

**City of Carson City
Agenda Report**

Date Submitted: February 24, 2015

Agenda Date Requested: March 5, 2015

Time Requested: 10 min

To: Mayor and Supervisors

From: Public Works – Environmental Division

Subject Title: For Possible Action: Action to approve Resolution # _____ to adopt the Community Source Water Protection Plan for Public Water Systems in Carson City (December 2014).

Staff Summary: With assistance from Resource Concepts Inc., (RCI), and the State of Nevada personnel, staff will discuss the State of Nevada's Integrated Source Water Protection Program and the Community Source Water Protection Plan for Public Water Systems in Carson City. In October 2012, the Board directed staff to participate in the Integrated Source Water Protection Program and update Carson City's plan. The goal of this Program is to maintain a public, private, and community partnership dedicated to protecting public health and the environment by keeping drinking water sources free of contamination. Through grant money and direction provided by the Bureau of Water Pollution Control (BWPC) over the past two years, RCI provided guidance and assistance to staff and community representatives in completing the plan update. This update meets the current BWPC guidelines and reflects the present condition of drinking water resources in the Carson City area.

Type of Action Requested: (check one)

Resolution

Ordinance

Formal Action/Motion

Other (Specify)

Does This Action Require A Business Impact Statement: Yes No

Recommended Board Action: I move to approve Resolution # _____ to adopt the Community Source Water Protection Plan for Public Water Systems in Carson City (December 2014).

Explanation for Recommended Board Action: The Community Source Water Protection Plan for Public Water Systems in Carson City updates the 15 year old Carson City Wellhead Protection Plan to be consistent with the current BWPC guidelines and water system characteristics. Approving this Resolution will ensure endorsement of the Carson City plan by BWPC and eligibility for future grant funding.

Applicable Statute, Code, Rule or Policy: NA

Fiscal Impact: NA

Explanation of Impact: NA

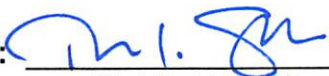
Funding Source: NA

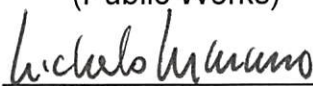
Alternatives: Provide other direction to staff.

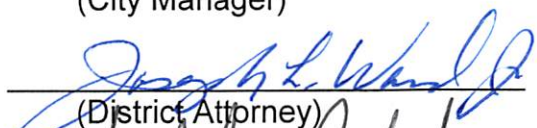
Supporting Material:

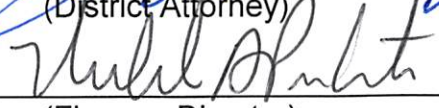
- Community Source Water Protection Plan for Public Water Systems in Carson City (December 2014). Pursuant to NRS 239C.090, Appendices A, C, and D were not provided because they include information about sensitive water system infrastructure and are considered restricted documents. These appendices are available for review at the Carson City Public Works office, in accordance with NRS 239C.220.
- Letter of support to participate in the Integrated Source Water Protection Program, dated October 18, 2012.

Prepared By: David Bruketta, Utility Manager

Reviewed By:  Date: 2/24/15
(Public Works)

 Date: 2/24/15
(City Manager)

 Date: 2/24/15
(District Attorney)

 Date: 2/24/15
(Finance Director)

Board Action Taken:

Motion: _____ 1) _____ Aye/Nay
2) _____

(Vote Recorded By)

RESOLUTION NO. 2015-R-_____

A RESOLUTION ADOPTING THE COMMUNITY SOURCE WATER PROTECTION PLAN FOR PUBLIC WATER SYSTEMS IN CARSON CITY

WHEREAS, on October 18, 2012 the Carson City Board of Supervisors approved the City's participation in the State of Nevada's Integrated Source Water Protection Program (ISWPP), a voluntary program undertaken to prevent pollution of community drinking water resources; and

WHEREAS, the resulting "Community Source Water Protection Plan for Public Water Systems in Carson City" (CSWP Plan) was prepared over a period of 2 years through research and work by the local planning team, primarily composed of representatives from the various public water systems within Carson City, and local and state government; and

WHEREAS, the CSWP Plan provides a framework for long-term protection of public drinking water sources, addresses CSWP Plan maintenance procedures, and describes source water protection strategies for the Carson City; and

WHEREAS, adoption of the CSWP Plan by the Board of Supervisors is a prerequisite for State of Nevada endorsement and grants to implement actions/projects recommended in the CSWP Plan; and

WHEREAS, the Board of Supervisors hereby finds that is in the best interest of Carson City to adopt the CSWP Plan to help guide activities to protect the City's drinking water sources.

NOW, THEREFORE, BE IT RESOLVED by the Board of Supervisors that:

1. The "Community Source Water Protection Plan for Public Water Systems in Carson City," dated December 2014, is hereby Adopted as an official plan of Carson City.
2. Staff is directed to pursue implementation of the action plans identified in the CSWP Plan
3. Future revisions and CSWP Plan maintenance required under the ISWPP are hereby adopted as part of this resolution for a period of five (5) years from the date of this resolution.

Upon motion by Supervisor _____, seconded by Supervisor _____, the foregoing Resolution was passed and adopted this 5th day of March, 2015 by the following vote.

VOTE: AYES:

NAYS:

ABSENT:

ABTAIN:

Robert L. Crowell, Mayor
Carson City, Nevada

ATTEST

Susan Merriwether, Clerk-Recorder
Carson City, Nevada

December 2014

Prepared by:
The CSWP
Local Planning Team
In Carson City

Carson City Public Works

Cottonwood Mobile
Home Park

Millhouse Inn Motel

State of Nevada, Stewart
Complex & Marlette–Hobart
Water System

Terrace Garden Apartments

Nevada Division of
Environmental Protection

Carson City Community
Development

Carson City Fire Department

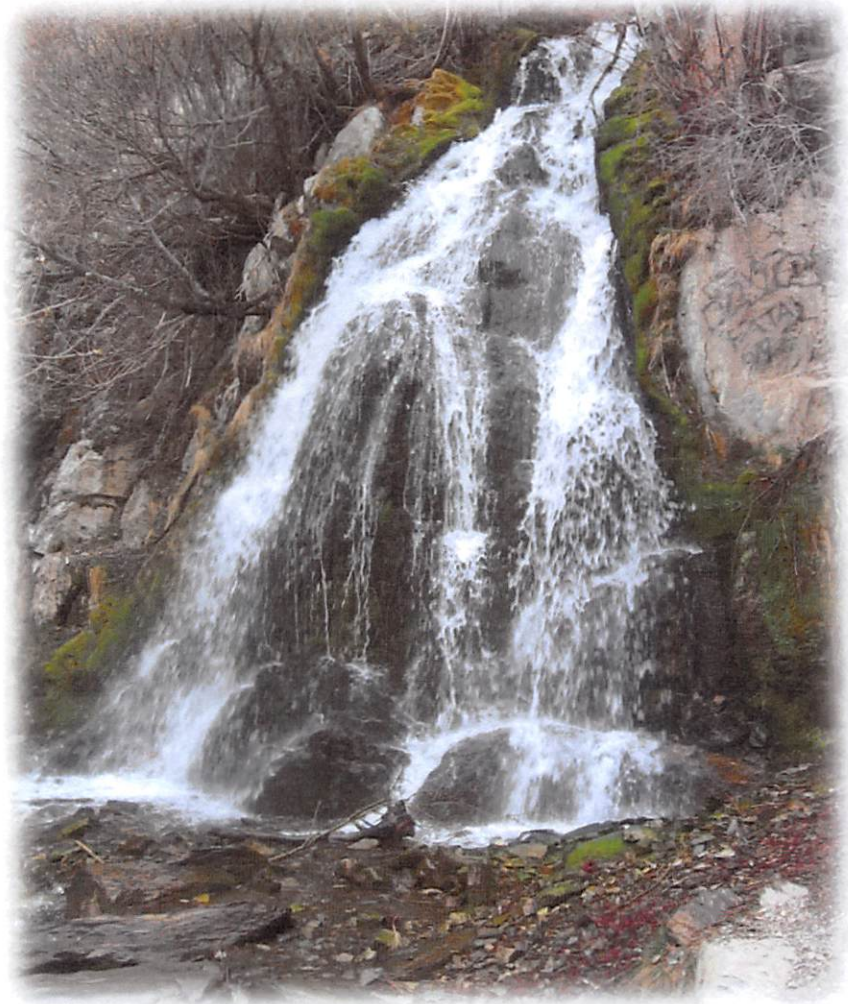
Carson City Parks &
Recreation Administration

Carson Water
Subconservancy District

Douglas County GIS
Resource Concepts, Inc.

Community Source Water Protection Plan

For Public Water Systems in Carson City, Nevada



Prepared by:

The Community Source Water Protection
Local Planning Team in Carson City, Nevada

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December 2014

Community Source Water Protection Plan

For Public Water Systems in Carson City, Nevada

Prepared by:

The Community Source Water Protection
Local Planning Team in Carson City

Carson City Public Works

Cottonwood Mobile Home Park

Millhouse Inn Motel

State of Nevada Stewart Complex & Marlette–Hobart Water System

Terrace Garden Apartments

Nevada Division of Environmental Protection

Carson City Community Development

Carson City Fire Department

Carson City Parks & Recreation Administration

Carson Water Subconservancy District

Douglas County GIS

Resource Concepts, Inc.

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Acknowledgements

The Carson City Community Source Water Protection Team wishes to acknowledge the technical assistance provided by Resource Concepts, Inc., the US Geological Survey, the Carson Water Subconservancy District, and funding and technical assistance from the Nevada Division of Environmental Protection. The team would like to recognize the following organizations that made development of this document possible. Contact Carson City Public Works for information about the Community Source Water Protection Plan in your area, or contact the Nevada Division of Environmental Protection for general information about Nevada's Integrated Source Water Protection Program.

Organizations	Phone Numbers	Contact Information
Public Water Systems		
Carson City Public Works	775-887-2355	dbruketta@carson.org
Cottonwood Mobile Home Park	775-882-6028	Albert & Mary Fischer, Proprietors
Millhouse Inn Motel	775-882-2715	Marie Etchemendy, Proprietor
State of Nevada, Stewart Complex & Marlette-Hobart Water System	775-687-1022	jerrywalker@admin.nv.gov
Terrace Garden Apartments	775-720-7357	skeetv@sbcglobal.net
Nevada Division of Environmental Protection		
Bureau of Water Pollution Control	775-687-9503	kborgzinner@ndep.nv.gov
Planning and Technical Resources		
Carson City Community Development	775-887-2180	lplemel@carson.org
Carson City Fire Department	775-887-2210	ttarulli@carson.org
Carson City Parks & Recreation Administration	775-887-2262	rmoellendorf@carson.org
Carson Water Subconservancy District	775-887-7456	edjames@cwsd.org
Douglas County GIS	775-782-9045	eschmidt@co.douglas.nv.us
Resource Concepts, Inc.	775-883-1600	jill@rci-nv.com lynn@rci-nv.com

List of Acronyms

BHPS	Bureau of Health Protection Services (State/presently Bureau of Safe Drinking Water, NDEP)
BLM	U.S. Bureau of Land Management (Federal)
BOR	U.S. Bureau of Reclamation (Federal)
BSDW	Bureau of Safe Drinking Water (State/NDEP)
BWPC	Bureau of Water Pollution Control (State/NDEP)
CSWP	Community Source Water Protection
CWSD	Carson Water Subconservancy District
DCNR	Department of Conservation and Natural Resources (State)
DHHS	Department of Health and Human Services (State)
EPA	U.S. Environmental Protection Agency (Federal)
FT	Feet
FT/D	Feet per day
FT ² /D	Feet Squared per Day
GIS	Geographic Information System
GPM	Gallons per Minute
GPS	Global Positioning System
HA(s)	Hydrographic Area(s)
ISWPP	Integrated Source Water Protection Program
MCL	Maximum Contaminant Level
NAC	Nevada Administrative Code
NAD	North American Datum
NDWIS	Nevada Drinking Water Information System
NDEP	Nevada Division of Environmental Protection (State)
NRS	Nevada Revised Statutes
NvRWA	Nevada Rural Water Association
PCS	Potential Contaminant Source
PWS	Public Water System
SWAP	Source Water Assessment Program
SWPA	Source Water Protection Area
Team	Local Planning Team
USDI	United States Department of the Interior
USGS	United States Geological Survey
WhEAM	Wellhead Analytical Element Model
WHPA	Wellhead Protection Area
WHP Plan	Wellhead Protection Plan

Executive Summary

The purpose of this Community Source Water Protection Plan for Public Water Systems in Carson City (CSWP Plan) is to document the public drinking water resources in Carson City and the measures that the public water suppliers intend to implement in order to protect those resources. This CSWP Plan is a tool to facilitate cooperation and education between water purveyors, local and State agencies, industry, community leaders, as well as citizens to aid in the protection and continued safety of public drinking water sources in Carson City.

In October 2012, the Carson City Board of Supervisors was provided with an overview of the State of Nevada's Integrated Source Water Protection Program (ISWPP). The ISWP Program is voluntary, and is focused on preventing the pollution of community drinking water sources, including ground water, lakes, rivers, springs, and streams. At that time, the Board of Supervisors requested participation in the ISWPP.

This CSWP Plan includes the public water systems managed by Carson City Public Works, the Cottonwood Mobile Home Park, the Millhouse Inn Motel, the Terrace Garden Apartments, and the State of Nevada Stewart Complex. This CSWP Plan provides a framework for the long-term protection of public drinking water supply sources. Maps of the specific areas are provided in Appendix A.

The Local Planning Team (Team) responsible for creating this document was composed of representatives from the various public water systems in Carson City and from local and state government. The Team met frequently over the course of a year to develop this plan. Summaries of the meetings, the agendas and meeting materials are provided in Appendix B.

The Team identified goals and objectives to protect drinking water to guide the CSWP Plan development as well as to implement this plan.

Goal 1: Update the existing Wellhead Protection Program(s) into a readily accessible Community Source Water Protection Plan (CSWP Plan).

Goal 1 Objectives:

- 1) Form a Local Planning Team.
- 2) Inventory current public water supply sources.
- 3) Update of Source Water Protection Area boundaries.
- 4) Prepare a Potential Contaminant Source inventory.
- 5) Develop source water protection management strategies and actions that are specific, measurable, achievable, reasonable, and timely.
- 6) Obtain CSWP Plan endorsement from Nevada Division of Environmental Protection.

Goal 2: Implement and maintain the Community Source Water Protection Plan.**Goal 2 Objectives:**

- 1) Establish a schedule and process to review and update the CSWP Plan.
- 2) Inform and educate city departments, industry, landowners and the public about their role in source water protection.
- 3) Manage and share information communitywide.
- 4) Use GIS and other digital tools to communicate and maintain the CSWP Plan.
- 5) Identify management strategies within 2-year and 10-year planning implementation windows.
- 6) Apply different strategies: countywide, within SWPAs, or to specific potential contaminant source concerns.
- 7) Develop a schedule to implement priority projects or actions.

Source water in Carson City consists of surface water, groundwater, and water delivered from outside of the City via water transmission interties. Surface water comes from two watershed areas on the west side of Carson City. Groundwater is pumped from 34 active public wells in the City. The regional water transmission interties are connected with Lyon County and with Douglas County.

Source Water Protection Areas (SWPAs) are composed of the land surrounding water supply sources where activities are managed to protect the water supply from becoming contaminated. These management area boundaries were developed by the Team based on the land uses and well “capture zones” described in the Capture Zone Delineation Summary Report provided in Appendix C. Mapping of the SWPAs is provided in Appendix A.

Potential sources of contaminants were identified through an inventory of the existing wellhead protection plans, initial meetings with water system operators, evaluation of the local hydrogeology, review of existing on-line databases, and review of the ISWP Program guidance. Potential contaminant sources (PCSs) that occur in Carson City include high nitrates from septic systems and hazardous or poisonous materials from commercial, industrial and manufacturing areas, homes and agriculture. Summary tables of the inventory are included in Appendix D.

Source water protection strategies and actions were developed in order to prevent contaminants from being released in the SWPAs. Prevention avoids costly and/or irreversible damage to the water sources. The source water protection strategies detailed in Section 3.4 include developing public education programs, waste disposal programs, development standards, interagency coordination, monitoring and some new infrastructure projects. The Team developed an Action Plan, provided in Appendix E that lists specific actions to be implemented as funding, staff and time allow. Details regarding public education and outreach are provided in Appendix F.

This CSWP Plan should be revisited on a regular basis to ensure its continued success. The public water providers may identify new sources of contamination or experience an event that changes the characteristics of the water supply. Regular updates will ensure that the CSWP Plan incorporates significant or future changes.

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APPENDICES (Separate pdf files)

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- Appendix B Meeting & Public Participation Documentation
- Appendix C Capture Zone Delineation Summary Report/Report & Maps
(Separate pdf file)
- Appendix D Potential Contaminant Source Summary
(Separate pdf file)
- Appendix E Action Plans
- Appendix F Public Education and Outreach Information & Materials
- Appendix G Contingency Plans

1.0 INTRODUCTION

1.1 Overview

Community Source Water Protection involves voluntary actions to prevent the pollution of community drinking water sources, including groundwater, lakes, rivers, springs and streams. It includes developing and implementing a Community Source Water Protection Plan (CSWP Plan) to manage land uses and “man-made” sources of contamination in the vicinity of public water supplies. Local plans are long-term commitments by the communities to protect their drinking water (NDEP, 2010).

Source Water Protection Areas (SWPA) are comprised of the land surrounding a water supply source where activities should be managed to protect the water quality. Defined SWPAs are tools that allow communities to plan for and respond to situations before contamination occurs. The SWPAs in Carson City are described later in this document and in the technical appendices.

1.2 Background

Development of and content in the CSWP Plan is based on the guidance document entitled Nevada Integrated Source Water Protection Program (ISWPP), which was prepared by the Nevada Division of Environmental Protection (NDEP) in February 2010 as an update to the State Wellhead Protection Program developed in 1994. The guidance document sets the framework for local plan development and outlines the criteria required for a CSWP Plan to receive State endorsement. With a State-endorsed plan, the local community may be eligible to receive additional technical assistance from NDEP to continue implementing the management strategies outlined in the CSWP Plan. This CSWP Plan has been prepared with the intention of achieving NDEP endorsement.

There are five active Public Water Systems (PWSs) considered in the CSWP Plan that are classified as follows:

The Carson City municipal system, the Terrace Garden Apartments, and the Cottonwood Mobile Home Park are “Community water systems”; public water systems that have at least 15 service connections used by year-round residents of the area served by the system or regularly serves at least 25 year-round residents of the area served by the system (NRS 445A.808). The largest is the Carson City municipal water system, operated by Carson City Public Works, and serving the majority of the population in the area.

The Stewart Complex is a “Non-transient non-community water system”; a public water system that is not a community water system, but regularly serves at least 25 of the same persons for more than 6 months per year (NRS 445A.829).

The Mill House Inn Motel is a “Non-community water system”; a public water system that is not a community water system (NRS 445A.828), but has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year.

The CSWP Plan has a broad, community-wide perspective, building upon the results of previous wellhead protection plans (WHP Plans). Carson City and the Cottonwood Mobile Home Park each have a prior approved WHP Plan, which were used in developing the management strategies and updating the SWPA boundaries for this document.

1.3 Plan Purpose

The purpose of this CSWP Plan is to document the public drinking water resources in Carson City and the measures that the community intends to implement to protect those resources. The CSWP Plan is a tool to facilitate cooperation between water purveyors, local and State agencies, industry, community leaders, and citizens to aid in the management and continued safety of the public water resources in Carson City, Nevada.

1.4 Description of Planning Area and Source Water

1.4.1 Location and Setting

Carson City is located in west central Nevada and is the smallest of the state's 17 counties. Carson City totals 156 square miles of land and 12 square miles of water (Lake Tahoe). Carson City is bordered on the north by Washoe, Storey, and Lyon counties, to the west by Lyon County, on the south by Douglas County, and to the east by the State of California (Figure 1, page 3).

Prior to 1969, Carson City was the county seat of Ormsby County. In 1969, the county was abolished and Carson City and a few small surrounding settlements within the former county were merged into a newly formed independent city, officially called Carson City Consolidated Municipality.

1.4.2 Source Water in Carson City

The five public water systems in Carson City are operated by Carson City Public Works, Cottonwood Mobile Home Park (Cottonwood MHP), Terrace Garden Apartments, Mill House Inn Motel (Mill House Inn) and the State of Nevada. Carson City utilizes both surface water and groundwater, while the other water systems use groundwater only.

Surface Water

The Carson City municipal system obtains roughly 30 percent of its water supply annually from surface water supplied by: springs and creek intakes in Kings Canyon and Ash Canyon (operated by Carson City Public Works); and the Marlette–Hobart distribution system (operated by the State of Nevada). These surface waters originate within the areas designated Watershed 1 and Watershed 2, respectively, in Figure 2, page 4. Surface water is collected and then treated at the Quill Surface Water Treatment Plant prior to distribution.

Carson City also has an active groundwater recharge program. When excess surface water is available, the City can utilize infiltration basins located in the Vicee Canyon area, as well as three production wells, to recharge the aquifer and store the water as groundwater.

