Gilleland Creek Plan

Education and Outreach — Key Elements

Introduction

This document describes the key elements involved with the implementation of the management measure developed by the by the Education and Outreach Workgroup[1] to address bacteria loading in the Gilleland Creek Watershed. The following measure is one of the management measures proposed for the Gilleland Creek Plan:

- **Coordinate with partners to develop a general campaign to raise public awareness of nonpoint-source contributions of bacteria pollution, specifically pet waste.**

This key element for education and outreach will be incorporated into the implementation strategy for the Gilleland Creek Plan, which will include all of management measures to address bacteria loading in the watershed. The critical area for the implementation of the Education and Outreach Management Measure is the entire 76-square-mile Gilleland Creek Watershed, which includes the main stem of Gilleland and its tributaries: Elm Creek, Decker Creek, and Harris Branch. The watershed originates at Hillside Springs northwest of Pflugerville and drains to the southeast to its confluence with the Colorado River upstream of Webberville (Segment 1428).

An adaptive management strategy will be used to adjust the plan as needed since its initial implementation will demonstrate which management measures prove most effective given site-specific watershed conditions. The Texas Commission on Environmental Quality (TCEQ) will assess Gilleland Creek every 2 years as part of updating the Texas Water Quality Inventory and 303(d) List. As proposed changes are made to the Texas Surface Water Quality Standards criteria for contact recreation and changes in the creek's water quality are observed, modifications to this plan will be made. This adaptive management strategy allows for stakeholders to learn and adapt the plan as progress is made. The ultimate goal is for Gilleland Creek's four assessment units to have sufficiently low *E. coli* loading that it can be useable for contact recreation.

Key Element #1

This element identifies the causes of the impairment, in this case the sources of bacteria that need to be controlled by the TMDL and plan.

Because no specific sources of the impairment were isolated during Gilleland Creek TMDL monitoring, this key element summarizes the results of the study in both dry and wet weather conditions to support the broad ranging approach developed for the Gilleland Creek Plan. Sampling for the Gilleland Creek TMDL occurred between October 2005 and March 2006

[1] Workgroup members include representatives from the City of Pflugerville, City of Austin, Travis County, Texas State University River Systems Institute, Texas State Soil and Water Conservation Board, Texas A&M Systems' Agrilife Extension and LCRA.

and the results of this sampling during dry weather conditions in this period showed that the geometric mean concentration of *E. coli* exceeded the stream criterion of 126 #/100 milliliters) at six out of the 10 sampling locations. The average of the exceedances (>126) was 38.5. Also, some dry weather samples exceeded the single sample criterion of 394 #/100 milliliters. During these conditions, effluent from the wastewater treatment facilities makes up the majority (approximately 83 percent) of flow in Gilleland Creek.

In wet weather conditions, *E. coli* concentrations in all samples taken at the 10 sampling locations exceeded the geometric mean criterion. Using load duration curve analysis, LCRA staff determined that during high flow conditions (greater than 45 f^3/second) and moderate flow conditions (between 16.5 f^3/second and 45 f^3/second), the water quality in the creek exceeded both the geometric mean and single sample criteria. This analysis from the load duration curve showed that in order for the creek to meet the maximum allowable load of bacteria in high and moderate flow conditions, that reductions of 93 percent and 82 percent, respectively, are required. The majority of the *E. coli* bacteria loading to the watershed occurred during moderate to high flow (stormflow) conditions, which is indicative of nonpoint sources of bacteria.

This plan targets both point sources (wastewater treatment facilities) and nonpoint sources (wastewater collection systems, on-site sewage facilities, natural resource management, and stormwater runoff) of bacteria contamination. The Education and Outreach Workgroup identified education components for each of the Gilleland Creek stakeholder workgroup's management measures. These education components are identified in each management measures key elements. The Education and Outreach Management Measure focuses on collaborating with partners to develop a general campaign to raise public awareness of nonpoint-source contributions of bacteria pollution, specifically pet waste.

