



Barry-Eaton District Health Department
An Accredited Public Health Agency
www.barryeatonhealth.org

**Time of Sale or Transfer (TOST) Program
THE FIRST 12 MONTHS
November 1, 2007 through October 31, 2008**



Submitted by
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Environmental Health Division
December 19, 2008

Caring for the Community since the 1930s

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This is an annual report for the Time of Sale or Transfer (TOST) program administered by Barry-Eaton District Health Department (BEDHD) and implemented on November 1, 2007. The report is a compilation of data and findings by BEDHD staff. BEDHD's administration of the TOST program includes:

- training, registering, and oversight of Registered Evaluators (RE's),
- reviewing transfer evaluations submitted by RE's, including field verification of potentially failing systems,
- rendering decisions regarding the failure status,
- reporting BEDHD's findings relative to the transfer evaluations submitted by the RE's,
- the creation of and implementation of a web based reporting software,
- enforcement of the Regulation, and
- education of various sectors of the public; including Realtors and homeowners

A brief overview of the administrative process, the process of registering and overseeing RE's in private practice, and the public health findings or data, relative to failures and transfer evaluations is included in this annual report.

BEDHD's number one goal of this program is to protect Public Health.

Administration:

The administration of the TOST program by BEDHD is comprehensive. Not only was software developed and implemented but also numerous procedures were written. An essential protocol created outlined the process *required* when evaluating on-site sewage and drinking water systems. These evaluation criteria were developed without the aid of Federal or State guidelines since there are none. The expertise of BEDHD Sanitarians in the field of on-site sewage and drinking water systems was and is essential in providing the proper guidance and oversight of the program. There has been continual consultation with the RE's and the realtors to ensure BEDHD staff is meeting the needs of the industry while protecting public health.

One key area of oversight in the program is field verification by BEDHD staff of reported conditions. Any time a submittal by a RE indicates conditions that appear to be *at or near* failure, BEDHD staff are dispatched to the site for confirmation. Not only does this serve to assure the RE correctly assessed and reported the conditions, but also allows BEDHD staff to determine the best course of correction. BEDHD staff performed field visits thirty (30%) percent of the time and have recorded 5375 hours in the program.

It is important to note the purpose of the TOST program-- to protect public health, to protect the quality of water resources, on-site water supplies and the natural environment. It is equally important to point out that it is not the intent of the TOST program to cause all existing functional systems, which do not meet current construction standards, and in the case of on-site water supply systems, which are not subject to contamination, to be brought into compliance with such standards. As anticipated, this program identified various conditions that were unique to each home or site. Consequently, a decision making process rooted in the foundation of public health risk assessment was used when reviewing each individual case. Failure, as defined in the Regulation, is not always "black and white" and an effort to be fair while protecting Public Health is BEDHD's guiding principle.

Reporting of the findings and BEDHD's determination of the status of the on-site systems is completed by letter and via the Internet. These letters issued by BEDHD are known as Transfer Authorizations and/or Notices of Failure. Both the letters from BEDHD and the conditions reported by the RE are available on the web upon issuance of the report by the BEDHD. The original letters are also mailed to the owner or owner's authorized agent.

Registered Evaluators:

Prior to the implementation of this program people who described themselves as "inspectors" were being hired to give their opinion or report on the condition of on-site sewage systems and on-site water supplies. These private inspectors were not held to any recognized evaluation standards and did not have to meet any minimum level of knowledge of on-site sewage systems or on-site water systems. Under the TOST program, RE's are private businesses meeting minimum criteria established by BEDHD. Persons interested in becoming a RE submit an application to BEDHD indicating their training, credentials and experience in both fields. Those lacking training or experience attend training provided by BEDHD or other recognized training opportunities for sewage systems or drinking water wells. All RE applicants must take and successfully pass a competency exam, which is administered by BEDHD. Once the RE applicant passes the initial exam, they are required to attend a registration training class provided by BEDHD. This required training instructs the RE applicant on the established evaluation criteria for evaluating the systems and on the use of the web-based reporting software. In order to become a RE, an individual must pass a second test over the evaluation criteria. There are currently twenty-seven (27) RE's in the program, representing twenty-four (24) private businesses.