Figure 1. Location Map

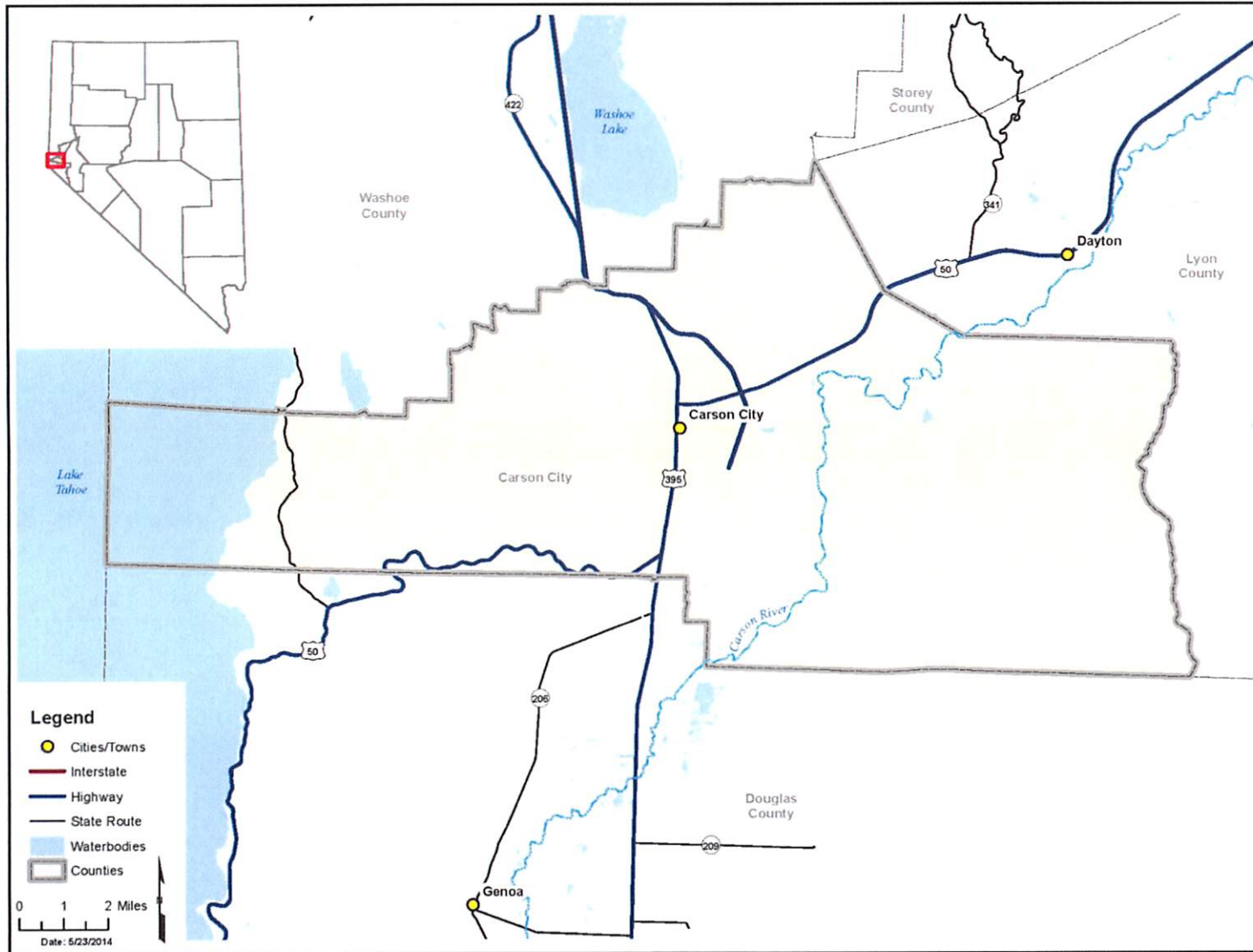
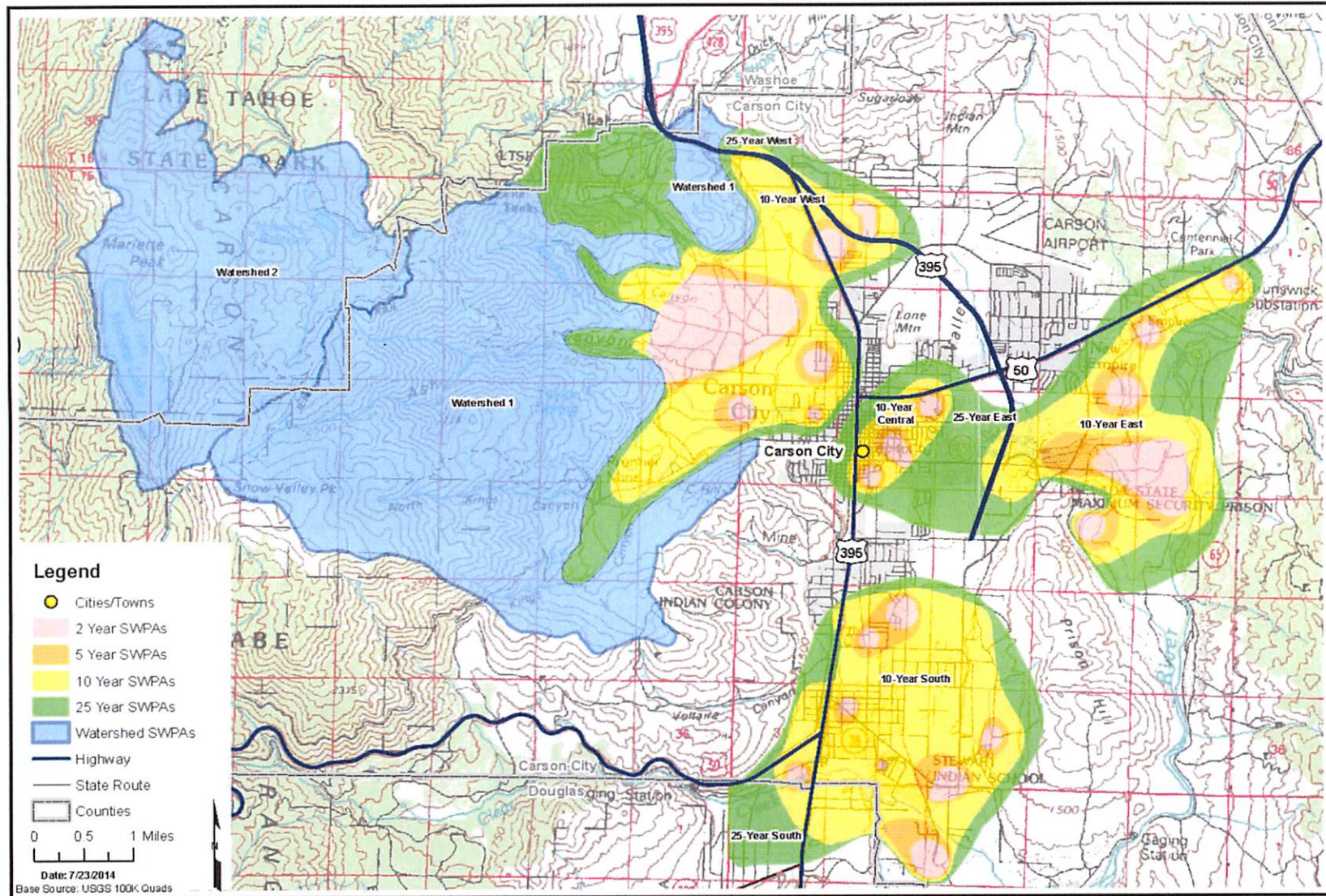


Figure 2. Source Water Protection Areas



Groundwater

Groundwater from Eagle Valley is a source of drinking water for all five of the public water systems in Carson City. The active wells are listed in Table 1-1. Wells are distributed throughout the Carson City area as represented by the 25-Year SWPA boundary shown in Figure 2, page 4. The four smaller PWSs within Carson City use 100% groundwater. They include the Cottonwood Mobile Home Park (three existing and two future wells), the Millhouse Inn Motel (one well), the Terrace Garden Apartments (one well), and the State of Nevada Stewart Complex (one well). The Carson City municipal system utilizes 28 active wells.

Table 1-1. Water Systems and Sources Considered in this Plan

Water System Name and Primary Contact ^{1/}	Water Sources		
	Groundwater (Active Wells)		Surface Water
NV0000015 Carson City Public Works <i>Public Works Director or Designee</i>	Well 3, Winnie Ln. Well 5, Bath, St. Well 6, Foothill Well 7, N. Carson St. Well 8, Silver Sage Well 9, Snyder Well 10B, College Pkwy Well 11A, Second St. Well 16B, Lakeview Well 24B, E. 5 th St. Well 25B E. 5 th St. Well 33, Brunswick Well 34, Mills Park Well 38B, S. Edmonds Well 40, Morgan Mill	Well 41B Well 43, Bennet St. Well 44, Empire Ranch Rd. Well 45, Sonoma St. Well 46, Silver Oak Well 47, Hidden Meadows Well 48, Thames Ln. Well 49, Stewart St. Well 50, Bigelow, S. Carson Well 51, Foothill Well 53, Sunset Well 54, Fuji Well 55, WNCC Regional Water Interties with Lyon and Douglas Counties	Ash Canyon Creek North Kings Canyon Creek Springs in Kings Canyon Marlette–Hobart System
NV0000017 Cottonwood Mobile Home Park <i>Proprietor</i>	Cottonwood MHP, North Well Cottonwood MHP, Middle Well Cottonwood MHP, South Well		Cottonwood MHP, Well 1 Future Cottonwood MHP, Well 2 Future
NV0000028 Terrace Garden Apartments <i>Proprietor</i>	Terrace Garden Well 1		
NV00002006 Mill House Inn Motel <i>Proprietor</i>	Millhouse Inn Motel Well 1		
NV00004084 Stewart Complex State of Nevada <i>Water Systems Manager</i>	Stewart Complex Well 6		

^{1/} The water system numbers are from the Bureau of Safe Drinking Water (NDWIS, June 2014).

Table 1-2 lists the inactive wells that are part of the Carson City municipal water system. These inactive wells are abandoned or scheduled to be abandoned by the public water system and are not intended to be potable water sources in the foreseeable future. There are also several inactive water systems listed in the NDWIS database for the Carson City area. These facilities were previously served by an on-site well, but are now connected to Carson City's municipal system. Inactive wells and inactive water systems have not been further evaluated in this document.

Table 1-2. Inactive Wells

Water System Name and Primary Contact	Inactive Well Name
NV0000015 Carson City Public Works <i>Public Works Director or Designee</i>	Well 4B Elaine St Well 10A College Ave. Well 12 Lakeview Well 16 Monitoring Well 24A E. 5 th Street Well 41A E. 5 th Street

Water Transmission Interties

The Carson City municipal system also has regional water interties with Douglas County and Lyon County. Within the past three to four years the Town of Minden, Indian Hills GID, Carson City, and Douglas County have constructed regional water infrastructure to produce, store, pump and move water from the Minden area through Douglas County and into Carson City. Carson City and Lyon County also have worked cooperatively to interconnect their municipal water systems to accommodate planned growth as well as to meet peak demands. Both Douglas County and Lyon County have recently adopted CSWP Plans to help protect their water resources.

1.4.3 Public Water System Descriptions

Carson City Public Works

Carson City Public Works Water Division oversees municipal water production, distribution and metering for approximately 56,066 persons (Carson City Consumer Confidence Report, 2013). Carson City manages both groundwater and surface water resources (Table 1-1, page 5). Carson City uses groundwater supplied from a combination of the City's 28 wells and the regional interties with Douglas and Lyon Counties. The City also obtains roughly 30 percent of its municipal water from surface water sources: Ash Canyon Creek, North Kings Canyon Creek, the Marlette–Hobart system, and several springs in Kings Canyon.

The customer water demand in the winter is approximately 128 million gallons per month. During the winter, the system operates mostly with water supplied from the Quill Surface Water Treatment Plant and one or two wells. During peak use in the summer the water demand is over 550 million gallons per month. This rise in water demand, as well as the slowing of the runoff from the mountains, increases groundwater use from the City wells and the regional interties during the summertime.

Cottonwood Mobile Home Park

The Cottonwood Mobile Home Park is located in the northwest part of Carson City. The water system serves approximately 92 connections and 200 people. The system has a capacity of approximately 160 gpm from three wells. Wells 1 and 2 are equipped with a 1,000-gallon pressure tank and Well 3 is equipped with a 500-gallon pressure tank (Aquifer Science Inc., 2001). There is no treatment equipment within the system. Cottonwood Mobile Home Park is approximately 100 feet away from a Carson City water distribution line.

Mill House Inn Motel

The Millhouse Inn Motel is located at 3251 South Carson Street in south Carson City. There is one well at the facility serves the motel. Surrounding development is served by the Carson City municipal system.

Terrace Garden Apartments

The Terrace Garden Apartments are located at 1111 E. Fifth Street in City. The one well at the facility serves the apartment complex. Surrounding development is served by the Carson City municipal system.

State of Nevada

The State of Nevada operates its own well for the Stewart Complex PWS. The well serves houses and facilities for training and administration in the area formerly known as the Stewart Indian School. The State of Nevada also manages the Marlette–Hobart supply system that delivers water from Marlette Lake to the Carson City municipal system at the Quill Surface Water Treatment Plant.

1.5 Existing Plans and Studies

There are several existing investigations that are relevant to and or used in the development of this CSWP Plan. Documents that were critical to the process are described in the following sections and tables.

1.5.1 Existing Wellhead Protection Plans

Carson City and Cottonwood MHP maintained existing wellhead protection plans (WHP Plans) plans. The existing WHP Plans are the foundation of this CSWP Plan. Pertinent information in these plans was extracted and updated for inclusion in this CSWP Plan. Table 1-3 summarizes the WHP Plans used in development of this CSWP Plan (Table 1-3).

Table 1-3. Existing Well Head Protection Plans Used in this CSWP Plan

Entity	Date	Prepared by
Carson City	December 1999	Waterresource Consulting Engineers, Inc. Reno, NV
Cottonwood Mobile Home Park	April 2001	Aquifer Science Inc., Salt Lake City, UT

1.5.2 The Vulnerability Assessment and Source Water Assessment Programs

The Vulnerability Assessment Program and Source Water Assessment Program are both programs administered by the State of Nevada Bureau of Safe Drinking Water (BSDW). These two programs are summarized below and additional information is available at <http://ndep.nv.gov/bsdw/>.

The Vulnerability Assessment Program investigates and assesses the vulnerability to contamination of public water system sources. Pertinent information from the completed Vulnerability Assessments has been used for the development of this report. Information includes well ownership, location, name, diameter, depth, and pumping rates.

The Source Water Assessment Program is required by the federal Safe Drinking Water Act (SDWA) Amendments of 1996 to analyze existing and potential threats to the quality of the public drinking water throughout the state. This program contains all of the following components:

1. The areas that are sources of public drinking water are delineated,
2. Potential contaminant sources within the delineated area are identified,
3. The water systems' susceptibility to contamination is assessed, and
4. The public is informed of the results.

Where applicable, the well information gathered through these programs has been used to update PWS evaluations. The well risk rating has also been used in assessing potential contaminant sources in the CSWP Plan development.

1.5.3 Other Studies

There are a number of studies regarding groundwater hydrology that were used in the development of the capture zone models. All studies are referenced at the end of this document. The following studies were the primary information sources to characterize groundwater movement and aquifer parameters:

- US Geological Survey (USGS) Reports: The regional report for the Carson River basin prepared by the USGS was key in the selection of groundwater parameters such as transmissivity values, flow direction, and gradient.
- The Nevada Division of Water Resources Bulletins provided useful geohydrology information for the modeling effort.

2.0 TEAM FORMATION & PROGRAM GOALS

2.1 *Team Formation Summary*

2.1.1 Initial Stakeholder and PWS Owner Outreach

In August 2012, the NDEP sent letters of introduction to all involved well owners listed in Table 1-1 regarding the role of RCI in the ISWPP in Carson City. RCI called well owners in the fall of 2012 to introduce them to the project, request pertinent well information, and solicit participation in the Local Planning Team.

In October 2012, the ISWPP staff presented the plan development process and assistance opportunity to the Carson City Board of Supervisors. As a result Carson City, requested participation in the program and committed staff to provide support during development of the CSWP Plan.

In August 2013, public water purveyors in Carson City were contacted on the phone and invited to join the Local Planning Team effort in developing the CSWP Plan. The Carson City Public Works and State Buildings and Grounds staff participated regularly in the meetings. The Cottonwood Mobile Home Park also provided comments on the CSWP Plan.

2.1.2 Meetings and Workshops

RCI met with the Local Planning Team to introduce them to the program, garner information, and get preliminary input for management strategies. Meeting agendas and summaries are provided in Appendix B. Invitations to all public water well owners were provided either via e-mail, regular mail or phone call prior to meetings. Agendas and meeting materials were typically provided at least one week in advance of the meetings.

RCI developed a web page (www.rci-nv.com/source_water_protection) containing all pertinent project information including team members, meeting minutes, working documents, and maps. In addition, all digital mapping information was made available to team members through an online interactive GIS mapping tool referred to as the Carson City CSWP Flex Viewer

2.2 *Local Planning Team Members and Roles*

The CSWP Plan team was formed following phone calls and letters to each of the perspective source water managers, planners, emergency responders, and school representatives. The team members listed in Table 2-1 were involved in the plan preparation.

Table 2-1. Local Planning Team Members and Roles

Team Member	Contact Information	Planning Effort Responsibilities
Carson Water Subconservancy District <i>General Manager</i>	775-887-7456	Coordination and context with other Carson River watershed communities.
Carson City Public Works <i>Water Operations Manager</i> <i>Utility Director</i> <i>Environmental Control Supervisor</i> <i>Chief Stormwater Engineer</i>	775-887-2355	Provided details for operations, goals, and management strategy development.
Carson City Fire Department <i>Assistant Fire Chief</i> <i>Fire Chief</i>	775-887-2210	Coordination with emergency response procedures and personnel training.
Carson City Parks & Open Space Department <i>Open Space Manager</i>	775-887-2262	Coordination for watershed protection.
Carson City Planning Department <i>Director</i>	775-887-2180	Planning coordination and management strategy development.
Cottonwood Mobile Home Park <i>Proprietor</i>	775-883-8823	Privately owned PWS protection input
Douglas County GIS <i>GIS Supervisor</i>	775-782-9045	GIS CSWP Flex Viewer development.
Marlette-Hobart Water System State of Nevada <i>Water Systems Manager</i>	775-687-1022	Coordination and details regarding the Marlette-Hobart Water System and Stewart Complex well.
Nevada Division of Environmental Protection, Bureau of Water Pollution Control, ISWPP <i>Program Coordinator</i>	775-687-9503	Plan development guidance.
Resource Concepts, Inc. <i>Technical staff</i>	775-883-1600	Plan coordination and technical assistance.

2.3 Source Water Protection Goals

The Team identified goals to protect drinking water. These goals were developed during a series of meetings and build on the goals in the existing WHP Plans. The following plan goals were used to guide the development of this CSWP Plan as well as implementation of this plan. The objectives to achieve these goals are the management strategies and action plan discussed in Section 3.4.

Goal 1:

Update the existing Wellhead Protection Program(s) into a readily accessible Community Source Water Protection Plan (CSWP Plan).

Goal 1 Objectives:

- 1) Form a Local Planning Team.
- 2) Inventory current public water supply sources.
- 3) Update of Source Water Protection Area boundaries.
- 4) Prepare a Potential Contaminant Source inventory.
- 5) Develop source water protection management strategies and actions that are specific, measurable, achievable, reasonable, and timely.
- 6) Obtain CSWP Plan endorsement from NDEP.

Goal 2:

Implement and maintain the Community Source Water Protection Plan.

Goal 2 Objectives:

- 1) Establish a schedule and process to review and update the CSWP Plan.
- 2) Inform and educate city departments, industry, landowners and the public about their role in source water protection.
- 3) Manage and share information communitywide.
- 4) Use GIS and other digital tools to communicate and maintain the CSWP Plan.
- 5) Identify management strategies within 2-year and 10-year planning implementation windows.
- 6) Apply different strategies: countywide, within SWPAs, or to specific potential contaminant source concerns.
- 7) Develop a schedule to implement priority projects or actions.

3.0 PLAN DEVELOPMENT

3.1 *Source Inventory and Planning*

3.1.1 Plan Area Setting

Public water systems in Carson City are located in four groundwater basins: Carson Valley, Eagle Valley, Dayton Valley, and Washoe Valley within the Carson City area. The east side of the Carson Range is a source of groundwater recharge for the wells on the west side of Carson City (Figure 2, page 4). Drinking water is also supplied directly by surface water from Ash Canyon Creek, Kings Canyon Creek, and the Marlette–Hobart water systems. The Carson River provides a major source of groundwater recharge on the east side of Carson City. Geologic and hydrologic details for each well are provided in the Well Capture Zone Delineation Report provided as Appendix C.

3.1.2 Historical, Current and Projected Future Source Water Conditions

Groundwater conditions near public supply wells Carson City currently appear relatively stable although water levels in the northwestern part of Eagle Valley have dropped as much as 70 feet since 1964. The decline is likely the result of municipal pumping on the western side of the valley. The wells to the east near the Carson River are recharged by the river and water levels have remained stable.

Use of eight Carson City's wells are impacted by uranium levels exceeding the drinking water standards and seven are impacted by arsenic levels over the standard. Carson City completed an arsenic treatment facility several years ago, but this could not resolve the long term issues of uranium levels and increasing for future water demand.

Recently a large diameter (18-36") transmission main was completed that supplies Carson City with water from the Carson Valley as a part of a regional water system. With this project, it is anticipated that Carson City's future water supplies are secure. In addition, Carson City and Lyon County each have a transmission main to a shared water tank. Water is shared between the two entities based on the time of year, demand and water availability.

Ash Canyon Creek and North Kings Canyon Creek are important surface water sources and provide roughly 90 percent of the municipal water in Carson City during the winter months. The water quality is excellent. However, since the 2004 waterfall fire which burned the majority of the watershed, sediment has limited the City's use of these streams because the treatment facility is not designed to handle large amounts of sediment.

The Marlette–Hobart Water Supply System is operated by the State of Nevada. The historical system of impoundments was originally developed in the 1870's to transmit water to the Comstock region of Nevada. Today the system also serves Carson City. The system includes Marlette Lake, Hobart Reservoir, and a system of pipelines and tanks. The Marlette–Hobart Water Supply System was recently upgraded (in 2009) with an improved pump and transmission system.

3.1.3 Current measures for protecting groundwater from contaminant sources

Public well purveyors in Carson City have implemented a number of measures to protect groundwater from contaminant sources using the existing wellhead protection plans. The various actions of each entity to protect groundwater are summarized in the following tables.

Table 3-1. Actions Implemented by Carson City to Protect Source Water

Physical Actions	<ul style="list-style-type: none"> > Wellhead protection signage > Maintenance activities > Water transmission pipeline
Education and Outreach	<ul style="list-style-type: none"> > School and adult workshops > Public Information brochures > Video presentations
Coordination, Ordinances and Other Plans	<ul style="list-style-type: none"> > Pre-Treatment program > Commercial septic tank program > Domestic septic tank program > Industrial waste Disposal Program > Solid waste management program > Household Hazardous Waste program > Underground storage tank program > Shallow groundwater monitoring > Spills and Complaints response > Ordinances

Table 3-2. Actions Implemented by Cottonwood Mobile Home Park to Protect Source Water

Physical Actions	<ul style="list-style-type: none"> > Wellhead protection signage > Maintenance activities
Education and Outreach	<ul style="list-style-type: none"> > Public Information brochures

3.2 Source Water Protection Areas and Delineation

3.2.1 Source Water Protection Area Development Considerations

Source Water Protection Areas (SWPAs) in Carson City were developed for both groundwater and surface water resources through a step-wise process that involved GIS mapping, team discussions, and management considerations. SWPAs for groundwater resources delineate the land surrounding a well where activities should be managed to protect the public water supply. SWPAs for surface water resources include the watersheds contributing to those surface waters.

The first step in defining the groundwater SWPAs involved mapping the existing 10 and 25-year Wellhead Protection Areas from previous plans, then overlaying the maps with geology and topography mapping. The well capture zones were calculated using a hydrologic model, which predicts

conservative travel times for groundwater to local wells influenced by pumping. The capture zones were developed for a 2, 5, 10, and 25-year time of travel for each well using an EPA model and approved methods. In-depth descriptions of the data used and the modeling process are provided in the Capture Zone Delineation Summary Report provided in Appendix C.

Surface water SWPAs were established along boundaries of watersheds that supply surface water directly to the Carson City public water system and in areas that provide significant recharge to the Eagle Valley aquifers. These SWPAs were presented and vetted at Team meetings and are illustrated by Figure 2, page 4.

Table 3-3 below summarizes the steps used by the Local Planning Team in delineating the SWPA boundaries. Maps of the SWPAs are illustrated by Figure 2, page 4, and are also provided in the Appendix A.