Key Element #2

This element describes the Education and Outreach Management Measure to coordinate with partners to develop a general campaign to raise public awareness of nonpoint-source contributions of bacteria pollution, specifically pet waste. The program aims to reduce the bacteria found in local waterways caused by the improper disposal of pet waste.

The Education and Outreach Workgroup was created to increase awareness of bacteria concerns in the Gilleland Creek Watershed. The workgroup focused its efforts on developing the education elements for the other measures in this plan. Workgroup members included stakeholders representing the outreach professionals from entities including the local governments, such as the Cities of Pflugerville and Austin and larger statewide organizations that are involved in activities in the watershed.[2]

Within the Gilleland Creek watershed there are several Municipal Separate Storm Sewer System (MS4) permit programs including those of the Cities of Pflugerville, Round Rock and Austin and Travis County. Since many of the outreach goals and messages are similar between the Gilleland Creek watershed project and these MS4 permit programs, the stakeholders with permits said it was important that the education messages in the plan and in

[2] Workgroup members include representatives from the City of Pflugerville, City of Austin, Travis County, Texas State University River Systems Institute, Texas State Soil and Water Conservation Board, Texas A&M Systems' Agrilife Extension and LCRA.

their permits be consistent while not duplicating efforts. The stakeholders will collaborate with each other to ensure consistency and will share resources to maximize limited education and outreach budgets. Sample education components offered by the major jurisdictions in their MS4 permit programs in the watershed are listed below.

Travis County

- Watershed signs
- OSSF educational brochure
- Science Education — Texas AgriLife Extension
- Construction Outreach
- Travis County Cable Channel 17
- Stormwater Management Program web site

City of Pflugerville

- Stormwater fact sheets
- Construction site storm water controls brochures
- City's local channel 10 station
- Brochures including proper pet waste management
- Drop by drop landscape rebate program
- Provides doggie waste bags every quarter of a mile for a 3-mile stretch

City of Austin

- Grow Green Program
- Scoop the Poop campaign including the Bull Creek Pet Waste Campaign
- Educational brochures on water quality and nonpoint source education
- Clean Creeks Campaign
- Storm drain marking
- Green Neighbor program

Pet Waste Campaign

The Pet Waste Campaign will involve many of the Education and Outreach workgroup members (the partners) including the Cities of Austin and Pflugerville, River Systems Institute and LCRA as well as the Colorado River Watch Network volunteers[3]. The campaign will start with a survey of citizens at selected parks to identify the current level of

[3] For a description of the volunteer water quality monitoring efforts in the watershed, see Key Elements #6 and #9.

compliance with proper pet waste disposal and determine a corresponding campaign communication strategy. The partners will seek grant funds or use existing resources to provide additional pet waste containers, signs, provide Mutt Mitt dispensers, organize a kickoff day event, and conduct a second survey to measure if there are changes in the percentage of park users properly disposing of pet waste. Full descriptions of the activities in the campaign are included in Key Element # 6.

Key Element #3

This element estimates the potential bacteria load reductions that can be reduced with each management measure implemented in the Gilleland Creek Watershed.

Estimating Load Reduction

The Gilleland Creek Watershed supports a growing population of 44,139 people, estimating 2.4 people per household results in approximately 18,391 households.[4] Research conducted by the American Veterinary Medical Association shows that 37.2 percent of United States households own dogs, with an average of 1.7 dogs per dog-owning household.[5] It is estimated that the Gilleland Creek Watershed dog population is 11,630 dogs. Dog waste can increase bacteria sources within the watershed. The US EPA estimates that 2 to 3 days of droppings from a population of 100 dogs in a watersheds up to 20-square miles that drains to a small coastal bay could contribute enough bacteria and nutrients to temporarily close the bay to swimming and shell fishing.[6]

