

**Implementation of the Leon River Watershed Protection Plan
through Technical and Financial Assistance to Repair or Replace
On-Site Sewage Facilities in Hamilton County**

*Final Report
TSSWCB Project #10-10*



Funding provided by the Texas State Soil and Water Conservation Board through a Clean Water Act §319(h) grant from the U.S. Environmental Protection Agency.

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Executive Summary

The Leon River Watershed was originally placed on the Texas *303(d) List*, or impaired waters list, in 1996. By 2008, all but two of the segments in the watershed were impaired for elevated bacteria levels. To address the listing, a Total Maximum Daily Load (TMDL) was developed which indicated that a 21% reduction in bacteria levels would be needed to restore water quality in the Leon River. As a result of the TMDL, a stakeholder driven watershed protection plan (WPP) was developed. The draft TMDL and WPP identify failing on-site sewage facilities (OSSF), also known as septic systems, as a contributor of bacteria to the watershed. Stakeholders agreed that additional data was needed to identify the number and location of failing OSSFs in the Leon River watershed, as well as provide technical and financial assistance for homeowners to address and correct the issue.

In 2010, Hamilton County was awarded a three year Clean Water Act Section 319(h) grant project from the Texas State Soil and Water Conservation Board (TSSWCB) and the United States Environmental Protection Agency (EPA) entitled “Implementation of the Leon River Watershed Protection Plan through Technical and Financial Assistance to Repair or Replace OSSFs in Hamilton County”. The goal of this project was to inspect and repair or replace failing or faulty OSSFs within the Leon River Watershed in Hamilton County. Over the course of the project, 116 systems were inspected, 69 failing OSSFs were replaced and two were repaired. There were fewer repairs than replacements because the majority of the systems were over 30 years old. The Texas Commission on Environmental Quality (TCEQ) requires that any alterations or modifications on existing systems be made in accordance with current TCEQ rules. The number of systems repaired or replaced well exceeded the original goal of 25 systems.

The project made financial assistance available to the homeowners by offering 60/40 cost-share spilt with a maximum of \$4,800 per system. In certain cases, a homeowner could receive up to 90% assistance with no maximum amount upon submission of additional paperwork. Average construction cost per system was \$3,574 when new systems and repairs are combined.

Education and outreach were also an important component to the success of this project. Outreach was conducted through direct person-to-person contact, mailings, newspaper advertisements, websites and e-mail. Texas A&M AgriLife Extension Service held six workshops in Hamilton during the course of the project targeted at a range of audiences to demonstrate the importance of understanding and maintaining OSSFs. One workshop was specifically designed for onsite wastewater professionals. A total of 68 people attended the workshops offered. Evaluations were performed at each workshop, and on average 97% of attendees were completely or mostly satisfied with the training. In addition, many attendees showed a dramatic increase in knowledge gained, and they were willing to adopt best management practices regarding their own OSSFs.

Introduction

The Leon River watershed, located in the Brazos River basin, is bound by Proctor Lake upstream and Belton Lake downstream. The Leon River (Segment 1221) is approximately 190 miles long, and the watershed is approximately 1,375 square miles covering portions of Comanche, Erath, Hamilton, and Coryell Counties. A small portion of the watershed also lies within Mills County. The Leon River watershed is a predominantly rural, agricultural watershed dominated by rangeland with some cropland. Forests also cover a sizable amount of the watershed. A significant amount of dairy production also exists in the northern portion of the watershed.

In 1996, Segment 1221 was placed on the Texas *303(d) List* of impaired waters for bacteria levels “Not Supporting Contact Recreation Use”. The 2008 *303(d) List* identified all but two of the segment’s assessment units as impaired or having a concern for near non-attainment resulting from elevated *E. coli* levels. Additionally, five tributaries of the Leon River are impaired for bacteria (1221A – Resley Creek, 1221B – South Leon River, 1221C – Pecan Creek, 1221D – Indian Creek, and 1221F – Walnut Creek).

Placement of the Leon River on the *303(d) List* caused the Texas Commission on Environmental Quality (TCEQ) to initiate the development of a total maximum daily load (TMDL). A draft TMDL was published by TCEQ in 2008 that indicated a 21% load reduction in bacteria levels would be needed to restore water quality in the Leon River. Sources of bacterial pollution identified in the Leon River watershed included wastewater treatment facility discharges, stormwater runoff, failing OSSFs, wildlife and feral animals, as well as fecal deposition from livestock and pets.

In the midst of the TMDL development process, stakeholders sought to initiate the development of a watershed protection plan (WPP) for the Leon River. Through TSSWCB project 06-12, *Leon River Watershed Protection Plan Project*, a WPP for the Leon River was developed. Both the draft TMDL and the draft WPP identify failing OSSFs as a contributor of bacteria to the watershed. The magnitude of pollutant loading from OSSFs at the subwatershed scale was estimated in the draft TMDL report using the 1990 U.S. Census and an assessment of failure rates. The census has an estimated 5,800 OSSFs located within the watershed.

All stakeholders agreed that additional data was needed to identify the number and location of failing OSSFs in each subwatershed, as well as technical and financial assistance for homeowners.

In 2010, Hamilton County was awarded a three year Clean Water Act Section 319(h) grant from the Texas State Soil and Water Conservation Board (TSSWCB) and the United States Environmental Protection Agency (EPA) entitled “Implementation of the Leon River Watershed Protection Plan through Technical and Financial Assistance to Repair or Replace OSSFs in Hamilton County”. Goals for the project included: 1) Identifying and inspecting OSSFs; 2) Promoting the availability of technical and financial assistance to homeowners; 3) Providing technical and financial assistance to homeowners for the repair, replacement, or removal of

OSSFs; 4) Educating homeowners on proper OSSF maintenance; 5) Educating inspectors, installers, and maintenance providers about proper installation, inspection, and operation and maintenance of OSSFs. The project was also in partnership with Texas A&M AgriLife Extension Service to provide the education portion of the project.

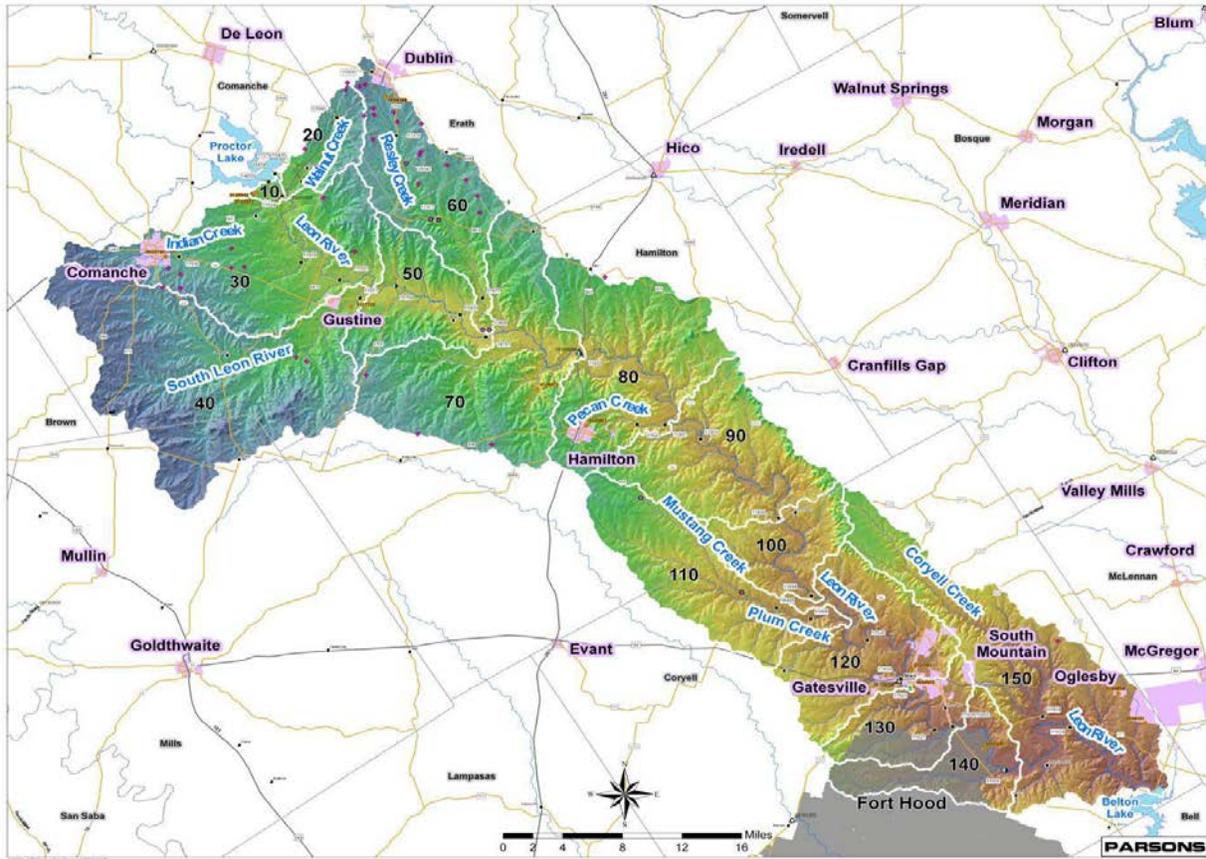


Figure 1. Leon River Watershed

Marketing/Promotional Efforts

Hamilton County hired an Environmental Inspector with a current Designated Representative license to inspect and provide technical assistance to homeowners in Hamilton County. The inspector identified homeowners residing in the Leon River watershed within Hamilton County using tax records received from the Hamilton County Appraisal District. Using this information, homeowners were contacted either directly or by mail.