Table 3-3. SWPA Delineation Steps

Step	Details
Step 1: Gather Data	Map available data: <ul style="list-style-type: none"> > Wellhead locations. > Existing 10 and 25 Year Wellhead Protection Area boundaries. > Map local geology, faults, and topography. > Update well operating characteristics.
Step 2: Delineate Protection Areas By Groundwater Time of Travel	<ul style="list-style-type: none"> > Calculate 2, 5, 10, and 25-year well capture zones for active wells and potential future wells. > Compare capture zone results to existing SWPA boundaries. > Update boundaries to reflect calculated capture zones where operations have changed. > Combine overlapping boundaries as needed to establish management areas.
Step 3: Delineate Protection Areas By Hydrogeology	<ul style="list-style-type: none"> > For west side wells, review faults and geologic characteristics. > Delineate 2 and 5-year capture zones for west side wells based on local hydrogeology and topography.
Step 4: Delineate Protection Areas By Watershed	<ul style="list-style-type: none"> > Follow up on Local Team concerns for protecting surface water sources of drinking water. > Considered groundwater recharge areas for Carson City. > Delineated watershed/recharge areas critical to Carson City’s public water supply system using hydrographic boundaries.
Step 5: Map Preparation	<ul style="list-style-type: none"> > The delineated SWPA boundaries were reviewed by the Local Planning Team. > The maps are made available through the Flex Viewer site as well as via PDF copies available on the web.

3.2.2 SWPA Extent and Characteristics

The Local Planning Team delineated SWPAs that include all of the active and planned PWS wells in Carson City, the surface water resources and the recharge areas (Figure 2, page 4). The wells are captured within three large 25-year SWPAs. Key surface water and groundwater recharge areas are captured within two large water watershed areas.

There are four different SWPAs that represent different planning timeframes for the City. The 25-year SWPAs represent long-term planning areas for Carson City whereas the 2-year SWPAs are more immediate management areas. The 5 and 10 year SWPAs are intermediate planning areas allowing for time to identify and respond to new sources or clean up actions if a contamination event occurs. The 10-year SWPA also corresponds with the cycle identified by Carson City for updates to the CSWP Plan as well as other City planning documents. Private land or land owned by Carson City comprises the majority of the 10-year SWPA acreage.

The two watershed areas are indicated in Figure 2, page 4, as Watershed 1 and Watershed 2. Watershed 1 encompasses the North Kings Canyon and Ash Canyon surface water resources and the important recharge areas on the west side of Carson City. The majority of Watershed 1 (69%) is within land managed by the U.S. Forest Service. Watershed 2 encompasses the area that contributes to the Marlette–Hobart water system. Over 90 percent of Watershed 2 is within the Lake Tahoe Nevada State Park and 88 percent of the watershed is also within Washoe County.

3.3 Potential Contaminant Source Inventory

3.3.1 Summary

A potential contaminant source (PCS) inventory was performed to identify potential hazards to the quality of the public drinking water supply. PCSs in the SWPAs were identified through an inventory of the existing wellhead protection plans, meetings with water system operators, evaluation of the local hydrogeology, review of existing on-line databases, and review of the ISWPP guidance. The PCS results assisted the Team in designing management tools to prevent future contamination. Appendix D provides detailed information about the methodology used to develop and evaluate the PCS inventory, based on PCS information current during the development of this CSWP Plan.

3.3.2 PCS Inventory

The Team conducted an inventory of the PCSs in and near the source water protection areas. The inventory was initiated first through discussions amongst Team members and utility operators to identify primary concerns. Other PCSs were identified and mapped using data from existing regulatory databases, previous surveys and prior endorsed plans. Finally, the 2-year and portions of the 10-year source water protection areas were reviewed by driving reconnaissance to observe the known and possible PCSs.

The existing databases that were mapped and provided to the Team for review of PCSs using the Flex Viewer tool including:

- Existing Wellhead Protection Area boundaries (10 and 25-year).
- Proposed SWPA boundaries (2, 5, 10 and 25 year areas; and watershed areas)

- Nevada Division of Environmental Protection interactive map resources available for facilities regulated by the Bureau of Corrections, Regulation and Reclamation, Water Pollution Control, and Waste Management.
- Nevada Division of Environmental Protection aboveground and underground storage tank databases.
- Nevada Department of Motor Vehicles (DMV) Licensed Businesses including: repair shops, registered garages and wreckers.
- US Environmental Protection Agency regulatory databases available through the Geospatial Data Access Project.
- Carson City Assessor parcel record information locations of individual septic system and private wells.
- Carson City Pretreatment Program facility inventory.
- Carson City Public Works databases of sanitary sewer lift stations and stormwater basins.
- Nevada Employer Directory Database provided sorted by North American Industry Classification System (NAICS) Code.
- Available mapping of geology, floodplain, land use, zoning, and aerial photography.

3.3.3 Potential Contaminant Source Evaluation

The Team identified three broad categories of PCSs in Carson City. Each of these PCS categories require different considerations for control, management, and monitoring; therefore it is helpful to consider them in the following groups:

1. Facilities that store and handle hazardous materials, nutrients, or chemicals. Discharge to the environment from these facilities is not anticipated, but could potentially occur in accidental or catastrophic situations. These types of sources throughout Carson City include industrial facilities, commercial facilities, and residential activities.
2. Facilities or activities that by their nature or by design distribute materials to the environment. These types of sources in the SWPAs include residential and commercial septic systems, wastewater treatment systems, irrigation systems, stormwater systems, weed and pest control activities, firefighting chemicals, and unused or "orphaned" well casings.
3. Facilities or activities that convey polluting materials from one point to another. Discharge to the environment from these facilities occurs over time through leakage, spills or in accidental or catastrophic situations. These types of sources in the SWPAs include pipelines and pump stations, local roads and highways.

Planning windows identified by the Team were then used to select the corresponding SWPAs for evaluation of the PCSs in Carson City. The evaluation focused on the following areas:

- 2-Year SWPAs that represent the highest risk from spills, leaks, or other short term releases, because of the short travel time to the well.
- 10-Year SWPAs that require comprehensive management and planning activities to address potential contaminants; and the window is also consistent with the State ISWP program for revisiting source water protection issues in each county on a 10-year rotating basis.

- 25-Year SWPAs in order to review and manage long-term continuous releases from septic systems.
- Watershed SWPAs introduced to the CSWP Plan to protect surface waters that directly supply Carson City's municipal system and are significant sources of recharge to Eagle Valley aquifers.

Summary tables and the key characteristics of each SWPA, including potential sources, are presented in Appendix D.

3.3.4 Potential Contaminant Sources

The PCSs vary considerably across Carson City (Appendix D). The PCSs for each SWPA are summarized in the following paragraphs by 10-year SWPA, 2-year SWPA, and "Watershed" SWPA.

10-Year SWPA Summary

The 10-Year East SWPA lies mostly within the Riverview Subbasin and is bordered by the Carson River to the east. It combines capture zones for seven municipal wells and includes roughly 2000 acres. It has some newer residential developments, irrigated golf course and agriculture areas, and concentrated commercial/industrial development along East Hwy 50. It has the greatest number of PCSs classed as industrial, automotive, and construction. About 45% of the total 10-Year East SWPA is designated as FEMA mapped 100-Year floodplain.

The 10-Year Central SWPA generally has commercial and public facilities, as well as some older residential areas, encompassing the neighborhoods from Mills Park to the north side of the Carson Plaza shopping mall. It is the smallest 10-year SWPA (about 440 acres) and encompasses the capture zones for four municipal wells and the Terrace Garden Apartments. The 10-Year Central SWPA has the greatest number of PCSs per acre when compared to the other SWPAs. The most numerous PCSs are commercial, automotive, and facilities with environmental regulatory oversight.

The 10-Year South SWPA is the one of the two largest SWPAs (roughly 3000 acres) and combines the capture zones for seven of Carson City's wells, the Mill House Inn Motel and the State Stewart Complex. The existing development is mostly residential, but also includes the commercial corridor along Hwy 395 south to Topsy Lane, as well as the future I-580 highway alignment. There are three neighborhoods served by septic systems. The 10-Year South SWPA also has irrigated agricultural areas with related PCSs. The most numerous PCSs are classed as stormwater basins, storage, and automotive.

The 10-Year West SWPA includes the area from North Carson Street and the Cottonwood Mobile Home Park reaching east up into the drainages along the west slope of the Sierras (Eagle Valley Creek, Vicee Canyon, Ash Canyon and Kings Canyon). The area is roughly 3,000 acres (comparable to the 10-Year South SWPA) and includes the largest number of public water system wells: eleven belonging to Carson City and five (three existing and two proposed locations) belonging to the Cottonwood Mobile Home Park. It has an irrigated golf course, the largest number of PCSs classed as "medical/educational" and 48 mapped stormwater basins primarily for flood control. There are three neighborhoods served by septic systems in the 10-year SWPA, as well as the upgradient Lakeview Area served by septic systems, which lies in the 25-Year SWPA.

2-Year SWPA Summary

The characteristics of the 2-Year SWPAs vary significantly throughout the Carson City area. In general, risks identified for most of the 2-year SWPAs were low to moderate. Carson City's activities to remove municipal underground storage tanks and provide environmental oversight through the local pretreatment program contribute to reduce concerns in the 2-Year SWPAs. PCS concerns related to a few 2-Year SWPAs are:

- 75 to 100% "moderate risk" land uses (combined commercial, industrial, mixed use commercial, high density residential, mixed use residential, and public/quasi-public land use categories)
- Wellheads located in 100-year floodplain or are more than 30% in the 100-Year floodplain.
- Higher "density" of septic systems (greater than 0.25 systems/acre).
- Occurrence of facilities that potentially use and store fuel or hazardous materials that require environmental regulatory oversight (registered UST/AST, EPA regulated, Pretreatment Permit).

Watershed SWPA Summary

For the Watershed SWPAs, PCS concerns identified by the Team are related to: erosion along access routes (trails and roads), potential chemical spills from vehicle accidents in the canyons, increasing recreational use (hikers, bikers, pets, camping), and potential wildland fires (erosion and firefighting chemicals). Lands in these SWPAs are managed by several local, State, and Federal agencies. The coordination between the agencies to recognize PCS concerns and manage for water quality protection was identified as a component of the CSWP Plan.

3.4 Source Water Protection Management Strategies

The following sections summarize the management strategies prioritized by the Local Planning Team for the Carson City area. These management strategies are broad and will be implemented using project specific action plans as a guide (Section 4.0 with additional detail in Appendix E).

3.4.1 Carson City

In the past, Carson City has actively managed a robust wellhead protection program with a dozen or more management strategies to protect source water. The Team evaluated these existing strategies with the results of the PCS survey. As a result, the Team updated the management strategies to manage the PCSs in Carson City and also developed actions for implementation (Section 4.0 and Appendix E). The management strategies will help to avoid contaminants from being released in SWPAs, which in turn could avoid costly and/or irreversible damage to the water sources.

Coordination and Planning

Coordination and planning is important with the parties having jurisdiction over lands or the activities on those lands contained in the SWPAs, such as: private landowners, Carson City, the US Forest Service, the BLM, Nevada State Parks, or the NDEP. Coordination promotes cooperation in protecting the drinking water resources.

This strategy contributes to source water protection where State or Federal agencies are significant land managers in SWPAs, or where agencies have regulatory authority, by requesting them to prioritize source water protection as a key component of their resource protection measures.

Domestic Septic Tank Program

The City will continue to limit septic tank proliferation and to extend municipal sewage facilities. This strategy contributes to source water protection by limiting new sources of groundwater contaminants from septic systems, particularly nitrates.

Fuel Storage Tank Program

Carson City has decommissioned its underground fuel storage tanks, with only one still scheduled. Management strategies directed at above ground storage tanks will contribute to source water protection particularly through awareness, proper fuel handling procedures, emergency contact information and training in the use of materials for minor spills.

Household Hazardous Waste Program

The Carson City Household Hazardous Waste (HHW) Collection Facility provides Carson City residents with waste disposal services. The program contributes to Source Water Protection by encouraging proper disposal of hazardous household products that might otherwise be dumped and create sources of water contamination.

Maintenance

Carson City conducts street cleaning, and performs erosion control activities to reduce the conveyance of sediments to detention basins and storm drain systems. Regular maintenance reduces contamination of stormwater runoff that can directly affect the quality of surface drinking water sources and the aquifer recharge for ground water resources.

Open Space Management

Carson City has acquired lands to be managed as open space. Carson City will coordinate between departments to ensure source water protection is a key component of natural resource protection in local land management plans.

This strategy contributes to source water protection by recognizing that these lands are needed to preserve drinking water quality, in addition to providing wildlife habitat, view protection, and recreational opportunities.

Pretreatment Program

Carson City Public Works ensures that the pretreatment systems are a part of construction plans for regulated facilities. The pretreatment program helps protect source water quality by giving Carson City oversight at facilities that handle, store, and treat materials that are potential sources of pollution.

Public Education and Outreach

Communication about source water protection continues to be a key component of the management strategies for Carson City. The public education and outreach plan provided in Appendix F details the Carson City program.

Regulatory Measures

There are several areas in the municipal code that have been adopted to implement Carson City's 1998 Wellhead Protection Plan. These included:

- Health and welfare code (Title 9);
- Water, sewage, and drainage code (Title 12);
- Buildings and construction code (Title 15);
- Subdivisions (Title 17); and
- Zoning (Title 18).

These regulatory measures continue to help preserve source water quality through the established pretreatment program, designating standards for abandoning septic systems and connecting to sanitary sewer, and controlling the construction of new septic systems.

Shallow Groundwater Monitoring

Monitoring can contribute to source water protection by identifying groundwater quality, tracking boundaries of groundwater contamination, locating sources of contamination, and/or defining local aquifer characteristics.

Solid Waste Management

Solid waste management includes regulatory compliance, daily operation of the Carson City landfill, recycling, waste diversion, and public education. Groundwater monitoring wells and methane test probes are routinely monitored to detect any indication of an adverse impact to the environment. Daily inspections are performed to ensure that the landfill is meeting regulatory obligations. Programs are in place to discourage illegal dumping and encourage proper disposal of medical waste. Recycling efforts are also in place by recycling used oil, antifreeze, metal, tires, batteries, cardboard and glass. Additionally, there are public outreach programs such as free dump days, Christmas tree recycling and the Household Hazardous Waste disposal program.

The program contributes to source water protection by discouraging improper disposal practices (such as illegal dumping) that might create sources of source water contamination.

Spills and Leak Complaints

Carson City responds to all complaints and reports of spills received from the general public, businesses, Sheriff's Dispatch, other City departments, the State Office of Emergency Management, and the NDEP. Coordinated responses to spills and complaints contributes to source water protection by proactively investigating potential sources of contamination, and implementing control and disposal procedures for leaks or spills to minimize impacts to public drinking water sources.

3.4.2 Private and State Water Systems

The Carson City management strategies identified Section 3.4.1 are applicable throughout the SWPAs (Figure 2, page 4), which incorporate the capture zones of the four smaller water systems. However, unique needs and concerns were also identified for pursuit by the individual PWSs for their local areas. Their specific strategies and implementation actions are summarized within this document, which can assist them in seeking future collaboration and potential funding sources. The following strategies are specific to the individual water systems.

State of Nevada Stewart Complex

State Building and Grounds also identified a need to manage or abandon unused wells in the vicinity of the Stewart Complex water system. Poorly constructed or maintained wells can provide a direct conduit for pollutants to reach groundwater.

Cottonwood Mobile Home Park

The Cottonwood MHP has previously adopted management strategies and actions for implementation in their NDEP approved WHP Plan (Aquifer Science Inc., 2001). The strategies are generally consistent with Section 3.4.1., though in addition, Cottonwood MHP identifies encouraging maintenance of residential wells and abandonment of unused wells in their vicinity as a management strategy. Their unique actions to implement these strategies are referenced in Section 4.0 and Appendix E.

3.5 Contingency Plan

3.5.1 Introduction

Contingency planning within the context of this CSWP Plan provides guidance and direction to Carson City and the PWSs in the event the aquifer or main source of drinking water is significantly contaminated. The contingency plan demonstrates a community's planning capacity to address a long-term emergency situation. The contingency plan considers the time frames needed to switch to an alternate source, the quantity and quality of the alternate water sources, and the local resources. The contingency plan also includes conservation measures intended to prolong the use and availability of water supplies (e.g., during periods of interim decision making, remediation, or new source development).

3.5.2 Existing Plans Relating to Contingency Measures

Contingency plans are included in the previously developed WHP Plans for the public water systems in Carson City. Several related plans are required by the Nevada Administrative Code (NAC) to address short term and long term contingencies for impacts to water quality and quantity. These plans include an emergency plan, cross-connection control plan, operation and maintenance manual and a water conservation plan. Some or all of these plans will be used in conjunction with this Contingency Plan depending on the situation.

Emergency Plan

The Emergency Plan contains short-term solutions to an immediate shutdown, either due to quantity problems, response to contaminant threat, or natural disaster. Public water suppliers in Nevada work with the Nevada Division of Emergency Management (DEM) through County emergency management representatives if an emergency response is required. The DEM

assists with short-term problems, such as spill response and coordinating the trucking of water to the afflicted community. The plan contains a list of available resources, emergency notifications, hypothetical scenarios and affected facilities including water sources, distribution systems, pump stations, storage tanks and covered reservoirs.

Cross Connection Control Plan

The Cross Connection Control Plan provides information on how to prevent unauthorized connections to the PWS that could potentially contaminate the system during a loss of pressure. This plan identifies all activities needed to ensure that no unprotected service connections exist between the water system and sources of pollution or contamination.

Operation and Maintenance Manual

Each PWS maintains an O & M Manual that provides information on the purpose, function, operation and interaction of facilities of the system, describes the capabilities and limitations of the system, and identifies procedures to control system processes. This manual is required under NAC 445A, 6667 and must be maintained at each facility of the water system for use by the operators and other personnel of the facility.

Water Conservation Plan

The Water Conservation Plan outlines procedures to be followed in the event of water shortages due to drought, overuse, or contamination. Water conservation plans require an analysis of the effectiveness of proposed water conservation measures, as well as an analysis of the effectiveness of utilizing a conservation-based water rate structure. The Water Conservation Plans also outline proposed water conservation enforcement measures.

3.5.3 Short-Term Contingency

Short-term water supply options provide temporary relief until permanent solutions can be implemented. The Emergency Plans for each PWS describe actions for short term contingencies in detail. A list of potential alternate supply options is included below; however, the emergency water supply options listed here are not intended to provide permanent solutions.

- **Operational Adjustments:** In the event that one of the wells becomes contaminated, municipal public water suppliers should be able to meet system demands by making some operational adjustments such as using other wells and using stored water.
- **Boiled Water:** Boiled water may be ordered at the discretion of the well manager or as directed by the Bureau of Safe Drinking Water.
- **Bottled Water or Potable Water Trucks:** Bottled water is available in the immediate area at local stores. Potable water trucks may be brought in from adjacent communities.
- **Water Conservation and Rationing:** In the event that demand cannot be met, conservation and rationing orders may be given.

The existing contingency plan from Carson City is included in Appendix G. The existing contingency plan for the Cottonwood MHP is Section 7.0 of their WHP Plan (Aquifer Science Inc., 2001).

3.5.4 Long-Term Contingency

In the event of significant contamination of a drinking water source, the water providers with wells in the particular contaminated aquifer region may be subject to long-term deficits in their water supplies. However, Carson City is a centralized municipal system with multiple wells that provide a level of flexibility in pumping from alternate groundwater sources.

- Douglas County, Carson City, and Lyon County Utilities have been coordinating regarding water transmission between Douglas County, Carson City and the Dayton area.
- Multiple wells and transmission options provide alternative sources in the event of local aquifer contamination.
- Interconnection may also benefit the other public water purveyors in that they are located close enough to Carson City water lines to connect to the system.

3.6 New Well Siting and New Water Sources

Recently a large diameter (18-36") transmission main was completed that supplies Carson City with water from the Carson Valley as a part of a regional water system. With this project, it is anticipated that Carson City's future water supplies are secure in the foreseeable future.

No new well siting is planned by Carson City Public Works in Eagle Valley, primarily due to natural sources of arsenic or uranium that require costly water treatment.

Cottonwood MHP has no plans to construct additional wells for its system but has located two possible future well locations as listed in Table 1-1. These well locations are included in this CSWP Plan and are depicted on all of the appropriate maps. The management strategies to protect these future locations have been developed in this CSWP Plan and their WHP Plan (Aquifer Science Inc., 2001).

4.0 PLAN IMPLEMENTATION

4.1 Action Plan Implementation

The CSWP Plan will be implemented through Action Plans. The Action Plans were built to achieve the goals and objectives of this CSWP Plan, to address the identified PCSs, and to implement the management strategies described in Section 3.4 of this document.

The Action Plan projects are organized in Appendix E by management strategy. The action plan projects were identified and compiled from the existing WHP plans and as outcomes of Team meetings. Each item in the Carson City Action Plan lists the relative priority, applicable area location and the key department or group to lead action implementation. The Action Plan for Cottonwood MHP summarizes items described in Section 5.0 of the WHP Plan (Aquifer Science Inc., 2001) and comments received during the CSWP Plan development.

Action Plan implementation is dependent upon resource availability and the actions will be implemented as funding and time allows by the respective PWSs. Technical or funding assistance will be needed to complete the action plan projects. While some actions have a higher priority than others, implementation will depend, to a large extent, on the resource and teaming opportunities that are available. The PWSs will take advantage of grants and other funding sources for implementation.

4.2 Potential Funding Opportunities

There are a variety of potential funding sources that may be considered to implement the action plan. A key component for most funding sources is to build relationships and leverage resources. The Local Planning Team benefits from each other's knowledge and contacts. Table 4-1 lists some of the potential funding sources available.

Table 4-1. Potential Funding Considerations

Funding Agency	Program Name
Bureau of Reclamation	<ul style="list-style-type: none"> > Water and Energy Efficiency > Rural Water Supply > Water for America > System Optimization Review
EPA	<ul style="list-style-type: none"> > Advancing Public Health Protection through Water Infrastructure Sustainability > Clean Water State Revolving Fund > Drinking Water State Revolving Fund
USDA	<ul style="list-style-type: none"> > Water and Waste Disposal and > Water, Sewer, and Solid Waste Disposal Management > Rural Development Solid Waste Planning > Community Facilities Loan and Grant Program
FEMA	<ul style="list-style-type: none"> > Flood Mitigation Assistance

Funding Agency	Program Name
State of Nevada	> AB 198 Grants > CWA 319 NPS Grants > Solid Waste Program > ISWPP Implementation Grants
USGS	> On-going groundwater research efforts

4.3 Updates

The CSWP Plan is a dynamic living document. The Team will meet at least once per year to revisit the plan, assess the plan update needs, follow-up on implementation, coordination and progress. This meeting will be coordinated by Carson City Public Works. The invitation to revisit and update the CSWP Plan will include owner/operators of the four smaller PWSs in the area:

- Cottonwood Mobile Home Park Water System
- Mill House Inn Motel Water System
- Stewart Complex and Marlette–Hobart Water Systems (State Buildings and Grounds)
- Terrace Garden Apartments Water System

5.0 PUBLIC PARTICIPATION

Public education is an important tool as identified in the Management Strategies and the Action Plan to promote voluntary protection actions and to build public support for plan implementation. In this case, taking action refers to changing practices and behaviors that could be detrimental to source waters. The objective of the CSWP Public Education Plan is to present water providers, residents and other stakeholders with a set of tools and tactics that can be used to promote source water protection outreach and education.