A study in a Washington, D.C. suburb found that dogs produce approximately 0.42 pounds of fecal waste per day.[7] Assuming the average size dog produces 0.42 pounds of waste per day and estimating the Gilleland Creek Watershed dog population to be 11,630 dogs, that means dogs in the Gilleland Creek Watershed produce over 4,800 pounds of waste a day. While pet owners dispose of some of this waste properly, much of it is not. Using the statistic that 43 percent of dog owners never pick up pet waste that means over 2000 pounds of dog waste are deposited in the Gilleland Creek Watershed each day. When dog waste is left on park grass and along trails, runoff from rain and sprinklers can carry it into waterways. Pet waste is expected to be higher in urban areas of the watershed.

A single gram of dog feces can contain 23 million fecal coliform bacteria.[8] The National People and Pets Survey found that around 44 percent of dog owners stated they “always” or “sometimes” picked up their dog's feces in public places.[9] However, the same study found around 43 percent of dog owners stated they “never” pick up their dog’s feces. Given there are 6,841 households with dogs in the Gilleland Creek Watershed, it can be estimated that

[4] United States Census Bureau 2000. <www.census.gov/main/www/cen2000.html>
[5] American Veterinary Medical Association U.S. Pet Ownership Calculator 2007. <www.avma.org/reference/marketstats/ownership.asp>
[6] United States Environmental Protection Agency (US EPA). 1993. Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters. US EPA, Office of Water. Washington, DC.
[7] Thorpe 2003. The Water Line Newsletter. “The Scoop on Poop”. Spring 2003, Volume 7, No.2. <www.lmvp.org/Waterline/spring2003/scoop.htm>
[8] van der Wel, B. 1995. Dog Pollution. The Magazine of the Hydrological Society of South Australia. Volume 2, No. 1.
[9] McHarg, M., Baldock, C., Headley, B., Robinson, A. (1995). National People and Pets Survey, a report to the Urban Animal Management Coalition.

2,873 households do not pick up their pet's waste. Using the number of households that does not pick up pet waste and then estimating there are 1.7 dogs per dog-owning household, there are approximately 4,884 dogs in the watershed whose waste potentially contribute bacteria to Gilleland Creek. Adopting simple practices by cleaning up after pets can help reduce the impact of pet waste on waterways.

Daily Potential for *E. coli* loading from dog waste in the Gilleland Creek Watershed =

*{{# dog *(fecal coliform bacteria per dog per day)}* (0.7601)}*

- *Where 5x109 colony forming units (CFU)/day is the average daily fecal coliform bacteria production per dog (EPA 2001).*

Where wet weather: *E. coli* = 0.7601 * fecal coliform[10]

[{4,884(5x109)} * 0.7601] =1.86X1013CFU/day*

Daily Potential for *E. coli* loading from dog waste based on flow values =

*(1.86x1013 * # flow days in a year) /365 days*

- *Using 9 months worth of data (July 05-March 06) an estimation of high flow (>45 f3/second) and moderate flow (16.5 f3/second to 45 f3/second) days per year were calculate (20 high flow days and 25 moderate flow days).*

Daily Potential for *E. coli* loading from dog waste based on <u>high flow</u> =

*((1.86x1013 * 20 days)/365) = 1.02x1012 CFU/day*

Daily Potential for *E. coli* loading from dog waste based on <u>moderate flow</u> =

*((1.86x1013 * 25 days)/365) = 1.27x1012 CFU/day*

Key Element #4

This element identifies technical and financial assistance and the authorities needed to implement this management measure.

Technical assistance

The workgroup identified a limited amount of technical assistance needed to implement this management measure. They recommended assistance needed to review the results from the volunteer monitoring data collection efforts and the results from the survey of park users to determine the effectiveness of the pet waste campaign.

[10] LTI. 1999. Lower Geddes Pond TMDL Development Approaches. Limno-Tech, Inc.

