the TMDL study, Barr, based on information from Washington County, estimated that 25–30 percent of the systems were non-compliant, meaning that they are either a risk to human health and safety or a risk to groundwater (LeClair, Washington County 2013).

2.0 Program Summary

2.1 Program Development

To reduce the *E. coli* load in Kelle's Creek and effectively address the cause of the stream's impairment, steps were needed to reduce the amount of inadequately treated wastewater from SSTS in the watershed. Starting in 2015, Valley Branch Watershed District (VBWD), in partnership with Washington County Health and Environment (WCPHE) staff, developed a program to detect non-compliant SSTS in the Kelle's Creek watershed through incentivizing voluntary SSTS inspection. The VBWD applied for and received a State of Minnesota Clean Water Fund (CWF) grant (C15-2471) to fund the inspection program.

During development of the program, representatives from VBWD, WCPHE, Washington County Housing and Redevelopment Authority, the University of Minnesota Extension, East Metro Water Resources Education Program (EMWREP), and Barr met to identify incentives for voluntary participation, the best methods to advertise the program, and a method for coordinating and tracking the SSTS inspections. Barr, for the VBWD, developed a program scope which included providing free SSTS inspections to homeowners to determine whether systems were compliant. The program also outlined when septic system inspections were typically required by ordinance, including: prior to home sale (unless the home was less than 5 years old), prior to the expansion of a property (e.g., addition of a bedroom or bathroom), or as otherwise deemed necessary by Washington County.

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If a system was non-compliant, officials would work to connect the homeowner with potential funding sources for SSTS replacement. Throughout the planning process, Barr made presentations to the Afton City Council and the VBWD Board to get input on the program's goals and plans for implementation.

Reaching out and communicating with homeowners of the Kelle's Creek watershed was an important part of developing the SSTS inspection program. To encourage residents to participate, Barr and EMWREP staff used several different methods to inform residents about the program. Program information was made available on the VBWD website. Outreach included an open house in Afton, post card mailings at the beginning of the program and subsequent springs while the program was continuing, and information included in the City of Afton newsletter. Educational materials were also posted on the East Metro Water Resource Education Program blog.

2.2 CWF Inspection Program

The CWF SSTS inspection program was launched in April of 2016, and inspections occurred from 2016 through 2018. The VBWD offered free SSTS inspections by a state-licensed inspector to all property owners within the Kelle's Creek watershed; these typically cost \$400. The VBWD advertised the inspections as a way to directly improve the water quality of Kelle's Creek.

Participation in the program was voluntary and required a property owner to submit an application to the VBWD. By submitting this application, the landowner was voluntarily agreeing to participate in the program and authorizing the VBWD to begin the septic system inspection process. The VBWD worked with two different septic system inspectors and CWF grant funds paid only for the program development and the initial SSTS inspection. The inspection determined whether a system was in compliance with regulations. To determine compliance, the inspectors used the Minnesota Pollution Control Agency's (MPCA) inspection form, examining the septic tanks and soil treatment areas to confirm that:

- Septic tanks were watertight.
- There was no ground surface sewage discharge or backup into the house.
- There was adequate vertical separation between the soil treatment area and saturated soil or bedrock.
- The systems met the requirements outlined in the Washington County Subsurface Sewage Treatment System Regulations.

If a system was found to be compliant, the property owner received a certificate of compliance (good for three years) and no further action was required. If a system was classified as noncompliant by the inspector, the report was reviewed by Washington County, The County determined if a system upgrade or replacement was required. If so, the VBWD worked to connect the property owner with funding resources,

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namely through Washington County financial assistance programs and a cost-share program funded by the VBWD. The VBWD Kelle's Creek Septic System Cost-Share Program will be discussed in more detail in Section 2.3 of this memorandum. The financial assistance from Washington County included low-interest loans or grants for low-income households (VBWD 2017). Per the City of Afton/Washington County septic system ordinance, homeowners have six months from the notification date to make the necessary upgrades. If the system is classified as an imminent threat to public health it must be replaced within 90 days of notification.

2.3 VBWD Cost-Share Program

The VBWD Managers understood that property owners could be discouraged from participating in this voluntary program by the possibility that their SSTS would be found noncompliant. To incentivize participation in the program, the VBWD developed and funded the Kelle's Creek Septic System Cost-Share Program. The cost-share program was developed and funded by the VBWD (separate from the CWF SSTS inspection program grant and match funds) to encourage property owners to participate in the program and replace noncompliant SSTS.

Property owners with noncompliant systems could submit a cost-share application to be reviewed by the VBWD Board of Managers. The program funded 25 percent of the estimated replacement cost of the noncompliant SSTS, up to \$5,000 dollars (VBWD 2017). In addition to the application form, the septic system inspection report (indicating system noncompliance) and two quotes for the proposed system work needed to be submitted as part of the application process. This program continued through the end of 2018.

3.0 Results

From 2016 through 2018, 23 septic system inspections were completed as part of the Kelle's Creek septic system inspection program. Additionally, 16 septic system inspections were completed within the Kelle's Creek watershed between 2012 and 2017 (separate from the VBWD program) as the result of homes sales, property expansions, etc., based on the Washington County database). Of the 39 inspections (~25% of septic systems in the watershed), 22 SSTS (56%) were found to be noncompliant, a higher rate than estimated during the TMDL development. Reasons for noncompliance included tank integrity and soil separation concerns; however, no systems inspected were flagged as an imminent threat to public health.

Figure 1 shows the results of the VBWD inspection program along with the other septic system inspections completed from 2012 through 2018. The figure shows parcels that include septic systems in the Kelle's Creek watershed, parcels that were connected to the City of Afton community septic system, the locations of compliant and non-compliant SSTS, and locations of replaced systems (through either the VBWD cost-share program or based on review of the Washington County septic system database).

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Ten landowners applied for participation in the VBWD cost-share replacement program, with nine of the 10 systems being replaced to date. The VBWD cost-share grant provided \$36,096 to landowners who replaced noncompliant septic systems in the Kelle's Creek watershed. This translates to an average cost-share payment of approximately \$4,010 per system. Additionally, since 2012, six other systems were replaced separate from the VBWD cost-share program and 13 septic systems were removed and connected to the City of Afton community septic system.