All homeowners contacted were given a brochure briefly explaining the program (Appendix A-2). Many homeowners were also sent a short letter containing information about the program and its significance (Appendix A-1). A newspaper advertisement explaining the program was placed

in the Hamilton Herald News and ran weekly throughout the duration of the project (Appendix A-3).

The Environmental Inspector attended quarterly meetings with TSSWCB to discuss program progress and to address any issues that may arise. Hamilton County Commissioner's Court meetings were attended as needed to update Hamilton County officials on the status of the program. Leon River Watershed Steering Committee meetings were also attended to keep stakeholders aware of project progress and thereby meeting WPP water quality goals.

To promote OSSF education workshops, course flyers were developed and distributed to project partners and potential participants (Appendix A-4, A-5). The flyers described the course objectives, locations and contact information.

The project partners contributed greatly to the promotion of the educational events through a variety of advertising media. The Hamilton County AgriLife Extension Office submitted course announcements to the Hamilton Herald – News (Appendix A-6), which is delivered weekly throughout the project area. Numerous RSVPs were received in response to the newspaper advertising.

Events were also promoted through multiple email list servers including: the Leon River Watershed Protection Program and the Hamilton County Extension newsletter. Event information was also posted on the Leon River Watershed Protection Program's website (Figure 2) and Facebook page, and on the Texas A&M AgriLife Extension website (<http://ossf.tamu.edu/>) (Figure 3).



Figure 2. Leon River Watershed Protection Program website promotion.



Figure 3. Texas A&M AgriLife Extension OSSF website promotion.

The Overview of Advance Wastewater Treatment Systems program was heavily advertised via direct mail. The names and contact information of Licensed OSSF Designated Representatives, Installers, Maintenance Providers and Site Evaluators practicing in Hamilton and surrounding counties was downloaded from the TCEQ licensing website. A trifold advertisement was mailed to 59 Licensed OSSF professionals in Hamilton, Comanche, Coryell, Erath, Lampasas and Mills Counties (Appendix A-7).

Outreach and Education

Educational Workshops

Texas A&M AgriLife Extension Service delivered workshops to owners of anaerobic and aerobic OSSFs throughout the course of the project. All on-site sewage facilities require operation and maintenance to ensure long term operation and the proper treatment of wastewater. The goal of the outreach program is to raise awareness of proper OSSF operation and maintenance, and explain the role of OSSFs in our wastewater infrastructure. Three different types of workshops were held during the project (as described below), all of which targeted various stakeholders that interact with OSSFs in the watershed. In order for homeowners to receive financial assistance from this project, they must have attended one OSSF workshop or viewed a video from Texas A&M University in the Hamilton County Annex building which discusses similar material.

Intro to Septic Systems

The Texas A&M AgriLife Extension Service developed a workshop specifically for this project, titled Intro to Septic Systems, targeting Hamilton County residents with new or existing OSSFs.

The Intro to Septic Systems workshop was taught four times during the project period, as shown in Table 1, and a total of 48 people participated in these free training events.

Table 1. Intro to Septic Systems Workshop Dates and Attendance

Dates	Attendance
May 14, 2013	14
March 27, 2014	20
May 29, 2014	11
October 13, 2014	3

The Intro to Septic Systems course is a two (2) hour course providing information to the owners of conventional anaerobic septic systems. The course utilizes Microsoft PowerPoint and representative visual aids to demonstrate operation and maintenance activities and system components. The course was offered in the evening hours to allow participants to attend without interfering with work schedules.

Presentations discuss the importance of maintaining the treatment system, health and safety considerations, basic concepts about the treatment processes, inspecting the status of the treatment system, care and feeding of the system, maintenance procedures and tools and supplies for evaluating the system. These presentations provide a basic understanding of the operational and maintenance activities for a conventional septic system. The course explains how activities within the home can impact the operation of a septic system. This course also explains the limitations of the site itself to accept and provide treatment to the wastewater. The participants leave this class with a better understanding of the practices required to keep their system working and limit interferences with the enjoyment of their property.

Homeowner Maintenance of Aerobic Treatment Units

Two other workshops were also offered during the course of the project. The Homeowner Maintenance of Aerobic Treatment Units workshop was held on July 24, 2015 at the Hamilton County AgriLife Extension Office. This workshop was a six (6) hour course that provided information to the owners of aerobic treatment units. The workshop utilizes the same methods as the Intro to Septic Systems workshop, but provides greater detail on the operation and maintenance of aerobic treatment units. These systems require additional maintenance to care for pumps, electrical components and disinfection devices to ensure proper wastewater treatment.

Two people participated in this workshop. A lower than average attendance was anticipated due to the small number of aerobic treatment units installed in Hamilton County; however, the two attendees found the information extremely helpful.

Overview of Advance Wastewater Treatment Systems

The Overview of Advance Wastewater Treatment Systems workshop was held on April 28, 2015 in Hamilton. The workshop was developed for professionals in the onsite wastewater industry and is approved for eight hours (8) of Onsite Wastewater Continuing Education Credit by the TCEQ. The eight hour program was attended by 18 OSSF professionals. The course presents information on onsite wastewater treatment system components, operation, and management. Information provided will help professionals inspect, design and install OSSFs.

Workshop Evaluations

Texas A&M AgriLife Extension Service administered pre- and post-workshop evaluations (forms in Appendix D) to gauge the knowledge gained by educational program participants. These evaluations were administered at the beginning and end of each workshop to evaluate knowledge gained and intended behavior changed.

Cumulative Evaluation of Homeowner Programs

A total of 50 people participated in the homeowner training events. One hundred percent of the respondents indicated that they were mostly or completely satisfied with the overall training. Additionally, 100% of respondents indicated that they would recommend the courses to others (Yes = 36, No = 0). These responses indicate an overall acceptance of the course as being a value to the participants.

The retrospective-pre-then-post evaluation survey provided a means to assess the areas where knowledge was gained through participation in the training events. During these events, 74% (37 of 50) of the participants completed at least a portion of the evaluation survey. The number of respondents to a specific question is indicated by the “N” value in the respective table.

Table 2. Percent of Intro to Septic System participants indicating knowledge gained on specific topics.

Percent reporting an increase in knowledge:	# of Increases	N	% Knowledge Increased
How septic systems are a part of our wastewater infrastructure.	27	34	79.4
How practices in the home affect sewage characteristics.	29	34	85.3
Septic tank operation and maintenance criteria.	30	34	88.2
How soil treats sewage.	26	34	86.5
How aerobic treatment units remove waste from sewage.	29	33	87.9
How a malfunctioning septic system can impact water quality.	27	33	81.8
Proper septic system operation for protection of public health.	25	34	73.5

The topic with the greatest number of participants indicating knowledge gained was “septic tank operation and maintenance criteria”. The topic with the least number of participants indicating knowledge gained was “proper septic system operation for protection of public health” (Table 2). The retrospective-pre-then-post evaluation method also allows participants to indicate the knowledge gained with respect to a specific topic. The relative percent knowledge gained for the topics discussed ranged from 40 to 52% (Table 3). The topic with the least knowledge gained was “how septic systems are a part of our wastewater infrastructure”; while the topic with the greatest knowledge gained was “septic tank operation and maintenance criteria.”

Table 3. Cumulative results from the Intro to Septic Systems programs. Calculated percent knowledge gained using a retrospective pre-then-post survey instrument.

Percent Knowledge Gained:	% Knowledge Gain
How septic systems are a part of our wastewater infrastructure.	40.2
How practices in the home affect sewage characteristics.	46.1
Septic tank operation and maintenance criteria.	52.0
How soil treats sewage.	45.1
How aerobic treatment units remove waste from sewage.	48.5
How a malfunctioning septic system can impact water quality.	45.5
Proper septic system operation for protection of public health.	41.2

Many of the homeowners attending the course indicated a willingness to adopt the practices discussed during the course (Table 4). Many of the participants already adopted the practices of limiting hydraulic and organic loading because they have lived with a system many years and are aware of the consequences of overloading the system. The evaluation reflects the emphasis on operation and maintenance activities and pumping out the septic tank. Overall, the willingness to adopt management practices was extremely positive.

Table 4. Cumulative results from the Intro to Septic Systems programs. Assessment of willingness to adopt practices as a result of participation in the course.

Indicate your intentions to adopt each item listed below or indicate if you have already adopted the item listed or if it does not apply to your situation.	Will <u>not</u> adopt	Undecided	Probably <u>will</u> adopt	Definitely <u>will</u> adopt	Already adopted	Not applicable	N
Implement water conservation practices to limit water to the OSSF.	1	1	7	10	14	1	34
Limit organic loading to the OSSF.	1	1	6	13	12	1	34
Perform operation and maintenance activities on my septic system	0	1	10	20	2	1	34
Pump out my septic tank as needed	0	0	5	24	4	1	34

Summary of Continuing Education for OSSF Professionals

Results from the Overview of Advance Wastewater Treatment Systems workshop were positive with 94% of respondents reporting being completely or mostly satisfied with the overall activity and 100% willing to recommend the program to others. The number of respondents indicating knowledge gained on a specific topic ranged from 33% to 73% (Table 5). The relative percent knowledge gained for the topics discussed ranged from 18 to 40% (Table 6). Additionally, 69% of the participants indicated a willingness to value the decentralized approach as an alternative to centralized infrastructure (Table 7).