Annually, RE's are also required to perform up to three joint quality assurance audits with BEDHD staff. These joint evaluations serve to assess the RE's knowledge, inspection skills, conformance to the evaluation criteria, and to identify any areas where additional training may be needed.

In addition to joint evaluations, independent field confirmation visits performed by BEDHD staff have resulted in identification of concerns and subsequent improvements in the knowledge and skills of RE's. Office conferences, correspondence and additional joint evaluations have been carried out to assist the RE's and to oversee the RE's performance.

BEDHD will continue its quality assurance and quality improvement role in overseeing the activities of the RE's.

Data and Findings:

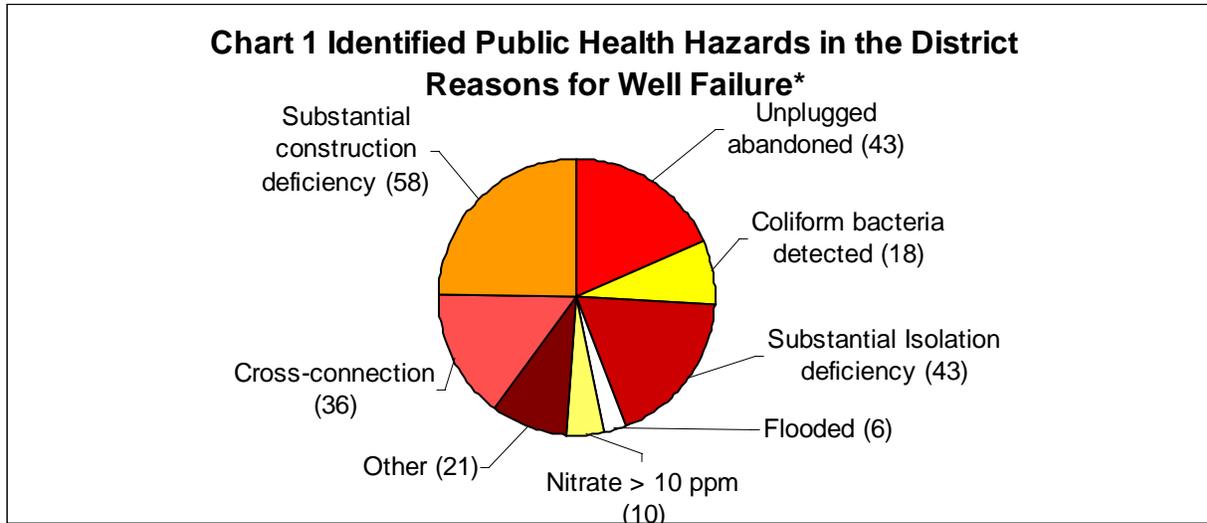
All transfer evaluations are submitted by the RE's to BEDHD via the Internet utilizing the software developed in accordance with the Regulation. The submittals are tracked, reviewed and authorized or failed all by electronic methods. Table 1 below indicates the numbers for the District. For example, sewage failures in the District is twenty-six (26%) percent. It should be noted that systems are failed when they are determined by BEDHD to meet the definition of failure as defined in the Regulation.