Finance assistance

The pet waste campaign partners will seek financial assistance to cover the costs of the surveys of park users, additional pet waste containers, signs, Mutt Mitt dispensers, and the kickoff day event, including costs for brochures, public service announcements, and radio spots.

Key Element #5

This element describes the education component to enhance the public understanding of the Gilleland Creek Plan and to encourage their participation.

The Education and Outreach Workgroup identified and prioritized education activities for all Gilleland Creek Plan Management Measures, and these are addressed in each management measure's key elements. Specifically the Education and Outreach Workgroup will conduct a watershed-wide public education campaign to inform citizens about the significance of dog excrements as a bacteria source and how to manage it, as well as the risks associated with contact recreation in natural waters that may have elevated bacteria levels.

Education components of the pet waste campaign include:

- Park and yard signs for the surrounding neighborhood will target the dog excrement problem.
- Citizens could be involved as pet waste patrols and volunteer water quality monitors.
- Educational brochures will be made available to the public. Many partner agencies have educational brochures that could be used to aid this process. The City of Pflugerville's MS4 permit includes passing-out brochures to new residents that discuss proper pet waste disposal. By collaborating with the governments in the watershed, materials such as these brochures could reach a broader audience by placing promotional materials at veterinary offices, animal shelters, pet stores, and inserts in utility bills.

Key Element #6

This element provides a schedule with milestones for implementing this management measure.

The Education and Outreach Workgroup identified outreach components for all of the Gilleland Creek Plan Workgroups, this section details activities completed or currently in progress.

Activities completed or currently in progress

<u>Volunteer Monitoring</u>

The Lower Colorado River Authority's (LCRA) Colorado River Watch Network (CRWN) trained eight citizens to collect water quality data. Given that many of the citizen monitors live in the City of Pflugerville and are interested in the water quality of their community, all of the volunteer monitor locations are located in Pflugerville.

Currently, seven sites are monitored by volunteers including Gilleland Creek at Edgemere, Gilleland Creek at Piccadilly Drive, Gilleland Creek below Bohl Park, Gilleland Creek at the lower end of Gilleland Park at Railroad, and Gilleland Creek at Grand Avenue Parkway. Two additional sites will be determined in the next few months. These citizen scientists collect *E. coli* data, as well as, the standard chemical and physical parameters.

Bacteria Snapshot Event

On December 3, 2008; Texas Stream Team (TST) along with LCRA conducted an intensive survey on 111 sites from Gilleland Creek, Gilleland West Fork, Harris Branch, Decker Creek, and Elm Creek to examine the spatial distribution and concentrations of *E. coli* bacteria in the watershed. This water quality monitoring event utilized the work from 24 volunteers and staff from TST, LCRA, the City of Austin, the City of Pflugerville, the Texas Department of Transportation, and the Texas Commission on Environmental Quality (TCEQ).

The main goals of this activity were to 1)enhance stakeholders and general public's knowledge of watershed functions and the dynamic nature of bacteria; 2) build support and awareness for this TMDL project; and 3) to increase general understanding of *E. coli* levels within the watershed. Preliminary review of the data collected on the snapshot day suggests an area of interest in the upper portion of the watershed. Limited data collected previously also suggested a concern in this area. While additional investigation is needed, the snapshot day did help identify this area of interest. In additional to collecting bacteria samples at over 100 sites in the watershed, students from Park Crest Elementary participated in water quality activities led by LCRA, City of Austin, and CH2M HILL engineering staff. Media coverage of the event included the Pflugerville Pflag, Community Impact, KLBJ Radio, News 8 Austin, KVUE, and KXAN. A report reviewing the results of the bacteria snapshot event will be made available on the Gilleland Creek web site: <http://waterquality.lcra.org/gill/>.