Table 5. Overview of Advance Wastewater Treatment Systems evaluation results. Percent of participants indicating knowledge gained on specific topics.

Percent reporting an increase in knowledge:	# of Increases	N	% Knowledge Increased
How septic systems are a part of our wastewater infrastructure.	13	18	72.2
Water quality problems and TMDL program	11	18	61.1
Five management models/programs for on-site and decentralized wastewater	12	18	66.7
Wastewater characteristics, flow rates, and mass loading calculations.	11	18	61.1
How septic tanks, aerobic treatment units, and media filters remove waste from sewage.	10	18	55.6
Types of disinfection systems, how do they operate, and the required maintenance.	12	17	70.6
Importance of keeping disinfection system operating properly.	9	18	50.0
Pump tank systems, sizing, operation, and flow equalization concept.	9	18	50.0
Types of effluent disposal/dispersal systems and their operation & maintenance requirements.	8	18	44.4
Graywater systems and their history in Texas.	11	18	61.1
Reuse systems and their potential to reduce the Water Gap in Texas.	11	15	73.3

Table 6. Overview of Advance Wastewater Treatment Systems course calculated percent knowledge gained using a retrospective pre-then-post survey instrument.

Percent Knowledge Gained:	% Knowledge Gain
How septic systems are a part of our wastewater infrastructure.	35.3
Water quality problems and TMDL program	27.7
Five management models/programs for on-site and decentralized wastewater	27.7
Wastewater characteristics, flow rates, and mass loading calculations.	26.0
How septic tanks, aerobic treatment units, and media filters remove waste from sewage.	22.0
Types of disinfection systems, how do they operate, and the required maintenance.	31.3
Importance of keeping disinfection system operating properly.	13.0
Pump tank systems, sizing, operation, and flow equalization concept.	22.3

Percent Knowledge Gained:	% Knowledge Gain
How septic systems are a part of our wastewater infrastructure.	35.3
Water quality problems and TMDL program	27.7
Five management models/programs for on-site and decentralized wastewater	27.7
Wastewater characteristics, flow rates, and mass loading calculations.	26.0
How septic tanks, aerobic treatment units, and media filters remove waste from sewage.	22.0
Types of disinfection systems, how do they operate, and the required maintenance.	31.3
Importance of keeping disinfection system operating properly.	13.0
Types of effluent disposal/dispersal systems and their operation & maintenance requirements.	18.3
Graywater systems and their history in Texas.	29.7
Reuse systems and their potential to reduce the Water Gap in Texas.	40.0

Table 7. Assessment of willingness to adopt practices as a result of participation in the Overview of Advance Wastewater Treatment Systems course.

Indicate your intentions to adopt each item listed below or indicate if you have already adopted the item listed or if it does not apply to your situation.	Will <u>not</u> adopt	Undecided	Probably <u>will</u> adopt	Definitely <u>will</u> adopt	Already adopted	Not applicable	N
Responsible management of on-site systems using one of the five models	0	1	4	3	9	0	17
Site specific selection of on-site treatment and disposal system with Owners input	0	2	4	2	9	0	17
On-site reuse system to address water shortages	1	6	6	3	1	0	17
Valuation of decentralized approach as an alternative to centralized infrastructure	1	3	5	6	1	0	16

Factsheets detailing proper homeowner maintenance of OSSFs were distributed at all of the workshops held during the project. They described the function and operation and maintenance of OSSFs, as well as information regarding the Hamilton County OSSF Program. All of these, and many more, factsheets can be found electronically at <http://ossf.tamu.edu/educational-materials-2/>. The Hamilton County OSSF Program brochure can be found in Appendix A-2.

Repair and Replacement

Using information supplied by the Hamilton County Appraisal District, 3,637 property identification numbers were contacted either by mail or in person. If the homeowner was interested in the voluntary assistance program, then an inspection was performed. The inspection process consisted of a site visit and an application (Appendix B) which lists, among other things, the gathering of information required to assign a point value. Points were given based on criteria such as proximity to waterways, OSSF location (watershed identification), technology type, functionality, development density, soil type, land surface elevation, system age, depth to groundwater (when possible), distance to water wells and compliance history. Due to the average age of inspected systems being over 30 years old, most systems were not permitted with Hamilton County, so no compliance history was available. In these cases, system history was obtained from the homeowner. Special consideration was given to OSSFs located in Leon River subwatersheds 50, 80 and the City of Jonesboro. Upon inspection, if the system was determined to be failing (as shown in Figure 4) and in need of repair or replacement, then the homeowner could apply for financial assistance and was responsible for obtaining a contractor to perform the repair or replacement. Reimbursement of program construction funds was then paid upon completion of the work to the contractor at the 60/40 or other negotiated rate.



Figure 4. Failing system replaced in City of Jonesboro.

Through the duration of the project, 116 OSSF inspections were performed. Program efforts resulted in 71 homeowners receiving technical and financial assistance to repair or replace their failing OSSF, well beyond the original estimate of 25 OSSFs. Of these 71 systems, 69 were new replacements and two were repairs. Average construction cost per system was \$3,574 when new systems and repairs are combined. Each system was geo-located and all systems, inspected, repaired and replaced, are displayed on a map shown in Appendix C.

Conclusion

A total of \$253,867 of financial assistance was provided to repair/replace 71 failing septic systems. Average construction cost per system was \$3,574 when new systems and repairs are combined. The program was such a success that almost triple the amount of OSSFs were repaired/replaced than originally estimated.

Outreach and education was also important to the success of the program. Texas A&M AgriLife Extension Service held multiple workshops targeted at a range of different audiences to demonstrate the importance of understanding and maintaining OSSFs. Every homeowner that received financial assistance through the program was required to attend at least one of these workshops.

Despite all of this success, thousands of OSSFs in the Leon River watershed still have the potential to be failing. Because of continued homeowner interest and participation and the demonstrated need to repair or replace OSSFs, Hamilton County applied for more CWA §319(h) funding through the TSSWCB. The new project began in 2014 with the goal of repairing/replacing 20 more OSSFs. With further outreach, this project is also on schedule to surpass their original implementation goal.

Appendices

Appendix A: Outreach Documents

Appendix A-1: Mailer Letter Excerpt



DICKIE CLARY
COUNTY COMMISSIONER PRECINCT 4 - HAMILTON COUNTY, TEXAS
BOX 472
HAMILTON, TEXAS 76531
(254) 372-3339

Attention Hamilton County Property Owners

*****NOTICE*****

Failing septic systems have been identified as one of the sources of the bacteria in the Leon River.

Several years ago the Texas Commission on Environmental Quality (TCEQ) held local meetings to inform the citizens of Hamilton County that the bacteria levels in the Leon River were above state water quality standards.

The TCEQ was preparing to implement a Total Maximum Daily Load (TMDL) in order to reduce bacteria levels in the Leon River to acceptable levels.

When this TMDL is implemented, local citizens and property owners like yourself could lose your ability to continue to use your property as you desire and could be subject to financial penalties if bacteria from your property is being released into the environment.

In order to help avoid future environmental regulations and the implementation of this TMDL, the Hamilton County Commissioners Court has obtained grant funds to implement a local bacteria reduction program designed to reduce bacteria levels in the Leon River over time.

This program provides technical and financial assistance to property owners in the Leon River watershed whose septic systems are failing and are releasing bacteria into the environment.

Please take a few more minutes and read the enclosed brochure that describes the program details.

This program is only available for the next two years so now is the best time to have your septic system evaluated and take advantage of the financial incentives to repair or replace your system while grant funds are still available.

Other important information

State and federal environmental agencies will eventually impose water quality regulations on the citizens of Hamilton County if the bacteria levels in the Leon River are not lowered to meet state surface water quality standards!

Your voluntary participation in this program is VERY IMPORTANT to help avoid future regulations!

DO NOT FEAR!!! Your septic system evaluation cannot be used for environmental enforcement action!

Appendix A-2: Program Brochure (tri-fold)

Program Goal



The goal of this technical assistance and financial incentive program is to reduce bacteria levels in our local rivers, streams and tributaries, which can be contaminated by faulty and failing septic systems through soil infiltration/saturation and surface runoff. By evaluating existing septic systems in Hamilton County and providing financial incentives to eligible property owners for the repair of faulty or failing systems, bacteria levels in local surface water bodies should be reduced to acceptable levels over time.



Billy Hopson Environmental Inspector

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Hamilton, TX. 76531
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Cell: 254.223.6560
hcel@hamiltoncountytx.org
Revised: April 17, 2012

For more information, please visit our website at www.hamiltoncountytx.org and look for the tab labeled "On-Site Sewage Facility (OSSF) Programs" under "County Offices." This link will provide more details, forms, FAQs and a link to a draft of the Leon River Watershed Protection Plan.

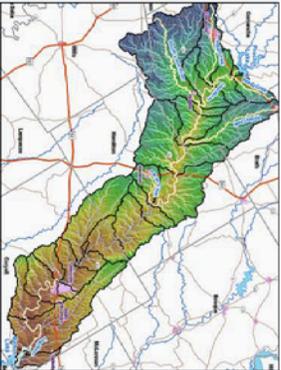
Hamilton County

On-Site Sewage Facility Technical Assistance and Financial Incentive Program

Hamilton County is proud to partner with the Texas State Soil and Water Conservation Board (TSSWCB) and the United States Environmental Protection Agency (EPA) to help reduce bacteria levels within the Leon River watershed by providing technical assistance and financial incentives to qualified property owners for the repair of faulty and failing on-site sewage facilities (OSSFs) located in Hamilton County.