TABLE 1. TOST First 12 Month Review

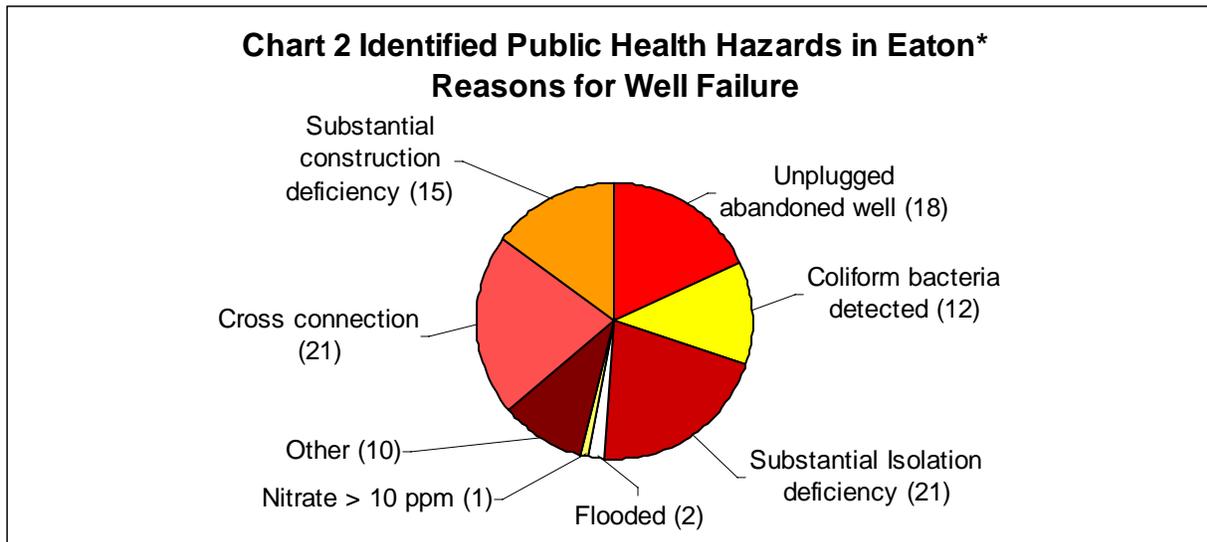
Total Evaluator Submittals Received					884
Total Sewage Evaluation	725	Total Well Evaluation	867	Total Both	1592
% of sewage failed N= 187	26%	% of well failed N= 186	21%	% of Total Failed N=373	23%

The following charts depict the reasons for failure determined by BEDHD. Of the 373 failures reported in table 1, the reasons for failure were categorized and documented by BEDHD staff. In some cases there was more than one reason for failure on an individual site*. These reasons are important for tracking trends and refocusing our program areas to reduce the incidences of failure over time. Appendix A includes a compilation of pictures taken by BEDHD staff and registered evaluators identifying various failing conditions.

Charts 1-3 below depict the reasons for well failure in the District and each County.

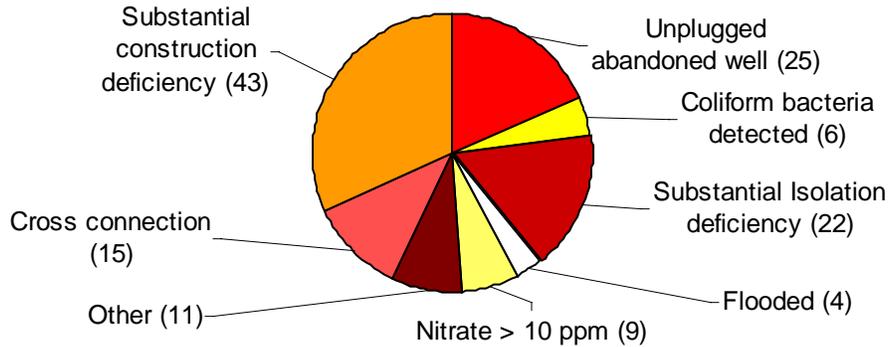


*Note: There may be more than one reason for failure on an individual site.



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**Chart 3 Identified Public Health Hazards in Barry*
Reasons for Well Failure**



*Note: There may be more than one reason for failure on an individual site.

Reasons for Well Failure Key:

Unplugged abandoned well refers to old wells no longer in use. These old wells are a substantial risk because they provide direct access for contaminants to our drinking water if left unplugged.

Coliform Bacteria detected is a condition found through sampling the well for coliform bacteria. Coliform bacteria are not found naturally in our groundwater. Detecting coliform bacteria is an indication of surface contamination in the well and or contamination within the home’s plumbing system. Includes sites where *e-coli* was detected.