The implementation actions, provided in Appendix E, identify several specific audiences for targeted education and outreach to promote proper care and maintenance when potential contaminants are involved. These target audiences for this Education Plan are residents, businesses classified as PCSs, well owners, and septic system owners because their actions may impact water quality. School students in or near the 6th grade level are also a specified audience because they are receptive, the messages blend well with their existing curriculums and because children often provide pressure on their parents and relatives to “do the right thing”. Finally, community leaders are targeted because they make decisions regarding development and regulations that may impact water quality.

Proposed methods for educating the target audiences range from watershed and groundwater model presentations at public meetings and community events to flyers and posters. The appropriate educational tools depend on the extent of the community’s communication resources and the audience. Although the audiences range from community leaders, to business managers, to schoolchildren, the primary messages are the same. The following are the highlights of the public education plan provided in Appendix F.

What is source water protection?

Source water protection is a way to prevent drinking water from becoming polluted. Much can be done to prevent pollution, such as the informed use of land and disposal of chemicals.

Why is it important to protect water at the source?

Protecting public drinking water supplies at the source before pollution enters our drinking water supply lessens potential health issues, as well as the high costs associated with water treatment and source water development. Public water users can help protect our community’s source water. Managing land uses and human-caused sources of contamination are the keys to preventing pollution before it enters our drinking water supply at the source.

What contaminates the water we drink?

There are numerous types of pollutants that can contaminate surface and ground water. Some contaminants are a result of improper disposal of common household products such as cleaning products, waste oil, pet waste, fertilizers and pesticides. Disposal of human waste (septic tanks and wastewater treatment facilities) can under certain conditions also pose a risk to groundwater. Other products may be used or generated by businesses, such as dry cleaners, film processing centers, salons, cemeteries, petroleum storage and handling, that when improperly disposed of may threaten to contaminate our drinking water.

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Appendix B

Meeting & Public Participation Documentation

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COMMUNITY SOURCE WATER PROTECTION PLAN DEVELOPMENT
CARSON CITY - PRELIMINARY SCOPING MEETING
AUGUST 8, 2012

AGENDA

1. RCI's Scope and Roll

- a. Direct assistance to NDEP
- b. Technical assistance for countywide plan (CSWPP)
- c. Implementation of plan

2. CSWPP – County Wide, State Endorsable

- a. Develop Team
- b. Inventory Public Water Systems and delineate “Source Water Protection Areas”
- c. Inventory contaminant sources
- d. Develop local management strategies
- e. Share Information
 - i. Contingency plan
 - ii. New well siting
 - iii. Implementation/action plan
 - iv. Public education/outreach)

3. Team Development

- a. Members
 - i. Public water systems
 - ii. Federal land management agencies
 - iii. NDEP
 - iv. Carson City
 - Environmental Health
 - Public Works
 - Planning and Community Development
 - Open Space
 - Fire Department
- b. Approach
 - i. Invitation to participate
 - ii. Board of Supervisors
 - iii. Kick Off meeting
 - iv. Team meetings

COMMUNITY SOURCE WATER PROTECTION PLAN DEVELOPMENT
CARSON CITY - PRELIMINARY SCOPING MEETING
AUGUST 8, 2012, 8:30 – 9:30 A.M.
SUMMARY NOTES

Attending

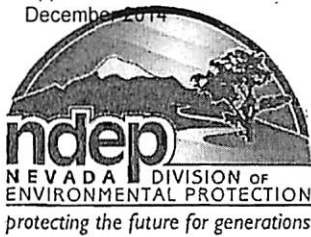
David Bruketta, Tom Guinn, Kim Borgzinner, Marvin Tebeau, Jill Sutherland

Discussion

1. Update of existing State endorsed plan
 - Wells outside boundaries (Well 50)
 - Electronic copy
 - GIS and mapping
2. GIS contacts: Erik Schmitt and Lali Parasa
 - Resulting GIS info to NDEP and Carson City
 - Joint effort with Lyon County and Douglas County
3. Plan update process
 - Technical review and update first step
 - Contact PWSs
 - Board of Supervisor's endorsement
 - Form Team with planning, other departments, to develop management strategies
4. CC Board presentation by Kim coord. with Tom
 - Info to Tom first week Sept.
 - Info to Board Sept. 14th for agenda item
 - Board meeting Thursday, October 4th
 - 1 page on what RCI doing, PowerPoint OK
 - Product: mapping, ordinance update, education grant opportunity, etc.
5. Schedule: Jill forward to Tom and David
 - Start immediately
 - Finish in 12 months
 - Board approval and then State Endorsement

Action Items

1. Jill send schedule to CC, contact David for meeting to gather technical data (Rit Palmer, David, Tom, Kim), and set up meeting with Erik Schmitt
2. Kim to copy Carson City WHP for RCI, send letter to CC public water systems, and send Tom info on Board presentation to get on agenda for 10/4/2012



STATE OF NEVADA

Department of Conservation & Natural Resources

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Leo M. Drozdoff, P.E., Director

Colleen Cripps, Ph.D., Administrator

August 27, 2012

SKEET SELLERS
TERRACE GARDEN APARTMENTS
PO BOX 1699
DAYTON, NV 89403

RE: Community Wide Source Water/Wellhead Protection Plan Development in Carson City

Mr. SELLERS,

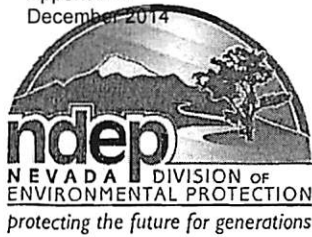
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RCI staff will be contacting you to set up a meeting to coordinate the development of a local planning team, collect data and information relevant to well head protection for each public water system in the Carson City area, and to inform you about schedule and logistics for involvement in the plan development process. Active involvement from each public water system is important to ensure their input and concerns are being addressed in the Community Source Water Protection Plan (Plan).

Once developed by the local planning team and RCI, a draft Plan will be presented to the various water system owners and Carson City Board of Commissioners for acceptance and approval. The approved plan can then be submitted to NDEP's ISWPP for endorsement. With State endorsement, communities and water systems will become eligible for future assistance to implement local wellhead/source water protection measures.

I am very excited to be working in Carson City over the next couple of years and I am looking forward to meeting with you and providing assistance in any way I can throughout the planning process. If you





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August 27, 2012

LINDA MUELLER
TERRACE GARDEN APARTMENTS
PO BOX 2917
CARSON CITY, NV 89702

RE: Community Wide Source Water/Wellhead Protection Plan Development in Carson City

Ms. MUELLER,

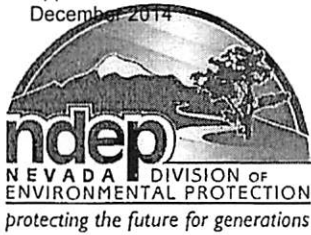
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August 27, 2012

PETER ETCHART
STATE PUBLIC WORKS BOARD, STEWART COMPLEX
515 EAST MUSSER STREET, SUITE 102
CARSON CITY, NV 89701

RE: Community Wide Source Water/Wellhead Protection Plan Development in Carson City

Mr. ETCHART,

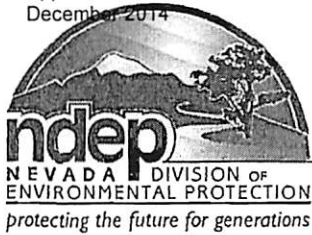
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August 27, 2012

JERALD WALKER
STEWART COMPLEX
406 E SECOND STREET, Suite 1
CARSON CITY, NV 89701

RE: Community Wide Source Water/Wellhead Protection Plan Development in Carson City

Mr. WALKER,

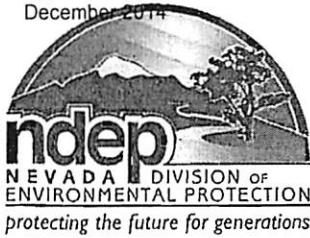
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August 27, 2012

MARIE ETCHEMENDY
MILLHOUSE INN MOTEL
3251 S CARSON ST
CARSON CITY, NV 89701

RE: Community Wide Source Water/Wellhead Protection Plan Development in Carson City

Ms. ETCHEMENDY,

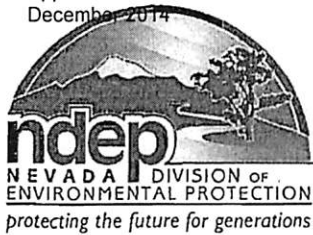
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August 27, 2012

JOHN UHART
NORTH CARSON ST LLC
301 W WASHINGTON STREET SUITE 1
CARSON CITY, NV 89703

RE: Community Wide Source Water/Wellhead Protection Plan Development in Carson City

Mr. UHART,

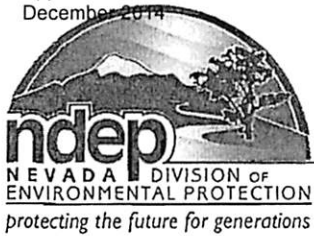
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August 27, 2012

KENNETH KANOFF
SPB UTILITY SERVICES
430 STOKER AVE STE 207
RENO, NV 89503

RE: Community Wide Source Water/Wellhead Protection Plan Development in Carson City

Mr. KANOFF,

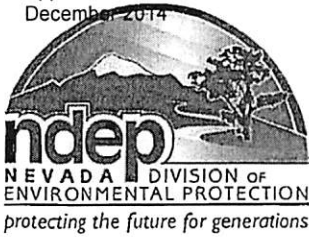
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August 27, 2012

ALBERT FISCHER
COTTONWOOD MHP
PO BOX 1943
CARSON CITY, NV 89702

RE: Community Wide Source Water/Wellhead Protection Plan Development in Carson City

Mr. FISCHER,

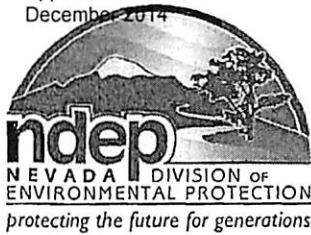
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I am very excited to be working in Carson City over the next couple of years and I am looking forward to meeting with you and providing assistance in any way I can throughout the planning process. If you





STATE OF NEVADA
Department of Conservation & Natural Resources
DIVISION OF ENVIRONMENTAL PROTECTION

Brian Sandoval, Governor
Leo M. Drozdoiff, P.E., Director
Colleen Cripps, Ph.D., Administrator

August 27, 2012

KATHLEEN WILLIAMS
COTTONWOOD MHP
PO BOX 1943
CARSON CITY, NV 89702

RE: Community Wide Source Water/Wellhead Protection Plan Development in Carson City

Ms. WILLIAMS,

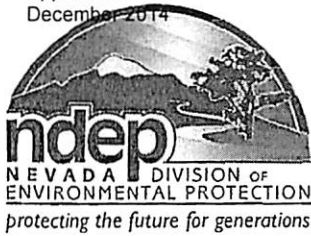
The Nevada Division of Environmental Protection (NDEP), Bureau of Water Pollution Control (BWPC) recently contracted with Resource Concepts Inc. (RCI) to provide technical assistance for communities and public water systems throughout the Carson City area under the Integrated Source Water Protection Program (ISWPP). It is our goal to build upon existing wellhead protection plans in the Carson City area to develop a broader countywide approach to wellhead/source water protection for the community. Technical assistance will focus on delineation of protection areas around each drinking water source and identification of management strategies to protect those sources.

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August 27, 2012

THOMAS GUINN
CARSON CITY PUBLIC WORKS
3505 BUTTI WAY
CARSON CITY, NV 89701

RE: Community Wide Source Water/Wellhead Protection Plan Development in Carson City

Mr. GUINN,

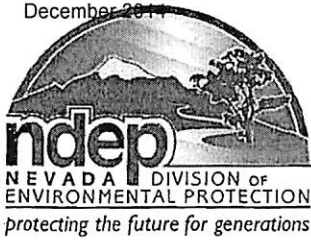
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Department of Conservation & Natural Resources
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Brian Sandoval, Governor
Leo M. Drozdoff, P.E., Director
Colleen Cripps, Ph.D., Administrator

August 27, 2012

RIT PALMER
CARSON CITY PUBLIC WORKS
3505 BUTTI WAY
CARSON CITY, NV 89701

RE: Community Wide Source Water/Wellhead Protection Plan Development in Carson City

Mr. PALMER,

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10-18-12 Agenda with Supporting Materials

**CARSON CITY CONSOLIDATED MUNICIPALITY
NOTICE OF MEETING OF THE
CARSON CITY BOARD OF SUPERVISORS
AND CARSON CITY LIQUOR AND ENTERTAINMENT BOARD
AND CARSON CITY REDEVELOPMENT AUTHORITY**

Day: Thursday
Date: October 18, 2012
Time: Beginning at 8:30 a.m.
Location: Community Center, Sierra Room
851 East William Street
Carson City, Nevada

Agenda

- 1. Call to Order - Board of Supervisors**
- 2. Roll Call**
- 3. Invocation - Brian Underwood, Sierra Lutheran High School**
- 4. Pledge of Allegiance**
- 5. Public Comments and Discussion:**

The public is invited at this time to comment on and discuss any topic that is relevant to, or within the authority of, the Carson City Board of Supervisors, the Carson City Liquor and Entertainment Board, the Carson City Redevelopment Authority and the Carson City Board of Health (Boards). In order for members of the public to participate in the Boards' consideration of an agenda item, the Boards strongly encourage members of the public to comment on an agenda item during the item itself. No action may be taken on a matter raised under public comment unless the item has been specifically included on the agenda as an item upon which action may be taken. The Mayor, or the Mayor Pro-Tem, retains discretion to only provide for public comment under a public comment item and not call for or allow individual-item public comment at the time of any Boards' consideration of any item on the agenda involving: 1) an off-site tour by the Board; or 2) any person's or entity's due process appeal or hearing rights provided by statute or the Carson City Municipal Code.

- 6. For Possible Action: Approval of Minutes - September 20, 2012**
- 7. For Possible Action: Adoption of Agenda**
- 8. Consent Agenda**

All matters listed under the consent agenda are considered routine and may be acted upon by the Board of Supervisors with one action and without an extensive hearing. Any member of the Board or any citizen may request that an item be taken from the consent agenda, discussed and acted upon separately during this meeting. The Mayor, or the Mayor Pro-Tem, retains discretion in deciding whether or not an item will be pulled off the consent agenda.

8-1. Assessor

For Possible Action: To approve the increase of the taxes from the 2012/13 real property tax roll for Assessor's parcel number 001-103-14 (1851 N Nevada St) per NRS 361.091 and NRS 361.765 in the amount of \$793.64. (Kimberly Adams)

Staff Summary: The Assessor's Office is requesting the Board of Supervisors to increase the taxes

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Meeting & Public Participation Documentation

For the 2012/13 real property tax roll from Assessor's parcel number 001-103-14 (1851 N Nevada St.) in the amount of \$793.64 per NRS 361.091 and NRS 361.765. The disabled veteran received his exemption both in Carson City and in Douglas County. Nevada law states you may only apply in the county in which you reside, therefore, he was only entitled to one exemption. In addition, the owner received the 3% owner occupied tax cap on their property located in Douglas County and Carson City. Per NRS 361.4723 (a) "Primary residence of the owner" means a residence which:

(1) Is designated by the owner as the primary residence of the owner in this State, exclusive of any other residence of the owner in this State. The Assessor's office is requesting that the disabled veterans' exemption be removed and that the abatement be adjusted so that the taxes reflect the correct alternate tax cap for the 2012/13 tax year per NRS 361.091 and NRS 361.765.

8-2. Finance

For Possible Action: To accept the report on the condition of each fund in the treasury and the statements of receipts and expenditures through October 9, 2012 per NRS 251.030 and NRS 354.290. (Nick Providenti)

Staff Summary: NRS 251.030 requires the Finance Director (for the purpose of the statute acting as the County Auditor) to report to the Board of County Commissioners (or in our case the Board of Supervisors), at each regular meeting thereof, the condition of each fund in the treasury. NRS 354.290 requires the County Auditor to report to the Board of Supervisors a statement of revenues and expenditures based on the accounts and funds as were used in the budget. A more detailed accounting is available on the City's website - www.carson.org.

8-3. Purchasing and Contracts

A) For Possible Action: To approve Contract No. 1213-107 Pursuant to NRS 332.115(1)(b) and NRS 625.530 with Carollo Engineers, Inc., to provide Professional Services for Wastewater Reclamation Plant Digester Rehabilitation Project - Phase 1 through July 1, 2013 for a not to exceed amount of \$92,156.00 to be funded from the Wastewater Professional Services Account as provided FY 2012/2013. (Kim Belt)

Staff Summary: This contract is to provide project management, detailed design, and supplemental services for the Wastewater Reclamation Plant Digester Rehabilitation Project - Phase I. Carollo Engineers, Inc. conducted structural assessments of Carson City's Digesters and determined that the Dome in Digester 1 needed to be replaced and an interior assessment of Digester 2 needed to be completed.

B) For Possible Action: To approve Contract No. 1213-108, Joinder Contract with American Emergency Vehicles through the Houston-Galveston Area Counsel (H-GAC) for the purchase of a Ford F450 Type 1 TraumaHawk Ambulance for a not to exceed amount of \$180,016.00 to be funded from the Capital Outlay/Ambulance Fund as provided for in FY 2012/2013. (File No. 1213-108) (Kim Belt)

Staff Summary: The Fire Department has been authorized to purchase an Ambulance. This purchase request will utilize the Houston-Galveston Area Counsel buying cooperative to acquire the ambulance. This ambulance will replace a 2002 ambulance that has over 120,000 miles.

8-4. City Manager

For Possible Action: To ratify the approval of bills and other requests for payments by the City Manager for the period of September 11, 2012 thru October 8, 2012. (Larry Werner)

Staff Summary: All bills or other requests for payment verified per CCMC 2.29.010 shall be presented by the controller, together with the register book of demands and warrants to the city manager who shall audit the same, and if found authorized, correct and legal, shall signify by his

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December 2014

signature, as agent for the board, upon the register book of demands and warrants those demands which are approved or disapproved by him. Upon approval, the warrants, as prepared aforesaid, shall issue. The City Manager shall then cause the register book of bills and other requests for payment and warrants to be presented at least once a month to the board of supervisors, who shall by motion entered into its minutes, ratify the action taken on the bills or other requests for payment.

Meeting & Public Participation Documentation

8-5. District Attorney

For Possible Action: To approve an upgrade of one Legal Secretary I position to a Legal Secretary II position within the Carson City District Attorney's Office. (Randal Munn)

Staff Summary: Approval of this upgrade will change the position allocations in the District Attorney's Office from one (1) Legal Secretary I position, one (1) Legal Secretary II position, and four (4) Legal Secretary III positions to two (2) Legal Secretary II positions and four (4) Legal Secretary III positions. Upgrade of one position will permit the promotion of an existing Legal Secretary based on merit and appropriately compensate her for the quality and quantity of her work.

(End of Consent Agenda)

9. Recess as Board of Supervisors**Liquor and Entertainment Board****10. Call to Order & Roll Call - Liquor and Entertainment Board****11. For Possible Action: Approval of Minutes - September 6, 2012 and September 20, 2012****12. Public Works - Business License**

For Possible Action: To approve Monira Saly as the liquor manager for Sushi Delight (Liquor License #13-27649) located at 111 E. Telegraph St., Carson City. (Jennifer Pruitt)

Staff Summary: All liquor license requests are to be reviewed by the Liquor Board per CCMC 4.13. Monira Saly will replace the current liquor manager.

13. Public Comment**14. For Possible Action: To Adjourn as the Liquor and Entertainment Board****15. Reconvene as the Board of Supervisors****Ordinances, Resolutions, and Other Items****16. Any item(s) pulled from the Consent Agenda will be heard at this time.****17. Health and Human Services**

For Possible Action: To accept a sub-grant in the amount of \$118,085 for year one and \$310,828 for year two, for a total of \$428,913 over a two year period, from the Nevada State Health Division Bureau of Child, Family & Community Wellness; Immunization Program. The grant will be awarded on approximately October 25, 2012. The purpose of this grant is to implement school located immunizations that are sustained through third party billing. (Marena Works)

Staff Summary: The funding, which originates from the Centers for Disease Control (CDC), will be used to support 1 FTE Registered Nurse and 1 part-time Registered Nurse plus vaccine and travel

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minutes. The focus will be on vaccinating for Tdap (Tetanus, diphtheria and pertussis) in the school setting.

18. Recess as Board of Supervisors**Redevelopment Authority****19. Call to Order & Roll Call - Redevelopment Authority****20. For Possible Action: Approval of Minutes - July 5, 2012****21. Special Presentation**

Presentation of the 2012 Christmas ornament to Pastors Rob and Dixie Jennings-Teats from the First United Methodist Church. (*Shelly Aldean*)

22. Public Comment**23. For Possible Action: To Adjourn as the Redevelopment Authority****24. Reconvene as the Board of Supervisors****25. Parks and Recreation - Open Space**

For Possible Action: A public hearing to determine, pursuant to NRS 244.281(1)(c) the fair market value of APN 008-523-09 containing 1.02 acres is \$115,000 and that the fair market value of easements is \$30,000 for county real estate located in the vicinity of Capitol Loans at 5951 Highway 50 East. (*Juan Guzman*)

Staff Summary: The purpose of this hearing is for the Board of Supervisors to determine the fair market value of property and easements on APN 008-523-09 in accordance with the provisions of NRS 244.2795.1(a). This is an initial step of several needed to sell easements and/or the entire property.

26. Parks and Recreation

For Possible Action: To approve the submittal of a Southern Nevada Public Land Management Act (SNPLMA) grant application for capital improvements to the lower sports complex at JohnD Winters Centennial Park, to authorize Roger Moellendorf, Parks and Recreation Director to sign the grant application on behalf of Carson City, and to authorize the Mayor to sign a letter of support for the project. (*Joel Dunn / Juan Guzman*)

Staff Summary: Carson City has the opportunity to apply for a Southern Nevada Public Land Management Act (SNPLMA) grant in Round 14 for capital improvements to the lower sports complex at JohnD Winters Centennial Park. Parks and Recreation Department staff is requesting Board of Supervisors approval to apply for this grant.

27. Public Works - Planning and Zoning

For Possible Action: To approve an extension of time for acting on the filing of a final map for the Tentative Subdivision Map known as Combs Canyon I, consisting of 23 lots on approximately 57 acres, located approximately 400 feet northwest of the intersection of Combs Canyon Road and Timberline Drive, extending the date by which a final map must be filed to January 17, 2013, in order to allow time for the developer and the City to enter into a development agreement to provide for further extensions of time. (*Lee Plemel*) **Late Material**

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Meeting & Public Participation Documentation

December 2014

Staff Summary: The Combs Canyon I subdivision was originally approved in October 2006 and the Board of Supervisors granted two-year extension of the approval in 2010. The subdivision approval will expire on October 19, 2012, unless the Board of Supervisors approves an extension.