OSSF Program



Background

The Leon River watershed, shown above, was original placed on the Texas 303(d) List, or impaired waters list, in 1996. By 2008, all but two of the segments in the watershed were impaired for elevated bacteria levels. To address the listing, a Total Maximum Daily Load (TMDL) was developed which indicated that a 21% reduction in bacteria levels would be needed to restore water quality in the Leon River. As a result of the TMDL, a stakeholder-driven Watershed Protection Plan (WPP) was developed. The draft TMDL and WPP identify failing OSSFs, also known as septic systems, as a contributor of bacteria to the watershed. Stakeholders agreed that additional data was needed to identify the number and location of failing OSSFs in the Leon River watershed, as well as provide technical

assistance and financial incentives for property owners to address and correct the issue.

Program Overview

Hamilton County has received a Clean Water Act §319(h) Nonpoint Source grant from the TSSWCB and EPA for implementation of a bacteria reduction program to provide technical assistance and financial incentives for eligible property owners to repair or replace existing septic systems which are not functioning properly. An improperly functioning septic system may release bacteria and other pollutants into the ground and surface water causing contamination and possible illnesses to both humans and animals.

Applying For Assistance

Financial incentives are available to qualified property owners not on central sewer collection, who have a faulty or failing septic system or no system at all. Applications can be downloaded from the Hamilton County website or may be picked up at the Hamilton County Clerk, Extension, or Soil and Water Conservation District offices.

Selection Process

Completed applications will be ranked and approved based on a prioritized point system which considers factors such as level of system failure, proximity to a river or other water source, and other factors determined during an on-site evaluation by the Hamilton County Environmental Inspector.

Funding Limitations

This OSSF Program will fund up to 60% of total allowable construction costs, not to exceed a maximum of \$4,000 per sewage generating structure. Actual percentages may vary based on a ranking system. By accepting program funds, the property owner agrees to follow all program terms and conditions, including the attendance of a workshop concerning the proper maintenance and care of a septic system and allow annual follow-up inspections by the County. Approved workshops will be offered through Texas AgriLife Extension Service and the Hamilton County OSSF Program. Qualifying VHS tapes and DVDs are also available.



Appendix A-3: Newspaper Advertisement in the Hamilton Herald News

DUSTY@GLASSFISHSERVICE.COM

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Notice to Homeowners with Septic Systems in Hamilton County

If you are a resident of Hamilton County and are having problems with your septic system, we may be able to help. Hamilton County has received grant funding through the Texas State Soil and Water Conservation Board to implement a bacteria reduction program for the Leon River Watershed designed to provide limited financial assistance for eligible property owners to repair or replace their existing septic systems that are not functioning properly. Program history and details have been made available online at www.hamiltoncountytexas.org or by calling 254-386-3832.

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Appendix A-4: Flyer for Homeowner OSSF Educational Workshop



Interested in learning how to keep your septic system functioning properly?

Attend the Homeowner Maintenance of Systems Course for Free!

This course provides a basic understanding of the operational and maintenance activities of a conventional septic system, and explains how activities within the home impact septic systems. Presentations will cover the treatment processes, health and safety considerations, how to inspect, and maintain the system. This course also provides answers to the most frequently asked septic system questions, including when to pumpout a tank and what can or cannot go down the drain.

Course Information:

MONDAY, OCTOBER 13, 2014. 5:30PM - 7:30PM

Hamilton County Annex Building
101 E. Henry Street
Hamilton, TX 76531

Please RSVP to: (254) 386-3919 or
(979) 458-4185

Cost: Free!



Why Should You Attend?

Septic systems are not flush and forget systems! Therefore maintenance is essential to ensure proper function and longevity of your septic system. Attendees will gain a better understanding of how to maintain their septic system to protect the health of their family and the environment.

For More Information Contact:

Ryan Gerlich, Extension Program Specialist
(979) 458-4185 | RAGerlich@ag.tamu.edu

OR

Chelsea Dorward, County Extension Agent
(254) 386-3919 | Chelsea.Dorward@ag.tamu.edu

This is made possible by funding through the Clean Water Act Section 319(h) dollars provided through the Texas State Soil and Water Conservation Board (TSSWCB).



Educational programs of the Texas A&M AgriLife Extension Service are open to all people without regard to race, color, sex, disability, religion, age or national origin.

Appendix A-5: Flyer for Homeowner Aerobic OSSF Educational Workshop



Interested in learning how to keep your aerobic wastewater treatment system functioning properly?

Attend the Homeowner Maintenance of Aerobic Treatment Units Course for Free!

This course covers the components of an aerobic treatment unit and spray field. Presentations discuss the importance of maintaining the treatment system, health and safety considerations, basic concepts about the aerobic treatment processes, testing and reporting on the status of the treatment system, care and feeding of the aerobic treatment unit, maintaining the aerobic treatment system and tools for evaluating the system. These presentations provide a basic understanding of the operational and maintenance activities for an aerobic treatment unit. The course explains how activities within the home can impact the operation of an aerobic treatment unit. The participants will leave this class with a better understanding of the practices required to keep their system working and limit interferences with the enjoyment of their property.

Course Information:

FRIDAY, JULY 24, 2015. 8:30AM - 3:30PM

Hamilton County Annex Building
101 E. Henry Street
Hamilton, TX 76531

Please RSVP to: (254) 386-3919 or
(979) 458-4185

Cost: Free!



For More Information Contact:

Ryan Gerlich, Extension Program Specialist
(979) 458-4185 | RAGerlich@ag.tamu.edu

OR

Bruce Boyd, County Extension Agent
(254) 386-3919 | Bruce.boyd@ag.tamu.edu

This is made possible by funding through the Clean Water Act Section 319(h) dollars provided through the Texas State Soil and Water Conservation Board (TSSWCB).



Educational programs of the Texas A&M AgriLife Extension Service are open to all people without regard to race, color, sex, disability, religion, age or national origin.

Appendix A-6: Homeowner Septic System Workshop Announcement in Hamilton-Herald Newspaper

The Hamilton Herald-News Thursday, April 25, 2013 Page 11A

Septic system maintenance event May 14

The Texas A&M AgriLife Extension Service and the Hamilton County On-Site Sewage Facility Technical Assistance and Financial Incentive Program is offering a free homeowner education event discussing homeowner maintenance of septic systems. The program is from 6 p.m. to 8 p.m. May 14 at the Hamilton County Annex Building, 101 E. Henry St., in Hamilton.

This course provides a basic understanding of the operational and maintenance activities of a septic system, and explains how activities within the home impact septic systems. Presentations will cover the treatment processes, health and safety considerations, how to inspect, care for and feed the system, and general maintenance procedures.

This program made possible by funding through the Clean Water Act Section 319(h) dollars provided through the Texas State Soil and Water Conservation Board (TSSWCB).

For information or to register, contact Ryan Gerlich, Extension Program Specialist, 979-458-4185, or Billy Hopson, Program Environmental Inspector, 254-386-3832.



Worthington Orchards

1 mile south of Proctor on Hwy. 377

Bedding Plants
Tomato Plants
Gifts and Antiques

254-879-2400
254-968-8072





Hamilton Commission Company



OFFICE: 254-386-3185
FAX: 254-386-3576
P. O. Box 71
HAMILTON, TX 76531
LOCATED ON
HWY. 281 NORTH

SHEEP & GOAT SALE MONDAY 10 A.M.
CATTLE SALE TUESDAY 12 NOON

COW SALE RESULTS FROM APRIL 16

<u>Bred Cows</u>		
Choice:	1060-1410 hd.	COMMENTS: Our market was steady to some lower. Cows and bulls \$1-\$3 lower. By all indications, we should have a higher market with lower cattle numbers and rains across a big part of Texas, though that has not happened yet. We need a better economy and more rain to turn this market up. The economy may be the biggest stumbling block in our way.
Med. Quality:	860-1050 hd.	
Aged:	700-850 hd.	
<u>Trends</u>		
Stocker Steers:	\$3 lower	
Feeder Steers:	No test	
Stocker Heifers:	Steady	
Feeder Heifers:	No test	
Packer Cows:	\$3 lower	
Packer Bulls:	\$1 lower	
Cow and Calf Pairs:	Steady	
Bred Cows:	Steady	

REGISTERED BRED GOAT SALE

Appendix A-7: Overview of Advance Wastewater Treatment Systems Trifold Mailout



FREE Continuing Education program for OSSF professionals

Overview of Advanced Wastewater Treatment Systems

OWTS 201

This course is approved for eight hours (8) of Onsite Wastewater Continuing Education Credit by the Texas Commission on Environmental Quality. The course will present information on onsite wastewater treatment and disposal systems components, operation, and management. Details on septic tank and advanced treatment systems will be covered. It is designed for classroom instruction, it will consist of a lecture and discussion with demonstration aids.

Date and Time:

TUESDAY, APRIL 28, 2015

8:00AM - 5:00PM

Location:

FIRST UNITED METHODIST CHURCH

215 WEST MAIN STREET

HAMILTON, TX 76531

Cost: Free! However, seating is limited to the first 20 registrants!

To register contact:

Ryan Gerlich, Extension Program Specialist

Phone: (979) 458-4185

Email: ragerlich@ag.tamu.edu

This is made possible by funding through the Clean Water Act Section 319(h) dollars provided through the Texas State Soil and Water Conservation Board (TSSWCB).