Substantial construction deficiency is a deficiency of the physical well that substantially increases the risk of contamination in the well.

Flooded is a condition found typically in well pits or buried well heads that are found to be submerged under surface water or shallow groundwater. This condition increases the risk of contamination of the well and/or aquifer.

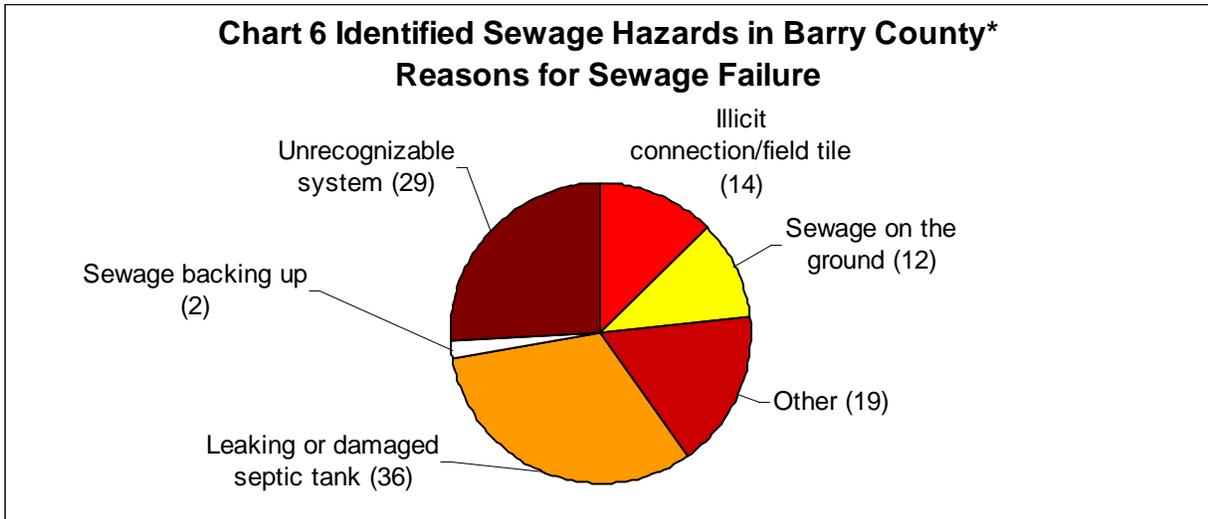
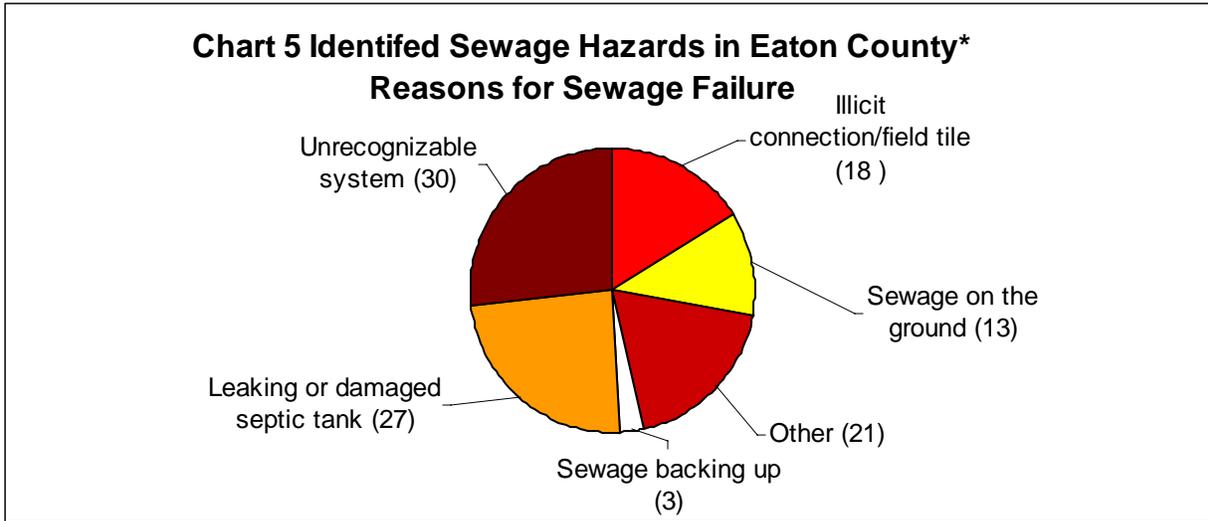
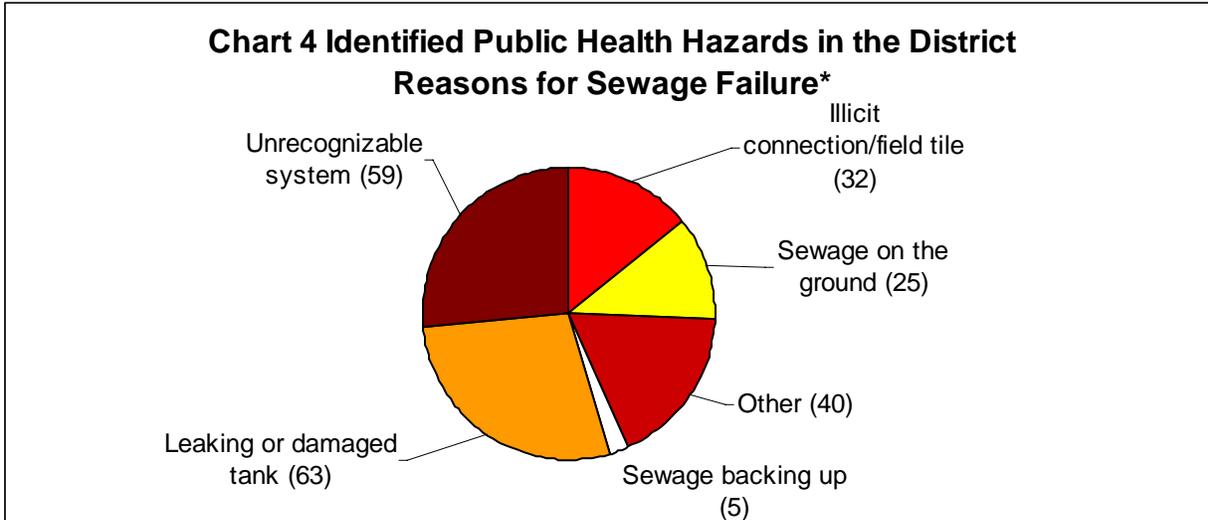
Substantial isolation deficiency is when the well is located substantially closer to sources of contamination than any recognized standard or rule allows.