28. Public Works

For Possible Action: To approve and authorize the Mayor to sign a letter of support for participation in the Integrated Source Water Protection Program. (Andrew Burnham)

Staff Summary: Presentation from Kim Borgzinner, Staff Engineer, for the Division of Environmental Protection, Bureau of Water Pollution Control; is providing an overview of the State's Integrated Source Water Protection Program (also referred to as "ISWPP") and requesting Carson City's support for and participation in the ISWPP.

29. Board of Supervisors

Non-Action Items:

Status review of projects
Internal communications and administrative matters
Correspondence to the Board of Supervisors
Status reports and comments from the members of the Board
Staff comments and status report

EVENING SESSION -- 4:30 P.M.**30. City Manager**

A) For Possible Action: To appoint one member to the Carson City Airport Authority to the Citizen-at-Large position for a term that expires in October 2013. (Larry Werner)

Staff Summary: There is one open position on the Airport Authority for a Manufacturer due to a member's resignation. No applications were received for the Manufacturer position. The 2011 Statutes of Nevada allow for the Board of Supervisors to appoint a member who represents the general public if they are unable to find a qualified Manufacturer to fill the position. An application was received from Ray English for the Citizen-at-Large position. No other applications were received.

B) For Possible Action: To appoint one member to the Carson City Parks and Recreation Commission to fill a four-year term that expires in January 2016. (Larry Werner)

Staff Summary: CCMC 2.16 .010 and NRS 244.3076 provide for a Parks and Recreation Commission to be composed of no more than nine members. Members shall be appointed by the Board of Supervisors. There is one opening due to a member's resignation. Applications have been received from the following persons: Joan Colburn, Lee-Ann Keever, and Jennifer Veneziano. No other applications were received.

31. Public Comment: The public is invited at this time to comment on any matter that is not specifically included on the agenda as an action item. No action may be taken on a matter raised under this item of the agenda.

32. For Possible Action: To Adjourn

Agenda Management Notice - Items on the agenda may be taken out of order; the public body may combine two or more agenda items for consideration; and the public body may remove an item from the agenda or delay discussion relating to an item on the agenda at any time.

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December 2014

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Copies of information related to the above items can be viewed in the City Manager's Office.

Titles of agenda items are intended to identify specific matters. If you desire detailed information concerning any subject matter itemized within this agenda, you are encouraged to call the responsible agency or the City Manager's Office. You are encouraged to attend this meeting and participate by commenting on any agenda item.

Notice to persons with disabilities: Members of the public who are disabled and require special assistance or accommodations at the meeting are requested to notify the City Manager's Office in writing at 201 North Carson Street, Carson City, NV, 89701, or by calling (775)887-2100 at least 24 hours in advance.

This meeting can be viewed on Channel 226. For specific dates and times - www.bactv.org.

This notice has been posted at the following locations:

Community Center 851 East William Street
Public Safety Complex 885 East Musser Street
City Hall 201 North Carson Street
Carson City Library 900 North Roop Street
Business Resource & Innovation Center (BRIC) 108 East Proctor Street

Date: October 11, 2012

Last updated date: 10/12/2012 3:19:22 PM

Meeting & Public Participation Documentation

CARSON CITY BOARD OF SUPERVISORS
Minutes of the October 18, 2012 Meeting
Page 1

A regular meeting of the Carson City Board of Supervisors was scheduled for 8:30 a.m. on Thursday, October 18, 2012 in the Community Center Sierra Room, 851 East William Street, Carson City, Nevada.

PRESENT: Mayor Robert Crowell
Supervisor Karen Abowd, Ward 1
Supervisor Shelly Aldean, Ward 2
Supervisor John McKenna, Ward 3
Supervisor Molly Walt, Ward 4

STAFF: Larry Werner, City Manager
Alan Glover, Clerk - Recorder
Randal Munn, Chief Deputy District Attorney
Kathleen King, Deputy Clerk / Recording Secretary

NOTE: A recording of these proceedings, the Board's agenda materials, and any written comments or documentation provided to the Clerk during the meeting are part of the public record. These materials are available for review, in the Clerk's Office, during regular business hours.

1 - 4. CALL TO ORDER, ROLL CALL, INVOCATION, AND PLEDGE OF ALLEGIANCE (8:31:50) - Mayor Crowell called the meeting to order at 8:31 a.m. Mr. Glover called the roll; a quorum was present. Brian Underwood, of Sierra Lutheran High School, provided the invocation. At Mayor Crowell's request, Maurice White led the pledge of allegiance.

5. PUBLIC COMMENTS AND DISCUSSION (8:34:15) - Mayor Crowell entertained public comment. (8:34:32) Cory Cormiere, representing TrashCo, referred to his testimony provided at the October 4th Board of Supervisors meeting. He advised of an "indication that the City is addressing the issue." He inquired as to an update on the situation. Public Works Department Director Andy Burnham advised that notices had been sent yesterday to all landfill account users that "we're going to extend the credit accounts and some new policies go into place to make sure our liability is limited." Mayor Crowell provided background information on a sizable delinquent account "that skipped town ..." He requested Mr. Cormiere to convey to his "community" that the City "want[s] to be user friendly but we don't want to be on the receiving end of a bad debt ..." He thanked Mr. Cormiere for bringing the matter to the Board's attention. Mr. Cormiere requested that the independent dumpster service providers in Northern Nevada be considered for hauling commercial and construction debris at the time the Waste Management franchise agreement is considered for renewal. Mr. Werner provided clarification of the agreement renewal provisions. Mayor Crowell directed Mr. Cormiere to the Carson City Municipal Code for review of the franchise agreement. Mayor Crowell entertained additional public comment; however, none was forthcoming.

6. POSSIBLE ACTION ON APPROVAL OF MINUTES - September 20, 2012 (8:38:30) - Mayor Crowell entertained revisions to the minutes and, when none were forthcoming, a motion. **Supervisor Aldean moved to approve the minutes, as presented. The motion was seconded and carried 5-0.**

7. POSSIBLE ACTION TO ADOPT THE AGENDA (8:39:06) - Mayor Crowell entertained modifications to the agenda and, when none were forthcoming, a motion to approve the agenda as published. **Supervisor Aldean so moved. The motion was seconded and carried 5-0.**

Meeting & Public Participation Documentation

CARSON CITY BOARD OF SUPERVISORS
Minutes of the October 18, 2012 Meeting
Page 2

8. CONSENT AGENDA (8:39:28) - Mayor Crowell entertained requests to hear items separate from the consent agenda. When none were forthcoming, he entertained a motion. **Supervisor Aldean moved to approve the consent agenda, consisting of one item from the Assessor's Office, one item from Finance, two items from Purchasing and Contracts, one item from the City Manager's Office, and one item from the District Attorney. Supervisor Abowd seconded the motion. Motion carried 5-0.**

8-1. ASSESSOR - POSSIBLE ACTION TO APPROVE THE INCREASE OF TAXES FROM THE 2012 / 13 REAL PROPERTY TAX ROLL FOR ASSESSOR'S PARCEL NUMBER 001-103-14, 1851 NORTH NEVADA STREET, PURSUANT TO NRS 361.091 AND NRS 361.765, IN THE AMOUNT OF \$793.64

8-2. FINANCE DEPARTMENT - POSSIBLE ACTION TO ACCEPT THE REPORT ON THE CONDITION OF EACH FUND IN THE TREASURY AND THE STATEMENTS OF RECEIPTS AND EXPENDITURES, THROUGH OCTOBER 9, 2012, PURSUANT TO NRS 251.030 AND NRS 354.290

8-3. PURCHASING AND CONTRACTS

8-3(A) POSSIBLE ACTION TO APPROVE CONTRACT NO. 1213-107, PURSUANT TO NRS 332.115(1)(b) AND NRS 625.530, WITH CAROLLO ENGINEERS, INC. TO PROVIDE PROFESSIONAL SERVICES FOR WASTEWATER RECLAMATION PLANT DIGESTER REHABILITATION PROJECT - PHASE 1, THROUGH JULY 1, 2013, FOR A NOT-TO-EXCEED AMOUNT OF \$92,156.00, TO BE FUNDED FROM THE WASTEWATER PROFESSIONAL SERVICES ACCOUNT, AS PROVIDED IN FY 2012 / 2013

8-3(B) POSSIBLE ACTION TO APPROVE CONTRACT NO. 1213-108, JOINDER CONTRACT WITH AMERICAN EMERGENCY VEHICLES THROUGH THE HOUSTON-GALVESTON AREA COUNCIL (H-GAC), FOR THE PURCHASE OF A FORD F450, TYPE 1 TRAUMA HAWK AMBULANCE, FOR A NOT-TO-EXCEED AMOUNT OF \$180,016.00, TO BE FUNDED FROM THE CAPITAL OUTLAY / AMBULANCE FUND, AS PROVIDED FOR IN FY 2012 / 2013 (FILE NO. 1213-108)

8-4. CITY MANAGER - POSSIBLE ACTION TO RATIFY THE APPROVAL OF BILLS AND OTHER REQUESTS FOR PAYMENTS BY THE CITY MANAGER FOR THE PERIOD OF SEPTEMBER 11, 2012 THROUGH OCTOBER 8, 2012

8-5. DISTRICT ATTORNEY - POSSIBLE ACTION TO APPROVE AN UPGRADE OF ONE LEGAL SECRETARY I POSITION TO A LEGAL SECRETARY II POSITION WITHIN THE CARSON CITY DISTRICT ATTORNEY'S OFFICE

9. RECESS BOARD OF SUPERVISORS (8:40:10) - Mayor Crowell recessed the Board of Supervisors at 8:40 a.m.

LIQUOR AND ENTERTAINMENT BOARD

10. CALL TO ORDER AND ROLL CALL (8:40:13) - Chairperson Crowell called the Liquor and Entertainment Board to order, noting the presence of a quorum, including Member Ken Furlong.

Meeting & Public Participation Documentation

CARSON CITY BOARD OF SUPERVISORS
Minutes of the October 18, 2012 Meeting
Page 3

11. POSSIBLE ACTION ON APPROVAL OF MINUTES - September 6, 2012 and September 20, 2012 (8:40:29) - Mayor Crowell entertained revisions to the minutes and, when none were forthcoming, Member Aldean moved to approve the minutes, as presented. Member Walt seconded the motion. Motion carried 6-0.

12. PUBLIC WORKS DEPARTMENT, BUSINESS LICENSE DIVISION - POSSIBLE ACTION TO APPROVE MONIRA SALY AS THE LIQUOR MANAGER FOR SUSHI DELIGHT, LIQUOR LICENSE NUMBER 13-27649, LOCATED AT 111 EAST TELEGRAPH STREET, CARSON CITY (8:40:58) - Chairperson Crowell introduced this item. Principal Planner Jennifer Pruitt reviewed the agenda materials, noting staff's recommendation of approval.

Mayor Crowell invited Monira Saly and Jake Lee to the podium. (8:41:51) Ms. Saly and Mr. Lee introduced themselves for the record. Ms. Saly acknowledged she had submitted the application to be considered as liquor manager. In response to a question, she reviewed her experience as a bartender. In response to a further question, she advised that identification will be checked for all patrons requesting to be served alcohol. She agreed to enroll in the Sheriff's Department alcohol server training program. In response to a further question regarding the dual restaurant business at the subject location, she advised that alcohol is not allowed to be taken "to the other side. They have to stay on the Sushi Delight side at all times."

At Member McKenna's request, Member Furlong advised that the citation issued in February was as a result of a routine compliance check operation. Chairperson Crowell entertained additional questions from the board members and of the public. When none were forthcoming, he offered Ms. Saly and Mr. Lee an opportunity to provide additional comments. When they declined, Chairperson Crowell thanked them for doing business in Carson City and wished them well. He emphasized the board's concern over serving alcohol to minors, and the need for Ms. Saly to complete the Sheriff's Office alcohol server training program.

Chairperson Crowell entertained a motion. **Member McKenna moved to approve Monira Saly as the liquor manager for Sushi Delight, liquor license number 13-27649, located at 111 East Telegraph Street, Carson City. Member Abowd seconded the motion.** Chairperson Crowell entertained discussion on the motion and, when none was forthcoming, called for a vote. **Motion carried 6-0.**

13. PUBLIC COMMENT (8:44:451) - Chairperson Crowell entertained public comment; however, none was forthcoming.

14. ACTION TO ADJOURN LIQUOR AND ENTERTAINMENT BOARD (8:45:01) - Chairperson Crowell adjourned the meeting at 8:45 a.m.

15. RECONVENE BOARD OF SUPERVISORS (8:45:03) - Mayor Crowell reconvened the Board of Supervisors at 8:45 a.m.

ORDINANCES, RESOLUTIONS, AND OTHER ITEMS

16. ANY ITEM(S) PULLED FROM THE CONSENT AGENDA WILL BE HEARD AT THIS TIME (8:45:07) - None.

CARSON CITY BOARD OF SUPERVISORS
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17. HEALTH AND HUMAN SERVICES DEPARTMENT - POSSIBLE ACTION TO ACCEPT A SUBGRANT, IN THE AMOUNT OF \$118,085 FOR YEAR ONE, AND \$310,828 FOR YEAR TWO, FOR A TOTAL OF \$428,913 OVER A TWO-YEAR PERIOD, FROM THE NEVADA STATE HEALTH DIVISION, BUREAU OF CHILD, FAMILY, AND COMMUNITY WELLNESS, IMMUNIZATION PROGRAM; THE GRANT WILL BE AWARDED ON APPROXIMATELY OCTOBER 25, 2012; THE PURPOSE OF THIS GRANT IS TO IMPLEMENT SCHOOL-LOCATED IMMUNIZATIONS THAT ARE SUSTAINED THROUGH THIRD-PARTY BILLING (8:45:13) - Mayor Crowell introduced this item, and Health and Human Services Department Director Marena Works reviewed the agenda materials. In response to a question, Ms. Works provided clarification of the year one and year two figures. In response to a question, she provided background information on the increase in pertussis cases, both nationally and within the State, and discussed the school-based focus of the immunization program. In response to a further question, she advised that the City will not be liable to continue the program as an unfunded State mandate. "... in this type of a program, ... if we can no longer fund it and it's no longer feasible, it simply goes away and parents would just have to come to either their physician or the Health Department to receive the vaccine ..." Ms. Works emphasized the voluntary nature of the program, noting that it complies with the "big push ... in Nevada ... for school-located health services."

Mayor Crowell entertained public comment and, when none was forthcoming, a motion. **Supervisor Abowd moved to approve acceptance of a sub-grant, in the amount of \$428,913 over a two-year period, from the Nevada State Health Division Bureau of Child, Family, and Community Wellness, Immunization Program; the grant will be awarded on approximately October 25, 2012; the purpose of the grant is to implement school-located immunizations that are sustained through third-party billing. Supervisor McKenna seconded the motion. Motion carried 5-0.** Mayor Crowell thanked Ms. Works.

18. RECESS BOARD OF SUPERVISORS (8:50:18) - Mayor Crowell recessed the Board of Supervisors at 8:50 a.m., and passed the gavel to Redevelopment Authority Chair Shelly Aldean.

REDEVELOPMENT AUTHORITY

19. CALL TO ORDER AND ROLL CALL (8:50:30) - Chairperson Aldean called the Redevelopment Authority to order at 8:50 a.m., noting the presence of a quorum.

20. POSSIBLE ACTION ON APPROVAL OF MINUTES - July 5, 2012 (8:50:35) - Chairperson Aldean entertained revisions and, when none were forthcoming, a motion to approve. **Vice Chairperson Abowd so moved. Member Walt seconded the motion. Motion carried 5-0.**

21. SPECIAL PRESENTATION OF THE 2012 CHRISTMAS ORNAMENT TO PASTORS ROB AND DIXIE JENNINGS-TEATS FROM THE FIRST UNITED METHODIST CHURCH (8:50:54) - Chairperson Aldean introduced and provided background information on this item, and thanked the Christmas ornament committee, comprised of herself, Robin Williamson, Jed Block, and Stan Join for their participation. She described the 2012 Christmas ornament and reviewed historic information on the First United Methodist Church. She invited First United Methodist Church Pastor Dixie Jennings-Teats to join

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her at the podium, and presented her with the 2012 Christmas ornament, together with various historic documentation relative to the First United Methodist Church. Chairperson Aldean reviewed a number of retail outlets at which the 2012 ornament will be available for sale.

(8:54:22) First United Methodist Church Pastor Dixie Jennings-Teats thanked the Redevelopment Authority, noting that the church has “the oldest continuous congregation in Nevada, beginning in 1859. This building is one of the oldest ... used buildings in Nevada.” She noted that the ornament honors the past for which the church is “very thankful, ... but it also represents the future.” She discussed Pastor Rob’s absence from the meeting due to his involvement in Circles Initiative training.

22. PUBLIC COMMENT (8:56:14) - Chairperson Aldean entertained public comment; however, none were forthcoming.

23. ACTION TO ADJOURN REDEVELOPMENT AUTHORITY (8:56:25) - Member Crowell moved to adjourn the Redevelopment Authority meeting at 8:56 a.m. The motion was seconded and carried 5-0. Chairperson Aldean returned the gavel to Mayor Crowell.

24. RECONVENE BOARD OF SUPERVISORS (8:56:37) - Mayor Crowell reconvened the Board of Supervisors at 8:56 a.m.

25. PARKS AND RECREATION DEPARTMENT, OPEN SPACE DIVISION - POSSIBLE ACTION ON A PUBLIC HEARING TO DETERMINE, PURSUANT TO NRS 244.281(1)(c), THE FAIR MARKET VALUE OF APN 008-523-09, CONTAINING 1.02 ACRES IS \$115,000 AND THAT THE FAIR MARKET VALUE OF EASEMENTS IS \$30,000 FOR COUNTY REAL ESTATE LOCATED IN THE VICINITY OF CAPITAL LOANS, AT 5951 HIGHWAY 50 EAST (8:56:37) - Mayor Crowell introduced this item. Open Space Property Manager Juan Guzman provided background information and reviewed the agenda materials in conjunction with a displayed aerial photograph. At Mayor Crowell’s request, Mr. Guzman pointed out the location of the subject and adjacent property lines using a displayed aerial photograph. Mr. Guzman acknowledged that a portion of the parking lot is within the right-of-way. In response to a further question, he clarified “actually it is more exhibit area than parking lot although a portion of it is also used for a parking lot.” He explained that it is being perfected “through proposed easements that will be running ... to the south.” He further acknowledged this is not the subject of today’s public hearing. He responded to additional questions of clarification regarding the property lines, as depicted on the displayed photograph. He acknowledged the intent to “try to sell the entire wedge but before we sell the entire wedge, in a subsequent meeting, we’re going to try to ask the Board to consider to sell only easements and those are the ones in color. We’ll do that in order to accomplish two things; number one, to clear the record so everybody knows what easements are there appurtenant to the land and, number two, because it’s a triangular piece that appears to meet the definition of the Nevada Revised Statutes of being primarily of service to the parcel adjacent to it.” Supervisor McKenna pointed out the easements to the northwest and to the south and inquired as to the possibility of “get[ting] rid of the ... easements to the south.” Mr. Guzman explained that the easements benefit the subject property as well as “all of Carson City. ... The best thing that we could do ... is ... recognize that they are there and let everybody know ... and if they want to put a bid on the land, they know then what they are buying. They’re buying land that has an easement already ...” Mr. Guzman surmised the intent

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of Supervisor McKenna's question relative to whether the "white area" is large enough to sustain a use by itself and, thus, be sold free and clear. Mr. Guzman suggested, "That's debatable. Our conclusion is that ... whoever puts a bid on this land is going to know that it's heavily encumbered with all these easements."

(9:08:38) Appraiser Stephen Johnson introduced himself for the record. Supervisor Aldean advised that the manner in which the property has been appraised has been questioned "because it has been alleged ... that by conveying these easements ... [which] have not been previously established, you are diminishing the value of the property but you're appraising it as though ... the easements that we are considering today ... already exist." She inquired as to whether this is common practice in appraisal. Mr. Johnson explained that this was an instruction he was given relative to the appraisal. In response to a further question, he provided background information on the appraisal and reviewed the same. He and Mr. Guzman responded to corresponding questions of clarification. Following discussion, Supervisor Aldean suggested creating temporary easements for the gas lines "to give the ultimate owner the option of relocating them at his or her expense." Additional discussion followed, and Mr. Johnson cautioned against a temporary easement, "from an appraisal standpoint," but suggested granting a relocatable easement.

In response to a question, Mr. Johnson explained that he had valued the new easements and added them to the residual value for the total value of the triangle. He stated, "I think I've covered the triangle in total as an independent parcel." He advised of not having built in an "over the barrel factor because ..., obviously, Mr. Burnaugh would have substantial consequences if the City said, 'Remove your building from our property.' And I haven't considered ... that; that's beyond the appraisal." In response to a further question, Mr. Johnson advised that the parcel and the utility lines have been in place "for a long time. Obviously, the building's been in place for as long as the building's been there and ... the parking area the same." In response to a further question, he pointed out the course of the utility lines to the west. In response to a further question, Mr. Guzman provided background information on ownership of the easements prior to passage of the federal lands bill.

In response to a question, Mr. Guzman advised that no other property owners were specifically notified, other than by publication of the agenda. "This case has been so controversial and we have contacted, through the appraiser and through our efforts, the City Engineer Jeff Sharp. Everybody else, all the surrounding properties are aware that this is happening but there none specifically notified of this meeting." Mr. Johnson responded to questions regarding access.

Supervisor Abowd disclosed that Mr. Burnaugh had contributed to her campaign, but that, as a reasonable person, she intended to participate in discussion and action on this item. Mr. Johnson acknowledged that the property in front of Capitol Loans has more value to Mr. Burnaugh. "Because of the shape ..., it's less usable ... It would still have some value if you put this on the market without any of these encumbrances ..." In response to a further question, Mr. Guzman explained that, under State law, the Board could grant Capitol Loans an exclusive preference to purchase the subject property. The lands bill prevents this, however, and requires the sale by public auction. "... that's why we thought, we sell easements to Bill Burnaugh and that clears the slate, that establishes the best line, ... and Bill doesn't have to buy them. It's just an offer. The second step, then, we put the whole thing for bid in a public process. And everybody can bid." Mr. Johnson advised caution in the current real estate market. Mr. Werner suggested considering that the value of the property, without granting the easements, "would probably not come anywhere near what you'd see in the loss of income from the business."

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Mr. Johnson reviewed the most current values of the property and the easements. He acknowledged that the easements were designed to accommodate existing use. Mr. Guzman advised that the City issued a building permit for the sign and required the landscaping. "So we have contributed to what we see there to a certain extent. Mr. Guzman acknowledged an existing title report which indicates that Capitol Loans is the fee title owner of the property. In response to a question, Mr. Werner advised of having been notified by the federal government "that this was a trespass situation about twelve years ago and we've been working with them since then. We were working through the standard procedure with BLM to actually have the land disposed. Along this method, we were going through the normal disposal and BLM was going with that and then we did the lands bill and ... we then included this property in the lands bill which stopped the normal process through BLM. They had to stop because now we had all the lands bill conditions that we had to comply with and then we had to restart ... everybody in the world is on notice that this is ... a trespass situation. We brought it before this Board to identify it as a trespass situation. The Board said, '... we're not going to do anything now, but we want this resolved.' And that's what's brought it back to you." Mr. Werner suggested "this is the fairest way to do it. The value of the land stays the same. ... It does solve the problem with having Capitol City Loan being on all its appropriate easements and lands. That resolves that issue. If, in fact, a third party buys the remaining pieces, they're aware of what's going on there. ... If [Mr. Burnaugh] buys it, and he buys it at appraised value it, that resolves it; it's gone. So we think this is truly the best way to do it and we don't see that there's any diminishment in value to the City or to the federal government."