In addition to reducing bacterial pollutant loading to Kelle's Creek, replacing noncompliant septic systems can reduce nutrient loading to downstream resources. According to the University of Minnesota Extension Onsite Sewage Treatment Program Septic System Improvement Estimator, the 10 replaced SSTS will prevent 3.17×10^{14} CFU of bacteria per year from reaching the groundwater in the Kelle's Creek watershed (Heger 2013). Nutrient loading will also be reduced to Kelle's Creek and Lake St. Croix, which is located immediately downstream from Kelle's Creek and is impaired for excess nutrients. Replacement of the 10 noncompliant septic systems is estimated to have resulted in the removal of approximately 46 pounds of total phosphorus and 80 pounds of nitrogen per year from groundwater.

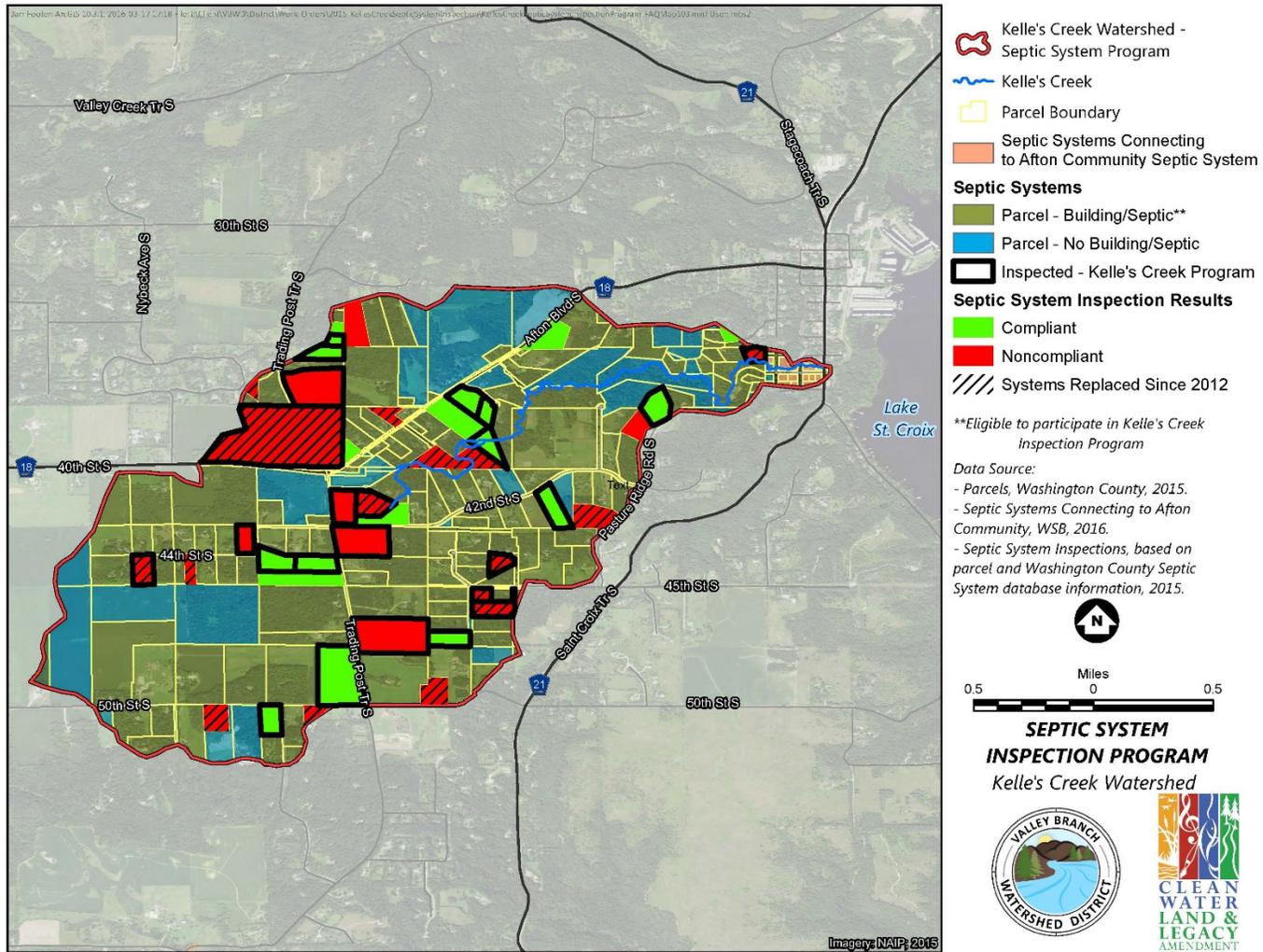


Figure 1. Map showing compliant and noncompliant septic systems located in the Kelle's Creek watershed, including those inspected through the Kelle's Creek program and those subsequently updated

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4.0 References

Emmons and Olivier Resources. 2007. "Karst Feature Inventory and Management Plan." Prepared for the Lower St. Croix Watershed Management Organization.

Heger, Sarah. 2013. "Septic System Improvement Estimator." University of Minnesota Water Resources Center Onsite Sewage Treatment Program. Available: <https://septic.umn.edu/ssts-professionals/forms-worksheets#SSIE>.

LeClaire, Chris. 2013. Personal Communication. Phone conversation with Chris LeClair of Washington County Public Health and Environment in April 2013.

Minnesota Pollution Control Agency. 2016. "Valley Branch Watershed District Total Maximum Daily Load." Available: <https://www.pca.state.mn.us/sites/default/files/wq-iw6-12e.pdf>.

Valley Branch Watershed District. 2017. "Kelle's Creek Septic System Inspection Program." Available: http://www.vbwd.org/projects/kelle_s_creek/index.php.

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Attachment A: VBWD Kelle's Creek Septic System Program Materials

Kelle's Creek Watershed Septic System Inspection Program



April 22, 2016

Re: Kelle's Creek Watershed Septic System Inspection Program

Dear resident of the Kelle's Creek watershed:

The Valley Branch Watershed District (VBWD) has obtained a State of Minnesota Clean Water Fund (CWF) grant to develop a voluntary septic system inspection pilot program for qualifying properties located within the Kelle's Creek watershed in Afton, Minnesota. Kelle's Creek does not meet Minnesota Pollution Control Agency (MPCA) water quality standards. It is classified by the MPCA as impaired, due to high levels of *E. coli* bacteria—typically associated with human and animal waste. According to a water quality study of Kelle's Creek, one of the primary sources of the *E. coli* bacteria is noncompliant (failing) septic systems.

With the CWF grant funds, the VBWD is able to offer FREE septic system inspections (normally \$400–500) to qualifying property owners within the Kelle's Creek watershed to help identify systems that may be polluting Kelle's Creek and shallow groundwater in the area. Proactive inspection and subsequent improvements to noncompliant systems will have a direct, positive effect on the water quality of Kelle's Creek and reduce threats to public health.

