Lake Creek Metropolitan District

Source Water Protection Plan

Eagle County, Colorado
October 12, 2015

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For the Community Water Provider:
Lake Creek MD, PWSID# CO0119467

Cover Photo: East Lake Creek, lakecreekmeadows.com

This Source Water Protection Plan for the LCMD was developed using version 11.10.14 of the Colorado Rural Water Association's Source Water Protection Plan Template.

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ACRONYMS

BLM	Bureau of Land Management
BMP	Best Management Practice
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
COGCC	Colorado Oil and Gas Conservation Commission
CRWA	Colorado Rural Water Association
EPA	Environmental Protection Agency
GIS	Geographic Information System
LCMD	Lake Creek Metro District
NRCS	Natural Resources Conservation Service
PSOC	Potential Source of Contamination
SDWA	Safe Drinking Water Act
SWAA	Source Water Assessment Area
SWAP	Source Water Assessment and Protection
SWPA	Source Water Protection Area
SWPP	Source Water Protection Plan
TOT	Time of Travel
USDA	United States Department of Agriculture
USFS	United States Forest Service
WFSI	Wildfire Susceptibility Index
WUI	Wildland-Urban-Interface

EXECUTIVE SUMMARY

There is a growing effort in Colorado to protect community drinking water sources from potential contamination. Many communities are taking a proactive approach to preventing the pollution of their drinking water sources by developing a source water protection plan. A source water protection plan identifies a source water protection area, lists potential contaminant sources and outlines best management practices to reduce risks to the water source. Implementation of a source water protection plan provides an additional layer of protection at the local level beyond drinking water regulations.

Lake Creek Metropolitan District (LCMD) values a clean, high quality drinking water supply and decided to work collaboratively with area stakeholders to develop a Source Water Protection Plan. The source water protection planning effort consisted of public planning meetings and individual meetings with water operators, government, and agency representatives during the months of March, 2015 to July, 2015 at the Eagle County Health Services District in Edwards, CO. During the development of this Plan, a Steering Committee was formed to develop and implement it. Colorado Rural Water Association was instrumental in this effort by providing technical assistance in the development of this Source Water Protection Plan.

LCMD obtains its drinking water from three groundwater wells in the East Lake Creek Aquifer. The Source Water Protection Area for these water sources are:

Zone 1: a single 500 foot radius around all three wells

Zone 2: encompasses an area of 1.1 square miles located south and east approximately .7 miles from the wells

Zone 3: encompasses an area of .5 square miles south and east approximately 4 miles from the wells

This Source Water Protection Area is the area that LCMD has chosen to focus its source water protection measures to reduce source water susceptibility to contamination. The Steering Committee conducted an inventory of potential contaminant sources and identified other issues of concern within the Source Water Protection Area.

The Steering Committee developed several best management practices to reduce the risks from the potential contaminant sources and other issues of concern. The best management practices are centered on the themes of building partnerships with community members, businesses, and local decision makers; raising awareness of the value of protecting community drinking water supplies; and empowering local communities to become stewards of their drinking water supplies by taking actions to protect their water sources.

The following list highlights the highest priority potential contaminant sources and/or issues of concern and their associated best management practices:

- Private Wells
  1. Contact the above property owners to judge the integrity and location of their wells.
  2. If necessary, properly seal and/or cap the wells.

- Landscaped Areas
  1. Distribute educational outreach material to residents in the source water protection area highlighting the use of best management practices when applying fertilizer and herbicides to lawns and gardens.
  2. Post outreach material on Lake Creek Meadows HOA website (lakecreekmeadows.com).
  3. Include education and outreach material in consumer confidence reports.
  4. Install source water protection sign at the well house.

- Security/Protection
  1. Install protective barriers at Well #2. Approval from Eagle County will be obtained, as necessary if placed on Eagle County right-of-way.

The Steering Committee recognizes that the usefulness of this Source Water Protection Plan lies in its implementation and will begin to execute these best management practices upon completion of this Plan.

This Plan is a living document that is meant to be updated to address any changes that will inevitably come. The Steering Committee will review this Plan at a frequency of once every 3-5 years or if circumstances change resulting in the development of new water sources and source water protection areas, or if new risks are identified.

INTRODUCTION

LCMD operates a community water supply system that supplies drinking water to 350 residents located within Eagle County, Colorado. LCMD obtains their drinking water from 3 wells in the East Lake Creek aquifer in the Lake Creek watershed. LCMD recognizes the potential for contamination of the source of their drinking water, and realizes that it is necessary to develop a protection plan to prevent the contamination of this valuable resource. Proactive planning and implementing contamination prevention strategies are essential to protect the long-term integrity of their water supply and to limit their costs and liabilities.[1]

Table 1: Primary Contact Information for LCMD

PWSID	PWS Name	Name	Title	Address	Phone	E-mail
CO0119467	LCMD	Gerry Flynn	President	28 Second Street #213, Edwards, CO 81632	970-926-6060	gflynn@polarstarproperties.com
		Marchetti & Weaver	Manager	28 Second Street #213, Edwards, CO 81632	970-926-6060	info@mwcpaa.com

Purpose of the Source Water Protection Plan

The Source Water Protection Plan (SWPP) is a tool for the LCMD to ensure clean and high quality drinking water sources for current and future generations. This Source Water Protection Plan is designed to:

- Create an awareness of the community's drinking water sources and the potential risks to surface water and/or groundwater quality within the watershed;
- Encourage education and voluntary solutions to alleviate pollution risks;
- Promote management practices to protect and enhance the drinking water supply;
- Provide for a comprehensive action plan in case of an emergency that threatens or disrupts the community water supply.

Developing and implementing source water protection measures at the local level (i.e. county and municipal) will complement existing regulatory protection measures implemented at the

[1] The information contained in this Plan is limited to that available from public records and the LCMD at the time that the Plan was written. Other potential contaminant sites or threats to the water supply may exist in the Source Water Protection Area that are not identified in this Plan. Furthermore, identification of a site as a "potential contaminant site" should not be interpreted as one that will necessarily cause contamination of the water supply.

state and federal governmental levels by filling protection gaps that can only be addressed at the local level.

Protection Plan Development

The Colorado Rural Water Association's (CRWA) Source Water Protection Specialist, Paul Hempel, helped facilitate the source water protection planning process. The goal of the CRWA's Source Water Protection Program is to assist rural and small communities served by public water systems to reduce or eliminate the potential risks to drinking water supplies through the development of Source Water Protection Plans, and provide assistance for the implementation of prevention measures.

The source water protection planning effort consisted of a series of public planning meetings and individual meetings. Information discussed at the meetings helped the LCMD develop an understanding of the issues affecting source water protection for the community. The Steering Committee then made recommendations for best management practices to be incorporated into the Source Water Protection Plan. In addition to the planning meetings, data and other information pertaining to Source Water Protection Area was gathered via public documents, internet research, phone calls, emails, and field trips to the protection area. A summary of the meetings is represented below.

Table 2: Planning Meetings

Date	Purpose of Meeting
March 10, 2015	First Planning Meeting - Presentation on the process of developing a Source Water Protection Plan for the LCMD. Review of the State's Source Water Assessment for LCMD.
May 11, 2015	Steering Committee Meeting – Delineation of source water protection areas and identification of potential sources of contamination (psoc).
June 16, 2015	Steering Committee Meeting – Site tour and prioritization of psoc's.
July 14, 2015	Steering Committee Meeting – Best Management Practices, Draft Review

Stakeholder Participation in the Planning Process

Local stakeholder participation is vitally important to the overall success of Colorado's Source Water Assessment and Protection (SWAP) program. Source water protection was founded on the concept that informed citizens, equipped with fundamental knowledge about their drinking water source and the threats to it, will be the most effective advocates for protecting this valuable resource. Local support and acceptance of the Source Water Protection Plan is more likely where local stakeholders have actively participated in its development.

LCMD's source water protection planning process attracted interest and participation from seven stakeholders including private businesses, water operators, local governments, and agency representatives.

During the months of March 2015 through July, 2015, four stakeholder meetings were held in Edwards, Co. to encourage local stakeholder participation in the planning process. Input from these participants was greatly appreciated.

Steering Committee

During the development of this Plan, a volunteer Steering Committee was formed from the stakeholder group to develop and implement this Source Water Protection Plan. Specifically, the Steering Committee's role in the source water protection planning process was to advise LCMD in the identification and prioritization of potential contaminant sources as well as management approaches that can be voluntarily implemented to reduce the risks of potential contamination of the untreated source water. All members attended at least one Steering Committee meeting and contributed to planning efforts from their areas of experience and expertise. Their representation provided diversity and led to a thorough Source Water Protection Plan. LCMD and the Colorado Rural Water Association are very appreciative of the participation and expert input from the following participants.