Supervisor Abowd expressed concern that Capitol Loans would have to pay an inflated price in consideration of the divisiveness of the matter. Mr. Werner discussed the requirement to sell the property at public auction. Mr. Johnson responded to questions of clarification regarding the appraised values. In response to a further question, he recommended selling the land. "I don't know why you'd want to keep it."

Mayor Crowell entertained public comment and, when none was forthcoming, a motion. Supervisor Aldean commented on the "convoluted process. A lot of missteps were made. ... In order to protect an existing business and do ... the morally correct thing," **Supervisor Aldean moved to determine, pursuant to NRS 244.281(1)(c) that the fair market value of APN 008-523-09, containing 1.02 acres is \$115,000 and that the fair market value of easements, as noted on the record, is \$30,000 for county real estate located in the vicinity of Capitol Loans at 5951 Highway 50 East. Supervisor Abowd seconded the motion.** In response to a question, Supervisor Aldean clarified that the referenced easements are as set forth in the appraisal and as further explained by staff and the appraiser at this meeting. Mayor Crowell entertained discussion and, when none was forthcoming, called for a vote on the pending motion. **Motion carried 5-0.** A brief discussion took place regarding the action taken and the requirement for a Board action to sell the property. Mr. Guzman provided additional clarification of the procedure.

26. PARKS AND RECREATION DEPARTMENT - POSSIBLE ACTION TO APPROVE THE SUBMITTAL OF A SOUTHERN NEVADA PUBLIC LANDS MANAGEMENT ACT ("SNPLMA") GRANT APPLICATION FOR CAPITAL IMPROVEMENTS TO THE LOWER SPORTS COMPLEX AT JOHND WINTERS CENTENNIAL PARK, TO AUTHORIZE PARKS AND RECREATION DIRECTOR ROGER MOELLENDORF TO SIGN THE GRANT APPLICATION ON BEHALF OF CARSON CITY, AND TO AUTHORIZE THE MAYOR TO SIGN A LETTER OF SUPPORT FOR THE PROJECT (9:47:08) - Mayor Crowell introduced this item, and Recreation Division Operations Supervisor Joel Dunn reviewed the agenda materials in conjunction with a PowerPoint

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presentation. In response to a question, Mr. Guzman and Mr. Dunn reviewed the funding and construction time lines. Supervisor Walt advised that the Parks and Recreation Commission had approved the submittal. Mr. Dunn advised that the Open Space Advisory Committee had unanimously approved the submittal.

Mayor Crowell commended Mr. Dunn's presentation, and entertained public comment. In response to a question, Supervisor Walt explained the one dissenting vote from the Parks and Recreation Commission. Mayor Crowell entertained additional Board member and public comments. When none were forthcoming, he entertained a motion. **Supervisor Abowd moved to approve the submittal of a Southern Nevada Public Lands Management Act ("SNPLMA") grant application for capital improvements to the lower sports complex at John D Winters Centennial Park, to authorize Parks and Recreation Director Roger Moellendorf to sign the grant application on behalf of Carson City, and to authorize the Mayor to sign a letter of support for the project. Supervisor McKenna seconded the motion. Motion carried 5-0.**

27. PUBLIC WORKS DEPARTMENT, PLANNING AND ZONING DIVISION - POSSIBLE ACTION TO APPROVE AN EXTENSION OF TIME FOR ACTING ON THE FILING OF A FINAL MAP FOR THE TENTATIVE SUBDIVISION MAP, KNOWN AS COMBS CANYON I, CONSISTING OF 23 LOTS ON APPROXIMATELY 57 ACRES, LOCATED APPROXIMATELY 400 FEET NORTHWEST OF THE INTERSECTION OF COMBS CANYON ROAD AND TIMBERLINE DRIVE, EXTENDING THE DATE BY WHICH A FINAL MAP MUST BE FILED TO JANUARY 17, 2013, IN ORDER TO ALLOW TIME FOR THE DEVELOPER AND THE CITY TO ENTER INTO A DEVELOPMENT AGREEMENT TO PROVIDE FOR FURTHER EXTENSIONS OF TIME (10:03:02) - Mayor Crowell introduced this item. Planning Division Director Lee Plemel provided background information and reviewed the agenda materials. Mayor Crowell entertained Board member and public comments. When none were forthcoming, he entertained a motion. Supervisor Aldean moved to approve an extension of time for acting on the filing of a final map for the tentative subdivision map, known as Combs Canyon I, extending the date by which a final map must be filed to January 17, 2013, in order to allow time for the developer and the City to enter into a development agreement to provide for further extensions of time. Supervisor Abowd seconded the motion. Motion carried 5-0.

28. PUBLIC WORKS DEPARTMENT - POSSIBLE ACTION TO APPROVE AND AUTHORIZE THE MAYOR TO SIGN A LETTER OF SUPPORT FOR PARTICIPATION IN THE INTEGRATED SOURCE WATER PROTECTION PROGRAM (10:05:53) - Mayor Crowell introduced this item. Public Works Department Director Andy Burnham narrated a PowerPoint presentation, copies of which were included in the agenda materials. He introduced Integrated Source Water Protection Program Manager Kim Borgzinner, who narrated a PowerPoint presentation, copies of which were included in the agenda materials.

Ms. Borgzinner responded to questions regarding the amount of City staff time required for participation, the anticipated involvement of the Carson Water Subconservancy District, the plan update and time table associated with implementation, and possible costs to the City. Mr. Werner anticipates that expansion of the wellhead protection program will help define existing areas of concern and develop long-term strategies to prevent and solve problems. He advised "there are ultimate costs but they'd be there whether we did the plan or not." In response to a further question, Ms. Borgzinner discussed possible meeting locations. In response to a further question, she discussed the "slight overlap" between the subject program and the

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brownfields program. She responded to additional questions regarding the possible application of the plan for such sites as the old Mercury Cleaners building.

Mayor Crowell entertained public comments and additional Board member comments. When none were forthcoming, he discussed the benefits of participation. Mayor Crowell called again for public comments and Board member comments. When none were forthcoming, he entertained a motion. **Supervisor McKenna moved to approve and authorize the Mayor to create and sign a letter of support for participation in the Integrated Source Water Protection Program. Supervisor Walt seconded the motion. Motion carried 5-0.** Mayor Crowell thanked Ms. Borgzinner for her presentation.

29. BOARD OF SUPERVISORS NON-ACTION ITEMS:

STATUS REVIEW OF PROJECTS (10:36:28) - Mayor Crowell introduced this item, and Mr. Werner advised of having sent e-mail correspondence to the Board to advise that the Waste Management franchise agreement is effective to 2039. He provided a brief overview of the agreement renewal provisions.

INTERNAL COMMUNICATIONS AND ADMINISTRATIVE MATTERS

CORRESPONDENCE TO THE BOARD OF SUPERVISORS

STATUS REPORTS AND COMMENTS FROM BOARD MEMBERS (10:37:58) - Supervisor Aldean discussed a recent newspaper article regarding the Ninth Circuit Court of Appeals overturning a TRPA development approval. Supervisor Walt provided an update on the upcoming NACo Conference and an overview discussion from the most recent Convention and Visitors Bureau meeting. She advised of a Convention and Visitors Bureau workshop scheduled for Monday, November 19th. (10:44:27) Supervisor Abowd provided an overview of discussion which took place at the most recent Carson Water Subconservancy District Board meeting. She discussed a presentation on the Carson River Watershed water supply. Supervisor Walt advised that Polar Express tickets are now available for sale. Discussion took place regarding referrals from the Sacramento Polar Express, which sold out in the first 15 minutes.

STAFF COMMENTS AND STATUS REPORT (10:43:29) - At Supervisor McKenna's request, Mr. Glover advised that the Elections Division is ready for early voting, beginning at 10:00 a.m. on Saturday, October 20th. He provided the early voting schedule, and advised of anticipating a 91 percent turnout for the upcoming election.

RECESS AND RECONVENE BOARD OF SUPERVISORS (10:46:59) - Mayor Crowell advised of having requested Mayor *Pro Tem* Shelly Aldean to handle the Airport Authority interviews due to his professional association with Airport Authority Counsel Steve Tackes. Mayor Crowell recessed the meeting at 10:46 a.m., and reconvened at 4:31 p.m.

30. CITY MANAGER

30(A) POSSIBLE ACTION TO APPOINT ONE MEMBER TO THE CARSON CITY AIRPORT AUTHORITY TO THE CITIZEN-AT-LARGE POSITION FOR A TERM THAT EXPIRES IN OCTOBER 2013 (4:31:34) - Mayor Crowell introduced this item, and passed the gavel to Mayor *Pro Tem* Shelly Aldean.

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Mayor *Pro Tem* Aldean invited Ray English to the podium. (4:32:32) In response to a question, Mr. English discussed his interest in serving as an Airport Authority member. In consideration of the public-at-large position for which he had applied, he acknowledged a willingness to advocate, when necessary, for the non-aviation community in Carson City. Mayor *Pro Tem* Aldean discussed issues associated with the location of the airport. In response to a further question, Mr. English discussed the importance of listening to the public “and, wherever possible, to give them some relief ... In a lot of cases, those things can be resolved simply by people getting together and talking about it. ... We want to make everybody happy that the airport’s here and resolve problems if they arise.”

Supervisor Abowd commended Mr. English on his involvement with the School Board steering committee and his collaboration with the educational system. She noted Mr. English’s mechanical engineering background and his “ties with manufacturing,” as delineated in his application. In response to a question, Mr. English discussed his involvement in the manufacturing collaborative and his participation in the manufacturer’s forum meetings. Supervisor McKenna requested Mr. English to be careful to follow the provisions of the Nevada Open Meeting Law. Supervisor Walt thanked Mr. English for his application, and discussed an Airport Authority member’s involvement in starting programs in the schools. In response to a question, Mr. English discussed the importance of aviation programs at the high school level.

Mayor *Pro Tem* Aldean entertained questions of Mr. English. In response to a question, Mayor *Pro Tem* Aldean assured Mr. English of the availability of Airport Authority Counsel Steve Tackes and City Manager Larry Werner to answer questions. Supervisor McKenna discussed the importance of Mr. English providing input to the Airport Authority and the Board of Supervisors. “... take it wherever you can take it that makes Carson City a better place.”

Mayor *Pro Tem* Aldean entertained a motion. **Supervisor Abowd moved to appoint Ray English to the Carson City Airport Authority to the citizen-at-large position, for a term that expires in October 2013. Supervisor Walt seconded the motion. Motion carried 4-0-1, Mayor Crowell abstaining.** Mayor *Pro Tem* Aldean thanked Mr. English for his application and wished him well. Mayor *Pro Tem* Aldean passed the gavel to Mayor Crowell.

30(B) POSSIBLE ACTION TO APPOINT ONE MEMBER TO THE CARSON CITY PARKS AND RECREATION COMMISSION TO FILE A FOUR-YEAR TERM THAT EXPIRES IN JANUARY 2016 (4:41:10) - Mayor Crowell introduced this item and invited Joan Colburn to the podium. He thanked her for her application. In response to a question, Ms. Colburn discussed her interest in serving as a Parks and Recreation Commissioner. Supervisor Aldean discussed the responsibility of a Parks and Recreation Commissioner to “aid and advise” the Convention and Visitors Bureau. In response to a question, Ms. Colburn discussed the importance of tourism in Carson City and advised of her tourism experience. “The parks have to be available for the tourists to enjoy too. ... now, you have to appeal to families because that brings everybody in. So if you have families coming in, that’s a natural for parks.”

Supervisor Abowd advised that the Parks and Recreation Commission will be tasked with seeking new revenue sources for parks and recreation facilities. In response to a question, Ms. Colburn discussed methods by which to increase community center reservations. In response to a further question, Ms. Colburn discussed her opinion of building a gymnasium facility at the Boys and Girls Clubs location. In response to a question, she discussed her opinion of the future of Mills Park. “... having a green spot in the middle of town is very important for the aesthetic value of a town.” In response to a further question, she

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discussed concerns over park maintenance if staff is reduced based on budget considerations. She suggested implementing an “Adopt-A-Park” program.

Supervisor Walt explained the fifty percent reduction afforded non-profit theater users, and discussed possible budget constraints. In response to a question, Ms. Colburn suggested that an increase in cost to users would be passed to the theater patrons. She discussed concerns with a corresponding decrease in attendance, and expressed opposition to reducing the non-profit discount to 25 percent. Supervisor Walt explained the field-use fee for Governor’s Field and the Edmonds Sports Complex. In response to a question, Ms. Colburn expressed the opinion that an increase in field-use fees would have to be across-the-board. Supervisor Walt inquired as to Ms. Colburn’s opinion of increasing fees or cutting expenses. Ms. Colburn expressed the opinion that the budget should be reviewed to consider decreasing expenses. “... if the only answer is raising fees, ... we have to maintain the parks ..., but it would have to be fair and across-the-board.”

Mayor Crowell entertained questions of Ms. Colburn. In response to a question, Supervisor Walt reviewed the Parks and Recreation Commission meeting schedule, and discussed the average number of hours spent in meetings and on commission business. Mayor Crowell thanked Ms. Colburn for her application.

(4:53:49) Mayor Crowell invited Lee-Ann Keever to the podium, and thanked her for her application. In response to a question, Ms. Keever discussed her interest in serving as a Parks and Recreation Commissioner. In response to a further question, she expressed support for building a gymnasium at the Boys and Girls Clubs location. In response to a further question, she expressed a preference for leaving Mills Park as it is, but a willingness “to change if it could be proven that there’s a better use for the park.” She expressed opposition to the City selling Mills Park or constructing a parking lot. “As long as it was something that would benefit the community, through a park and recreation area,” she indicated support. In consideration of the current budget shortfalls, Ms. Keever expressed the opinion that cutting park maintenance staff “would be devastating. Parks ... give so much back to the community and, unfortunately, there are other projects or departments which take priority ...” She expressed the hope that “before it came to that, ... other options could be researched; maybe grants, donations ... could be used to offset the cost of maintenance ...”

Supervisor Walt thanked Ms. Keever for her application, and explained the current non-profit discount for use of the community center theater. In response to a question, Ms. Keever suggested increasing the fee “a small bit as long as the increase was fair and impartial across-the-board. ... we’d also have to look for other revenue means to help offset because everybody in the community does enjoy the theater and the productions ...” Supervisor Walt explained the field-use fee for Governor’s Field and the Edmonds Sports Complex. In response to a question, discussed concerns associated with regard to “making cuts,” and concerns associated with fee increases. “Maybe we could work out some sort of compromise. Maybe a little reduced time and a little increase in fees until the budget situation straightens itself out.”

Supervisor Abowd advised that the Parks and Recreation Commission will be tasked with seeking new revenue sources for parks and recreation facilities. In response to a question, Ms. Keever discussed methods by which to increase community center reservations. Supervisor Aldean discussed the Parks and Recreation’s responsibility to aid and advise the Convention and Visitors Bureau. In response to a question, Ms. Keever discussed methods by which to increase interactivity between the Parks and Recreation Commission and the Convention and Visitors Bureau.

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Mayor Crowell inquired as to Ms. Keever's opinion of the community moving toward sports tourism versus the community's own use of facilities. Ms. Keever didn't see a conflict. "... it would be a shame if the community was to lose control over its park and recreation facilities, but I understand that, in budget constraints, sometimes a community has to be creative and think outside the box in order to keep certain programs going." Mayor Crowell entertained questions of Ms. Keever and, when she declined, thanked her for her service as a Shade Tree Council member. In response to a question, Ms. Keever expressed the opinion that her appointment to the commission would be a benefit. Mayor Crowell thanked Ms. Keever for her application.

(5:04:28) Mayor Crowell invited Jennifer Veneziano to the podium, and thanked her for her application. In response to a question, Ms. Veneziano discussed her interest in serving as a Parks and Recreation Commissioner. She anticipated no conflict between the Parks and Recreation Department and the AYSO. In response to a question, she discussed the importance of everyone having access to any gymnasium facility constructed at the Boys and Girls Clubs location. In response to a further question, she advised of never having considered changes at Mills Park and expressed opposition to developing the green space. "... that field is used for too many things." In response to a further question, she expressed the opinion that "they do a great job maintaining things and, if we had to cut back on that, ... it would hurt the community." She expressed uncertainty regarding the funding source for maintenance of parks and recreation facility, and noted the importance of maintenance.

Supervisor Walt disclosed that she had assumed Ms. Veneziano's AYSO regional commissioner position upon her resignation. She commended Ms. Veneziano's AYSO service. In consideration of the City's budget issues, Supervisor Walt explained the non-profit user discount at the community center theater. In response to a question, Ms. Veneziano expressed the opinion that increasing fees would "be doable. It would depend ... on the organization. ... Fees are going up in everything." She expressed a preference for fund raising efforts to offset the increases. Supervisor Walt noted the field-use fees at Governor's Field and the Edmonds Sports Complex. In response to a further question, Ms. Veneziano expressed a preference for increasing fees before making cuts in the Parks and Recreation Department. "There is enough outside use of those fields, from Reno, from Tahoe, from Gardnerville ... Charge them more to come use our fields rather than the Carson community ..."

Supervisor Aldean reviewed the Parks and Recreation Commission's responsibility to aid and advise the Convention and Visitors Bureau. In response to a question, Ms. Veneziano discussed methods by which to increase collaboration between the Parks and Recreation Commission and the Convention and Visitors Bureau. Supervisor Abowd disclosed that she is Ms. Veneziano's religious education teacher, but that this would not influence her vote. She thanked Ms. Veneziano for her application, and advised that seeking new revenue sources for parks and recreation facilities will be a future task of the Parks and Recreation Commission. In response to a question, Ms. Veneziano expressed the opinion that many people are unaware of the availability of community center meeting space. She discussed methods by which to publicize availability.

In response to a question, Ms. Veneziano discussed her pole vault manufacturing business. Mayor Crowell entertained questions of Ms. Veneziano and, when she declined, thanked her for her application and her dedication to the community.

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The Board members discussed the applicants' experience and qualifications. Mayor Crowell entertained a motion. **Supervisor Aldean moved to appoint Lee-Ann Keever to the Parks and Recreation Commission to fill a four-year term that expires January 2016. Supervisor McKenna seconded the motion. Motion carried 5-0.**

Mayor Crowell invited Ms. Keever to the podium and congratulated her on the appointment. (5:23:48) Ms. Keever committed to working hard and helping "to bring our parks and recreation facilities into the 21st century, to work on marketing, to work on fees ..." Discussion followed. Supervisor Aldean advised Ms. Keever of the new advisory boards, commissions, and committees policies and procedures, and requested her to review them. Mayor Crowell discussed the formation of the Regional Sports Authority, and suggested the involvement of the Parks and Recreation Commission and the Convention and Visitors Bureau. He and the Board members thanked Ms. Keever.

PUBLIC COMMENT (5:27:44) - Mayor Crowell entertained public comment; however, none was forthcoming.

ACTION TO ADJOURN (5:27:58) - Mayor Crowell adjourned the meeting by unanimous vote at 5:27 p.m.

The Minutes of the October 18, 2012 meeting of the Carson City Board of Supervisors are so approved this 13th day of November, 2012.

ROBERT L. CROWELL, Mayor

ATTEST:

ALAN GLOVER, Clerk - Recorder



CARSON CITY, NEVADA
CONSOLIDATED MUNICIPALITY AND STATE CAPITAL

October 18, 2012

RECEIVED
NOV 07 2012
ENVIRONMENTAL PROTECTION

Kim Borgzinner, Coordinator
Integrated Source Water Protection Program
NDEP Bureau of Water Pollution Control
901 Stewart Street, Suite 4001
Carson City, Nevada 89701

Subject: Carson City Participation in the State of Nevada's Integrated Source Water Protection Program

Dear Ms. Borgzinner:

At our meeting on October 18, 2012, the Board of Supervisors approved Carson City's participation in the State of Nevada's Integrated Source Water Protection Program (ISWPP).

We, the Carson City Board of Supervisors, consider the quality of the City's drinking water supply a critical consideration in its future. Drinking water free from contamination is a resource that must be preserved and protected in order to ensure the future sustainability of each of our communities. We understand that the Nevada Division of Environmental Protection's Bureau of Water Pollution Control (NDEP) administers the ISWPP for the purpose of providing technical assistance to both the City and its communities on drinking water protection and preservation.

Further, we understand that the development and implementation of Community Source Water Protection (CSWP) plans within the City are an integral part of the City's participation in the ISWPP. The Carson City Board of Supervisors supports development of community-specific CSWP plans that promote local knowledge and understanding of drinking water resources, and local control over how these resources are best managed and protected.

The Board believes that the effort to develop CSWP plans throughout Carson City will entail a long-term commitment from the City and all of the communities within the City. Therefore, the Board directs staff to provide support to both NDEP and community representatives, consistent with the City's existing wellhead protection program, toward successful completion of CSWP plans throughout Carson City.

Sincerely,

Robert L. Crowell, Mayor
Board of Supervisor

Robert L. Crowell, Mayor
201 North Carson Street, Suite #2, Carson City, Nevada • 89701
(775) 887-2100 • Fax: (775) 887-2286
e-mail: rlcrowell@carson.org

Agenda
Source Water Protection Program
January 28, 2013

1. Introductions

2. Map Review

- **Verify locations of all active wells**

3. Well operation (rates, combinations) for all wells.

- **Discuss operations and seasonal use**
- **Discuss closed wells and future protection of capture zones**

4. Contaminant Source review relative to active wells.

- **Areas with private wells**
- **Areas still on septic systems**
- **USTs**
- **UIC and Groundwater Discharge Permits**
- **Pretreatment Program**
- **Agriculture and golf courses**

5. CSWPP Team

6. Management Strategies review relative to active wells.

7. Next steps, assignments

COMMUNITY SOURCE WATER PROTECTION PLAN DEVELOPMENT
MEETING WITH CARSON CITY PUBLIC WORKS STAFF
JANUARY 28, 2013, 1:30 TO 3:00 P.M. (CC)

SUMMARY NOTES

Attending

Jill Sutherland, Marvin Tebeau -RCI
Rit Palmer, Brandon Mathiesen, Debra Richards - CC

Discussion

1. Introductions
 - Map presented shows 5 to 10 year capture zone
2. Map Review
 - Reviewed each well for location and operations.
3. Well Operations
 - Well operations vary seasonally. Many operated for summer peaking only. Winter mostly off-line. Typical use May through August.
 - Regional system connection soon and Minden water will supply the 4880 zone initially, not Quill. Quill system not connected to "4880 zone" which is downstream, but in the future would be connected and well water could be blended.
 - Future production may vary as water received from Minden.
 - Aquifer recharge hoped for on the east side.
 - Some operations for maintenance and water rights will continue on almost all wells. Rotate wells through standby after system connected.
 - Initially no change in Prison Hill "zone" or Quill "zone" well operations.
 - Wells with poor water quality can be shut down or blended.