Educational programs of the Texas A&M AgriLife Extension Service are open to all people without regard to race, color, sex, disability, religion, age or national origin.

Appendix B: Program Application Forms

Appendix B-1: Program Application

Hamilton County Technical Assistance and Financial Incentive Program Evaluation Authorization Form

To: All Hamilton County Property Owners with On-Site Septic Facilities (OSSF)

Hamilton County has received grant funding through the Texas State Soil and Water Conservation Board to implement a bacteria reduction program designed to provide limited financial assistance for eligible property owners to repair or replace existing septic systems which are not functioning properly. An improperly functioning septic system may release bacteria into ground and surface water causing bacterial contamination and possible illnesses to both humans and animals.

The Leon, North Bosque, Cowhouse and Lampasas River Watersheds in Hamilton County all have elevated levels of E.coli bacteria. These bacteria impairments have drawn attention from state and federal environmental agencies such as the Texas Commission on Environmental Quality and the United States Environmental Protection Agency. These agencies will eventually implement additional regulations for all Hamilton County citizens unless bacteria levels are lowered to meet state water quality standards.

The goal of this bacteria reduction and financial assistance program is to reduce bacteria levels in our local rivers, streams and tributaries. By evaluating the existing septic systems in our county and providing limited financial assistance to eligible property owners to repair or replace faulty/failing systems, bacteria levels in our local surface water bodies should be reduced over time.

With your permission, the Hamilton County Environmental Inspector would like to evaluate your septic system. If your septic system is determined to be faulty or failing, the Inspector will help you apply for funding through the financial assistance component of this program and/or assist you with finding other funding sources to bring your system into compliance with existing OSSF regulations.

I grant permission for the Hamilton County Environmental Inspector to conduct an evaluation of my On-Site Septic Facility (OSSF). I understand that if my septic system is determined to be faulty or failing, I will be eligible to apply for financial assistance to repair or replace faulty system components in accordance with the cost-share agreement.

Signature _____	Date _____
Printed Name _____	
Physical Address of OSSF Inspected _____	
Mailing Address of Property Owner _____	
Phone Number (____) _____ - _____	Email _____

GPS: _____

Property I.D. # _____

(This number will be removed when necessary to comply with state privacy laws)

Revised April 26, 2012

Hamilton County Technical Assistance and Financial Incentive Program
Information and Evaluation Worksheet

Evaluation Number _____
Property I.D. # _____
(I.D # will be removed when necessary to comply with state privacy laws)

Basic Property Information

Information Source: Owner / Occupant / Other _____ Occupied: Yes / No _____
System Age: _____ Permitted: Yes / No Permit # _____ Permit Date: _____
Occupancy Rate: Continuous / Weekends / Seasonal / Other _____
Type of Use: Residential / Commercial / Recreational / Occasional / Other: _____
Number of Bedrooms: _____ Living Area: _____ft² Estimated Q (TCEQ): _____ gpd
Average Number of Occupants: _____ Peak Number of Occupants: _____
Water Source: Public Water: Yes / No Name of Water Supplier: _____
Private Well: Yes / No Is Well Grouted: Yes / No / Unknown
Other Wells/Cisterns: Yes / No Grouted: Yes / No / Unknown
Well Sample Requested: Yes / No Sample ID # _____
Watershed Name: _____ Sub-Watershed Number: _____
Presence of 100-yr. Floodplain: Yes / No Development Density: Low / Med / High

Basic Septic System Information

System Treatment Type: Anaerobic / Aerobic If Aerobic: Maintenance Contract: Yes / No
Maintenance Current: Yes / No
System Disposal Type: Subsurface / Surface Application Description: _____
Number of Structures Served by OSSF: _____
Cleanouts: House to Tank: Yes / No In Disposal: Yes / No Appropriate Fall to Tank: Yes / No
Tank Location: Known / Unknown Elevation: _____
Tank Characteristics: Concrete / Poly / Other _____ # of Compartments: _____
Risers: Yes / No Capacity (gal): _____ Dimensions: _____
Last Known Date Pumped: _____
Disposal Location: Known / Unknown Elevation: _____
Disposal Construction: Perforated Pipe / Clay Pipe / Unknown / Other _____ Ft² _____
Vegetation Cover: Adequate / Poor / None Comments: _____
Slope: Steep / Moderate / Slight / None (<1%) Approximate Slope: _____ %
Soil Type: TCEQ Class: _____ NRCS Map: _____
Restrictive Horizon: _____ Depth to Groundwater: _____
Distance to: Property Line: _____ Wells: _____ Flood Plain: _____
Drainage Feature: _____ Tributary: _____

Water Use/Habits

Water Records Available: Yes / No Average Daily Water Usage: _____ gallons per day
Water Softener: Yes / No Garbage Disposal: Yes / No Either Routed to OSSF: Yes / No
Separate Gray Water Disposal: Yes / No Type: Surface / OSSF Sources: Sink / Washer / Other _____
Clothes Washing Schedule: Daily / As Needed / Weekend Estimated # of Loads: _____ per _____
Other High Water Use Items: (pools, wash racks, irrigation etc.) _____

Evaluation Number _____

Physical Evaluation of OSSF Components

Do Toilets Flush Properly	Yes / No	Comments: _____
Do Sinks Drain Properly	Yes / No	Comments: _____
Odors Present	Yes / No	Comments: _____
Leaking Fixtures	Yes / No	Comments: _____
Gurgling Pipes or Drains	Yes / No	Comments: _____
Tank Lid Adequate	Yes / No	Comments: _____
Gutters/Surface Runoff	Yes / No	Comments: _____
Surfacing Effluent Observed	Yes / No	Comments: _____
Roots in Tank/Disposal Area	Yes / No	Comments: _____
OSSF in High Traffic Area	Yes / No	Comments: _____
Damage/Defects Observed	Yes / No	Comments: _____

Well Sample Results _____

Results: Inspection revealed (indicate one or more of the following)

- System Functioning Properly
- System Failing
- System Maintenance Required
- Pumping
- Tank/Lid: _____
- Disposal: _____
- Household Plumbing: _____
- Other: _____
- Inconclusive: (Remarks) _____

Recommendations: (indicate one or more of the following)

- Continue routine maintenance/repair as needed
- Pumping or other maintenance recommended
- Change water use habits-excessive hydraulic load
- Surface improvements needed (tree, shrub removal, gutters, landscape/terrace)
- House plumbing should be repaired (plumber)-excessive hydraulic load
- Additional evaluation by licensed installer/designer
- System upgrade is recommended
- Recommend for Program Priority: high med low

Comments: _____

Billy Hopson RS4038
Environmental Inspector

Revised May 21, 2012

Hamilton County Technical Assistance and Financial Incentive Program
Program Application

I.D. # _____

Name of Applicant: _____

Last

First

Middle

911 Address of Subject Property: _____

In applying for cost share funding through the Hamilton County Technical Assistance and Financial Incentive Program, I understand and acknowledge the following:

- Assuming all terms and conditions are met, the maximum total potential cost-share of allowable construction costs is 60%, with the maximum payment not to exceed \$4,800.00.
- Filing of this application does NOT constitute approval for cost-share funding.
- All program projects must receive written approval from the Hamilton County Environmental Inspector (HCEI) BEFORE any construction begins.
- The applicant agrees NOT to begin any work with which program funds will be used until formal written approval of cost-share funding is received from the HCEI.
- No program funds can be used for any work which was begun before written approval is issued.
- All work must meet written specifications provided, or approved, by the Hamilton County Designated Representative (DR) and the HCEI.
- Any changes in the original approved system design will require written approval prior to final inspection from the HCEI to be eligible for program funds.
- The applicant is required to comply with all appropriate legal requirements, including obtaining appropriate permits from Hamilton County when necessary.
- No program funds will be paid for any construction without proper required permits, or for any construction or repair which is out of compliance with regulatory requirements at the time of completion.
- The applicant must provide the HCEI with acceptable written documentation (e.g. receipts from contractors and suppliers) of costs incurred to complete the approved construction or repair prior to receipt of program funds.
- Applicants who desire to perform the work or construction themselves, as allowable by current law, must provide a signed estimate from a licensed installer which details the work to be performed and the installer's rate cost. Applicants may receive up to 60% cost-share based on the installer's estimate for such work.
- All construction performed under this program must be completed and reported to HCEI no later than 60 days after receiving application approval letter. After this time, the approval expires and no program funds will be paid.
- Applications cannot be renewed or extended.
- Applicant agrees to allow the HCEI access to the property for the purpose of annual follow-up inspections.
- Applicant agrees to attend specified training/workshops on the proper operation and maintenance of their On-Site Sewage Facility (OSSF) at local venues prior to approval of funds.

I/we, the undersigned, understand and agree to comply with all terms, conditions, and requirements described herein. By signing this form, the program participant certifies that the address and Social Security Number or Driver's License Number is the correct number for this individual/business and that I have not been debarred from doing business with the State or Federal Governments.

X _____
SIGN HERE Applicant Signature **Date**

All information below to be completed by Hamilton County Environmental Inspector

Criteria	Score	Points
Watershed	_____	_____
Failure Level	_____	_____
Sub-Watershed	_____	_____
Prox. To streams	_____	_____
Use Frequency	_____	_____
Prox. To well	_____	_____
# of Occupants	_____	_____
Development Density	_____	_____
Ability to Pay	<u>_N/A_</u>	<u>_N/A_</u>
TOTAL SCORE		_____

Property owner has / has not attended a maintenance workshop related to their OSSF type (subtask 4.1).
If yes, what type? _____

Not Approved for program Reason: _____
Approved for _____ assistance requiring _____ contribution by homeowner.