The Kelle's Creek watershed septic system inspection program is entirely voluntary. If you are interested in participating, an application must be submitted to the VBWD to start the process. A state-licensed inspector will then make an appointment with you to perform the system inspection. Again, there will be no charge to you for this service.

If your septic system is classified as compliant, you will receive a copy of the inspection report to serve as a certificate of compliance and no further action will be required. However, if the inspection shows that your system does not comply with state and local ordinances, the report will be reviewed by Washington County and a system upgrade or replacement may be required.

To help offset the financial burden of upgrading or replacing a noncompliant septic system, there are two sources of financial assistance available to property owners in the Kelle's Creek watershed:

- Low-interest loans and low-income grants offered through Washington County
- A cost-share program offered by the VBWD, covering 25% of upgrade/replacement costs for non-compliant systems, up to \$5,000

Program funded in part by



Enclosed is a flyer that provides additional details about the Kelle's Creek watershed septic system inspection program and answers to frequently asked questions. The VBWD septic system inspection application is also enclosed; if you are interested in participating in the program, please complete the application and return it to me at the address provided on the form. Additional details can be found on the VBWD website at <http://www.vbwd.org/KellesCreek.html> If you have further questions, please call or email me (952-832-2750, jkoehler@barr.com).

Sincerely,

A handwritten signature in cursive script that reads "Jennifer Koehler".

Jennifer Koehler, P.E.
Barr Engineering Co
Engineers for the Valley Branch Watershed District

Enclosures – FAQ, Watershed Map, Flyer, and Septic System Inspection Application
c: VBWD Board of Managers
Washington County Board of Commissioners

Kelle's Creek Watershed Septic System Inspection Program



VB Valley Branch
Watershed District

Valley Branch Watershed District (VBWD) Septic System Inspection Application Steps

The Valley Branch Watershed District (VBWD) has obtained a State of Minnesota Clean Water Fund grant to develop a voluntary septic system inspection program for all properties within the Kelle's Creek watershed in Afton, Minnesota. This program is entirely voluntary; owners who wish to participate must complete and submit an application to the VBWD to begin the inspection process. If, upon inspection, a septic system is found to be noncompliant, Washington County, on behalf of the City of Afton, may order the system to be replaced or upgraded.

Six steps for participating in the VBWD Septic System Inspection Program

- 1 Determine whether your property is located within the Kelle's Creek watershed and if you are qualified to participate in the septic system inspection program.
- 2 If your property is located within the Kelle's Creek watershed, complete the VBWD Septic System Inspection Application form (below). Note: you must be the **property owner** to apply for this program. Make sure that the application is complete and submit it to Barr Engineering Co. (engineers for the VBWD), as outlined in the application.
- 3 Once you have submitted the VBWD Septic System Inspection Application, Barr Engineering Co. will coordinate with state-certified septic system inspectors to begin the inspection process. The septic system inspector will contact you (typically within two weeks of receiving the application) to coordinate a time for your system inspection. The inspector may ask you to provide any information you have regarding your septic system and ask that you locate the septic tank and soil treatment area on your property.
- 4 Once your septic system has been inspected, the inspector has 15 days to file the inspection report with Washington County. A copy of the report will also be provided to you (the landowner) and the VBWD. If the system is determined to be compliant, the copy of the inspection report will serve as the certificate of compliance and no further action will be necessary. If your system is determined to be noncompliant, the inspection results will be reviewed further by Washington County. Upon this additional review, the County may send you (the property owner) a notice of noncompliance and an order to replace or upgrade the septic system.

Program funded in part by



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If you receive an order to upgrade/replace your septic system, you will be required to perform the necessary upgrades to or replacement of the system within the time frame outlined in the City of Afton Subsurface Sewage Treatment System Ordinance.

As the property owner, you will be responsible for:

- Costs associated with the system design by a state-licensed septic system designer.
- Obtaining construction bids from septic system installation contractors and the costs associated with the replacement of the septic system.
- Obtaining a permit from Washington County for the replacement of the septic system and associated permit fees.

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There are sources of financial assistance to help alleviate the financial burden of septic system upgrades. Please see the [Washington County website](#) for information on their low-income grant and low-interest loan programs.

Additionally, the VBWD has established a cost-share program for the replacement of noncompliant septic systems in the Kelle's Creek watershed. This program will cover 25% of the estimated replacement cost, up to \$5,000. Please see the [VBWD Septic System Cost-Share Application](#) for the Kelle's Creek watershed for more details.



VB Valley Branch
Watershed District

Kelle's Creek Watershed Septic System Inspection Program

Valley Branch Watershed District (VBWD) Septic System Inspection Application

To be completed by VBWD

Date received: _____

Return application to:

Jen Koehler
Barr Engineering Co. (Engineers for VBWD)
4300 MarketPointe Drive
Bloomington, MN 55435
jkoehler@barr.com

Project and contact information

Name of landowner/applicant

Street address

City

State

Zip

Parcel identification number (if known)

Phone(s)

E-mail address(es)

Preferred method of contact (phone or email)

Preferred contact day/time

Mailing address (if different from above)

Property and septic system information

Property address

Year home built

Year home purchased

Number of bedrooms

Number of bathrooms

Approximate age of septic system (if known)

When was your current system last pumped? Date(s)

Have you had your septic system inspected within the past 3 years? Yes No If yes, what year?

Program funded in part by



Where is the septic system (septic tank and soil treatment area) located on your property?
(Type description or make a sketch in the space provided)

Certification

I/We certify that by signing this application form that the information stated on the form is true and correct to the best of my/our knowledge and that I/we am/are interested in participating with the Valley Branch Watershed District in inspecting the septic system on the property listed in this application. I/we am/are the owners of the property listed in this application, and I/we give permission for a septic system inspector to enter the property listed in this application for purposes of inspecting the septic system. I/We recognize that by authorizing the inspection of the septic system on my/our property, a notice of noncompliance and order to replace the system may be issued by Washington County on behalf of the City of Afton. If so, I/we will be responsible for upgrading/replacing the system in the time frame outlined by the City of Afton ordinance.

Applicant signature _____

Date _____

Frequently Asked Questions (FAQ)

1. What is the Kelle's Creek Septic System Inspection Program? The purpose of this voluntary pilot program is to inspect existing subsurface sewage treatment systems within the Kelle's Creek watershed. The Valley Branch Watershed District (VBWD) will hire state-licensed professionals to inspect septic tanks and soil treatment areas of willing landowners to determine whether systems meet public health and environmental protection standards.