Table 3: Stakeholders and Steering Committee Members

Stakeholder	Title	Affiliation	Steering Committee Member
Gerry Flynn	President	LCMD	X
Jim Martin	Account Manager	Marchetti & Weaver, LLC	X
Ray Merry	Environmental Health Director	Eagle County Environmental Health	X
Bob Narracci	Community Development Director	Eagle County Community Development	X
Shelby Limberis	Holy Cross Ranger District	White River National Forest	X
Seth Mason	Hydrologist	Eagle River Watershed Council	X
Anthony Zancanella	Water Resources Engineer	Zancanella & Associates, Inc.	X

Development and Implementation Grant

LCMD has been awarded a $5,000 Development and Implementation Grant from the Colorado Department of Public Health and Environment (CDPHE). This funding is available to public water systems and representative stakeholders committed to developing and implementing a source water protection plan. A one to one financial match (cash or in-kind) is required. LCMD was approved for this grant in February 10, 2014, and it expires on February 1, 2016. LCMD intends to use sixty percent of the funds to pay Zancanella and Associates, Inc. to develop the Source Water Protection Plan, and the remaining funds will be used to implement the Best Management Practices identified in this Plan.

WATER SUPPLY SETTING

Location and Description

LCMD is a quality residential community of single family and duplex homes located in the scenic Lake Creek valley south of Edwards, Colorado. The community consists of a variety of natural environments ranging from steep wooded hillsides to open pastures and creek side views of Lake Creek and it branches. The dominating views to the south are the rugged mountains marking the beginning of the Sawatch Range.

Wildlife is common with deer, elk and bears playing in your yard. The community began in 1974 and consists of 83 two and five acre lots. It has always been a diverse neighborhood and prides itself on its neighborly approach to community concerns. (LakeCreekMeadows.com website)

LCMD is a small, rural water system, covering an area of 584 acres, and is located in Eagle County on the western slope of Colorado. Primary access to the Metro District is via Interstate 70, US Highway 6 and Lake Creek Road. The water system serves 105 households, a population of approximately 350 residents. A few of the residents are seasonal, but most are year-round. There are only a few vacant lots remaining within the subdivision, however over the past 10 – 15 years the metro district's boundaries have been enlarged from time to time to include surrounding lots and small subdivisions.

The metro district's source waters lie within private lands with public lands in the far reaches of the drainage basins. The private lands include land entirely within the unincorporated areas of Eagle County. Land use on private land consists of agricultural and rural residential development. The land is zoned as "Rural Residential" and "Resource" by Eagle County.

Figure 1: Location of LCMD within Colorado Source: Source: Google earth

Physical Characteristics

LCMD is located at latitude 39^0 37’ 04” N, longitude 106^0 36’ 57” W. This area is best characterized by steep, high mountain ranges and associated mountain valleys. The temperature regimes are mostly frigid and cryic; moisture regimes are mainly ustic and udic. The precipitation generally is low to moderate with an approximate average annual precipitation of 15 to 16 inches. Vegetation is sagebrush-grass at low elevations, and with increasing elevation ranges from coniferous forest to alpine tundra. Elevations in the watershed range from 7,500 feet at the water system’s source wells to 14,400 feet in the mountain range to the south of the metro district.

The bedrock in this area of Colorado is characterized predominantly by Paleozoic sedimentary rocks. Overlying bedrock and filling the valleys in the area of the metro district’s intake wells is a layer of Quaternary glacial and alluvial gravels. (USGS)

Figure 2: Elevation near LCMD Source: NRCS Rapid Assessment

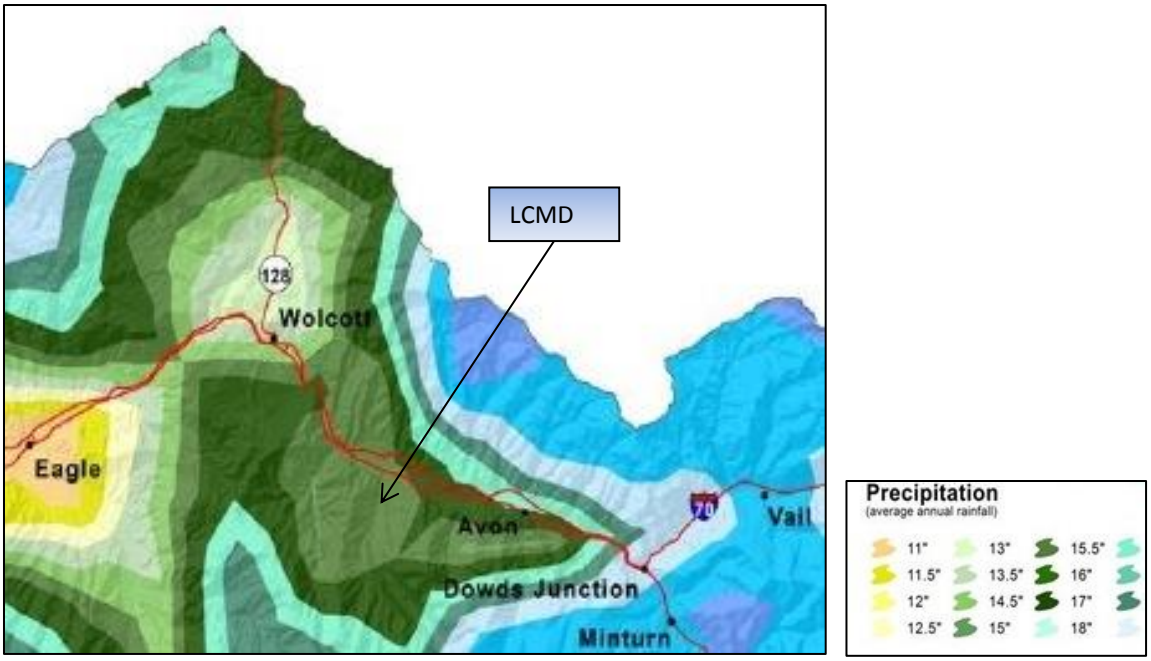

Figure 3: Precipitation near LCMD Source: NRCS Rapid Assessment

LCMD is a quality residential community of single family and duplex homes located in the scenic Lake Creek valley south of Edwards, Colorado. The community consists of a variety of natural environments ranging from steep wooded hillsides to open pastures and creek side views of Lake Creek and it branches. The dominating views to the south are the rugged mountains marking the beginning of the Sawatch Range.

Wildlife is common with deer, elk and bears playing in your yard. The community began in 1974 and consists of 83 two and five acre lots. It has always been a diverse neighborhood and prides itself on its neighborly approach to community concerns. (LCMD)

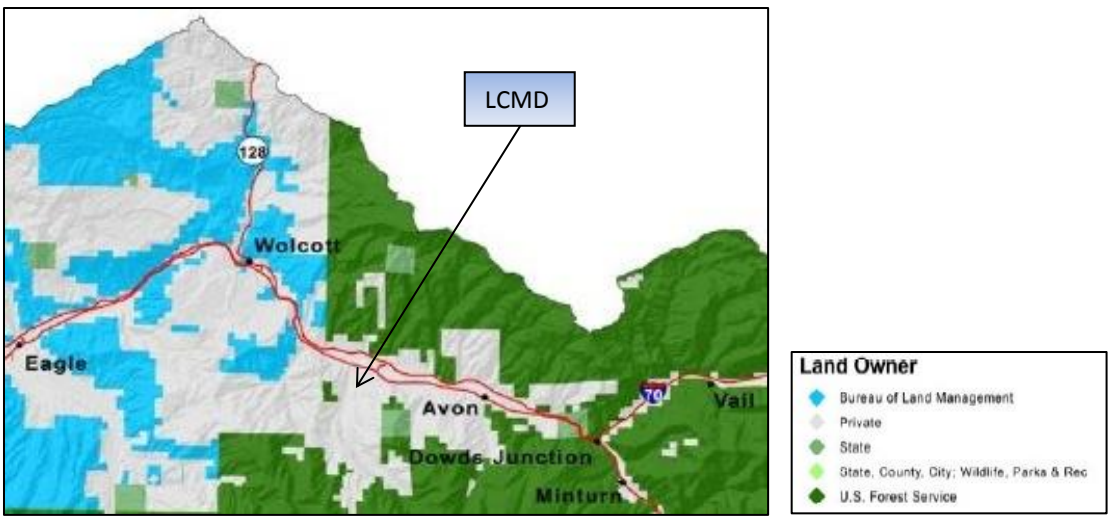

Figure 4: Land ownership near LCMD Source: NRCS Rapid Assessment

Hydrologic Setting

LCMD obtains its drinking water from three wells drilled into the East Lake Creek alluvial and glacial gravels. This aquifer is a shallow unconfined aquifer consisting of alluvial and glacial sediments with undefined extents, but from the well drilling, is at least 84 feet deep. The recharge area extends 3 miles south of the well locations and is comprised primarily of precipitation. Typical groundwater flows in the aquifer are in a northerly direction. Water quality in the wells is generally good, but with a tendency to take copper into solution from water pipes in homes. Copper in tap water is controlled by the injection of a blended phosphate solution, but this is not considered a contamination source for the wells.

LCMD has not petitioned the Water Quality Control Commission for the establishment of a classified ground water area and associated site-specific ground water quality standards for its ground water intakes.