Post-Construction Information

Construction funded: New OSSF Repair Other: _____

Permit Number: _____ Permit Date: _____

Installer: _____ License Number: _____

Treatment Type: _____ Disposal Type: _____

Date Invoice Submitted to Hamilton County Commissioner's Court: _____

Program Amount Paid: _____ Date Paid: _____

Billy Hopson RS4038
Environmental Inspector

Revised May 21, 2012

Hamilton County Technical Assistance and Financial Incentive Program
Program Application

I.D. # _____

Name of Applicant: _____

Last

First

Middle

911 Address of Subject Property: _____

In applying for cost share funding through the Hamilton County Technical Assistance and Financial Incentive Program, I understand and acknowledge the following:

- Assuming all terms and conditions are met, the maximum total potential cost-share of allowable construction costs is 60%, with the maximum payment not to exceed \$4,800.00.
- Filing of this application does NOT constitute approval for cost-share funding.
- All program projects must receive written approval from the Hamilton County Environmental Inspector (HCEI) BEFORE any construction begins.
- The applicant agrees NOT to begin any work with which program funds will be used until formal written approval of cost-share funding is received from the HCEI.
- No program funds can be used for any work which was begun before written approval is issued.
- All work must meet written specifications provided, or approved, by the Hamilton County Designated Representative (DR) and the HCEI.
- Any changes in the original approved system design will require written approval prior to final inspection from the HCEI to be eligible for program funds.
- The applicant is required to comply with all appropriate legal requirements, including obtaining appropriate permits from Hamilton County when necessary.
- No program funds will be paid for any construction without proper required permits, or for any construction or repair which is out of compliance with regulatory requirements at the time of completion.
- The applicant must provide the HCEI with acceptable written documentation (e.g. receipts from contractors and suppliers) of costs incurred to complete the approved construction or repair prior to receipt of program funds.
- Applicants who desire to perform the work or construction themselves, as allowable by current law, must provide a signed estimate from a licensed installer which details the work to be performed and the installer's rate cost. Applicants may receive up to 60% cost-share based on the installer's estimate for such work.
- All construction performed under this program must be completed and reported to HCEI no later than 60 days after receiving application approval letter. After this time, the approval expires and no program funds will be paid.
- Applications cannot be renewed or extended.
- Applicant agrees to allow the HCEI access to the property for the purpose of annual follow-up inspections.
- Applicant agrees to attend specified training/workshops on the proper operation and maintenance of their On-Site Sewage Facility (OSSF) at local venues prior to approval of funds.

I/we, the undersigned, understand and agree to comply with all terms, conditions, and requirements described herein. By signing this form, the program participant certifies that the address and Social Security Number or Driver's License Number is the correct number for this individual/business.

X _____
SIGN HERE Applicant Signature Date

Applicant's Copy
Revised March 21, 2012

Hamilton County Technical Assistance and Financial Incentive Program Process Timeline

- Site Visit
- Discussion and explanation of program
- Property owner signs the "Evaluation Authorization" form and Hamilton County Environmental Inspector (HCEI) conducts an OSSF evaluation
- If a failing or faulty system is observed, "Program Application" may be filled out
 - This application does not constitute that repairs may be started
- Property owner will receive a copy of application with terms and conditions of the program
- Applications will be considered for approval monthly
- Notice of application preliminary approval will be sent to property owner with additional instructions for completing the process
- Upon preliminary notice of application approval, the property owner is responsible for contacting a properly licensed contractor to bid and coordinate the construction process
- Contractor will give a written bid proposal based on scope of work needed to be in compliance and the property owner or contractor will send a copy to the HCEI to ensure bid is fair and reasonable
- Upon final application approval, the approved work may begin
- If repairs require a permit from Hamilton County, the Hamilton County Designated Representative (DR) must be contacted and allowed to perform his required duties
- Property owner will be responsible for their full percentage of bid amount, not covered by cost share program, for required work performed by contractor
- Hamilton County will directly pay contractor the balance of total allowable project costs after required final inspection is performed by both the Hamilton County DR and HCEI
 - Up to 60% cost share with a \$4800 maximum limit per qualified system
 - Requires annual follow-up inspection
 - Requires property owner attend training on proper OSSF operation and maintenance before project completion and receipt of cost share funds (DVD and VHS tapes available)

To be left with property owner after evaluation is completed. Copies of "Evaluation Worksheet" and "Cost Share Application" will be mailed.

Revised May 21, 2012

PARTIAL LIST OF ON-SITE SEWAGE FACILITY PROGRAM INSTALLERS

Revised: October 15, 2014

Hamilton County Programs:

Mackey Thedford	Hamilton County Designated Representative (DR)	254-842-7178
Debbie Rudolph	Hamilton County Clerk	254-386-1205
Billy Hopson	Hamilton County Tech. Assistance and Fin. Incentive Program	254-386-3832

INSTALLERS BY COUNTY:

Hamilton County:

NAME	LICENSE	LICENSE #	ADDRESS	CITY	STATE	ZIP	CONTACT
BRUMBALOW, WAYNE	OSII	OS0031094	3522 e. Hwy. 22	HAMILTON	TX	76431-3048	254-386-5028
COLE, RONNIE L	OSI	OS0000464	PO BOX 267	HICO	TX	76457-0267	254-796-4646
CURRY, HUBERT K	OSII	OS0002749	571 CR 201	HAMILTON	TX	76531-3048	254-386-5829
SEPOLIO, MARK A SR	OSI	OS0029962	PO BOX 331	HAMILTON	TX	76531-0331	254-784-3630

Bosque County:

NAME	LICENSE	LICENSE #	ADDRESS	CITY	STATE	ZIP	CONTACT
BURCH, JAMES H III	OSII	OS0028443	11975 HIGHWAY 6	MERIDIAN	TX	76665-2906	254-435-2522
FISK, DAVID B	OSII	OS0001219	PO BOX 942	VALLEY MILLS	TX	76689-0942	254-709-5957
FISK, DAVID B	SE	OS0029228	PO BOX 942	VALLEY MILLS	TX	76689-0942	
ROBERTS, RAYMOND L SR	OSII	OS0019863	177 CR	WALNUT SPRINGS	TX	76690-4533	254-396-2851
TROTTER, RICHARD G	OSI	OS0003285	PO BOX 298	WALNUT SPRINGS	TX	76690-0298	254-797-2633

Comanche County:

NAME	LICENSE	LICENSE #	ADDRESS	CITY	STATE	ZIP	CONTACT
JOHNSON, JIMMY DWAIN	OSI	OS0029618	392 CR 420A	COMANCHE	TX	76442-5601	325-641-4295
SLIGER, KEVIN WALTER	OS II	OS0002226	PO BOX 735	COMANCHE	TX	76442-0735	254-842-8586
SLIGER, KEVIN WALTER	SE	OS0012179	PO BOX 735	COMANCHE	TX	76442-0735	
UNDERWOOD, JUSTIN W	OSII	OS0019881	2751 CR 479	GORMAN	TX	76454-4345	254-734-3185
UNDERWOOD, JUSTIN W	SE	OS0027740	2751 CR 479	GORMAN	TX	76454-4345	
WILLIS, CODY W	OSII	OS0028458	7171 HIGHWAY 67	COMANCHE	TX	76442-5702	325-356-1439
WILLIS, CODY W	SE	OS0028790	7171 HIGHWAY 67	COMANCHE	TX	76442-5702	

Coryell County:

NAME	LICENSE	LICENSE #	ADDRESS	CITY	STATE	ZIP	CONTACT
ASHMORE, PAUL CRAIG	OSII	OS0006188	PO BOX 121	JONESBORO	TX	76538-0121	254-386-9031
ASHMORE, PAUL CRAIG	SE	OS0010874	PO BOX 121	JONESBORO	TX	76538-0121	
COKER, CARLOS N	OSII	OS0027724	PO BOX 987	GATESVILLE	TX	76528-0987	254-479-1400
COKER, CARLOS N	SE	OS0027866	PO BOX 987	GATESVILLE	TX	76528-0987	
GRIBBLE, GARY DON	OSII	OS0006056	2000 VIOLET LN	GATESVILLE	TX	76528-2238	254-248-4171
GRIBBLE, GARY DON	SE	OS0010723	2000 VIOLET LN	GATESVILLE	TX	76528-2238	
HERRING, JOHN JR	OSI	OS0003273	511 MOUNTAIN RD	GATESVILLE	TX	76528-4054	254-865-8901
MOONEY, AUDREY DALE	OSII	OS0007458	110 BONE RD	GATESVILLE	TX	76528-4434	254-248-2061
MOONEY, JOBY D	OSII	OS0027920	125 CR 109	GATESVILLE	TX	76528-4759	254-216-2611
ROSE, DAN RUSSELL	OSII	OS0006092	2774 TEXAS 236 HWY	MOODY	TX	76557-3323	254-853-2978
ROSE, DAN RUSSELL	SE	OS0011106	2774 TEXAS 236 HWY	MOODY	TX	76557-3323	
ROSE, ZACK L	OSII	OS0026230	2774 TEXAS 236 HWY	MOODY	TX	76557-3323	254-715-5491
RUETER, DALE S	OSI	OS0028191	603 STATE SCHOOL RD	GATESVILLE	TX	76528-2926	254-499-0149
SNOW, LARRY WAYNE	OSII	OS0006969	510 CR 100	PURMELA	TX	76566-2500	254-770-7217
SOHNS, TIMMY RALPH	OSII	OS0001275	5420 TEXAS 236 HWY	MOODY	TX	76557-3332	254-770-9159
SOHNS, TIMMY RALPH	SE	OS0011015	5420 TEXAS 236 HWY	MOODY	TX	76557-3332	
STRALEY, DAVID R	OSIII	OS0022672	PO BOX 99	EVANT	TX	76525-0099	254-471-5928
STRALEY, DAVID R	SE	OS0012213	PO BOX 99	EVANT	TX	76525-0099	