2. When are septic system inspections typically required? Per the Washington County Subsurface Sewage Treatment System Regulations, septic system inspections are required:

- Prior to the sale of property, unless the age of the system is less than 5 years.
- Prior to the expansion of property (e.g., addition of bedrooms).
- If deemed necessary by Washington County.

Additionally, as part of routine septic system maintenance, Washington County requires pumping of the septic system tank every 3 years.

3. Am I required to participate in the Kelle's Creek septic system inspection program? If I do participate, what is involved? This pilot program is entirely voluntary; neither the VBWD nor Washington County will require any property owner to participate. If a landowner within the Kelle's Creek watershed wants to participate, the VBWD will hire state-licensed septic system compliance inspectors to inspect individual systems. Using the Minnesota Pollution Control Agency's (MPCA) inspection form, the inspector will examine septic tanks and soil treatment areas to confirm that:

- Septic tanks are watertight.
- There is no ground surface sewage discharge or backup into the house.
- There is adequate vertical separation between the soil treatment area and saturated soil or bedrock.
- The systems meet the requirements outlined in the Washington County Subsurface Sewage Treatment System Regulations.

4. Why is inspecting my septic system important? Locating and fixing noncompliant septic systems protects the environment and public health by protecting surface water and groundwater. Kelle's Creek is currently impaired for elevated levels of *E. coli* bacteria (present in human and animal waste). A Minnesota Pollution Control Agency study identified noncompliant (failing) septic systems as one of the primary sources of *E. coli*.

-
5. **How do I know if I live within the Kelle's Creek watershed?** Please check the map attached (or at http://www.vbwd.org/KellesCreek/KellesSSTSTMap_April2016.pdf) and associated property list on the VBWD website (http://www.vbwd.org/KellesCreek/KellesSSTSTProperties_April2016.pdf) to determine if your property is located within the Kelle's Creek watershed.
 6. **How do I request a septic system inspection?** Once you've verified that you live within the Kelle's Creek watershed (see item 5 above), you must complete and submit the [Kelle's Creek Watershed Septic System Inspection Application](#) on the VBWD website. By submitting this application, you are voluntarily agreeing to participate in the program and authorizing the VBWD to begin the septic system inspection process. Although the state-licensed septic system inspector will typically contact you within 2 weeks of notification of the inspection request, if a septic system inspection is requested during the winter and conditions will not allow for inspection, then the septic system inspection may not occur until the following spring.
 7. **Will the septic system inspection cost me anything?** No. The VBWD received a 2015 State of Minnesota Board of Water and Soil Resources Clean Water Fund grant and is providing the inspection and related services at no cost to willing property owners. Septic system inspections typically cost \$400–\$500.
 8. **Will I need to be present for the septic system inspection?** No. Once you have submitted your request, a state-licensed inspector will call to coordinate the septic system inspection. The inspector may request any information you have on your system and ask that you locate the septic tank and soil treatment area on your property.
 9. **When will the inspection take place?** The septic system inspections conducted as part of this program will be completed from the spring of 2016 through the fall of 2017. The program will continue as long as there are grant funds remaining with the ultimate grant deadline of 12/31/2017.
 10. **How will I know the inspection results?** The state-licensed inspector is required to send a copy of the septic system inspection report to Washington County within 15 days of the inspection. A copy will also be provided to the property owner and the VBWD.
 11. **What do I need to do after the inspection?** If your system was determined to be compliant, the copy of the septic system inspection report will serve as your certificate of compliance (good for 3 years) and no further action is required. If your system is determined to be noncompliant, the septic system inspection form will be reviewed further by Washington County. The County may subsequently send you a notice of noncompliance and an order to replace or upgrade the septic system.
 12. **What is the timeframe for required upgrades to noncompliant systems?** If septic system or soil treatment area components are classified as failing, homeowners have six months from the notification date to make the necessary upgrades. If the system is classified as an imminent threat to public health it must be replaced within 90 days of notification.

13. What do I do if my system is required to be upgraded or replaced? If the county orders you to upgrade or replace your system, you are responsible for the following:

- Paying a state-licensed professional to design a new/upgraded system.
- Obtaining construction bids from contractors and the cost associated with the replacement of the septic system and hiring a contractor to replace the system
- Obtaining a permit from Washington County and associated permit fees.

A list of state-certified designers and contractors is available on the Minnesota Pollution Control website: <https://www.pca.state.mn.us/water/ssts-search>

14. What do septic system replacements typically cost? Typical residential septic system replacement costs can range from \$10,000–\$20,000, depending on the system type and size required.

15. Will financial assistance be available to upgrade or replace septic systems? Yes. Washington County has a low-interest loan program, with interest rates of 1.5–3%, available for septic-system replacement. The county also has a very limited number of grants for low-income households. See: <https://www.co.washington.mn.us/index.aspx?NID=2148>

Additionally, the VBWD has developed a cost-share program for residents within the Kelle's Creek watershed, available on a first-come first-served basis. The VBWD cost-share program will cover 25% of septic system upgrade/replacement costs, up to \$5,000, for any systems that have been inspected through the Kelle's Creek program and ordered by Washington County to be upgraded or replaced. For more information on the VBWD cost-share program and requirements, go to:

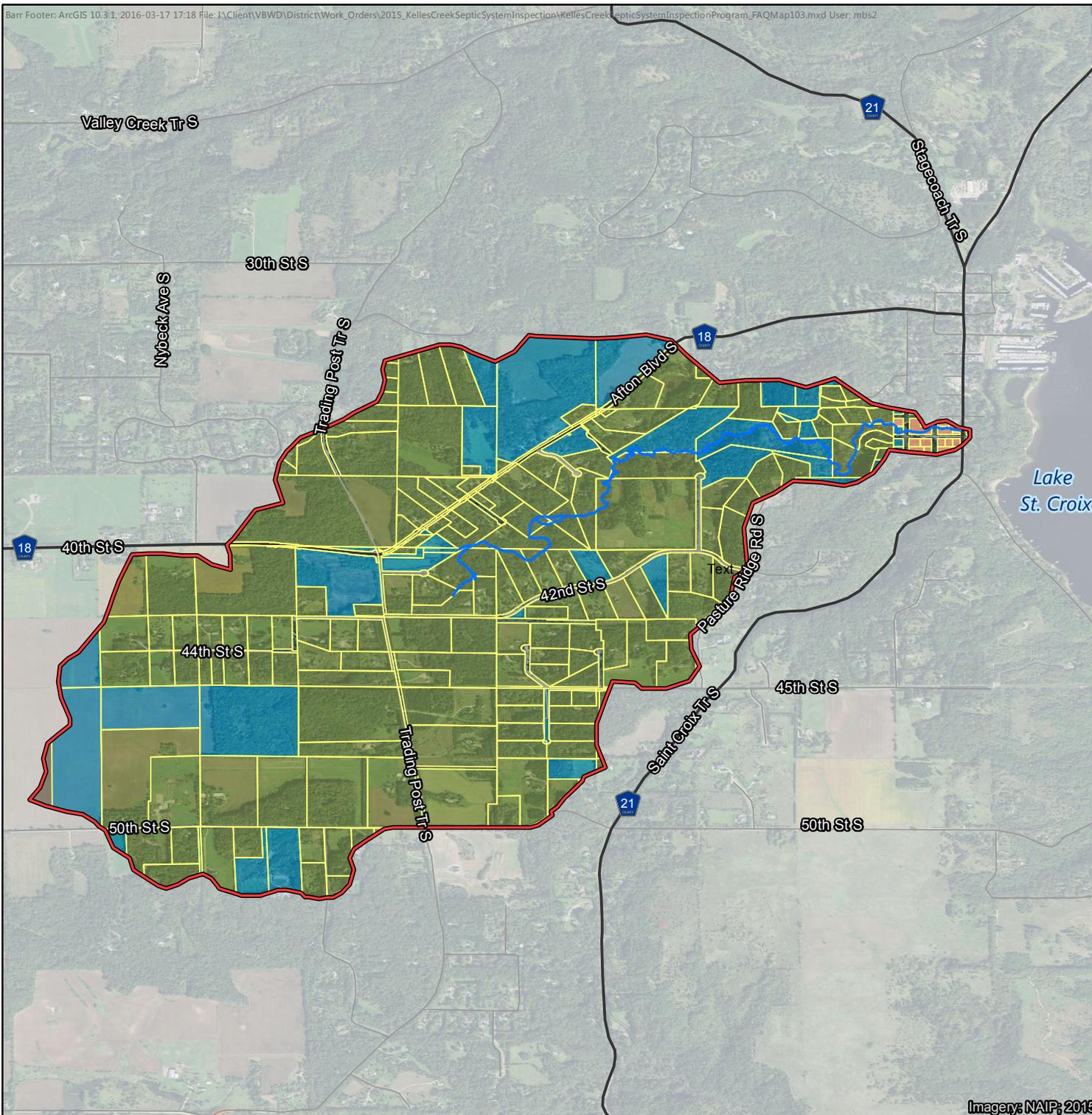
http://www.vbwd.org/KellesCreek/KellesSSTSCostShareApp_April2016.pdf

16. Where can I learn more about individual septic treatment systems?

- Washington County septic system information: www.co.washington.mn.us/septic
- University of Minnesota: <http://septic.umn.edu/>
- University of Minnesota Extension: <http://www.extension.umn.edu/environment/housing-technology/moisture-management/septic-system-owner-guide/>
- Minnesota Pollution Control Agency: <http://www.pca.state.mn.us/programs/ists/index.html>

17. Who do I contact with questions about the Kelle's Creek septic system inspection/cost-share programs or the Washington County ordinance and grant/loan programs?

- For questions regarding the VBWD Kelle's Creek watershed septic system inspection and cost-share programs, please contact Jen Koehler, Barr Engineering (engineers for the VBWD), at 952-832-2750 or jkoehler@barr.com.
- For questions regarding the local septic system ordinance, contact Chris LeClair, Washington County Public Health and Environment, at 651-430-4052 or chris.leclair@co.washington.mn.us.
- For information about Washington County loans or grants, contact Kristen Scobie, Washington County Housing and Redevelopment Authority, at 651-379-9358 or kscobie@wchra.com.



-  Kelle's Creek Watershed - Septic System Program
 -  Kelle's Creek
 -  Parcel Boundary
 -  Septic Systems Connecting to Afton Community Septic System
- Septic Systems**
-  Parcel - Building/Septic**
 -  Parcel - No Building/Septic

**Eligible to participate in Kelle's Creek Inspection Program

Data Source:

- Parcels, Washington County, 2015.
- Septic Systems Connecting to Afton Community, WSB, 2016.
- Septic System Inspections, based on parcel and Washington County Septic System database information, 2015.



**SEPTIC SYSTEM
INSPECTION PROGRAM**
Kelle's Creek Watershed



Kelle's Creek Watershed Parcels Eligible for Septic System Inspection Program

Parcel Identification Number (PIN)	Parcel Address	City	State	Zip
2202820310003	10 COULEE RIDGE RD	AFTON	MN	55001
2902820110005	13791 40TH ST S	AFTON	MN	55001
2902820410002	13852 50TH ST S	AFTON	MN	55001
3202820110002	13853 50TH ST S	AFTON	MN	55001
2902820140003	13876 44TH ST S	AFTON	MN	55001
2902820140004	13885 44TH ST S	AFTON	MN	55001
3202820110005	13891 50TH ST S	AFTON	MN	55001
2902820440001	13898 50TH ST S	AFTON	MN	55001
2902820140002	13900 44TH ST S	AFTON	MN	55001
2902820140005	13925 44TH ST S	AFTON	MN	55001
2902820140006	13937 44TH ST S	AFTON	MN	55001
2902820110007	13975 40TH ST S	AFTON	MN	55001
3202820110001	13975 50TH ST S	AFTON	MN	55001
2902820140001	13992 44TH ST S	AFTON	MN	55001
2802820330002	14002 50TH ST S	AFTON	MN	55001
2802820230009	14020 44TH ST S	AFTON	MN	55001
2802820230010	14025 44TH ST S	AFTON	MN	55001
2802820230008	14049 44TH ST S	AFTON	MN	55001
2102820330003	14064 40TH ST S	AFTON	MN	55001
2802820220004	14065 40TH ST S	AFTON	MN	55001
3302820220001	14099 50TH ST S	AFTON	MN	55001
2802820230001	14140 44TH ST S	AFTON	MN	55001
2802820230007	14141 44TH ST S	AFTON	MN	55001
3302820220003	14151 50TH ST S	AFTON	MN	55001
2802820230006	14155 44TH ST S	AFTON	MN	55001
2802820230002	14168 44TH ST S	AFTON	MN	55001
2802820330001	14220 50TH ST S	AFTON	MN	55001
2802820230003	14251 44TH ST S	AFTON	MN	55001
2102820320004	14255 EAST OAKGREEN CIR S	AFTON	MN	55001
3302820210006	14265 50TH ST S	AFTON	MN	55001
2802820210002	14270 42ND ST S	AFTON	MN	55001
2802820340002	14270 50TH ST S	AFTON	MN	55001
2802820240005	14323 42ND ST S	AFTON	MN	55001
2102820320005	14333 EAST OAKGREEN CIR S	AFTON	MN	55001
2802820240004	14393 42ND ST S	AFTON	MN	55001
3302820210005	14433 50TH ST S	AFTON	MN	55001
2802820120011	14501 41ST ST S	AFTON	MN	55001
3302820210001	14505 50TH ST S	AFTON	MN	55001
2102820130001	14515 32ND ST S	AFTON	MN	55001
2802820120014	14521 AFTON BLVD S	AFTON	MN	55001
2102820430041	14530 AFTON BLVD S	AFTON	MN	55001
2102820430019	14539 AFTON BLVD S	AFTON	MN	55001
2102820430035	14562 AFTON BLVD S	AFTON	MN	55001