Well No.	Comments
1 and 2	Abandoned
3	Limited year round, Apr. – Sept. and about ¼ time in winter
4	Not used, inactive
4B	Not constructed
5	Limited year round, Apr. – Sept. and about ¼ time in winter
6	Limited year round, Apr. – Sept. and about ¼ time in winter
7	May – Aug. Arsenic
8	Apr. – Sept.
9	Apr. – Sept.

10B	July
12	Not used, inactive
16B	Not used recently, past 3 to 5 years Peak demand only, small volume
16	Monitoring well only
10A or 10	Abandoned no pump
11A & 11B	My – Aug. pump simultaneously
24	Abandoned
24B	Apr. – Sept.
25A	1 month only for backup - June
25B	Apr. – Sept.
33	May – Sept.
34	Apr. – Sept.
38	June – Aug.
40	Moundhouse Tank - Limited year round, ¼ time winter operations, Apr. – Sept.
41	Prison Hill Tank – Limited year round, ¼ time winter operations, Apr. – Sept.
41	Abandoned
43	May – Aug.
44	June – Aug.
45	Apr. – Sept.
46	Minimal use for last 4 to 5 years, residential area, makes noise, June – Aug.
47	Not used for about 5 years, poor WQ Arsenic, extreme peak
48	May – Sept.
49	June – Aug.
50	June – Aug., pumping now for transmission,
51	Apr.- Sept.
53	June – Aug.
54	Rarely run, no storage. Extreme peak only
55	Apr.- Sept.
Frontier Village	Abandoned
Cottonwood MHP	3 wells?
Terrace Garden	5 th Street?
Millhouse Inn	Carson Street, near city connection
Private wells	Roughly 500 mostly single family – RCI provided a list
Tribe Wells	Colony and Stewart (not same as State well)
State Stewart Well	Treat for aesthetics only?

4. Contaminant Sources

- Areas of town with private wells – list from Debra Richards
 - Emerson and arrowhead
 - Upper fringe along Prison Hill

- Areas with septic systems: Timberline, Lakeview, Bonanza/Sutro, south of Stewart St.
 - Monitoring wells at mouth of Vicee for recharge project, TDS/EC data contact Kelly Hale
 - Kings Canyon God Quality, Ash Canyon crumbly granite arsenic
 - East die wells uranium increase with drawdown
- Eagle Gas Station – some issues
- Debra can query database for water only, sewer only, and storm drain only, then save in EXCEL files.

5. Management Strategies

- CC does not get the information directly when a private well closed
- Didn't really discuss – David unable to attend

6. Next Steps

- Summarize well information for CC confirmation.
- A couple weeks, provide maps and preliminary modeling results.

Action Items

Debra – Download for customers with well only, sewer only, or storm drain only.

Brandon – Summary of annual well pumping data.

RCI – Update well info for CC verification.

Preliminary Meeting with Carson City September 3, 2013 1:30 to 2:30 Public Works Lg. Conference Room

Attending

RCI: Lynn Zonge, Jill Sutherland

Carson City Public Works: Darren Schultz, David Bruketta, Andy Burnham

Discussions

Briefly reviewed what has been done to date.

Brief discussion regarding water resources

Pumping scenarios will change when water is turned on from Minden

CC needs to decide management areas

CC wants to protect against worst case scenario—max pumping rate

Described flex viewer – great tool

NDEP looks for in teaming and collaboration, they mentioned these for interdepartmental teaming

- Jerry with the state water systems
- Lee Plemel
- Kelly Hale
- Ed James
- Rit Palmer
- Loli GIS Person
- Jeff who manages the GIS department
- NDOT??
- Manufacturing??

Action Items

- Finish SWPAs and report for delineation
- Kick off meeting with full team
- Include Effluent Management areas
- Schedule all 4 meetings at the same time (Karen Leeks)



Agenda

Source Water Protection Program

Source Water Protection Program

Countywide Team Meeting

Date: October 03, 2013

Time: 1 to 2:30 pm

Where: Carson City Public Utilities Conference Room

1. Introductions

2. Source Water Protection Program Overview

- ✓ What the program is, and what the program is not
- ✓ Requirements for a State endorsed plan
- ✓ Benefits of collaborative planning

3. What we have accomplished to date

- ✓ Contacts with Public Water System owners/operators; WHPP review; updated well information; hydrogeology, water levels, well locations, pumping information
- ✓ Info availability, www.rci-nv.com/source_water_protection/

4. Draft well capture zones for review

- ✓ View preliminary maps and various layers via Flex Viewer
- ✓ <http://m.douglasnvgis.info/carson/swp/>

5. What Should the Plan Accomplish? Plan Goals and Objectives

- ✓ Existing Plans & What we have heard so far
- ✓ Brainstorm goals and objectives

7. Identify Roles/Contacts

- ✓ Technical (system information, data review)
- ✓ Public education and outreach
- ✓ Planning and management strategies

8. Project Timeline Next Steps

- ✓ Tuesday, December 17 – 10:00
- ✓ Tuesday, February 11 – 10:00
- ✓ Wednesday, April 23 – 10:00



Community Source Water Protection Countywide Team Meeting
Lyon County Utilities
34 Lakes Blvd, Dayton NV 89403

Meeting Minutes
Carson City Public Works
October 3, 2013 – 1:00pm

Attendees:

Nevada Division of Environmental Protection (NDEP): *Kim Borgzinner*
Resource Concepts, Inc. (RCI): *Lynn Zonge, Jill Sutherland*
Carson City Public Works (CCPW): *Andrew Burnham, Rit Palmer, Jeff Sharp, David Bruketta*
Carson City Planning Department (CC Planning): *Lee Plemel*
Marlette Water (Stewart Complex): *Jerry Walker*
Douglas County GIS (Flex Viewer): *Andrew Thorup*
Carson City Fire Department: Tom Tarulli

The meeting commenced at approximately 1:15pm with the introduction of the attendees present.

1. Kim Borgzinner opened the meeting with an overview, explaining that this program would be replacing grants, the water protection plan would be looking at land around water sources (zones), and a comprehensive planning effort was being made through hiring a third party, RCI. She went on to talk about Douglas, Nye, and White Pine counties and the Carson City plan already in place needing updating as the information originally gathered was now 20 years old. She stressed that this program would *not* be addressing existing problems, e.g. arsenic. Her overview continued to explain the benefits of collaboration being that funding would carry a higher priority. Nye County, being a large rural area, was using their funding to train first response personnel to identify water contaminants, whereas the City of Fernley was focusing on industries complying with permit regulations.
2. Ms. Borgzinner then asked the group to talk about Carson City issues and identify concerns, explaining that her role was to guide the group in the process, not direct the group's interests.
3. Jill Sutherland referred to the Carson City plan currently in place and the water system changes that had occurred since its inception, using the GIS mapping on Flex Viewer to show the following:
 - Existing 10 year and 25 year wellhead capture areas
 - Proposed 2 year and 5 year capture zones that need to be added

Recently published USGS studies provide updated aquifer characteristics the affect the capture zones modeling result. Changes to the system operation affect the results (new or inactive wells). It was suggested that the inactive Carson City wells remain on the mapping for possible future use in management areas. This is consistent with BWPC guidance, which also requires use of maximum pumping rates. Water recharge along the Sierra front is a controlling factor and the

watershed topography become very important to the capture zone mapping. Source water protection was discussed including surface water sources and underground sources not owned by Carson City. The mapping currently includes other public-private well sources (Cottonwood Mobile Home Park, Millhouse Inn, and the Stewart Complex). At present not modeled, but will be pending RCI meetings with the owners/operators.

Lynn Zonge gave a brief overview on the plan goals, the importance of including ALL water sources (groundwater wells, surface water streams, and Carson River induction wells, and Marlette Lake), and addressing the management strategies to accomplish those goals. She encouraged the updates to the Carson City plan to be timely in order to create a “living document” that could be readily utilized, rather than a snapshot that is archived. Kim Borgzinner supported this concept adding that the implementation goal of NDEP was to have all 17 counties participating in ongoing water planning and the State only doing planning updates every 10-12 years. A 10-year planning window could be incorporated in the plan goals and strategies.

Andy Burnham supported the planning, management, implementation, and updates as being very helpful to Carson City. He agreed that *all* water sources needed to be considered and added to the goals and objectives already listed in this project. He also stressed the importance of including Douglas and Lyon counties in any water planning Carson City considers. Carson City, Douglas County, and Lyon County currently meet quarterly, as water is now shared between the three counties and any changes need to be a collaborative effort.

4. The group discussed educational methods for other government agencies, the public, outreach, and schools. NDEP currently uses a groundwater and watershed models that can be very effective for all groups. It was suggested that the educational methods for different groups be tied together if possible. Team had not seen the models and maybe a presentation would be in order at a future meeting.
5. The Team discussed the affect of remaining septic systems on local groundwater: including the need for additional research and analysis, completing the process of mandatory sewer connections, and adding the layers in the Flex Viewer to Carson City’s system. Adding an emergency layer and a hazmat layer were also discussed. The Fire Department representative indicated this information might be available through their department. Concern about releasing hazmat information prompted a discussion on Flex Viewer security as well. Carson City staff requested addition of water, sewer, and stormwater shape files to the Flexviewer for review. Andrew Thorup indicated it could be done pretty easily. Layers may show direction of flow and retention basins that would help for spill prevention and control. Andrew was willing to add whatever layers the group wanted or needed and explained some options that might be helpful.
6. The current data source for Carson City is primarily the CCPW billings, while the data source for Lyon County is the Assessor database. Mr. Burnham prefers the CCPW database continue to be used as the data source. Jill Sutherland suggested that RCI expand that data source by using NAICS Codes to help identify possible contaminants by industry.
7. The team currently has three scheduled meeting dates and individuals were assigned to specific reviews as the planning developed:
 - David Bruketta –Lead Point of Contact (Wastewater and Environmental Control)
 - Lee Plemel - Planning Review
 - Rit Palmer –Technical Review (Well/Water System Information)

- Rob Fellows – Technical Review (Stormwater and BMPs)
- ??? – Education and Outreach

Coordination with the U.S. Forest Service and State Parks desirable to protect surface water sources, so, adding an Open Space liaison Juan Guzman was suggested. He may recommend contacts with other State and Federal land managers. , Carson City School District, and Carson City Fire Department representatives to complete the Team cooperative effort.

8. Additional conversation revolved around Carson City having no plans for adding new wells over the next 10-20 years (maybe never). Douglas County requires knowing water protection zones before approving any new development and Carson City may want to adopt a similar process. The Fire Department needs to be made aware of the 2-year capture protection areas. Stormwater was identified as being important as a potential contaminant source.

General meeting adjourned at approximately 2:30 p.m.

Tom Tarulli with the Carson City Fire Department arrived as the meeting was adjourning, as his schedule indicated a meeting start time of 2:30pm. Jill Sutherland and David Bruketta stayed and gave the new arrival an overview of the meeting topics and a brief introduction to Flexviewer.

Tom indicated hazmat databases are developed with the State Fire Marshall and information provided by Carson City Fire Department. Sharing information and the security around that information were also discussed. Tom indicated emergency management had the following roles with respect to source water protection: contain and control spills of any kind, represent the Cities interest in the event of wildfire on public land (infrastructure, watershed, prioritizing).

Post meeting discussion also included impacts on surface water protection and Tom pointed out two: wildfire (ash, erosion, debris) and vehicle accidents (leaking fuel and oil into surface water). Questions were asked about illegal dumping but not seen as a major issue along the Sierra front).

Tom suggested that many fire service personnel do not realize where Carson City water comes from (95% surface water in the winter, 30% surface water in the summer) and 30 to 40 wells throughout the City. Once a year friendly reminder could be incorporated in an annual update with the environmental control staff. Chief Stacy Giomi is assigned as emergency manager for the group and Assistant Chief Tarulli will be attending meetings as well when possible.

The possibility for some joint efficiency in inspection of facilities for fire, hazmat, pretreatment, stormwater, and source water protection) was considered. Overlaying the SWPAs was seen to be a helpful tool and similar to the Fire Dept. overlay of urban/wildland interface neighborhoods.

Meeting with Fire Department adjourned 3:05 p.m.



Agenda

Source Water Protection Program

Source Water Protection Program

Countywide Team Meeting

Date: December 17, 2013

Time: 10:00 to 11:30 pm

Where: Carson City Public Utilities Conference Room

1. **Introductions**
2. **What we have accomplished to date**
 - ✓ Drafted Source Water Protection Plan Goals
 - ✓ Identified Source Water Protection Plan Team
 - ✓ Delineated draft SWPA from predicted well capture zones
 - ✓ Preliminary potential contaminant sources
 - ✓ View preliminary maps and various layers via Flex Viewer
3. **Finalize Plan Goals**
 - ✓ Draft Goals for review and comment (attached)
4. **Source Water Protection Area (SWPA) Boundary**
 - ✓ Draft Conceptual Model Report
 - ✓ SWPA boundary for surface water sources
5. **Potential Contaminant Sources**
 - ✓ Overview
 - ✓ Preliminary evaluation
6. **Looking Forward**
 - ✓ Management Strategies
 - ✓ Public Outreach and Education
 - ✓ Contingency Plans
7. **Project Timeline Next Steps**
 - ✓ Tuesday, February 11 – 10:00
 - ✓ Wednesday, April 23 – 10:00



Community Source Water Protection Countywide Team Meeting
Carson City Public Works
3505 Butti Way, Carson City NV 89701

Meeting Minutes
December 17, 2013 – 10:00am

Attendees:

Carson City Public Works (CCPW): *Rit Palmer, David Bruketta, Kelly Hale,*
Carson City Parks & Recreation: *Juan Guzman*
Carson City Planning Department (CC Planning): *Lee Plemel*
Carson Water Subconservancy District: *Ed James*
Marlette Water (Stewart Complex): *Jerry Walker*
Nevada Division of Environmental Protection (NDEP): *Kim Borgzinner*
Resource Concepts, Inc. (RCI): *Lynn Zonge, Jill Sutherland, Lynne Scott*

1. Lynn Zonge thanked everyone for attending the second Countywide Team Meeting, and for the feedback and input from team members that has transpired since the last meeting in October. David Bruketta was especially thanked for his input with regard to the formation of goals and objectives for the Carson City Source Water Protection Plan.
2. Jill Sutherland reviewed the accomplishments made by the team since the kickoff meeting. Positions on the team have been defined and filled by those who have volunteered in their various areas of interest and expertise, Source Water Protection Plan goals and objectives have been outlined, predicted well capture zones and preliminary source water protection areas have been delineated on the Flex Viewer tool, and identification of potential contaminant sources has begun. Jill noted that Andrew Thorpe of Douglas County GIS is leaving, but the work he has been facilitating with the Flex Viewer tool will be carried on by Eric Schmidt.

David Bruketta reviewed comments of team members and made suggestions to narrow down objectives, look at available resources, include as objectives the work that has already been done (ie: 10 and 25-year protection areas), and clean up the wording of the stated goals and objectives. He identified two basic goals, and suggested that the rest could be classified as objectives relating to those goals. David shared the outline that he developed using application of the SMART acronym concept to define goals and objectives that would be Specific, Measurable, Attainable, Results-oriented and Time-bound.

Ed James interjected a question regarding identifying existing plumes and their contaminant sources. There was some discussion about the protection of surface water as it relates to the protection of the quality and supply of groundwater. Kim clarified that the focus of NDEP's program is groundwater, and the funding comes from combined sources including the US EPA Safe Drinking Water Act. As such, surface water modeling is not an objective that would be funded by NDEP. Lynn Zonge advised the team that specific watersheds are already pretty well identified and it is an easy task to call out the surface water. Lynn mentioned the importance of

Community Source Water Protection Countywide Team Meeting
December 17, 2013 Meeting Minutes
Page 2

identifying where our drinking water comes from, where the groundwater recharge areas are, and she reiterated that water protection should include all drinking water resources.

Kim Borgzinner reminded the Team that specific actions must be identified by the Plan in order to obtain resources and funding from NDEP. She suggested that items 1-6 of the draft goals and objectives could become the action plan. The inter-relation and structure of the Plan should include goals, objectives and strategies (action plan).

3. Jill Sutherland advised that RCI would finalize the Plan goals and objectives based on David Bruketta's outline and the suggestions and comments of the Team.
4. Preliminary Source Water Protection Area (SWPA) boundaries showing the conceptual model 2-, 5-, and 10-year well capture zones with pump rates were reviewed by the Team using the Flex Viewer tool. The existing current Plan has 25-year and 10-year capture zones already identified, so 2- and 5-year capture zones were added for each well as required by the State guidelines. The boundaries needed to be updated to include new data such as new wells, closed wells, future wells, etc. Using the WhAEM model, maximum pumping rates are used to identify a conservative capture zone including a composite area for wells in close proximity to combine modeled capture zones not accounting for topography. The team discussed keeping boundaries identified on wells not currently in use, and bringing high-density septic areas back into the protected areas. There was further discussion about Well 12 not being used. David Bruketta inquired about a layer in the Flex Viewer map to identify future development by zoning. Kim Borgzinner mentioned that the Plan can identify various "watch" areas that are not necessarily inside a capture zone or a protection area. The GIS tool can handle many different levels and categories of information that are easily turned on and off as needed for specific uses.

NDEP provided each team member with a flash drive containing the draft report of the proposed and existing SWPA boundaries for review and comment from the Team within the next thirty days. Team members were asked to contact RCI with their questions and input regarding the SWPA boundaries.

5. Potential Contaminant Sources (PCS) can be identified and incorporated into the Flex Viewer tool through many different methods. Data sources were outlined on a fact sheet handout, including NDEP eMap resources, Bureau of Corrective Actions. EPA downloaded files, DMV licensing records, Nevada employer database including NAICS codes and industry locations, State Fire Marshall Hazardous Materials locations, etc. Other valuable data resources could come from first-hand knowledge, information from public utilities, windshield survey, Phase I ESA permits and licensing information. Layers of PCS information mapped within capture zones were demonstrated using the Flex Viewer tool. The "information" tool and drawing tool were also demonstrated, and team members were asked to use these tools to save and email specific input for the Plan. David Bruketta requested that critical information be called out to identify the areas that must be kept maintained and updated on a regular basis. Kim advised deciding on a time frame for updates, and Lynn Zonge mentioned that the Plan should consider the available technology. Implementation projects included as part of the Plan can also be considered for funding by NDEP. Jill Sutherland noted that the Plan document appendix will contain a complete list of potential contaminant sources identified by the Plan.

There was discussion regarding consideration of infiltration basins and air boxes as potential contaminant sources. Juan Guzman brought up the subject of recreational off-road vehicle use

Community Source Water Protection Countywide Team Meeting
December 17, 2013 Meeting Minutes
Page 3

along Goni Road and expressed an idea that BMP's for off-road vehicle management and motorized vehicle restriction enforcement could be part of the SWPP, providing protection areas for the ponds used for infiltration basins. There was also discussion regarding access issues causing potential contaminant sources, such as dumping, accidents, spills and sediment. There was mention of EPA signage regarding mercury issues around the Carson River. Kim Borgzinner noted that a collaborative approach to these types of issues carries much more clout with the Department when funding is at stake, but reminded the Team that these management strategies and actions must be outlined specifically in the Plan to be considered for funding. Different management strategies should be identified for different levels are to be decided by the Team.

Because Carson City already has a Plan endorsed by NDEP for 25-year capture zones, Kim Borgzinner advised addressing the reasons for changing the Plan from 25-year to 10-year capture zone areas.

A suggestion was made to add a layer in the Flex Viewer for reclaimed water.

6. Issues still to be discussed and decided by the Team in looking forward to the next steps in formulating the SWPP include management strategies, education components, public outreach and contingency plans. Kim encouraged collaboration with schools, businesses and public forums to accomplish the required public education components.

Development and statement of a Contingency Plan is the final component of the SWPP. Since Carson City already has a SDWP approved Emergency Response Plan in place, it would be advisable to reference existing Plans in this area. Kim advised the Team to outline a long range plan to protect future water resources.

7. The next SWPP Countywide Team Meeting was scheduled for February 11 at 10:00 a.m. Team members were reminded to bring their flash drives to each meeting to load with new and updated information. The meeting was adjourned at 11:25 a.m.



Agenda

Source Water Protection Program

Source Water Protection Program

Countywide Team Meeting

Date: February 11, 2013

Time: 10:00 to 12:00 pm

Where: Carson City Public Utilities Conference Room

1. Introductions

- ✓ Display watershed and groundwater models

2. Project Timeline

- ✓ Team Meeting, Wednesday, April 23 – 10:00
- ✓ Draft Document for Team Review – Mid April to Mid May 14
- ✓ Board of Supervisors, June 19

3. Prior Discussion Items

- ✓ Approve final goals and objectives (attached)
- ✓ Submit comments on Draft Capture Zone Delineation Report (12/17)
- ✓ Review/approve Source Water Protection Areas (SWPAs)
- ✓ Review draft inventory of Potential Contaminant Sources
- ✓ Plan outline is ready for review

4. Management Strategies to Continue and/or Expand

- ✓ Regulatory (municipal code, master plan, development standards)
- ✓ Public education (general public, schools, industry, landowners, etc)
- ✓ Pretreatment program
- ✓ Commercial septic tank program
- ✓ Domestic septic tank program
- ✓ Industrial waste disposal program
- ✓ Solid waste management program
- ✓ Household hazardous waste program
- ✓ Underground storage tank program
- ✓ Shallow groundwater monitoring
- ✓ Spills and complaints
- ✓ Wellhead (source water) protection signage
- ✓ Maintenance activities
- ✓ MOU with other agencies or water systems

5. Brainstorm Action Items



Community Source Water Protection Countywide Team Meeting
Carson City Public Works
3505 Butti Way, Carson City NV 89701

Meeting Minutes
February 11, 2014 – 10:00am – 12:00pm

Attendees:

Carson City Public Works (CCPW): *David Bruketta*
Carson City Planning Department (CC Planning): *Lee Plemel*
Marlette Water (Stewart Complex): *Blake Gudmundson, Jerry Walker*
Nevada Division of Environmental Protection (NDEP): *Kim Borgzinner*
Resource Concepts, Inc. (RCI): *Kristin Roaldson, Lynne Scott, Jill Sutherland, W. Marvin Tebeau*
Lynn Zonge

- 1. Introductions** – Display watershed and groundwater models: Lynn Zonge and Jill Sutherland introduced Kristin Roaldson to the Team members and explained the use of the watershed and groundwater models as part of the educational component of the Community Source Water Protection Plan (CSWPP). Kristin led the Team through a dry-run demonstration using the two models to explain the visual process that can be taught in classrooms and at other public events to show the effects of various human activities that can contaminate groundwater through runoff and affect pumping wells through seepage into the water supply. Jill advised that there is already good response and acceptance to incorporation of these educational tools into existing 6th grade science curriculum, and the models have also been used by Carson River Wranglers during festival events. NDEP can help with the purchase of models where incorporated into a county CSWPP and endorsed by the State; the school district is encouraged to take ownership of the program, once introduced.
- 2. Project Timeline** – RCI will bring a comprehensive draft CSWPP document to the next Team meeting on April 23, 2014 at 10:00 a.m. There will be a 30 day comment period for the Team to review and submit updates and changes, after which RCI will begin finalizing the CSWPP document during mid-May for presentation to the Board of Supervisors on June 19.