Erath County:

NAME	LICENSE	LICENSE #	ADDRESS	CITY	STATE	ZIP	CONTACT
AMYX, ANDREA K	OSII	OS0027912	107 S GRAHAM ST	STEPHENVILLE	TX	76401-4201	817-366-6329
ASHE, VICTOR M	SE	OS0022976	6168 FM 205	STEPHENVILLE	TX	76401-1231	254-592-9629
COPELAND, DAVID J	OSI	OS0029797	41314 N FM 219	STEPHENVILLE	TX	76401-6415	254-595-1259
COUTO, JOE	OSI	OS0008230	7401 CR 351	DUBLIN	TX	76446-5110	254-445-4696
CRAWLEY, JACOBS D	OSI	OS0030479	PO BOX 1484	STEPHENVILLE	TX	76401-0015	254-592-1469
DELAVERGNE, RALPH J III	OSI	OS0029171	441 EAGLE ST	DUBLIN	TX	76446-1309	254-445-3028
FAIN, CARL L	OSII	OS0002670	PO BOX 512	STEPHENVILLE	TX	76401-0006	254-965-3466
JENSEN, DANNY EDWARD	OSII	OS0009068	5855 CR 392	STEPHENVILLE	TX	76401-8667	254-965-4344
KENDALL, GERRY JOE	OSI	OS0030308	702 E SOUTH LOOP	STEPHENVILLE	TX	76401-5314	254-968-8741
LEATHERWOOD, EDDIE	OSI	OS0030163	414 CR 336	DUBLIN	TX	76446-6014	254-977-2027
MCMILLIAN, TIMOTHY W	OSII	OS0021344	661 PRIVATE ROAD 708	DUBLIN	TX	76446-7224	254-445-2268
PETERSON, BETTY M	OSII	OS0022456	28809 N SH 108	STEPHENVILLE	TX	76401-6502	254-485-1786
RODRIGUEZ, JESSE	OSI	OS0030316	702 E SOUTH LOOP	STEPHENVILLE	TX	76401-5314	254-968-8741
SCROGGINS, JIM RAY	OSII	OS0001038	PO BOX 250	STEPHENVILLE	TX	76401-0004	254-965-4344
SMITH, STERLING R	OSI	OS0030348	PO BOX 1614	STEPHENVILLE	TX	76401-0016	817-559-0841
STARNS, JAMES BRENT	OSII	OS0003874	5368 CR 144	STEPHENVILLE	TX	76401-6339	254-965-0825
STARNS, JAMES L	OSII	OS0001774	9020 N US HIGHWAY 377	STEPHENVILLE	TX	76401-6719	254-965-5603
THORNBURG, ORVIL	OSII	OS0027246	842 CR 466	STEPHENVILLE	TX	76401-6314	254-595-0839
THORNBURG, TANNER LEE	OSI	OS0030943	PO BOX 51	MORGAN MILL	TX	76465-0051	254-967-3624
WILLIAMS, GRATTON R JR	OSII	OS0018296	2779 CR 180	STEPHENVILLE	TX	76401-6925	254-592-6677
WORD, ZACH LYNN	OSI	OS0030939	115 HORSESHOE BND	STEPHENVILLE	TX	76401-9414	

Lampasas County:

NAME	LICENSE #	LICENSE #	ADDRESS	CITY	STATE	ZIP	CONTACT
ECKERMANN, TERRY L	OSII	OS0003479	500 N WILLIS ST	LAMPASAS	TX	76550-1423	512-556-5752
ECKERMANN, TERRY L	SE	OS0011978	500 N WILLIS ST	LAMPASAS	TX	76550-1423	
FLOYD, SHELBY M	OSI	OS0030498	6139 CR 208	LAMPASAS	TX	76550-3699	512-525-4110
GOLDMAN, CHRISTOPHER J	OSI	OS0030950	1401 CHISHOLM TRL	COPPERAS COVE	TX	76522-3713	520-678-0463
HAIL, DANNY RAY	OSII	OS0005724	1137 CR 1045	LAMPASAS	TX	76550-3449	512-556-2869
HARP, WILLIAM G	OSII	OS0008191	PO BOX 1044	LAMPASAS	TX	76550-0008	512-556-1058
HARP, WILLIAM G	SE	OS0018590	PO BOX 1044	LAMPASAS	TX	76550-0008	
PORTER, BRYAN D	OSII	OS0024363	3015 FM 2340	LAMPASAS	TX	76550-9224	830-798-4066
PORTER, BRYAN D	SE	OS0025607	3015 FM 2340	LAMPASAS	TX	76550-9224	
SLATON, DAVID LAWRENCE	OSII	OS0005327	PO BOX 494	BUCHANAN DAM	TX	78609-0494	254-458-4233
TAYLOR, ELWOOD EARL	OSII	OS0005800	12899 W FM 580	LOMETA	TX	76853-3418	254-394-7285
TAYLOR, ELWOOD EARL	SE	OS0010106	12899 W FM 580	LOMETA	TX	76853-3418	

Mills County:

NAME	LICENSE #	LICENSE NUMBER	ADDRESS	CITY	STATE	ZIP	CONTACT
BORHO, BILLY WAYNE	OSII	OS0008957	560 CR 430	MULLIN	TX	76864-2610	325-938-5777
BORHO, BILLY WAYNE	SE	OS0011473	560 CR 430	MULLIN	TX	76864-2610	
LUCHT, WILLIAM VERNON	OSI	OS0007415	561 CR 312	GOLDTHWAITE	TX	76844-3248	325-948-3273

Appendix B-2: Additional Financial Assistance Application

Hamilton County Technical Assistance and Financial Incentive Program Application for Additional Financial Assistance

I.D. # _____

Household Information

# of Occupants	Name	Birth Date	Relationship	Monthly Income
1				
2				
3				
4				
5				
6				
7				
8				

Monthly Cash Flow Statement

NET MONTHLY INCOME

Applicant Wages \$ _____
 Spouse Wages \$ _____
 Social Security \$ _____
 Retirement \$ _____
 Other \$ _____

MONTHLY EXPENSES

Mortgage \$ _____
 Food \$ _____
 Vehicle \$ _____
 Utilities \$ _____
 Other \$ _____ (insurance, obligations not listed)

TOTAL INCOME \$ _____ TOTAL EXPENSES \$ _____

NET MONTHLY CASH FLOW (Income less Expenses) \$ _____

Do you expect your income to change in the next year? YES / NO

If yes, please explain: _____

Are there any special circumstances that would have an effect on your income? (student, medical condition, etc.) YES / NO Explain: _____

Other Assets (cash on hand, savings, stocks, IRAs, etc) Total Value \$ _____

Are you currently receiving any type of government assistance? (i.e. WIC, Medicare, Medicaid, SSI, Lone Star Card) YES / NO

If you answered yes above, please list the programs you are currently participating in.

I, _____, certify that the above information is true to the best of my knowledge. In some instances, additional documentation may be required to support submitted application. All financial information submitted will be kept confidential.

Signature

Date

**Hamilton County Technical Assistance and Financial Incentive Program
Application for Additional Financial Assistance**

I.D. # _____

U.S. Department of HHS		
Persons In Family Unit	Annual Income (poverty level)	Adjusted (200%)
1	\$ 11,170.00	\$22,340.00
2	\$ 15,130.00	\$30,260.00
3	\$ 19,090.00	\$38,180.00
4	\$ 23,050.00	\$46,100.00
5	\$ 27,010.00	\$54,020.00
6	\$ 30,970.00	\$61,940.00
7	\$ 34,930.00	\$69,860.00
8	\$ 38,890.00	\$77,780.00
each additional person adds	\$ 3,960.00	\$7,920.00

ADJUSTED FAMILY ANNUAL INCOME (above)
NET MONTHLY CASH FLOW (from previous page)

\$ _____
\$ _____

SPECIAL NOTES OR COMMENTS

Based on information supplied by the applicant, it appears that there is a need for additional financial assistance which is above and beyond the normal procedures used for the Hamilton County On-Site Sewage Facility Technical Assistance and Financial Incentive Program. We feel that the applicant's circumstances described above warrant an increase in program assistance to _____%, leaving _____% to be paid out of pocket by the applicant. All other program requirements remain unchanged.