Watershed Workshop and Tour

The Texas Stream Team 11 will host a watershed workshop and tour to enhance the public and stakeholder understanding of the watershed, to build support for accomplishing the Gilleland Creek Watershed Plan and to increase the public's knowledge of pollutant reduction activities. The watershed tour will include stops to illustrate the progress being made toward implementing the plan such as the flood control ponds retrofitted with automated controls, a wastewater treatment facility, natural features, such as riparian areas, an agricultural best management practice, and a water quality monitoring demonstration.

Implementation Schedule for the Pet Waste Campaign

2009 Partners Inventory Resources and Secure Additional Funding

As stated, the partners involved in the pet waste campaign will seek funding to implement a coordinated campaign to address pet waste in two parks in the upper portion

[11] Texas Stream Team, formerly, the Texas Watch Program, is a statewide water-quality monitoring network of concerned volunteers, partners, and institutions.

of the watershed. Since some of the partners include pet waste education activities in their MS4 permits, this campaign for the Gilleland Creek Plan will include activities that are above and beyond those permitted activities.

2009 Volunteers Collect Bacteria Samples

Utilize CRWN volunteer monitors to collect bacteria samples above and below several parks in the watershed. Possible sampling locations include Travis County Northeast Metropolitan Park, City of Pflugerville Park, Pfluger Park, and Decker Lake. Samples could be collected on a weekday and a weekend day. Sampling on a weekday and then on a weekend will help test the hypothesis that bacteria concentration will be higher on weekends during peek use.12

2009 Survey Park Users

With assistance from volunteers, the partners will collect information to determine the percentage of park goers that properly dispose of pet waste. Currently, the City of Pflugerville offers Mutt Mitt containers in many of its creek-side parks. This survey will determine if these containers are encouraging proper pet waste disposal or if additional education information could increase the percentage of people disposing of waste properly. In depth, surveys at these parks will help identify barriers to proper pet waste disposal and will help to formulate a more effective behavior change campaign. The surveys could be complete over a week to two-week timeframe, such as spring break. A study completed by Jackson cites a number of reasons why dog owners may not pick up after their pet including: distaste and/or embarrassment about picking up and carrying around a bag of dog waste; forgetting to take an appropriate device, such as a bag or pooper scooper; and not being aware of the need to pick up after their dog, or not caring about it (for example, believing dog waste is natural and will "break down over time"). 13 Once the baseline is established (percent of people that do/do not pickup after their dog), the education campaign can be implemented and monitored.

2009 Review Results and Coordinate with Partners

After a summer of data collection and surveying individuals in the watershed, the data will be reviewed and one to two pilot parks will be chosen for a more intensive education effort. With the assistance of partners the pilot parks will be chosen based on which areas have the largest bacteria concerns from pet waste and which park has the greatest number of users currently not picking up after their pets. Currently, the City of Pflugerville offers Mutt Mitt containers in many of its creek-side parks. Partners will also pool available resources such as current pet waste brochures or flyers. Appendix I is a land use map of the watershed including parkland.

[12] City of Austin. 2008 . *Lower Bull Creek District Park Contact Recreation Use Assessment.* </www.cityofaustin.org/watershed/downloads/bull_contact_rec.pdf>

[13] Jackson, Virginia. 2000. Fecal litter management - a local government priority for reasons of community health and environmental amenity. *Urban Animal Management: Proceedings of the National Conference Hobart 2000*, Australian Veterinary Association, NSW.

2010 Increase Mutt Mitt Containers, Waste Receptacles, and Signage at Pilot Parks

Partners work together to establish or increase the number of Mutt Mitt containers at the pilot park. These containers will be placed close to waste receptacle and signage that encourages proper pet waste disposals. While the focus of the education campaign will be the pilot parks, yard signs and education efforts will expand into nearby neighborhoods.

2010 Host Kickoff Day at Pilot Parks

Studies show that simply providing Mutt Mitt containers does not necessarily increase the number of people properly disposing of pet waste. Peer pressure has shown to be an effective means of increasing the percentage of people picking-up after their pet.14 The kickoff day would include volunteers passing out brochures, doggie bags, and yard signs to park users. The volunteers could also explain the bacteria impairment and how individuals can help reduce bacteria contributions through proper pet waste disposal. The kickoff day could be held in cooperation with other events in the watershed.