Kelle's Creek Watershed Parcels Eligible for Septic System Inspection Program

Parcel Identification Number (PIN)	Parcel Address	City	State	Zip
2102820130002	14567 32ND ST S	AFTON	MN	55001
2102820430033	14571 AFTON BLVD S	AFTON	MN	55001
2802820120010	14597 41ST ST S	AFTON	MN	55001
2102820430016	14598 AFTON BLVD S	AFTON	MN	55001
2802820120009	14605 41ST ST S	AFTON	MN	55001
2102820430028	14605 AFTON BLVD S	AFTON	MN	55001
2102820430022	14616 AFTON BLVD S	AFTON	MN	55001
2102820130003	14623 32ND ST S	AFTON	MN	55001
2102820430024	14631 AFTON BLVD S	AFTON	MN	55001
2102820430037	14640 AFTON BLVD S	AFTON	MN	55001
2102820440001	14641 AFTON BLVD S	AFTON	MN	55001
2802820120006	14650 42ND ST S	AFTON	MN	55001
2102820440002	14661 AFTON BLVD S	AFTON	MN	55001
2102820430030	14671 AFTON BLVD S	AFTON	MN	55001
2102820440009	14675 AFTON BLVD S	AFTON	MN	55001
2102820430026	14676 AFTON BLVD S	AFTON	MN	55001
2102820420002	14682 AFTON BLVD S	AFTON	MN	55001
2102820420008	14698 AFTON BLVD S	AFTON	MN	55001
2802820130006	14701 42ND ST S	AFTON	MN	55001
2802820120005	14720 42ND ST S	AFTON	MN	55001
2102820440010	14725 AFTON BLVD S	AFTON	MN	55001
2102820410016	14726 AFTON BLVD S	AFTON	MN	55001
2802820440008	14754 50TH ST S	AFTON	MN	55001
2802820110002	14777 42ND ST S	AFTON	MN	55001
2802820110003	14780 42ND ST S	AFTON	MN	55001
2102820410007	14801 AFTON BLVD CT	AFTON	MN	55001
2802820410008	14805 45TH ST S	AFTON	MN	55001
2802820110004	14810 42ND ST S	AFTON	MN	55001
2102820440007	14825 AFTON BLVD CT S	AFTON	MN	55001
2802820110005	14830 42ND ST S	AFTON	MN	55001
2102820440006	14851 AFTON BLVD CT	AFTON	MN	55001
2102820410006	14875 AFTON BLVD CT	AFTON	MN	55001
2802820440009	14888 50TH ST S	AFTON	MN	55001
2802820440005	14906 50TH ST S	AFTON	MN	55001
2802820110007	14919 42ND ST S	AFTON	MN	55001
2202820330001	14925 AFTON BLVD S	AFTON	MN	55001
2202820320012	14933 AFTON BLVD S	AFTON	MN	55001
2802820410007	14935 45TH ST S	AFTON	MN	55001
2802820110009	14940 42ND ST S	AFTON	MN	55001
2102820410019	14960 AFTON BLVD S	AFTON	MN	55001
2802820440006	14962 50TH ST S	AFTON	MN	55001
2802820110006	14995 42ND ST S	AFTON	MN	55001
2202820320011	14997 AFTON BLVD S	AFTON	MN	55001

Kelle's Creek Watershed Parcels Eligible for Septic System Inspection Program

Parcel Identification Number (PIN)	Parcel Address	City	State	Zip
2702820220003	15015 42ND ST S	AFTON	MN	55001
2202820320009	15033 AFTON BLVD S	AFTON	MN	55001
2802820410010	15037 45TH ST S	AFTON	MN	55001
2802820410003	15045 45TH ST S	AFTON	MN	55001
2202820230013	15057 AFTON BLVD S	AFTON	MN	55001
2702820220005	15115 42ND ST S	AFTON	MN	55001
2702820220004	15120 42ND ST S	AFTON	MN	55001
2202820230011	15169 AFTON BLVD S	AFTON	MN	55001
2702820220007	15225 42ND ST	AFTON	MN	55001
2702820230003	15236 45TH ST S	AFTON	MN	55001
2202820240005	15237 AFTON BLVD S	AFTON	MN	55001
2702820210005	15269 42ND ST S	AFTON	MN	55001
2202820240007	15339 AFTON BLVD S	AFTON	MN	55001
2202820420002	15601 36TH ST S	AFTON	MN	55001
2202820420004	15612 36TH ST S	AFTON	MN	55001
2202820130013	15612 UPPER 34TH ST S	AFTON	MN	55001
2202820130009	15616 UPPER 34TH ST S	AFTON	MN	55001
2202820420003	15674 37TH ST S	AFTON	MN	55001
2202820420005	15680 37TH ST S	AFTON	MN	55001
2202820130022	3 COULEE RIDGE RD S	AFTON	MN	55001
2102820240005	3305 TRADING POST TRL S	AFTON	MN	55001
2102820240006	3355 TRADING POST TRL S	AFTON	MN	55001
2102820240001	3415 TRADING POST TRL S	AFTON	MN	55001
2102820240003	3485 TRADING POST TRL S	AFTON	MN	55001
2102820310003	3535 TRADING POST TRL S	AFTON	MN	55001
2102820310001	3550 TRADING POST TRL	AFTON	MN	55001
2102820310005	3585 TRADING POST TRL S	AFTON	MN	55001
2102820310006	3637 TRADING POST TRL S	AFTON	MN	55001
2102820310002	3640 TRADING POST TRL S	AFTON	MN	55001
2202820340011	3660 PASTURE RIDGE RD S	AFTON	MN	55001
2202820320006	3750 PARADOX END AVE S	AFTON	MN	55001
2202820340004	3770 PASTURE RIDGE RD S	AFTON	MN	55001
2202820340008	3790 PASTURE RIDGE RD	AFTON	MN	55001
2202820340009	3801 PARADOX END AVE	AFTON	MN	55001
2202820340010	3975 PARADOX END AVE S	AFTON	MN	55001
2202820130023	4 COULEE RIDGE RD S	AFTON	MN	55001
2202820340012	4100 PASTURE RIDGE RD	AFTON	MN	55001
2702820210006	4210 PASTURE RIDGE RD	AFTON	MN	55001
2802820210003	4222 TRADING POST TRL S	AFTON	MN	55001
2802820240006	4243 ODELL AVE S	AFTON	MN	55001
2802820230004	4248 ODELL AVE S	AFTON	MN	55001
2702820220002	4250 PASTURE RIDGE RD S	AFTON	MN	55001
2802820130007	4293 TRADING POST TRL S	AFTON	MN	55001