Groundwater Protection

Groundwater protection is managed as two separate issues of quantity and quality in Colorado. Quantity issues are managed through the Colorado Division of Water Resources/Office of the State Engineer. The Division of Water Resources administers and enforces all surface and groundwater rights throughout the State of Colorado, issues water well permits, approves construction and repair of dams, and enforces interstate compacts. The Division of Water Resources is also the agency responsible for implementing and enforcing the statutes of the Groundwater Management Act passed by the Legislature as well as implementing applicable rules and policies adopted by the Colorado Groundwater Commission and the State Board of Examiners of Water Well Construction and Pump Installation Contractors.

The CDPHE's Colorado Water Quality Control Commission is responsible for promulgating groundwater and surface water classifications and standards. Colorado's Water Quality Control Commission has established basic standards for groundwater regulations that apply a framework for groundwater classifications and water quality standards for all waters within their jurisdictions. Standards are designed to protect the associated classified uses of water or a designated use. The groundwater classifications are applied to ground waters within a specified area based upon use, quality and other information as indicated in the CDPHE Water Quality Control Commission's Regulation No. 41, "The Basic Standards for Ground Water." Statewide standards have been adopted for organic chemicals and radionuclides. Significant areas of the state have been classified for site specific use classification and the remainder of the state's groundwater is protected by interim narrative standards.

Classifications and standards are implemented by seven separate state agencies through their rules and regulations for activities that they regulate. Regulated activities include mining and reclamation, oil and gas production, petroleum storage tanks, agriculture, Superfund sites, hazardous waste generation and disposal, solid waste disposal, industrial and domestic wastewater discharges, well construction and pump installation, and water transfers.

Colorado has proactive groundwater protection programs that include monitoring groundwater for agricultural chemicals and pesticides, issuing groundwater discharge permits; voluntary cleanup program, permitting for large hog farm operations, and educational programs. In addition, water wells must have a permit and meet minimum standards of construction and pump installation.

Water Quality Data

LCMD tests for various contaminants each year as prescribed by the CDPHE. Annual Consumer Confidence Reports (CCRs) are distributed to each water consumer's residence and contain the analytical results of water testing performed in the previous year. Please see Appendix J for copies of the last five years' CCRs.

Drinking Water Supply Operations

Water Supply and Infrastructure

LCMD's source water supply comes entirely from three wells located on Brook Place, near East Lake Creek, latitude 39^0 37' 04" N, longitude 106^0 36' 57" W. The wells are situated around the Brook Place Cul-de-Sac.

From the wells, the water is piped to the nearby water treatment building, also located on Brook Place. The water is treated with a sodium hypochlorite solution for disinfection and a blended phosphate solution to retard copper dissolution in residences with copper pipes. As it leaves the treatment building, the water passes through a buried contact chamber, which supplies the necessary chlorine contact for proper disinfection before it enters the distribution system.

Passing through the distribution system, the water is pumped to two connected water storage tanks. One tank is located at the top of Eagle Crest Road. This tank holds 200,000 gallons. A second tank on the Cattleman's Club side of the system holds 250,000 gallons. Booster pumps located on West Lake Creek are required to pump the water to the Cattleman's Club tank.

Table 4: Groundwater Supply Information

Water System Facility Name	Water System Facility Number	Total Depth of Well (ft)	Depth of Plain Casing (ft)	Depth of Perforation (ft)	Yield (gpm)	Year Drilled	Permit Number	Annual Permitted Amount (acre feet)
Well #1	WL-01	75	0-63	63-75	44	1995	46894-F	72
Well #2	WL-02	72	0-48	48-65	59	1996	46895-F	72
Well #3	WL-03	84	0-73	73-78	79	2008	65720-F	500 – This well and others

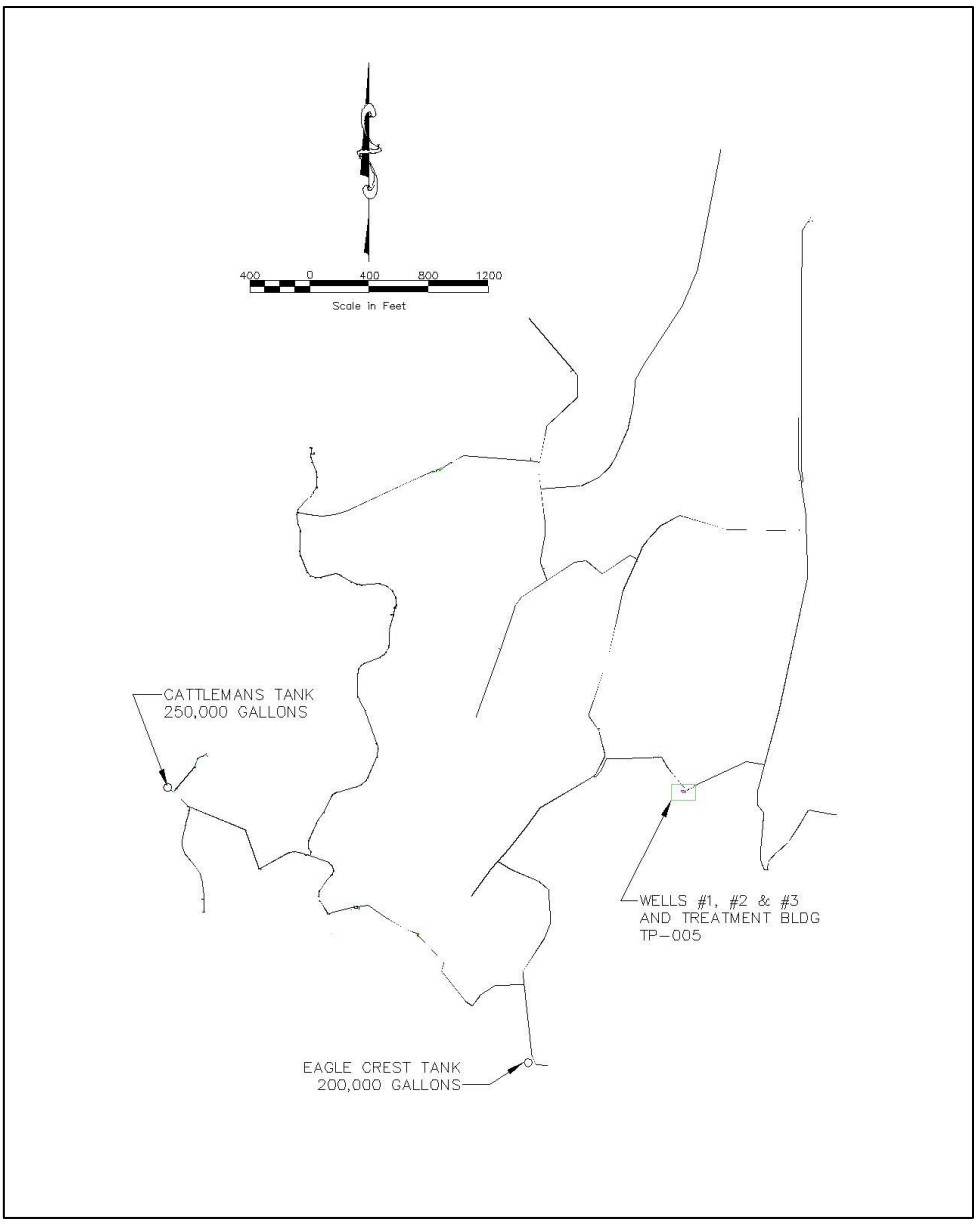

Figure 5: LCMD Distribution System Sketch Source: Zancanella & Associates, Inc.