2011 Educational Campaign Utilizing Partner Resources

Partners have many resources that would help publicize the pet waste campaign. These resources include the City of Austin pet waste brochures and signs, the City of Pflugerville local cable channel and storm water brochures, and press releases to local media outlets. Volunteers could also conduct a midterm survey of park users.

2012 Survey of Park Users

With assistance from volunteers, the partners will collect information to determine percentage of park goers that properly dispose of pet waste. The Manningham Council's Dog Litter Removal Survey found dog owners were more prepared to pick up if dog litter bins were located in prominent positions. The study involved placing and then removing bins over a 12-week period. When the bins were present, the amount of dog litter on the ground decreased but when the bins were removed the amount of dog litter increased.15

2012

Review survey and bacteria results to determine the effectiveness of the pet waste campaign. Revise or expand the project based on results. The effectiveness of the pilot project will be evaluated to determine if there is an increase in number of Mutt Mitts used and to determine there are signs of a decrease in pet waste at the parks. The project could be expanded to other parts of the watershed.

[14] Jackson, Virginia. 2000.
[15] Jackson, Virginia. 2000.

Key Element #7

This element highlights the interim, measurable milestones for each measure that will be used to determine its ongoing progress and effectiveness.

- Grant proposals submitted to secure funding
- Completed initial survey of park users to determine campaign communication strategy and current level of compliance with proper pet waste disposal
- Volunteers collecting bacteria samples at possible pilot parks to provide baseline data
- Agreement on pilot parks
- Number of bacteria samples collected by citizen volunteers
- Volunteer hours donated by citizens to support campaign
- Number of additional pet waste containers and trash receptacles provided through grant funds or by partners
- Number of signs available through grant funds or by partners
- Number of Mutt Mitts dispensed at pilot parks
- Number of citizens reached on the kickoff day
- Brochures, yard signs, and/or educational materials distributed
- Completed survey of pilot park users-part 2 to measure the change in percentage of park goers that properly dispose of pet waste

Key Element #8

This element defines the indicators that will be used to document improvements in water quality due to implementation of this management measure.

- The indicator used to document water quality improvements is the following: A reduction in *E. coli* concentrations in the four Gilleland Creek Assessment Units.
- The number of Mutt Mitts dispensed will be programmatic indicator to help calculate the reduction in pet waste contributions. Each Mutt Mitt used represents a reduction of a quarter of a pound of pet waste. After determining the increase in Mutt Mitt containers and the distribution, the additional amount of pet waste collected represents a reduced bacteria contribution to Gilleland Creek.

Key Element #9

The following summary describes routine water-quality monitoring activities for each of the four assessment units in the Gilleland Creek Watershed.

The LCRA currently monitors in Assessment Unit 1 and 2 and proposes to begin monitoring in Assessment Unit 3. The TCEQ currently monitors in Assessment Unit 4. The purpose of this monitoring is to ensure that enough *E. coli* data is collected in each of the four assessment units to determine water quality standards attainment throughout the watershed.

Beginning with the 2010 assessment, TCEQ will require 10 sample results over a 7-year period to do a full assessment. If 10 samples are not available, TCEQ will use 10 years to obtain the minimum (10) number of samples. With less that 10 sample results, TCEQ can only identify a waterbody as a concern and not impaired.

Also included in this element is a summary of the City of Austin's monitoring activities and the CRWN program. An attached map illustrates these monitoring programs in the watershed.

Assessment Unit 1 (AU 1): From the Colorado River upstream to Taylor Lane.

Site 17257, Gilleland Creek at FM 969 is downstream of Webberville Road/FM 969, east of Austin. It will be monitored on a bimonthly basis (six times per year). This is a current and historical site monitored by LCRA and will provide quality assured data for **AU 1**. This site has already compiled enough data for determination of standards attainment.