Nitrate > 10 parts per million is a condition found through sampling the well for nitrates. Nitrates at 10 ppm or greater is a risk to humans, especially pregnant woman and young children.

Other is a compilation of conditions such as; sites where no well could be located or the well was not operational.

Cross-connection a condition where the drinking water plumbing is cross connected with the sewage plumbing or some other source of contamination and there is no backflow prevention. This condition can lead to contamination of the drinking water supply.

Charts 4-6 depict reasons for sewage failure in the District and each County.



*Note: There may be more than one reason for failure on an individual site.

Reasons for Sewage Failure Key:

Sewage Backing up is a condition found where raw sewage is backing up into the home.

Illicit connection/field tile is a condition found where raw sewage leaves the septic tank and is connected to a pipe or other method directing the sewage away to an unapproved location.

Sewage on the ground is a condition where raw sewage is being deposited directly on the ground surface.

Other compiles various unique conditions such as system on neighboring property, sites without a septic tank and/or the septic tank is bypassed, portions of the sewage system have been removed, etc.

Leaking or damaged tank is a condition of the septic tank that does not allow proper initial treatment of the sewage and/or a condition of the septic tank that is an imminent safety hazard.

Unrecognizable system is a condition found where the “system” is not recognized under any standard, rules or law to provide proper treatment and disposal.

Failure Correction:

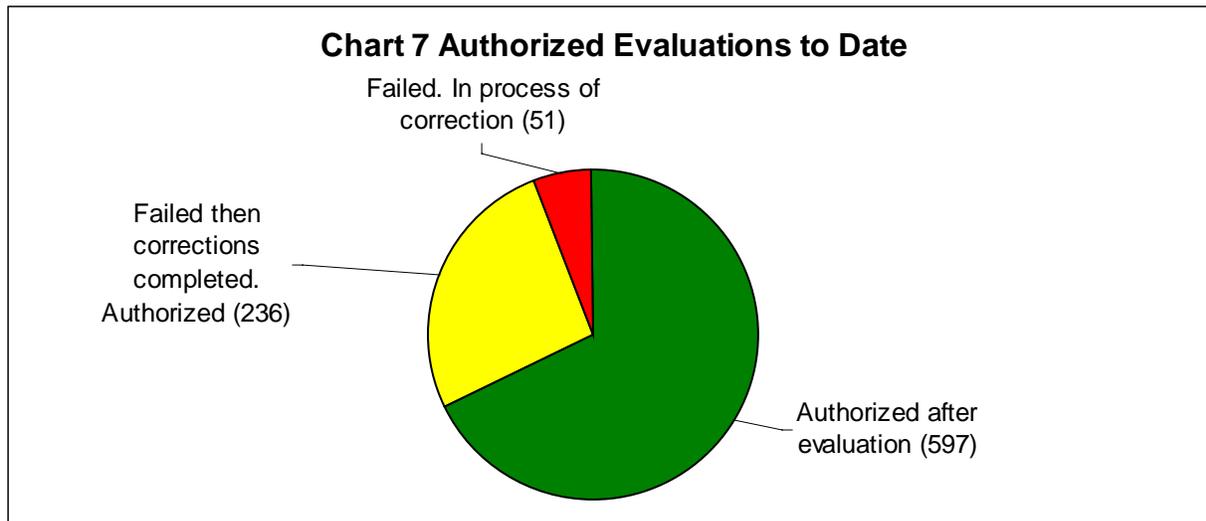
Various options exist for the correction of the failure conditions identified as a result of the TOST program. The Notices of Failure issued by BEDHD identify three options for remedial action to the owner. The first option, known as a “base remedial action plan” or BRAP, consists of the corrective action that the BEDHD considers an acceptable plan. Acceptance of this option by the owner involves correcting the hazard prior to the transfer. A majority of the failure cases are resolved prior to the transfer of the property.

A second option, known as an alternate “corrective action plan” or CAP, can be presented by the owner for consideration by the department. In the instance of a desired “closing” prior to the completion of corrections, the correction process allows measures to be employed that will assure correction after the closing. This typically involves the provision of a good faith estimate for the corrections and the creation of an escrow account that is held by a bank or title company. The BEDHD response to requests for transfer authorization under an escrow agreement is also reported on the TOST website.

The third option is for the owner to request an administrative hearing to contest the findings of the department. To date three such administrative meetings have taken place and none have resulted in a formal appeal to contest the BEDHD decision.

Authorizations:

Chart 7 below depicts the number of evaluations that have been authorized by BEDHD. Ninety-four (94%) percent of all evaluations submitted eventually were authorized. Eighty-two (82%) percent of all properties that had a failure (public health hazard) identified were corrected during the reporting period.



Enforcement:

Routine review of the deeds that have transferred on properties where an on-site sewage and/or on-site drinking water system exists began in January 2008. In instances where a transfer authorization or exemption by BEDHD were not issued prior to the transfer, letters to the owners or “seller” (including bank owned foreclosed properties) are sent advising them of the Regulation, identifying the lack of an evaluation and requesting that they contact BEDHD. The new owners or “buyer” are also sent a copy of this letter. This has resulted in a majority, ninety-three (93%) percent, of those properties (153) that transferred without an evaluation or exemption request to be brought into compliance. Further enforcement activities are being pursued for those that have not responded to BEDHD notices.