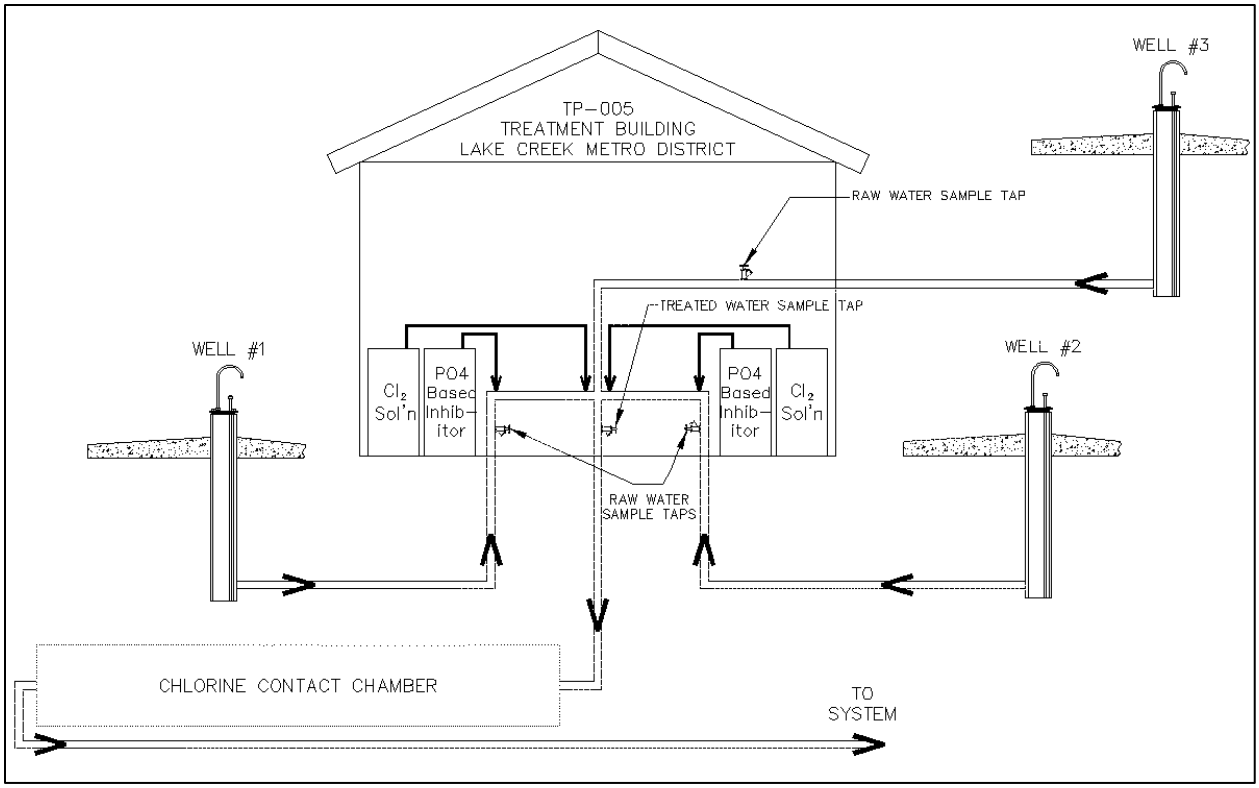

Figure 6: LCMD Treatment Schematic Source: Zancanella & Associates, Inc.

Water Supply Demand Analysis

LCMD serves an estimated 105 connections and approximately 350 residents and other users in the service area annually. The water system currently has the capacity to produce 260,000 gallons per day. Current estimates by the water system indicate that the average daily demand is approximately 44,000 gallons per day, and that the average peak daily demand is approximately 100,000 gallons per day. Using these estimates, the water system has a surplus average daily demand capacity of 216,000 gallons per day and a surplus average peak daily demand capacity of 160,000 gallons per day.

Using the surplus estimates above, LCMD has evaluated its ability to meet the average daily demand and the average peak daily demand of its customers in the event the water supply from one or more of its water sources becomes disabled for an extended period of time due to potential contamination. The evaluation indicated that LCMD may not be able to meet the average daily demand of its customers if all three of the water sources became disabled for an extended period of time. The evaluation also indicated that LCMD may not be able to meet the average peak daily demand of its customers if as few as two of the water sources became disabled for an extended period of time. The ability of LCMD to meet either of these demands for an extended period of time is also affected by the amount of treated water the water system has in storage at the time a water source(s) becomes disabled.

LCMD recognizes that potential contamination of its ground water source(s) could potentially result in having to treat the ground water and/or abandon the water source if treatment proves

to be ineffective or too costly. To understand the potential financial costs associated with such an accident, LCMD evaluated what it might cost to replace one of its water sources (i.e., replacement of the intake structure and the associated infrastructure) if this occurs. The evaluation did not attempt to estimate treatment costs, which can be variable depending on the type of contaminant(s) that need(s) to be treated. The evaluation indicated that it could cost $ 180,000 in today's dollars to replace one of its water sources.

The three LCMD water supply wells are all located in a relatively small area, so that if one well becomes contaminated, the other two may become contaminated, as well. The cost to the metro district to replace the wells could possibly be trebled.

The potential financial and water supply risks related to the long-term disablement of one or more of the community's water sources are a concern to the Steering Committee. As a result, the Steering Committee believes the development and implementation of a source water protection plan for LCMD can help to reduce the risks posed by potential contamination of its water source(s). Additionally, LCMD has developed an emergency response plan (Appendix A) to coordinate rapid and effective response to any emergency incident that threatens or disrupts the community water supply.

OVERVIEW OF COLORADO'S SWAP PROGRAM

Source water assessment and protection came into existence in 1996 as a result of Congressional reauthorization and amendment of the Safe Drinking Water Act. The 1996 amendments required each state to develop a source water assessment and protection (SWAP) program. The Water Quality Control Division, an agency of the Colorado Department of Public Health and Environment (CDPHE), assumed the responsibility of developing Colorado's SWAP program. The SWAP program protection plan is integrated with the Colorado Wellhead Protection Program that was established in amendments made to the federal Safe Drinking Water Act (SDWA, Section 1428) in 1986.

Colorado's SWAP program is an iterative, two-phased process designed to assist public water systems in preventing potential contamination of their untreated drinking water supplies. The two phases include the Assessment Phase and the Protection Phase as depicted in the upper and lower portions of Figure 7, respectively.

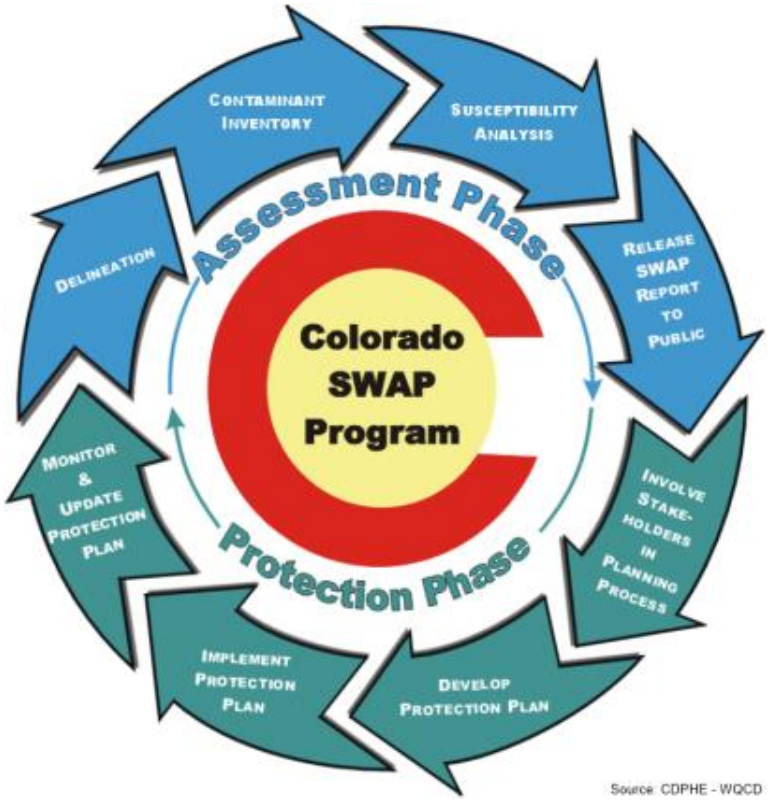

Figure 7: Source Water Assessment and Protection Phases

Source Water Assessment Phase

The Assessment Phase for all public water systems consists of four primary elements:

1. Delineating the source water assessment area for each of the drinking water sources;
2. Conducting a contaminant source inventory to identify potential sources of contamination within each of the source water assessment areas;
3. Conducting a susceptibility analysis to determine the potential susceptibility of each public drinking water source to the different sources of contamination;
4. Reporting the results of the source water assessment to the public water systems and the general public.

The Assessment Phase involves understanding where LCMD's source water comes from, what contaminant sources potentially threaten the water sources, and how susceptible each water source is to potential contamination. The susceptibility of an individual water source is analyzed by examining the properties of its physical setting and potential contaminant source threats. The resulting analysis calculations are used to report an estimate of how susceptible each water source is to potential contamination. A Source Water Assessment Report was provided to each public water system in Colorado in 2004 that outlines the results of this Assessment Phase.

Source Water Protection Phase

The Protection Phase is a non-regulatory, ongoing process in which all public water systems have been encouraged to voluntarily employ preventative measures to protect their water supply from the potential sources of contamination to which it may be most susceptible. The Protection Phase can be used to take action to avoid unnecessary treatment or replacement costs associated with potential contamination of the untreated water supply. Source water protection begins when local decision-makers use the source water assessment results and other pertinent information as a starting point to develop a protection plan. As depicted in the lower portion of Figure 7, the source water protection phase for all public water systems consists of four primary elements:

1. Involving local stakeholders in the planning process;
2. Developing a comprehensive protection plan for all of their drinking water sources;
3. Implementing the protection plan on a continuous basis to reduce the risk of potential contamination of the drinking water sources; and
4. Monitoring the effectiveness of the protection plan and updating it accordingly as future assessment results indicate.

The water system and the community recognize that the Safe Drinking Water Act grants no statutory authority to the Colorado Department of Public Health and Environment or to any other state or federal agency to force the adoption or implementation of source water

protection measures. This authority rests solely with local communities and local governments. The source water protection phase is an ongoing process as indicated in Figure 7. The evolution of the SWAP program is to incorporate any new assessment information provided by the public water supply systems and update the protection plan accordingly.

SOURCE WATER PROTECTION PLAN DEVELOPMENT

Source Water Assessment Report Review

LCMD has reviewed the Source Water Assessment Report along with the Steering Committee. These Assessment results were used as a starting point to guide the development of appropriate management approaches to protect the source water of LCMD from potential contamination. A copy of the Source Water Assessment Report for LCMD can be found in Appendices B and C, obtained by contacting LCMD or by downloading a copy from the CDPHE's SWAP program website located at: http://www.colorado.gov/cs/Satellite/CDPHE-WQ/CBON/1251596793639.