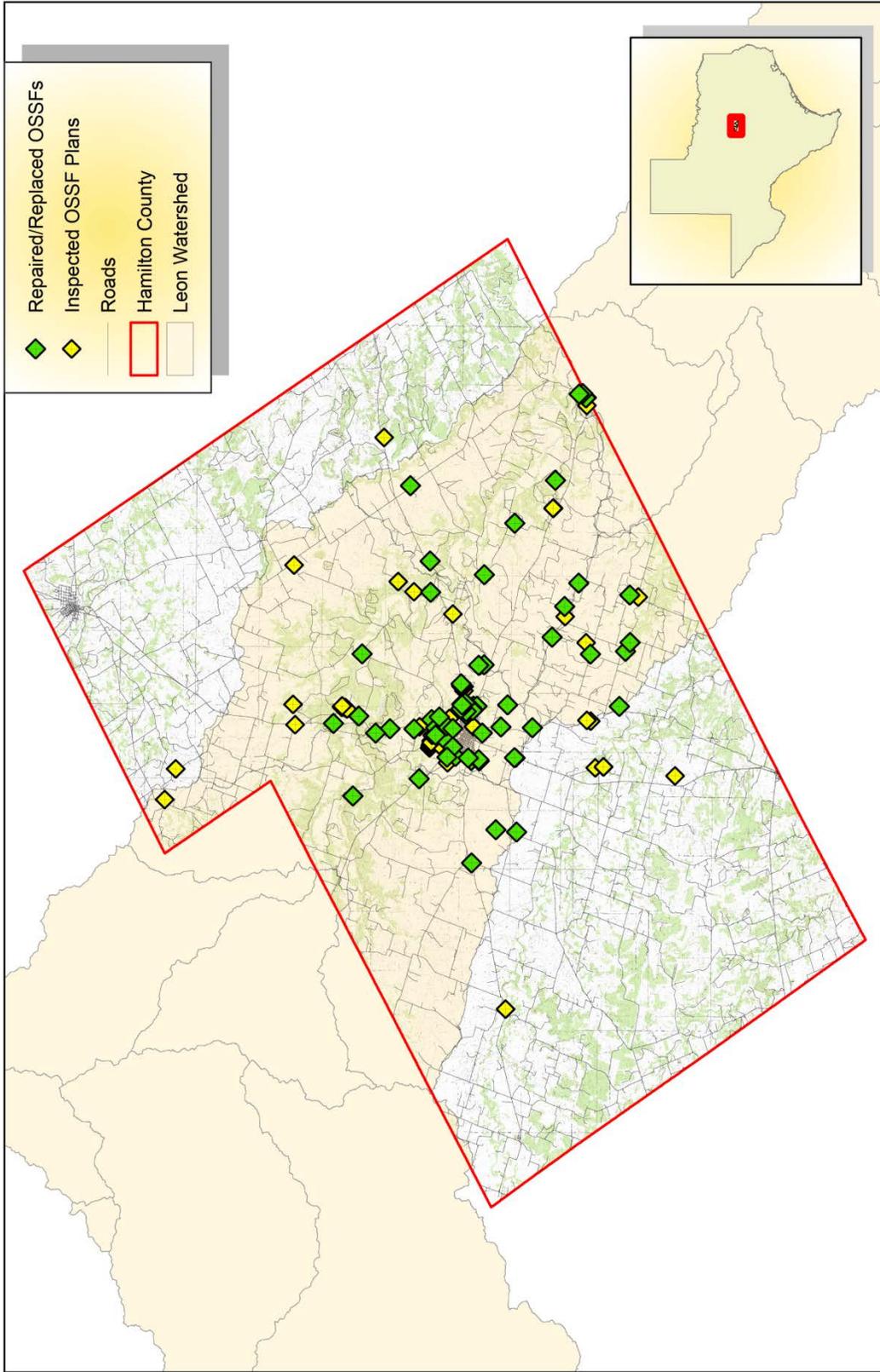
Signature

Date

Signature

Date

Appendix C: Map of OSSFs



Date Created: 30 March 2015

Appendix D: Evaluation Form for Assessing Training Events

Appendix D: Evaluation Form for Assessing Training Events

An evaluation document was developed for assessing the impact of the course (figure B-1 and B-2). Assessment and evaluation can measure the overall quality of courses. They also provide valuable information regarding additional educational needs. Both of these goals can be achieved through the use of an evaluation sheet that is completed by the audience before the class concludes.

The evaluation form has different types of questions that provide a method to assess the participant satisfaction as well as their knowledge gained and willingness to adopt best management practices discussed in this course. The purpose of various questions is discussed below.

1. Knowledge gained assessment through Retrospective Post-then- Pretest questions

This section provides a quantitative evaluation of knowledge transfer through delivery of the course. The participants perform a self-evaluation of their relative knowledge before and after participation in the course. This type of evaluation is critical to demonstrating a long-term value to the educational program.

2. Willingness to adopt best management practices

This section is designed to gain information regarding the participant's willingness to adopt the best management practices described during the training event. Course participants have a variety of reasons for not adopting a specific practice. However, if a particular best management practice is extremely critical to success of a wastewater treatment system, this data can indicate the willingness of participants to adopt the practice.

3. Overall, how satisfied are you with this activity?

Not at all Slightly Somewhat Mostly Completely

This section provides a means for course participants to describe their general impression of the course. Because the choices by the participants can be directly related to a numerical selection, the responses can be evaluated through a quantitative measure. The participants can indicate their relative satisfaction with the components of the course.

4. How satisfied are you with the following aspects of the activity?

Not at all Slightly Somewhat Mostly Completely

This section provides a means for course participants to express their satisfaction on the key components of a productive course and comfortable learning environment. The participants also indicate their relative satisfaction with the presenter.

5. Do you anticipate benefiting economically as a direct result of what you learned through from this Extension activity? __Yes __No

This question asks the homeowner if they feel the information received will benefit them economically. This question mostly pertains to practitioner courses and is not particularly relevant to the homeowner.

6. I would recommend this particular activity to others? __Yes __No

This question focuses on the satisfaction of the course participant with the training course and provides a quantitative evaluation. Course participants will express their satisfaction in the course through a willingness to recommend the course to peers. This question can be expressed as an approval rating of the course.

Figure D-1. Front of evaluation used to assess impact of training courses.



Texas AgriLife Extension Service Participant Survey

Your views on the quality and effectiveness of Extension programs are extremely important. Please take a few minutes to tell us about your experience with this activity. Your answers to the following questions will help us better meet your needs. Please do not write your name on this form so that your responses are anonymous. Thank you!

MARKING INSTRUCTIONS
 CORRECT: ● INCORRECT: ✖ ✘ ✙ ✚

1. For each item listed below, mark the ONE number in the left column that best describes your level of understanding BEFORE the program; and then mark the ONE number in the right column that best describes your level of understanding AFTER the program.

	Poor	Fair	Good	Excellent	BEFORE Program				AFTER Program			
	1	2	3	4	1	2	3	4	1	2	3	4
Your understanding of . . .												
Understanding of how septic systems are a part of our wastewater infrastructure.					<input type="radio"/>							
Understanding of how practices in the home affect sewage characteristics.					<input type="radio"/>							
Understanding of septic tank operation and maintenance criteria.					<input type="radio"/>							
Understanding of how soil treats sewage.					<input type="radio"/>							
Understanding of how aerobic treatment units remove waste from sewage.					<input type="radio"/>							
Understanding of how a malfunctioning septic system can impact water quality.					<input type="radio"/>							
Importance of proper septic system operation for protection of public health.					<input type="radio"/>							
					<input type="radio"/>							
					<input type="radio"/>							
					<input type="radio"/>							
					<input type="radio"/>							

2. Please indicate your intentions to adopt each item listed below or indicate if you have already adopted the item listed or if it does not apply to your situation.

Practice or technology that could be adopted . . .	Definitely Will Not	Probably Will Not	Undecided	Probably Will	Definitely Will	Already Adopted	Not Applicable
	Implement water conservation practices to limit water to the septic system	<input type="radio"/>					
Limit organic loading to the septic system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perform operation and maintenance activities on my septic system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pump out my septic tank as needed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please continue on the other side

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Figure D-2. Back of evaluation used to assess impact of training courses.

MARKING INSTRUCTIONS
 CORRECT: ● INCORRECT: ☒ ☓ ☐ ☑

3. Overall, how satisfied are you with this activity?

Not at all
 Slightly
 Somewhat
 Mostly
 Completely

4. How satisfied are you with the following aspects of the activity?

	<u>Not at all</u>	<u>Slightly</u>	<u>Somewhat</u>	<u>Mostly</u>	<u>Completely</u>
a. Information being <u>what you expected</u> to receive	<input type="radio"/>				
b. <u>Accuracy</u> of information	<input type="radio"/>				
c. Information being <u>easy</u> to understand	<input type="radio"/>				
d. <u>Timeliness</u> of information (being received in time to be useful)	<input type="radio"/>				
e. <u>Helpfulness</u> of the information in decisions about your own situation	<input type="radio"/>				
f. <u>Relevance</u> of the examples used	<input type="radio"/>				
g. Instructor's <u>knowledge level</u> of subject matter	<input type="radio"/>				
h. Instructor's <u>response to questions</u>	<input type="radio"/>				
i. Physical setting's contribution to <u>ease of listening and participation</u>	<input type="radio"/>				

5. Do you anticipate benefiting economically as a direct result of what you learned from this Extension activity? Yes No

6. Would you recommend this particular activity to others? Yes No

7. Your thoughts on the program (perhaps what you liked most, liked least, additional information you would like, etc.).

Please tell us a little about yourself . . .

8. You are Female Male

9. Your age? 18 - 24 25 - 29 30 - 34 35 - 39 40 - 44 45 - 49 50 - 54 55 - 59 60 - 64 65 - 69 70 - 74 75+

10. Racial / Ethnic background?

African American (non-Hispanic)
 Hispanic
 White (non-Hispanic)
 Asian American
 Native American
 Other

CS Form - meets cs req.

Thank you

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