Kelle's Creek Watershed Parcels Eligible for Septic System Inspection Program

Parcel Identification Number (PIN)	Parcel Address	City	State	Zip
2802820240003	4354 TRADING POST TRL S	AFTON	MN	55001
2802820140002	4374 PARTRIDGE CIR S	AFTON	MN	55001
2702820230001	4383 PARTRIDGE CIR S	AFTON	MN	55001
2802820140007	4390 PARTRIDGE CIR S	AFTON	MN	55001
2802820240002	4393 ODELL AVE S	AFTON	MN	55001
2802820130004	4399 TRADING POST TRL S	AFTON	MN	55001
2702820230006	4401 PARTRIDGE CIR S	AFTON	MN	55001
2802820140005	4410 OXBOW CIR S	AFTON	MN	55001
2802820140003	4411 OXBOW CIR S	AFTON	MN	55001
2802820140004	4414 OXBOW CIR	AFTON	MN	55001
2802820140006	4421 OXBOW CIR S	AFTON	MN	55001
2702820230007	4435 PASTURE RIDGE RD S	AFTON	MN	55001
2802820140008	4444 PARTRIDGE CIR S	AFTON	MN	55001
2802820140009	4455 OXBOW CIR S	AFTON	MN	55001
2802820240001	4456 TRADING POST TRL S	AFTON	MN	55001
2802820130005	4487 TRADING POST TRL S	AFTON	MN	55001
2802820310001	4558 TRADING POST TRL S	AFTON	MN	55001
2802820420003	4571 TRADING POST TRL	AFTON	MN	55001
2802820410009	4626 OZARK AVE S	AFTON	MN	55001
2802820410006	4659 OZARK AVE S	AFTON	MN	55001
2802820410005	4664 OZARK AVE S	AFTON	MN	55001
2802820410002	4676 OZARK AVE S	AFTON	MN	55001
2802820410004	4687 OZARK AVE S	AFTON	MN	55001
2802820310002	4696 TRADING POST TRL S	AFTON	MN	55001
2702820320001	4710 ST CROIX TRL S	AFTON	MN	55001
2802820420002	4749 TRADING POST TRL	AFTON	MN	55001
2802820430002	4772 TRADING POST TRL	AFTON	MN	55001
2702820330005	4786 ST CROIX TRL S	AFTON	MN	55001
2802820430004	4795 TRADING POST TRL	AFTON	MN	55001
2202820420007	5 COULEE RIDGE RD S	AFTON	MN	55001
3302820210003	5133 ODELL AVE S	AFTON	MN	55001
3302820210002	5212 ODELL AVE S	AFTON	MN	55001
3302820210004	5229 ODELL AVE S	AFTON	MN	55001
2202820420008	6 COULEE RIDGE RD	AFTON	MN	55001
2202820420009	7 COULEE RIDGE RD	AFTON	MN	55001
2202820420010	8 COULEE RIDGE RD	AFTON	MN	55001

Kelle's Creek Watershed Septic System Inspection Program



VB Valley Branch
Watershed District

Valley Branch Watershed District (VBWD) Septic System Cost-Share Application Steps

The Valley Branch Watershed District (VBWD) has obtained a State of Minnesota Clean Water Fund grant to develop a voluntary septic system inspection program for all properties within the Kelle's Creek watershed in Afton, Minnesota. If, upon inspection, a septic system is found to be noncompliant, Washington County, on behalf of the City of Afton, may issue a notice of noncompliance and order the system to be replaced or upgraded.

To help offset the financial burden of upgrading or replacing a septic system, the VBWD has established a cost-share program. This program is available to property owners within the Kelle's Creek watershed who have been ordered to upgrade or replace their noncompliant system. This cost-share covers 25% of the estimated replacement cost, up to \$5,000.

Four steps for participating in the VBWD Septic System Cost-Share Program

- 1** To qualify for the cost-share program, your property must be located within the Kelle's Creek watershed and your septic system must be inspected through the VBWD Kelle's Creek Watershed Septic System Inspection Program. If you have not had a septic system inspection performed in the last 3 years, see the [VBWD Septic System Inspection Process and Application document](#).
- 2** If you have had your septic system inspected in the last 3 years and the system was determined to be compliant, you are not eligible for this cost-share program. However, if you have had your septic system inspected and Washington County, on behalf of the City of Afton, has issued an order to upgrade/replace your system, you will need to comply with that order within the time frame outlined in the City of Afton Subsurface Sewage Treatment System Ordinance. To help offset system replacement costs you can pursue cost-share funding through the VBWD.

As the property owner, you will be responsible for:

- Costs associated with the system design by a state-licensed septic system designer.
- Obtaining construction bids from septic system installation contractors and the costs associated with the replacement of the septic system.
- Obtaining a permit from Washington County for the replacement of the septic system and associated permit fees.

Program funded in part by



Once you've obtained bids from two septic system contractors for the replacement of your septic system, you can complete the VBWD Septic System Cost-Share Application form (below).

Make sure the application package is complete (including all items in the checklist) and submit it to Barr Engineering Co. (Engineers for the VBWD), as outlined on the application. All applications need to be submitted prior to the first Wednesday of each month for review and approval by the VBWD Board of Managers.

- 3** The VBWD Board of Managers will review the results of the septic system inspection, the cost-share application, and the bids from contractors to upgrade/replace the noncompliant septic system. You will be notified whether the Managers approve your cost-share application or if additional information is needed.