Defining the Source Water Protection Area

A source water protection area is the surface and subsurface areas within which contaminants are reasonably likely to reach a water source. The purpose of delineating a source water protection area is to determine the recharge area that supplies water to a public water source. Delineation is the process used to identify and map the area around a pumping well that supplies water to the well or spring, or to identify and map the drainage basin that supplies water to a surface water intake. The size and shape of the area depends on the characteristics of the aquifer and the well, or the watershed. The source water assessment area that was delineated as part of LCMD's Source Water Assessment Report provides the basis for understanding where the community's source water and potential contaminant threats originate, and where the community has chosen to implement its source water protection measures in an attempt to manage the susceptibility of their source water to potential contamination.

After carefully reviewing their Source Water Assessment Report and the CDPHE's delineation of the Source Water Assessment Area for each of LCMD's sources, the Steering Committee chose to modify it before accepting it as their Source Water Protection Area for this Source Water Protection Plan.

The Source Water Protection Area was created using the topography and the geology of the area upstream from the source wells. Due to the location of the wells in the glacio-fluvial aquifer, the introduction of pollutants into the East Lake Creek valley upstream of the wells was determined to have potentially the greatest impact on the water quality in the wells. LCMD's Source Water Protection Area is defined as:

Zone 1: a single 500 foot radius around the wells

Zone 2: encompasses an area of 1.1 square miles located south and east extending approximately .7 miles from the wells

Zone 3: encompasses an area of .5 square miles south and east extending approximately 4 miles from the wells

The Source Water Protection Area is illustrated in the following maps:

Not Included in Public Version

Figure 8: LCMD Source Water Protection Area Zone 1 Source: CRWA

Not Included in Public Version

Figure 9: LCMD Source Water Protection Area Zone 2 Source: CRWA

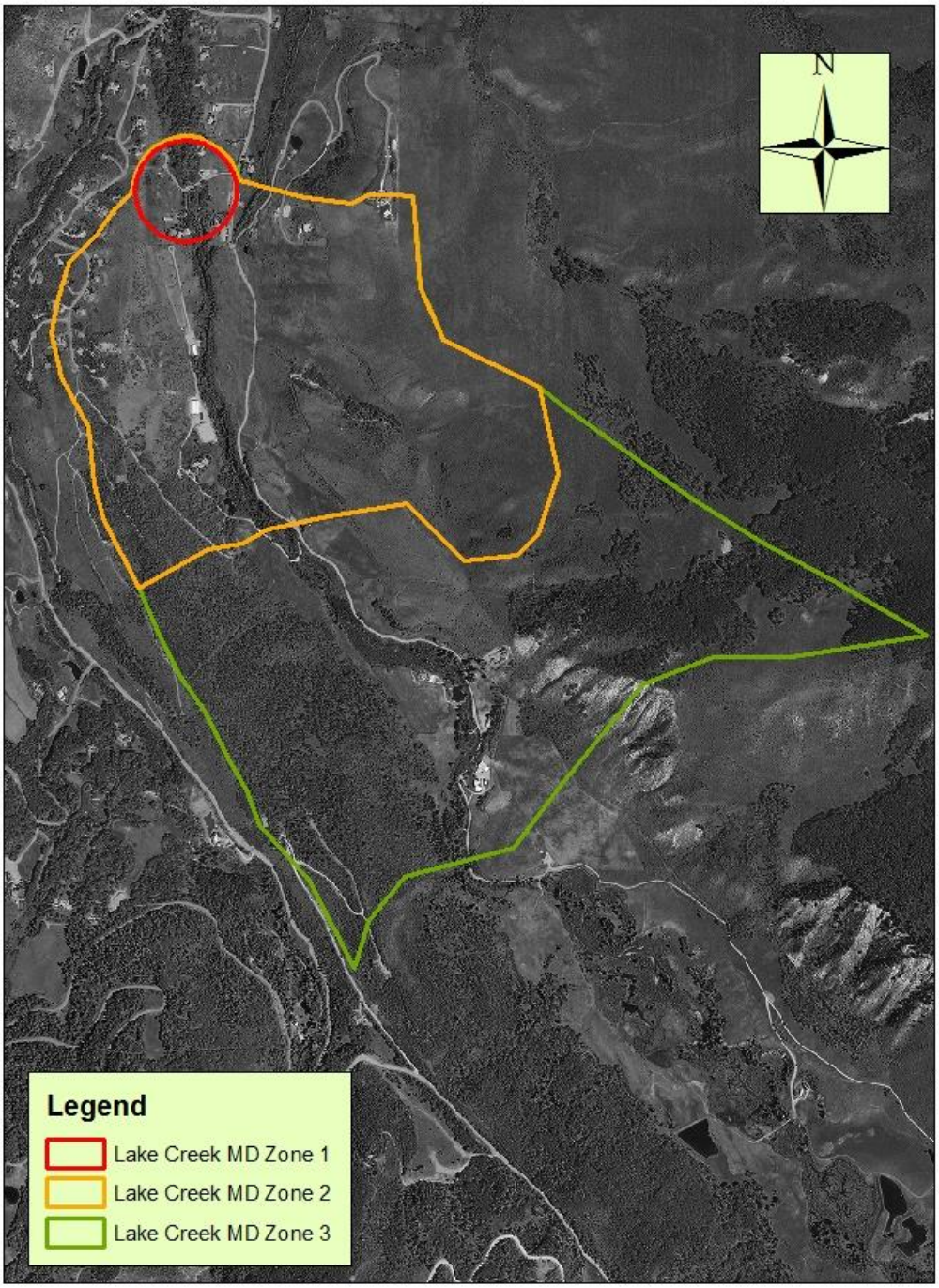

Figure 10: LCMD Source Water Protection Areas Source: CRWA

Potential Contaminant Source Inventory and Other Issues of Concern

Many types of land uses have the potential to contaminate source waters: spills from tanks, trucks, and railcars; leaks from buried containers; failed septic systems, buried or injection of wastes underground, use of fertilizers, pesticides, and herbicides, road salting, as well as urban and agricultural runoff. While catastrophic contaminant spills or releases can wipe out a water resource, groundwater degradation can result from a plethora of small releases of harmful substances. According to the USEPA, nonpoint-source pollution (when water runoff moves over or into the ground picking up pollutants and carrying them into surface and groundwater) is the leading cause of water quality degradation (GWPC, 2008).

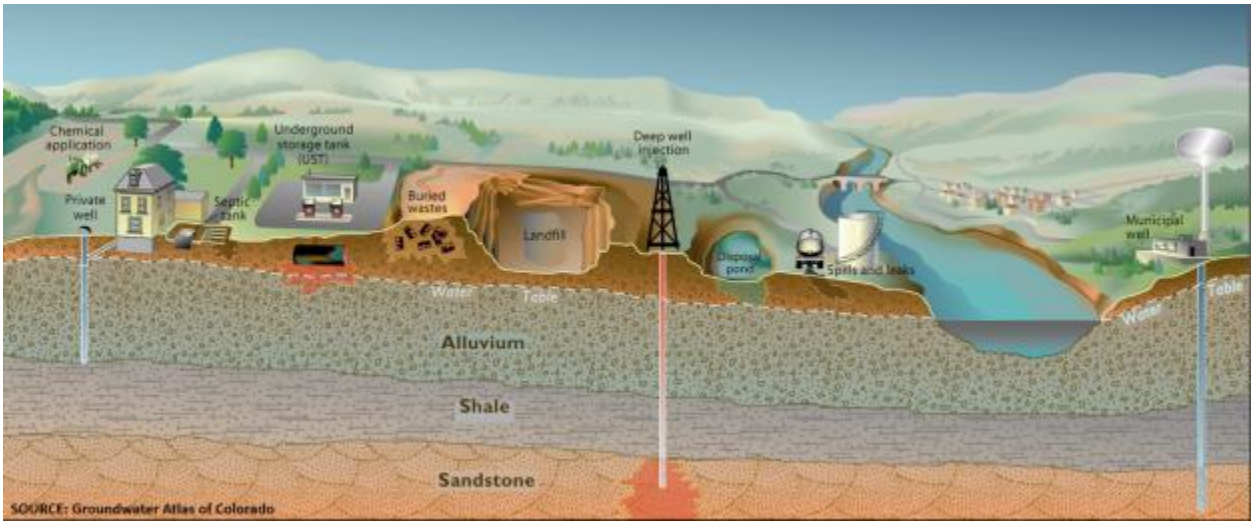

Figure 11: Schematic drawing of the potential source of contamination to surface and groundwater

In 2001 – 2002, as part of the Source Water Assessment Report, a contaminant source inventory was conducted by the Colorado Department of Public Health and Environment to identify selected potential sources of contamination that might be present within the source water assessment areas. Discrete[2] contaminant sources were inventoried using selected state and federal regulatory databases including: mining and reclamation, oil and gas production, above and underground petroleum tanks, Superfund sites, hazardous waste generators, solid waste disposal, industrial and domestic wastewater dischargers, and water wells. Dispersed contaminant sources were inventoried using then recent land use / land cover and transportation maps of Colorado, along with selected state regulatory databases. The contaminant inventory was completed by mapping the potential contaminant sources with the aid of a Geographic Information System (GIS).