Education:

Public education efforts have been initiated and include BEDHD and the RE’s. Information meetings have been held with the real estate industry. Training for local groundwater stewardship technicians was performed. BEDHD has created and distributed a brochure entitled, *Buying and Selling a Home in Barry and Eaton Counties*. BEDHD’s webpage serves as a resource for various interested parties, including real estate agents, the public and RE’s. Ready access to on-line forms, published reports and materials will continue to be enhanced. The RE’s provide educational materials approved by BEDHD as part of the transfer evaluation.

Development of RE competency training by BEDHD for both the drinking water and on-site sewage programs was completed prior to the implementation date. This training was given by BEDHD staff sanitarians. An exam was developed to measure the RE’s competency in both program areas. A minimum score, based on the RE’s experience level within that program, was

established for passage. Development of an additional training for registration was completed by BEDHD and given to all RE's prior to registration. This training covered the evaluation procedures and the on-line submittal procedures for the TOST program. Ongoing training has been given to additional RE's who wanted to begin working in this program. It is expected that RE's will continue to receive training as part of their requirements to continue their registration with BEDHD.

Maintenance:

Routine operational assessment and preventative maintenance are two key components to the success of any on-site well and/or sewage system. Within the report period, it is apparent that the act of performing a transfer evaluation is resulting in positive interventions to prevent failures. RE's have identified areas of concern that warrant repair before that concern can cause total system failure. For example, wells with obvious electrical hazards, compromised fittings, and broken or malfunctioning pressure switches have been repaired. Routine maintenance of septic tank effluent filters and flushing of pressure distribution pipes has been performed. Sites with septic tanks with corroded concrete outlet baffles or missing sanitary tees, leaking plumbing, root infiltration, collapsed or crushed sewer mains, and many tanks in need of pumping to remove excessive solids and scum depth have all been addressed.

Conclusion:

During development of TOST BEDHD identified several objectives and anticipated outcomes. Some of these outcomes have been measured throughout the first twelve months and are found in this report. A few of these objectives include:

- Identify public health hazards, including failed sewage disposal systems, illicit connections that contaminate our ditches, creeks, drains, and other surface waters, flood hazards to wells, etc. Measured by: annual report
- To implement an organized process for the inspection and reporting of a key aspect of most transactions. Anyone can call himself or herself the expert yet the owner is left to comply. Measured by: annual report
- Provide for the credentialing, training, and oversight of private inspection. Measured by: number of training hours, inspections, certifications issued.
- Allow for oversight over time versus degradation followed by rapid loss of value and/or public health hazard (plan versus sudden enforcement). Measured by: reduction in failures over time.
- Role of EH will change from providing the service to reviewing, planning, assessment, educating, collaboration & enforcement. Measured by: annual report, program/service omission.
- Providing information and tools for sister agencies' use in planning, assessment, and local decision-making (GPS, mapping, reports, survey water and wastewater infrastructure planning). Measured by: reference to BEDHD findings in meeting minutes, reports, master plans, etc.
- Increased public awareness of wastewater systems: Temper a negative perception of on-site systems and educate that sewers are not being extended out. Measured by: Public information brochures & news articles, web site, public outreach

- Be consistent with various community strategies for the protection of groundwater and surface water, i.e. well head protection plans, Master plans, watershed management plans, (Grand River, Coldwater River, Battle Creek, Thornapple, & Kalamazoo) Measured by: reference to BEDHD programming, ordinances and/or reports within newsletters, plans, etc.
- Proper closure of abandoned wells. Measured by: database/report

The TOST program has served as an effective tool in identifying and correcting public health hazards. Prior to the enactment of the Regulation, the Environmental Health Division forecasted a ten (10%) percent failure rate based on inspections performed, upon request, by BEDHD. The overall incidence of failure realized in the first twelve months under the TOST program is twenty-three (23%) percent. The actual failure rate can be associated with the fact that all transfers are now evaluated and that those evaluations are being performed by qualified people under established evaluation criteria with direct oversight by BEDHD. Data from other counties that have implemented similar time-of-sale programs report that their failure numbers are decreasing over time. One such county that implemented a program in the mid to late 80's reports that its failure rate is now at an all time low of seven (7%) percent. If the BEDHD program follows this same pattern, failure rates should decrease over time.