- 4** If your cost-share application has been approved by the VBWD Board of Managers and the septic system replacement work is complete, you or your contractor can submit the final invoice along with the [VBWD Septic System Cost-Share Payment Request Form](#) to the VBWD. The VBWD will send a joint check written to you and your contractor within 60 days of receipt. Checks are typically issued once a month and typically signed by the VBWD treasurer on the fourth Thursday of the month.

**Kelle's Creek Watershed
Septic System Inspection Program**



VB Valley Branch
Watershed District

**Valley Branch Watershed District (VBWD)
Septic System Cost-Share Application**

To be completed by VBWD

Date received: _____

Return application to:

Jen Koehler
Barr Engineering Co. (Engineers for VBWD)
4300 MarketPointe Drive
Bloomington, MN 55435
jkoehler@barr.com

Project and contact information		
Name of landowner/applicant		
Street address		
City	State	Zip
Parcel identification number (if known)		
Phone(s)		
E-mail address(es)		
Preferred method of contact (phone or email)		
Preferred contact day/time		
Mailing address (if different from above)		

Property and septic system inspection summary	
Property address	
Year home built	Year home purchased
Number of bedrooms	Number of bathrooms
Estimated age of septic system	
Date of septic system inspection	
Date of notice of noncompliance/order to replace	
Total estimated cost of project	
Total cost share requested from VBWD (25% up to \$5,000)	

Program funded in part by



Checklist for application package

- | | |
|--|---|
| <input type="checkbox"/> Completed application form | <input type="checkbox"/> Total estimated cost of project |
| <input type="checkbox"/> Two bids from state-certified contractors | <input type="checkbox"/> Total cost-share request from VBWD |
| <input type="checkbox"/> Notice of noncompliance and order to replace from Washington County | |

Certification

I/We the undersigned, the Landowner, do consent to participate in the Valley Branch Watershed District (VBWD) Kelle’s Creek Watershed Septic System Cost-Share Program to help defray the costs of installing the project listed on this application form and detailed in the attached contractor bids. The Landowner’s signature indicates their agreement to and understanding of the following:

1. The VBWD representative(s) will have access to the parcel where the project is located throughout the duration of the project implementation.
2. The Landowner agrees to obtain all permits required in conjunction with the installation and establishment of the project prior to starting construction of the project. The Landowner agrees to sign permit applications and provide proof of Landowner property ownership where the project is planned.
3. The Landowner agrees to maintain the project in accordance with the City of Afton Subsurface Sewage Treatment System Ordinance.
4. Items of cost for which reimbursement is sought directly by the Landowner must be pre-approved by VBWD and supported by invoices/receipts for payments and will be verified and approved for payment by the VBWD Board as practical and reasonable. The VBWD Board has the authority to make adjustments to the costs submitted for reimbursement.
5. This contract, when approved by the VBWD Board, will remain in effect unless cancelled by mutual agreement, except where installations of projects covered by this contract have not been started within one year from the date of the Board approval of this contract; this contract will be automatically terminated on that date. Projects will be installed within two years from the date of Board approval unless this contract is amended by mutual consent to reschedule the work and funding.

Signature of applicant _____ Date _____

VBWD Board cost-share approval	
Date application received	Contract number
Cost share amount (not to exceed 25% of total estimated costs, up to \$5,000)	
VBWD Board representative	Board meeting date approved
Payment authorization	
Total eligible expenses from receipts	Amount authorized for payment (not to exceed cost share amount)
VBWD Board representative	Board meeting date approved

**Kelle's Creek Watershed
Septic System Inspection Program**



VB Valley Branch
Watershed District

**Valley Branch Watershed District (VBWD)
Septic System Cost-Share Payment Request Form**

To be completed by VBWD

Date received: _____

Return application to:

Jen Koehler
Barr Engineering Co. (Engineers for VBWD)
4300 MarketPointe Drive
Bloomington, MN 55435
jkoehler@barr.com

Project and contact information		
Name of landowner/applicant		
Street address		
City	State	Zip
Parcel identification number (if known)		
Phone(s)		
E-mail address(es)		
Preferred method of contact (phone or email)		
Preferred contact day/time		
Mailing address (if different from above)		

Checklist for payment request

- Completed payment request form (request can be 25% of final invoice, up to \$5,000)
- Copy of final invoice

Signature of applicant _____ Date _____

Program funded in part by



The dirty truth about E. coli in Kelle's Creek



When you flush your toilet, most of us assume the water goes away. Septic systems are designed to safely treat wastewater from our homes, capturing oils and sludges and allowing water to filter gradually into the ground through soils and rock. *What happens if your system is old or improperly designed?*

Studies by the Minnesota Pollution Control Agency estimate that **30% of the private septic systems** in the Kelle's Creek watershed - where you live - are failing to treat wastewater before it enters shallow groundwater aquifers. Some older systems break down and begin to leak; other times there just isn't enough soil on top of the bedrock to filter out bacteria and contaminants before they get into the groundwater.

Through water monitoring we have learned that **Kelle's Creek often has unsafe levels of E. coli**, a bacteria present in human and animal feces. Through testing we've determined that the *E. coli* is coming from groundwater flowing into the stream. In other words, when you flush your toilet, some of that water could be ending up **IN** Kelle's Creek. Think about the other things you wash down your drain everyday - soap, shampoo, cleaners, rotten milk, toothpaste, etc. If your system is failing, these other contaminants could also end up in our groundwater, Kelle's Creek, and even the St. Croix River.

Valley Branch Watershed District has funds to offer you a FREE septic inspection (normally \$400-500), as well as 25% cost-share grants (up to \$5000) to help you install a new system if yours is found to be failing and ordered to be upgraded. Contact us today to take advantage of this opportunity while the funding is available. Give yourself peace of mind and help us to keep *E. coli* out of Kelle's Creek.

Contact:

Jen Koehler -
Barr Engineering
952-832-2750
jkoehler@barr.com

Funded in part by:



Groundwater connections keep the water clean and cool, and wetlands help filter out pollution.

Septic systems can leak — polluting our lakes, streams and groundwater with bacteria like E. Coli.

Groundwater is particularly at risk in the southern and eastern portion of Washington County because of something known as **Karst Topography**. The bedrock in this area is primarily limestone, which is easily dissolved by water. Water moving through the rock creates many cracks and holes where pollution can easily travel down into the aquifer.

Learn more at: www.vbwd.org/KellesCreek.html