The State's contaminant source inventory consisted of draft maps, along with a summary of the discrete and dispersed contaminant sources inventoried within the source water assessment area. LCMD was asked, by CDPHE, to review the inventory information, field-verify selected

[2] The WQCD's assessment process used the terms "discrete" and "dispersed" potential sources of contamination. A discrete source is a facility that can be mapped as a point, while a dispersed source covers a broader area such as a type of land use (crop land, forest, residential, etc.).

information about existing and new contaminant sources, and provide feedback on the accuracy of the inventory. LCMD is reporting its findings to the CDPHE.

After much consideration, discussion, and input from local stakeholders, LCMD and the Steering Committee have developed a more accurate and current inventory of contaminant sources and other issues of concern located within the Source Water Protection Area. Upon completion of this contaminant source inventory, LCMD has decided to adopt it in place of the original contaminant source inventory provided by the CDPHE.

Contaminant Source Inventory (in no particular order):

- Roads – Maintenance
- Roads –Accidents
- Septic Systems
- Private Wells
- Storage Tank
- Landscaped Areas

Other Issues of Concern

- Security/Protection

Priority Strategy

After developing a contaminant source inventory and list of issues of concern that is more accurate, complete, and current, the Steering Committee utilized CRWA's SWAP Risk Assessment Matrix (Appendix D) to assist with the prioritization of this inventory for the implementation of the Best Management Practices outlined in this Source Water Protection Plan (see Table 7).

LCMD and Steering Committee considered the following criteria when estimating the risk of contaminant sources and issues of concern.

1. **Impact to the Public Water System** – The risk to the source waters increases as the impact to the water system increases. The impact is determined by:

    - **Migration Potential or Proximity to the Water Source** - The migration potential generally has the greatest influence on whether a contaminant source could provide contaminants in amounts sufficient for the source water to become contaminated at concentrations that may pose a health concern to consumers of the water. Shorter migration paths and times of travel mean less chance for dilution or degradation of the contaminant before it reaches water sources. The proximity of a potential contaminant source of contamination to LCMD's water sources was considered relative to the three sensitivity zones in the Source Water Protection Area (i.e. Zone 1, Zone 2, and Zone 3).

- **Contaminant Hazard** - The contaminant hazard is an indication of the potential human health danger posed by contaminants likely or known to be present at the contaminant source. Using the information tables provided by CDPHE (see Appendices E - H) the Steering Committee considered the following contaminant hazard concerns for each contaminant source:

    - **Acute Health Concerns** - Contaminants with acute health concerns include individual contaminants and categories of constituents that pose the most serious immediate health concerns resulting from short-term exposure to the constituent. Many of these acute health concern contaminants are classified as potential cancer-causing (i.e. carcinogenic) constituents or have a maximum contaminant level goal (MCLG) set at zero (0).

    - **Chronic Health Concerns** - Contaminants with chronic health concerns include categories of constituents that pose potentially serious health concerns due to long-term exposure to the constituent. Most of these chronic health concern contaminants include the remaining primary drinking water contaminants.

    - **Aesthetic Concerns** - Aesthetic contaminants include the secondary drinking water contaminants, which do not pose serious health concerns, but cause aesthetic problems such as odor, taste or appearance.

- **Potential Volume** - The volume of contaminants at the contaminant source is important in evaluating whether the source water could become contaminated at concentrations that may pose a health concern to consumers of the water in the event these contaminants are released to the source water. Large volumes of contaminants at a specific location pose a greater threat than small volumes.

2. **Probability of Occurrence –** The risk to the source waters increases as the relative probability of damage or loss increases. The regulatory compliance history for regulated facilities and operational practices for handling, storage, and use of contaminants were utilized to evaluate the likelihood of release.

LCMD and Steering Committee determined whether each PSOC or issue of concern is in the water system's Direct Control (i.e. water system can take direct measures to prevent), Indirect Control (i.e. water system cannot directly control the issue, but can work with another person or entity to take measures to prevent) or No Control (i.e. PSOC or issue of concern is outside the control of the public water system and other entities). This determination of control in conjunction with the estimation of risk to the source water(s), helped guide the prioritization of the contaminant source inventory and of issues of concern in a way that best fits the needs and

resources of the community. LCMD and Steering Committee ranked the potential contaminant source inventory and issues of concern in the following way:

Table 5: Potential Sources of Contamination and Issues of Concern Prioritization Table

Potential Source of Contamination or Issue of Concern	Controllable (Direct, Indirect, No)	Impact to Water System (Insignificant, Minor, Significant, Major, Catastrophic)	Probability of Occurrence (Rare, Unlikely, Possible, Likely, Certain)	Risk (Very Low, Low, Moderate, High, Very High)	Priority Ranking
Roads (maintenance)	Indirect	Significant	Possible	Moderate	2
Roads (accidents)	Indirect	Catastrophic	Rare	Low	3
Septic Systems	Indirect	Significant	Rare	Low	3
Private Wells	Indirect	Major	Possible	High	1
Storage Tank	Indirect	Catastrophic	Unlikely	Moderate	2
Landscaped Areas	Indirect	Major	Possible	High	1
Security/Protection	Indirect	Major	Possible	High	1

Susceptibility Analysis of Water Sources

The LCMD's Source Water Assessment Report contained a susceptibility analysis[3] to identify how susceptible an untreated water source could be to contamination from potential sources of contamination inventoried within its source water assessment area. The analysis looked at the susceptibility posed by individual potential contaminant sources and the collective or total susceptibility posed by all of the potential contaminant sources in the source water assessment area. The CDPHE developed a susceptibility analysis model for surface water sources and ground water sources under the influence of surface water, and another model for groundwater sources. Both models provided an objective analysis based on the best available information at the time of the analysis. The two main components of the CDPHE's susceptibility analysis are:

1. **Physical Setting Vulnerability Rating** – This rating is based on the ability of the surface water and/or groundwater flow to provide a sufficient buffering capacity to mitigate potential contaminant concentrations in the water source.

2. **Totals Susceptibility Rating** – This rating is based on two components: the physical setting vulnerability of the water source and the contaminant threat.

Upon review of the susceptibility analysis, the Steering Committee determined that the Physical Setting Vulnerability Rating and the Total Susceptibility Rating needed updated to more accurately reflect the current situation.

Table 6: Updated Susceptibility Analysis

Source ID #	Source Name	Source Type	Total Susceptibility Rating	Physical Setting Vulnerability Rating
119467-003	Well #1	Groundwater	Moderate	Low
119467-004	Well #2	Groundwater	Moderate	Moderate
119467-005	Well #3	Groundwater	Moderate	Moderate

[3] The susceptibility analysis provides a screening level evaluation of the likelihood that a potential contamination problem could occur rather than an indication that a potential contamination problem has or will occur. The analysis is NOT a reflection of the current quality of the untreated source water, nor is it a reflection of the quality of the treated drinking water that is supplied to the public.

DISCUSSION OF POTENTIAL CONTAMINANT SOURCES AND ISSUES OF CONCERN

1. Private Wells

Normally, ground water flows through soil and bedrock formations, known as aquifers, which filter unhealthy organisms, minerals and other substances. Water that enters an abandoned well bypasses this purifying action. Contaminants enter the aquifer through the unsealed well and may eventually harm the water quality in other wells nearby.

Contaminants usually get into an abandoned well through the casing pipe. It may not extend high enough above the ground surface to prevent runoff from washing into the old pipe. Or the well cap could be broken or in poor condition (WSC, 1999)

A private property owner on the hill to the south has a well 200 feet deep that is in same aquifer as LCMD wells. Also, there are two wells on private property to the south.

Private Well Best Management Practices:

1. Contact the above property owners to judge the integrity and location of their wells.

2. If necessary, properly seal and/or cap the wells.

2. Landscaped Areas

The care of landscaped areas cancontribute to the pollution of surface water and ground water. Heavily landscaped areas include residential yards, commercial lawns, golf courses, ball fields, and parks. The soils in many of these areas require frequent fertilization to maintain their turf grass. Because excess fertilizer use and poor application methods can cause fertilizer movement into sources of drinking water, theincreased application of lawn and garden fertilizers in recent years has raised concern over the pollution of surface water and ground water.

A recent nonpoint source loading analysis from a New Jersey study indicated that ten percent of the nitrogen and four percent of the phosphorus applied annually in a 193-square-mile area of landscaped residential development ended up in surface waters as a result of over-application. Another study (South Jersey Resource Conservation and Development Council, Inc.) found that more than 50 percent of the nitrogen in fertilizer leaches from lawns when improperly applied. (US EPA, 2001)

If improperly managed, elements of fertilizer can move into surface water through field runoff or leach into ground water. The two main components of fertilizer that are of greatest concern to source water quality (ground water and surface water used as public drinking water supplies) are nitrogen (N) and phosphorus (P).