The nature and scope of the public health hazards identified in the past twelve months has varied, yet it is those hazards with significant risk that have been addressed. Education and awareness within the community continues to build at the same time that BEDHD continues to implement the program. While it can be stated that the TOST program effects each individual differently, this initial twelve months has served the overall purpose and mission of public health in our community now and for generations to come.

Appendix A of BEDHD First 12 Months TOST Report



The above picture was taken by a BEDHD Sanitarian in May 2007 prior to the existence of the TOST program. The picture identifies a fake well used to fool a private inspector and/or buyer. The seller of the home had never installed a well and was receiving water through a hose connected to the neighbor's water supply. The "well" in the picture consisted of approximately 4' of plastic casing with a well cap that was stuck into the ground. This was discovered when the buyer, after purchasing the home, turned on the water and nothing came out. BEDHD received a phone call from the new owner who was upset that they did not have any water. Upon inspection by BEDHD Sanitarian it was found that the *white thing sticking out of the ground* was in fact a fake well. The buyer installed a new well.



The above picture was taken by a BEDHD Sanitarian this year while performing a confirmation visit for TOST. The picture reveals a leaking fuel oil tank located in a basement. The fuel oil had been leaking and draining to a sump pump pit located in the foreground. The sump "water" was surface discharging. The drinking water well was located 35' away in a pit, outside the home. A new fuel oil tank was installed and properly isolated from the well.

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The above picture was taken by a BEDHD Sanitarian this year during a confirmation visit for TOST. The picture shows the corner support post of a large wooden deck that was installed on top of a septic tank. The deck post was re-located avoiding the collapse of the septic tank and potential simultaneous collapse of the large deck



The above pictures were taken by a BEDHD Sanitarian this year during a confirmation visit for TOST. The pictures identify a well pit inside a structure. By building a structure over the top a well, access to perform work on the well is limited. While this situation didn't require correction prior to transfer, when this well is no longer in working order proper plugging will be more difficult to accomplish.

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The above picture was taken by a BEDHD Sanitarian during a confirmation visit for TOST. The picture identifies an illicit discharge of sewage through a single pipe onto the ground. The sewage is traveling across the ground and onto the neighbor's property. This issue was corrected and the home was authorized to transfer.



The above picture was taken by BEDHD Sanitarian and draws attention to an unplugged abandoned well in a flooded pit. Note the water level is just above the well casing of the unplugged well. Correction involved plugging of the old well by a licensed well driller.

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The above picture taken by a BEDHD Sanitarian and identifies a bleeder line installed to bypass the failed drainfield. The sewage was discharging on the ground surface and flowing to the County drain (identified at the top of the picture). A new sewage system was installed.



The two pictures above were taken by a registered evaluator and identify a bleeder line (illicit connection). The line runs approximately 125 feet from the septic tank to this creek. This creek is a tributary of the Coldwater River which is a trout stream but also has been identified by the MDEQ as a TMDL stream, which means fecal coliform bacteria exceed the daily maximum load for human contact.

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The above picture was taken by BEDHD Sanitarian during a confirmation visit for TOST. The picture depicts an illicit discharge (bleeder line) of sewage to a designated trout stream. This line was connected to a sump pump in the basement that was receiving sewage. This was corrected and the property was authorized for transfer.



The above picture was taken by a BEDHD Sanitarian and shows a well cap with exposed electrical wires and the well cap screws had been removed. The cap could easily be removed. The hazard was corrected.

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