Assessment Unit 2 (AU 2): From Taylor Lane upstream to Old Highway 20.

Site 12235, Gilleland Creek at FM 973 south of the city of Manor will be monitored on a bimonthly basis (six times per year). This is a current and historical site monitored by LCRA, and will provide quality assured data for **AU 2**. There should be enough data for standards attainment determination for the 2010 assessment.

Assessment Unit 3 (AU 3): From Old Highway 20 to Cameron Road.

Site 12236, Gilleland Creek at US 290 north of Manor has been monitored historically and will potentially be continued by LCRA bimonthly (six times per year) starting in TCEQ's FY 2010. This site should provide quality assured data for **AU 3**. Monitoring at this site should produce enough data to determine standards attainment by the 2014 assessment.

Assessment Unit 4 (AU 4): From Cameron Road to the spring source

Site 20474, Gilleland Creek at Northeast Metropolitan Park, southeast of Pflugerville (at the low water crossing 1.559 km north, 302 meters west to the intersection of Killingsworth Lane and Cameron Road) is a newly established site which TCEQ began monitoring in 2009. It will be monitored quarterly (four times per year). It will provide quality assured data for AU 4 and should provide enough data to determine standards attainment by the 2014 assessment.

Other sources of data that may or may not be used in the assessment of Gilleland Creek for 305b/303d purposes include: water quality monitoring by City of Austin and monitoring conducted by CRWN volunteers. The City of Austin may submit monitoring results under the quality assurance of the LCRA Clean Rivers Programs Quality Assurance Project Plan.

The City of Austin will discuss this possibility with the LCRA at the 2009 Clean Rivers Program Coordinated Monitoring Meeting. At present, Austin's *E. coli* data is analyzed in-house which is not a NELAC approved lab, and therefore can not be used for assessment purposes but will be used by the City to calculate their Environmental Integrity Index, which is a tool developed to monitor and assess the ecological integrity of Austin watersheds. Water chemistry data is collected quarterly and biological and habitat surveys are conducted once per year in the summer.

CRWN volunteer water quality monitors will submit to LCRA a minimum of six data points per year from the following sites: Gilleland Creek at Edgemere, Gilleland Creek below Bohl Park (12239), Gilleland Creek at Picadilly Lane (18763), Gilleland Creek at lower end of Gilleland Park at Railroad, and Gilleland Creek at Grand Avenue Parkway. CRWN data is not TCEQ quality assured and will not be used for assessment purposes. Since CRWN volunteer monitoring data provides more frequently collected data from more locations, it might be utilized to identify problem areas that can then be addressed by professional monitoring data collection efforts.

Key Element #10

This element provides the following list of entities responsible for implementing the Education and Outreach management measure.

LCRA will continue to provide support for the CRWN volunteer monitors in the watershed. This support includes supplying testing materials for bacteria samples (EasyGel), database management for data collection, and coordinating volunteer efforts to collect bacteria samples to yield results for evaluation.

Partners include Travis County, City of Austin, Texas Stream Team, and City of Pflugerville. These partners will collaborate to submit grant proposals, review survey results, and identify pilot parks. Partners will also pull resources for the education campaign including brochures and signs already developed covering pet waste, provide additional implementation of Mutt Mitt containers including refilling the containers with bags and sanitary waste pick up of waste receptacles, collaborate to host kickoff event at pilot parks and to distribute signage and brochures.

Texas Department of Transportation – As with all TPDES permits in the Gilleland Creek Watershed, the Texas Department of Transportation can not discharge bacteria into the Gilleland Creek Watershed unless their Stormwater Management Program through the General Permit for Phase II Municipal Separate Storm Sewer Systems is consistent with the approved TMDL and the implementation plan.

Appendix 1
Gilleland Creek Watershed Landuse Map