Improper or excessive use of fertilizer can lead to nitrate pollution of ground or surface water. Nitrogen fertilizer, whether organic or inorganic, is biologically transformed to nitrate that is highly soluble in water. In this soluble form, nitrate can readily be absorbed and used by

plants. On the other hand, soluble nitrate is highly mobile and can move with percolating water out of the soil, thus making it unavailable for plant uptakes. Fertilizer applicators, therefore, need to match nitrogen applications to plant uptake to minimize nitrate leaching and maximize efficiency.

As mentioned above, nitrogen-containing fertilizers can contribute to nitrates in drinking water. Consumption of nitrates can cause methemoglobinemia (blue baby syndrome) in infants, which reduces the ability of the blood to carry oxygen. If left untreated, methemoglobinemia can be fatal for affected infants. Due to this health risk, EPA set a drinking water maximum contaminant level (MCL) of 10 milligrams per liter (mg/l) or parts per million (ppm) for nitrate measured as nitrogen.

Another major component of fertilizer is phosphorus. Under certain conditions phosphorus can be readily transported with the soil. In fact, 60 to 90 percent of phosphorus moves with the soil. (USEPA, 2001)

Herbicides are chemicals used to manipulate or control undesirable vegetation. In suburban and urban areas, herbicides are applied to lawns, parks, golf courses and other areas. (Folmar, et al. 1979) Methods of application include spraying onto foliage, applying to soils, and applying directly to aquatic systems.

Herbicides may cause biological impairments of water bodies if they occur in water or sediment at sufficient concentrations. Most commonly, they enter surface water in runoff or leachate, but, because they have relatively low toxicity to fish and invertebrates acute toxicity is likely only when they are deliberately or accidentally applied directly to water bodies. Direct applications may result in direct toxicity to non-target plants and animals or indirect effects due to the death and decomposition of plants. Impairments also are more likely when herbicides are applied together or with other pesticides (Streibig et. al. 1998), resulting in additive or synergistic effects.

If improperly managed, chemical storage of fertilizers and herbicides can also be of concern. Proper storage is important in preventing both surface water and ground water contamination. Store pesticides in intact containers in a shed or covered structure on an impermeable surface such as concrete. You must follow directions for storage on pesticide labels, although the directions are usually general, such as “Do not contaminate water, food, or feed by storage or disposal.” Do not store pesticides in areas prone to flooding. Keep pesticides in their original containers; if the label is unreadable, properly dispose of the product.

Spill clean-up is another important prevention measure. Promptly sweep up dry spills and reuse the pesticides as intended; dry spills are usually easier to clean. For liquid spills, recover as much of the spill as possible and reuse it as intended. It may be necessary to remove some contaminated soil. Have cat litter or other absorptive materials available to absorb unrecovered liquid from the floor. Be sure to have an emergency contact number to call for help, if necessary. Be sure to check the label for proper handling of the chemicals.

Disposal of pesticide containers can lead to ground water contamination if the containers are not stored or cleaned properly. Chemical residues from these containers can leak onto the ground. Homeowners and other users may have smaller quantities of pesticides and empty containers and different disposal options than farmers. (US EPA, 2001)

Several homes with landscaped areas exist in Zone 3 of the source water protection area along Eagle Crest Road. The steering committee is concerned that excessive use of fertilizers and herbicides has the potential to enter the drinking water supply if not properly managed.

Landscaped Areas Best Management Practices:

1. Distribute educational outreach material to residents in the source water protection area highlighting the use of best management practices when applying fertilizer and herbicides to lawns and gardens.

2. Post outreach material on Lake Creek Meadows HOA website (lakecreekmeadows.com).

3. Include education and outreach material in consumer confidence reports.

3. Security/Protection

All three of LCMD's wells are located in a cul-de-sac within 50 feet of each other. Well #3 is protected because it is off the road and close to the well house. Wells 1 and 2 are located under the road bed with access to them via a covered vault. The cover to Well #1 is at road grade level but the cover to Well # 2 is slightly above grade and at times has been moved off of the vault due to snowplowing activities. Therefore, extra protection for this well in the form of concrete bollards is necessary.

Figure 12: Lake Creek MD Well Area Source: CRWA

Security/Protection Best Management Practices:

1. Install protective barriers at Well #2. Approval from Eagle County will be obtained, as necessary if placed on Eagle County right-of-way.

2. Install one source water protection sign at the well house.

4. Roads – Maintenance and Accidents

During the summer season Eagle County applies magnesium chloride as a dust suppressant along Lake Creek Road. Surface and groundwater quality problems resulting from the use of dust suppressants are causing concern among federal, state, and local governments. Salt from the roadways is introduced into the groundwater through a number of ways.

For instance, when runoff occurs from roadways, flows are sometimes carried to ditches and unlined channels through which the water infiltrates into the soil and eventually into the groundwater. Salt contributes to increased chloride levels in groundwater through infiltration of runoff from roadways. Unlike other contaminants, such as heavy metals or hydrocarbons, chloride is not naturally removed from water as it travels through soil and sediments and moves towards the water table. Once in the groundwater, it may remain for a long time if groundwater velocity is slow and it is not flushed away. Chloride may also be discharged from groundwater into surface water and can account for elevated levels of chloride throughout the year, not just in winter. Thus, regardless of the path that the runoff takes, salt poses a water quality problem. (Seawell, et al, 1998).

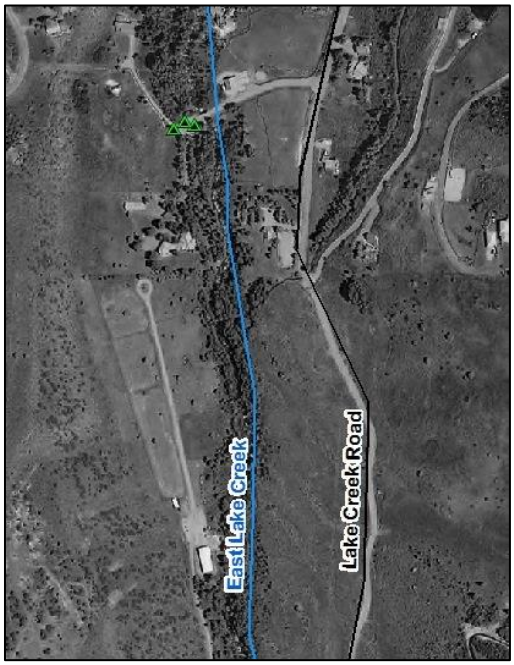

Figure 13: Lake Creek Road in relation to wells and East Lake Creek *Source: CRWA*

Roads: Maintenance and Accidents Best Management Practices:

1. LCMD will encourage Eagle County Road and Bridge to utilize best management practices (BMP's) to prevent road materials from entering the source waters.

2. LCMD will provide a copy of the Source Water Protection Plan, Emergency Response Notification Cards and maps along with GIS shapefiles of the protection areas to the Eagle County Office of Emergency Management and Road and Bridge Departments, the Edwards Police Department, and other major users of Lake Creek Road.

3. Educate the public on how to call the CDPHE Spill Line (877-518-5608) to report any spills or dumping within the SWPA.

5. Storage Tank

Above ground storage tanks (ASTs) are tanks or other containers that are above ground, partially buried, bunkered, or in a subterranean vault. These can include floating fuel systems. The majority of storage tanks contain petroleum products (e.g., motor fuels, petroleum solvents, heating oil, lubricants, and used oil). Storage tanks may be found in airports, school bus barns, hospitals, automotive repair shops, military bases, farms, and industrial plants. Discharges of chemicals, petroleum, or non-petroleum oils from storage tanks can contaminate source water. Product spilled, leaked, or lost from storage tanks may accumulate in soils or be carried away in storm runoff. Some of the causes for storage tank releases are holes from corrosion, failure of piping systems, and spills and overfills, as well as equipment failure and human operational error. (USEPA, 2001).

There is an above ground fuel storage tank on a property 0.7 miles upstream from LCMD wells and within 200 feet from East Lake Creek. Lake Creek Road runs between the Creek and where the storage tank is located. LCMD is concerned that the storage tank has no secondary containment and that any spill onto the ground might travel into the Creek and towards their wells.

Storage Tank Best Management Practices:

1. Contact owner of storage tank to see if they would be willing to utilize source water protection funding to install secondary containment around the storage tank.

2. Provide information to tank owners on how they can implement storage tank practices to prevent petroleum products from leaking onto the ground.

6. Septic Systems

A septic system is called an on-site wastewater system (OWTS) in Colorado. An OWTS consists of a septic tank that collects sewage from a home and a soil treatment area that receives the liquid effluent for final treatment by the soil.

Septic systems are the second most frequently cited source of groundwater contamination in our country. Unapproved, aging, and failing septic systems can have a large impact on the quality and safety of the water supply. Failure to pump solids that accumulate in the septic tank can clog sewer lines and cause raw sewage to back up into the home, to surface on the ground, or contaminate groundwater. Residential septic systems can contribute nutrients, bacteria, viruses and other pathogenic organisms, and chemicals to the groundwater, especially if not properly designed, located and maintained. If the septic tank overflows or the soil treatment area becomes saturated, runoff to surface waters can also result.

Current water testing methods and technology improvements now give scientists the ability to detect the smallest amounts of chemicals in our water supplies. As a result, new studies reveal the presence of pharmaceuticals, personal care products and other substances we use every day at home, at work and on the farm. These substances are commonly referred to as "emerging pathogens" or "emerging contaminants".

A study of 139 streams throughout the country detected 82 chemicals in 80 percent of the waterways tested in 1999-2000, according to the U.S. Geological Survey's (USGS) Toxic Substances Hydrology Program. The most common chemicals were steroids (anti-inflammatory drugs), antibiotics, non-prescription drugs, caffeine and insect repellant.

Water quality contaminants are flushed into the water supplies from a variety of sources. The most common are wastewater from sewage treatment plants, run-off from residential and agricultural land uses, especially large scale livestock facilities, and discharge from OWTS. Conventional sewage treatment systems are not designed to eliminate pharmaceutical or personal care product residues.

For example, antibiotics are common in the general population and are used on farms to prevent disease in livestock and poultry. It is not surprising to find antibiotics in wastewater from a local sewage treatment plant, from a septic tank or in water sources near a farm where livestock or poultry are regularly dosed (Water Systems Council).

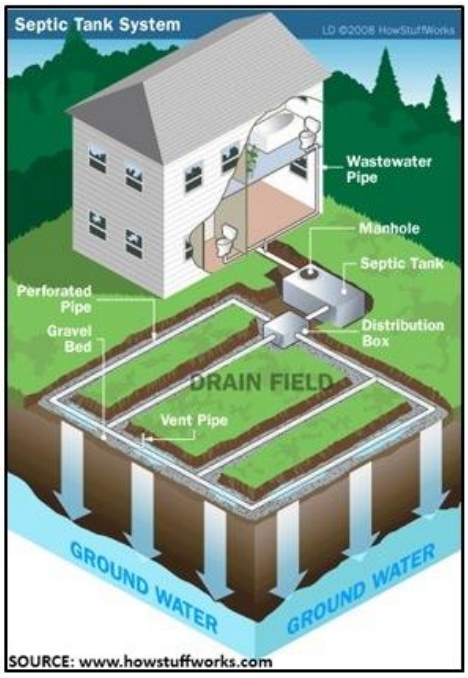

Figure 14: Schematic of Septic System Source: Ryan, 2006

In Eagle County, OWTS are permitted by the Environmental Health Department. The County administers and enforces the minimum standards, rules, and regulations outlined in the state of Colorado's Revised Statutes (CRS 25-10-101 et seq., the Water Quality Control Commission's Regulation 43 and the Eagle County Public Health Agency OWTS Regulations. As of June 27, 2014, all OWTS are required to be designed by Professional Engineers licensed in the state of Colorado to assure septic systems are constructed with the proper materials and meet minimum spacing requirements. Furthermore, businesses that install or maintain OWTS are required to obtain a license from Eagle County.

The number of septic systems installed before the County began keeping records (circa 1973) is unknown at this time. Therefore, the number of unapproved systems currently in use and the age of these septic systems in Eagle County are unknown.

There are currently 5 properties located within Zone 1 of the Source Water Protection area, one is currently vacant land while the other properties are used residentially and are served by OWTS. Two of these properties recently underwent redevelopment (lots 1 & 4) which due to their close proximity to Lake Creek, were required by Eagle County to install OWTS that incorporate a higher level of wastewater treatment than a gravity-fed conventional OWTS. Zone 2 includes about a dozen properties along Eagle Crest Road as well as a few large acre properties up East Lake Creek that are served by conventional gravity-fed OWTS. Zone 3 has even fewer residential properties on large parcels served by conventional OWTS.
Although OWTS can cause contaminants to enter groundwater, it is not believed that the septic systems located in the Source Water Protection area pose a significant risk to the water supply.

Septic System Best Management Practices:

1. LCMD will approach Eagle County to begin discussion on the process for the establishment of a Zoning Overlay that may require advanced wastewater treatment for new and replacement OWTS. Overlay zoning is a regulatory tool that creates a special zoning district, placed over an existing base zone(s), which identifies special provisions in addition to those in the underlying base zone.

2. The Steering Committee recommends LCMD contact Eagle County Environmental Health to request assistance in promoting proper septic system maintenance. Examples of assistance include providing educational materials and/or appearing at a Lake Creek Meadows HOA annual meeting to educate property owners on the link between good septic system maintenance practices and protecting source water.

3. LCMD will also incorporate OWTS educational materials into mailed water bills.

SOURCE WATER PROTECTION MEASURES

Best Management Practices

The Steering Committee reviewed and discussed several possible best management practices that could be implemented within the Source Water Protection Area to help reduce the potential risks of contamination to the community's source water. The Steering Committee established a "common sense" approach in identifying and selecting the most feasible source water management activities to implement locally. The focus was on selecting those protection measures that are most likely to work for the community. The best management practices were obtained from multiple sources including: Environmental Protection Agency, Colorado Department of Public Health and Environment, Natural Resources Conservation Service, and other source water protection plans.

The Steering Committee recommends the best management practices listed in Table 7, "Source Water Protection Best Management Practices" be considered for implementation by:

- LCMD
- Eagle County
- Zancanella and Associates

Evaluating Effectiveness of Best Management Practices

LCMD is committed to developing a tracking and reporting system to gauge the effectiveness of the various source water best management practices that have been implemented. The purpose of tracking and reporting the effectiveness of the source water best management practices is to update water system managers, consumers, and other interested entities on whether or not the intended outcomes of the various source water best management practices are being achieved, and if not, what adjustments to the Source Water Protection Plan will be taken in order to achieve the intended outcomes. It is further recommended that this Plan be reviewed at a frequency of once every 3 - 5 years or if circumstances change resulting in the development of new water sources and source water protection areas, or if new risks are identified.

LCMD is committed to a mutually beneficial partnership with the Colorado Department of Public Health and Environment in making future refinements to their source water assessment and to revise the Source Water Protection Plan accordingly based on any major refinements.

Table 7: Source Water Protection Best Management Practices

Issues	Best Management Practices	Implementers
Private Wells	1. Contact the above property owners to judge the integrity and location of their wells. 2. If necessary, properly seal and/or cap the wells.	Zancanella & Associates, Lake Creek MD
Landscaped Areas	1. Distribute educational outreach material to residents in the source water protection area highlighting the use of best management practices when applying fertilizer and herbicides to lawns and gardens. 2. Post outreach material on Lake Creek Meadows HOA website (lakecreekmeadows.com). 3. Include education and outreach material in consumer confidence reports.	Lake Creek MD
Security/Protection	1. Install protective barriers at Well #2. Approval from Eagle County will be obtained if placed on Eagle County right-of-way, as necessary. 2. Install one source water protection sign at the well house.	Zancanella & Associates, Lake Creek MD
Roads – Maintenance and Accidents	1. LCMD will encourage Eagle County Road and Bridge to utilize best management practices (BMP's) to prevent road materials from entering the source waters. 2. LCMD will provide a copy of the Source Water Protection Plan, Emergency Response Notification Cards and maps along with GIS shapefiles of the protection areas to the Eagle County Office of Emergency Management and Road and Bridge Departments, the Edwards Police Department, and other major users of Lake Creek Road. 3. Educate the public on how to call the CDPHE Spill Line (877-518-5608) to report any spills or dumping within the SWPA.	Lake Creek MD
Storage Tanks	1. Contact owner of storage tank to see if they would be willing to utilize source water protection funding to install secondary containment around the storage tank. 2. Provide information to tank owners on how they can implement storage tank practices to prevent petroleum products from leaking onto the ground.	Zancanella & Associates, Lake Creek MD
Septic Systems	1. LCMD will approach Eagle County to begin discussion on the process for the establishment of a Zoning Overlay that may require advanced wastewater treatment for new and replacement OWTS. Overlay zoning is a regulatory tool that creates a special zoning district, placed over an existing base zone(s), which identifies special provisions in addition to those in the underlying base zone. 2. The Steering Committee recommends LCMD contact Eagle County Environmental Health to request assistance in promoting proper septic system maintenance. Examples of assistance include providing educational materials and/or appearing at a Lake Creek Meadows HOA annual meeting to educate property owners on the link between good septic system maintenance practices and protecting source water. 3. LCMD will also incorporate OWTS educational materials into mailed water bills.	Lake Creek MD Lake Creek MD, Eagle County Environmental Health Lake Creek MD

TABLES AND FIGURES

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APPENDICES[4]

A. Contingency Plan

B. Source Water Assessment Report

C. Source Water Assessment Report Appendices

D. CRWA's SWAP Risk Assessment Matrix

E. Table A-1 Discrete Contaminant Types

F. Table A-2 Discrete Contaminant Types (SIC Related)

G. Table B-1 Dispersed Contaminant Types

H. Table C-1 Contaminants Associated with Common PSOC's

I. MOU Between CDPHE and U.S. Forest Service Rocky Mountain Region

H. Lake Creek Metropolitan District Consumer Confidence Reports

[4] All appendices are located on the CD version of this SWPP.