A Table of Contents for the CSWPP document was reviewed by the Team, giving an outline of the content and appendices. Two-year and ten-year source water protection areas will have potential contaminant sources (PCS) identified by the Plan. A PCS table format (first of several pages) was reviewed by the Team for discussion about sources for obtaining PCS information, NAICS codes, identification of the source water protection areas (SWPA), and presentation and use of this information within the Plan. A demonstration of proposed SWPA boundaries was provided to the Team on the Flex Viewer. The PCS data from various sources has been added as a layer in the Flex viewer, and was compared to the SWPA layer to identify PCS inside two- and five-year protected areas. The Flex Viewer also includes layers identifying 25-year and 5-year capture zone, and combines closed well capture zone into one SWPA. In addition to being included on the Flex Viewer, capture zones will also be identified in the Plan's technical

appendix. The Team also discussed existing 10-year and 25-year capture zones that follow canyons, as well as recharge areas and direct surface watershed areas identified by USGS.

Jerry Walker noted that Marlette lake direct surface water supply should be identified as a management area. Protection of drinking water supplies as a management objective should include coordination with other agencies (ie: USFS) for better understanding and cooperation between agencies. Lynn Zonge mentioned developing management strategies and different treatment in the CSWPP for Ash Canyon and North Canyon watersheds. Lee Plemel advised that the sub-basin should have different treatment in the Plan as well. Marvin Tebeau made mention of different threats to drinking water supplies that can be caused by public access to Ash Canyon and the City currently doing management plans for a road up Ash Canyon to be maintained by Carson City, in coordination with USFS.

3. **Prior Discussion Items** - Jill Sutherland directed the Team's attention to a "DRAFT Goals and Objectives" handout and advised the Team that these have been "re-massaged" based on input from the Team members since the last Team meeting. Kim Borgzinner recommended a slight wording change for Goal 2, Objective 5 from "implementation windows" to "planning windows" to clarify the objective. The DRAFT Goals and Objectives were approved by the Team with no further suggestions or recommendations.
4. **Management Strategies to Continue and/or Expand** – Jill Sutherland advised that RCI has used the 1998 Carson City Well Head Protection Plan as a base for the CSWPP with regard to management strategies and to decide which strategies to focus on and where to apply them. A ten page "Draft Management Strategies – Worksheets" was reviewed in detail with the Team.

The Team discussion regarding regulatory measures included expanding the existing management strategies to incorporate and update municipal codes and ordinances and to give oversight regarding environmental permits in the sustainability codes. Check lists tied to business licenses or special use permits have been proposed in the City of Fernley, to get a handle on industrial and commercial development. Lee Plemel recommended reinforcing general objectives contained in the existing Master Plan, but advised against adding to or amending the Master Plan. Marvin Tebeau commented that referencing the Master Plan could open the door for detail and specifics of environmental protection management strategies Lee also commented that the strategies must be applicable to the Carson area and climate.

Kim Borgzinner felt that increased awareness and responsibility would result when there was a mechanism in place as part of the business licensing process to indicate when a business location or proposed location is within a source water protection area. Implementation would be simpler with one jurisdiction on a county-wide basis. Kim also advised keeping a broad focus, but include specific enough strategies and action items to get funding as needed. Jill Sutherland indicated that it was not the intent of RCI to include specific municipal code references in the CSWPP, but to keep the language as general and broad as possible.

Lynn Zonge discussed the idea of putting funding mechanisms in place as part of creating management strategies; for instance, adding a fee for source water protection to the licensing process. She recommended that the CSWPP should identify management strategies to facilitate potential funding from NDEP for technical assistance to review code and plan for revisions, such

as Lee Plemel's suggestion for code updates relating to septic system construction that would be appropriate for watershed and recharge areas. Collaboration with other local municipalities in developing Low Impact Design Standards for storm water was also discussed as an appropriate CSWPP action item under regulatory measures.

Jill Sutherland reviewed the oversight measures of the pretreatment systems, and suggested a CSWPP management strategy to add APN data into the PCS database for GIS updating would provide more relevant data within the Flex Viewer tool than street addresses alone provide. Technical assistance to update PCS data can be a management strategy. David Bruketta advised the Team that the ECA roles and responsibilities have shifted and in the past had been combined with the Health Department. There is a need to identify where the responsibility for inspection and identification of prohibited wastewater discharges falls now. David expressed an interest in developing a flyer specifically for those in source water protection areas, using the Flex View data to target the appropriate potential contaminant sources within the SWPA.

There was brief discussion that the Commercial Septic Tank Program is not needed as part of the CSWPP document because it is handled with existing code prohibiting additional construction. The few existing commercial septic tanks can be incorporated under pretreatment program management strategies. Domestic Septic Tank Program uses 2-, 5-, and 10-year capture areas to facilitate work that still needs to be done to mandate connection to sewer service in Southeast Carson areas. Lee Plemel recommended adding stronger language and using the capture zones to provide a valid reason to regulate a longer, more appropriate (25 year) management time frame.

Industrial Waste Disposal Program, solid waste and household hazardous waste issues are all tied to Landfill operations. Carson has managed these programs since the 1990s. David Bruketta will go over these sections to clean up outdated language and recommend updates. The concept of the management strategies under these sections is to make proper waste disposal available and thereby avoid some of the potential for dumping inside protected areas. There was discussion regarding a management strategy to include updates to Household Hazardous Waste literature and on the web site. Kim Borgzinner advised that making a public awareness connection regarding waste disposal effects on drinking water could be a valuable part of educational material to gain public support for proper waste disposal.

Underground city-owned storage tanks are all being removed within the next year. The Underground storage Tank Program in the CSWPP can be modified based on non-city owned tanks, both above ground and underground and include coordination with the Fire Marshall.

David Bruketta will check with the Health Department to clarify whether a shallow groundwater monitoring program is still active. Looking forward, are there needs assessments for developing monitoring in specific target areas or for specific contaminants? Kim Borgzinner advised that triggers for needs assessments be identified by the CSWPP with set priorities, such as nitrate impact monitoring.

Spills and complaints are handled on an ongoing basis by local and State agencies. There is no additional action item identified in the draft CSWPP under this category.

Wellhead Protection Signage should focus on source water protection areas. There is no signage at Marlette. The Team discussed the educational value and practical value of signage including visible boundaries (maps) and types of signage that could make a better impact under the CSWPP. Evaluation of existing and proposed signage with a public education component was recommended as a management strategy.

Maintenance Activities: There was further discussion regarding the ECA and liaison to other City agencies. Kelly Hale is the ECA supervisor. A correction was noted that the ECA does not maintain MSDS information for industries. The Team discussed low impact development and plans to infiltrate water on parcel basis and eliminate runoff. There was a suggestion to overlay a stormwater layer with the source water protection areas.

Memorandum of Understanding: The Team discussed the CSWPP as a community-wide plan involving private water systems coordination in combination with public water systems. There was discussion regarding the Cottonwood Wellhead Protection Plan and existing nitrate issues. There was also discussion regarding seeking MOUs with property owners, state parks and USFS.

Public Education: the CSWPP should identify target groups for specific educational efforts based on potential contaminant sources and source water protection areas. The Team recommended generalizing the language to Carson City, rather than identifying specific departments or agencies. Regular updates to the web site was identified as a necessary management strategy in the area of public education. Kim Borgzinner advised that the State likes to see overlap with other agencies; State Parks, land owners, USFS, etc. in outreach and efforts to educate the public regarding protection of water supplies. Jerry Walker advised that there is also a need for educating and coordinating agency management, especially relating to recreational areas like Marlette, because there is very little cooperation or understanding of water protection issues.

5. **Brainstorm Action Items** – Discussion of action items was included in management strategies discussions. Please refer to updated management strategies attachment.

Management Program Development

In the development of the wellhead protection management tools, the following categories of management strategies were explored:

- Zoning Provisions
- Site Plan Review
- Design Standards
- Source Prohibition
- Purchase of Property or Development Rights
- Public Education
- Groundwater Monitoring, and
- Household Hazardous Waste Collection

The Local Planning Team has reviewed the measures adopted in the Carson City Wellhead Protection Program (WCE, 1999) and recommends the following actions to update these management strategies consistent with current and anticipated conditions in the 10-year planning window (2014 to 2024).

Regulatory Measures:

There are several areas in the municipal code that have been adopted to implement Carson Cities 1998 Wellhead Protection Plan. These include:

- Health and welfare code (Title 9);
- Water, sewage, and drainage code (Title 12);
- Buildings and construction code (Title 15);
- Subdivisions (Title 17); and
- Zoning (Title 18).

These regulatory measures continue to help preserve source water quality through the established pretreatment program, designating standards for abandoning septic systems and connecting to sanitary sewer, and controlling the construction of new septic systems.

Actions

Expand program:

- Consider expansion or clarification to include weather protection and covered bins in addition to secondary containment in CCMC Section 12.06.248- Sewerage use- Secondary Containment. Action applies countywide.

-
- Request technical assistance to review code and plan best path for revisions. Action applies countywide.
 - Consider code updates for septic system construction appropriate for watershed/recharge areas. Action applies to watershed/recharge SWPAs.
 - Collaborate with other local municipalities in developing appropriate Low Impact Design Standards for stormwater (consider for example appropriateness of infiltration measures near public supply wells). Action applies countywide and in 2-year SWPAs.
-

Pretreatment Program:

The Carson City Environmental Control Authority (ECA) ensures that the pretreatment systems are a part of construction plans for regulated facilities. The ECA permits and inspects businesses to determine their potential for illegal wastewater discharges. A "Commercial Wastewater Discharge Permit" is issued which prohibits the discharge of pollutants in excess of local limits. Enforcement actions are taken when necessary, in accordance with the Federal, state and local pretreatment regulations. Authorities for these actions are provided in Carson City Municipal Code (CCMC) Chapter 12.06.

Secondary containment is required for any business that stores a product, new or used, that has the potential to contaminate soil or groundwater.

The Pretreatment Program helps protect source water quality by giving Carson City ECA oversight at facilities that handle, store, and treat materials that are potential sources of pollution.

Actions

Expand program

- Consider adding the APN# to forms and applications for ease of program tracking using GIS. Action applies to specific PCSs.
 - Consider adding to the permit checklist whether or not the facility is located within an SWPA. Action applies to specific PCSs.
 - Develop a flyer for businesses in the SWPAs for the inspectors to use with the businesses when the City conducts inspections. Action applies to specific PCSs.
-

Commercial Septic Tank Program:

The ECA has the authority to inspect businesses with septic systems and require sampling if they suspect a problem under the pretreatment program ordinances. Business owner must fix any contamination per Nevada Division of Environmental Protection standards. This program has been successful over the years in reducing and controlling commercial septic tanks as sources of potential groundwater contamination. At this time, very few commercial septic tanks remain in Carson City and there is very limited potential for additional facilities to be constructed.

Actions

Discontinue as a Stand Alone Program

- The commercial septic tank program is currently not considered a stand alone program and has effectively been incorporated under the Pretreatment Program.

Domestic Septic Tank Program:

The City has two mandatory sewer connection areas, New Empire and Southeast Carson.

- Septic tank proliferation is prohibited except in limited residential applications.
- The extension of the municipal sewage facilities for all industrial, commercial, recreational vehicle, mobile home park, or subdivisions greater than a minimum number of lots is mandated.

Actions

Expand program

- Maintain the existing program and continue to work toward completing mandatory connections in the New Empire and Southeast Carson City areas. Action applies to specific PCSs.
- Consider expanding code language to allow more control over new septic systems on single parcels. Applies to specific PCSs, watershed/recharge SWPAs, and possibly 2-year SWPAs.
- Consider prioritizing municipal sewage facility extension projects based on the location of septic systems in the 2, 5, 10, or 25 year SWPAs. Action applies countywide.

Industrial Waste Disposal Program:

This program ensures that no hazardous wastes are disposed at the landfill. The ECA has the authority to inspect businesses that generate a non-reusable by-product that form an industrial waste or hazardous waste. If the ECA finds hazardous waste, it works with the Nevada Division of Environmental Protection to ensure the waste generator properly disposes of the waste following Resource Conservation and Recovery Act (RCRA) regulations. Disposal of industrial wastes are handled under the Solid Waste Management Program.

The program contributes to Source Water Protection by discouraging improper disposal practices (such as illegal dumping) that might create sources of source water contamination.

Actions

Maintain program

- No additional actions identified.

Solid Waste Management Program:

Management includes regulatory compliance, daily operation of the landfill, recycling, waste diversion, and public education. This is tracked by the ECA.

ECA routinely monitors four groundwater monitoring wells and six methane test probes 'to detect any indication of an adverse impact to the environment. Additionally, daily inspections are performed to ensure that the landfill is meeting regulatory obligations.

Since 1993, the ECA has enforced an "Illegal Dumping Program" and a "Medical Waste Program". Enforcement authority for these programs is provided for in CCMC 12.12. Additionally, the ECA coordinates public education, the annual "Free Dump Days", "Telephone Book Recycling", and "Christmas Tree Recycling" programs.

The program contributes to Source Water Protection by discouraging improper disposal practices (such as illegal dumping) that might create sources of source water contamination.

Actions

Expand program

- Consider expanding the program to address the evolving concerns and regulations for proper disposal of pharmaceuticals. Action applies county-wide.

Household Hazardous Waste Program:

The Carson City Household Hazardous Waste (HHW) Collection Facility provides Carson City residents with hazardous waste disposal services by appointment with the ECA, typically on a weekly basis. There is no charge to Carson City residents. Waste accepted includes but is not limited to: herbicides, pesticides, household cleaners, waste fuel, waste solvent, mercury, and other materials. Materials are accepted from residential sources only.

Items that are not accepted by the Household Hazardous Waste Program include:

- Liquid water based latex paints
- Biohazard or radioactive wastes
- Propane cylinders of any kind

The program contributes to Source Water Protection by encouraging proper disposal of Household Hazardous Wastes that might otherwise be dumped and create sources of source water contamination.

Actions

Maintain program

- Request technical assistance to update the HHW outreach and education process (handouts, mailings, website information, etc.). Applies county-wide.

-
- Consider expanding the program to address disposal of pharmaceuticals from residential sources. Action applies county-wide.
 - Formalize operating procedures for the existing HHW Program.
 - Consider collaboration with other communities or Counties.
-

Public Outreach and Education:

Carson City's existing Wellhead Protection Plan (1999) identifies three targets for public education and incorporates a variety of handouts and flyers. Communication about source water protection continues to be a key component of the management strategies for Carson City.

Key target audiences include:

1. School Children

Carson City will strive to provide information regarding water conservation and pollution prevention for uses in schools and other venues. A concentrated effort will be made to educate students in grades K- 12. A general awareness of the water cycle and origins of our drinking water helps the community; both children and their families, to make good decision that protect drinking water sources.

2. Public Information

A variety of methods are available are available to communicate with the general public (flyers, notes in billings, websites, etc.). Signage has been installed near wellheads and will continue to be maintained. Informational kiosks might be useful to promote source water protection in the watersheds supplying surface water and groundwater recharge. A general awareness of the water cycle, the origins of our drinking water, and steps that can be taken to protect water sources helps the community and helps local residents to make proactive decisions.

3. Carson City Departments

Internal communication about source water protection between Carson City Departments (for example, planning, health, environmental control, water, stormwater, fire) will to keep the program active and effective.

4. Specific PCSs

The management strategies identify specific groups to consider targeting for outreach and education. Communication could be improved regarding certain types of PCSs and pathways.

Actions

Expand program

- Initiate classroom presentations to middle school science classes. Coordinate with the school district about perpetuating a school curriculum. Action applies county-wide.
- Consider attending appropriate school events, for example: annual Science, Technology, Math, and Engineering (STEM) night. Action applies county-wide.
- Consider expanding program at the Children's museum. Action applies county-wide.

-
- Consider coordination with schools to participate in “water week” or “public works week” activities. Action applies county-wide.
 - Update communication materials: brochures, handouts, website, consumer confidence report, utility bills, etc. Action applies county-wide.
 - Consider coordination with open space and/or parks and recreation regarding educational kiosks or similar regarding source water protection, particularly for watershed/recharge SWPAs. Action applies for watershed/recharge SWPAs.
 - Consider an annual interdepartmental update on the CSWP Plan status in coordination with other meetings or trainings (planning, health, environmental control, water, stormwater, fire). Action applies county-wide.
 - As available, develop and distribute information on proper disposal of pharmaceuticals. Action applies to specific PCSs.
 - Update the HHW program information. Action applies to specific PCS’s.
 - Update information to provide to permit holders in Carson City's pretreatment program, which are located in SWPAs. Action applies to specific PCSs, 2-year SWPAs, and 10 year SWPAs.
-

Underground Storage Tank Program:

This program involved the removal of all City owned underground fuel storage tanks (USTs) and remediating any contamination that is encountered. Carson City will be removing the final two USTS owned by the City during 2014.

Actions

Discontinue program

- This management strategy has been effective and the City no longer owns or operates underground fuel storage tanks.
-

Shallow Groundwater Monitoring:

Over the life of the well head protection program, Carson City ECA has various groundwater monitoring programs. Currently, programs for monitoring shallow groundwater have been completed by the ECA. Monitoring can contribute to source water protection by identifying groundwater quality, tracking boundaries of groundwater contamination, locating sources of contamination, and/or defining local aquifer characteristics.

Actions

Maintain program

- Carson City will consider conducting an assessment of future groundwater monitoring needs and the triggers for developing and implementing new groundwater monitoring plans. Action applies county-wide.
-

Spills and Complaints:

The ECA responds to all complaints and reports of spills received from the general public, businesses, Sheriff's Dispatch, other City departments, the State Office of Emergency Management, and the NDEP. Coordinated response to spills and complaints contributes to source water protection by proactively investigating potential sources of contamination, and implementing control and disposal procedures in for leaks or spills that can minimize impacts to source of public drinking water.

Actions

Maintain program

- No additional actions identified.

Maintenance Activities:

Carson City Streets Department conducts street cleaning, and preforms erosion control activities to reduce the conveyance of sediments to detention basins and storm drain systems. Regular maintenance reduces contamination of stormwater runoff that can directly affect the quality of surface drinking water sources and the aquifer recharge for underground water sources.

Actions

Maintain program

- Continue best management practices that reduce stormwater contamination and potential for contaminant infiltration areas near wellheads. Action applies in 2-year SWPAs.

Coordination:

Carson City will coordinate with agencies that have jurisdiction over lands contained in the SWPAs including private landowners, the US Forest Service, BLM, and State Lands. Coordination will promote cooperation in protecting the quality of the drinking water resources.

This strategy contributes to source water protection, particularly in areas where State or Federal agencies are significant landowners in SWPAs, by requesting them to prioritize source water protection as a key component of resource protection.

Actions

Expand program

- Consider direct coordination with State Parks for protection of surface water quality in the Hobart-Marlette water system. Action applies to watershed/recharge SWPAs.
- Consider conducting a source water protection needs assessment in collaboration with landowners ("public conservation" designated land use). Action applies to watershed/recharge SWPAs.
- If needed, consider an agreement or memorandum of understanding with Carson City to clarify roles and responsibilities. Action applies countywide.

Open Space Management:

Carson City has acquired or has plans to acquire lands to be managed as “open space”. Carson City will coordinate between departments to ensure source water protection is a key component of natural resource protection in local land management plans.

This strategy contributes to source water protection by recognizing that these lands are needed to preserve drinking water quality, in addition to providing wildlife habitat, view protection, recreational linkages, and public access.

Actions

Expand program

- Consider conducting an open space needs assessment for source water protection coordinated between Public Works and Open Space Departments. Action applies to watershed/recharge and 2-year SWPAs.
- Identify facilities or best management practices to protect runoff and recharge water quality. Action applies to watershed/recharge and 2-year SWPAs.

Agenda

Source Water Protection Program

Countywide Team Meeting

Date: April 23, 2014

Time: 10:00 to 12:00 pm

Where: Carson City Public Utilities Conference Room

- 1. Introductions**
- 2. Overview of Draft CSWP Plan**
 - ✓ Report
 - ✓ Potential Contaminant Source Summary – Appendix D
 - ✓ Action Plan – Appendix E
 - ✓ Education Plan–Appendix F
- 3. Discussion and Comments**
- 4. Project Timeline Next Steps**
 - ✓ Draft Review Period Ends – May 14 ?
 - ✓ Final Document from RCI – May 28
 - ✓ CC Supervisors Meeting – June 19



Community Source Water Protection Countywide Team Meeting
Carson City Public Works
3505 Butti Way, Carson City NV 89701

Meeting Minutes
April 23, 2014, 2014 – 10:00am – 12:00pm

Attendees:

Carson City ECA: *Kelly Hale*
Carson City Open Space Division: *Juan Guzman*
Carson City Public Works (CCPW): *David Bruketta, Rit Palmer*
Carson City Planning Department (CC Planning): *Lee Plemel*
Douglas County GIS: *Eric Schmidt*
Marlette Water (Stewart Complex): *Jerry Walker*
Nevada Division of Environmental Protection (NDEP): *Kim Borgzinner*
Resource Concepts, Inc. (RCI): *Lynne Scott, Jill Sutherland, Lynn Zonge*

1. **Introductions** – During introductions, it was noted that a representative of Cottonwood Mobile Home Park water system contacted Carson City Public Works and requested to be included or informed with regard to the Source Water Protection Program. Jill Sutherland will follow up with Cottonwood MHP.
2. **Overview of Draft CSWP Plan** – Jill Sutherland advised the Team that the draft Community Source Water Protection Plan and appendices have been compiled and are open to the Team's review for comments and revisions. The appendices are each saved separately on RCI's FTP drive for easier review of each section.

A note was made to make sure recognition is given in the CSWP Plan for Carson City source water being obtained from Lyon County Utilities and from Town of Minden.

- a. **Report** – The CSWP Plan has been updated and revised in accordance with discussions with Team members and input from existing plans and programs. Team members should all have received the draft document from RCI by email or through the FTP web site. Jill reviewed the maps included in Appendix A with regard to the specific types of maps that the Team would wish to include with the CSWP Plan document and whether general area maps, land use maps, well location maps, maps pinpointing Potential Contaminant Sources within source water protection areas, or other types of maps are appropriate and relevant to Appendix A. The general area map being discussed did not show current road locations, and Eric Schmidt indicated that he would provide RCI with a more current USGS updated map for this Appendix. Jill noted that the map in Appendix A did not have a road layer turned on, but the map in Appendix D identifying Potential Contaminant Sources (PCS) does have the road layer turned on. She recommended leaving the maps "as is" for Appendix A. It is difficult to print clear and readable maps with many layers included.

A map delineating 2-, 5- and 10- year source water protection areas as defined by the Plan is included in the main body of the Plan document. The Team members expressed an opinion that the GIS Flex Viewer tool should be the main source of map information for the Plan, as it is the best source for updated, printable information that can easily display whatever specific type of information is needed on the map. Juan Guzman recommended an “*” or footnote on the maps indicating they may not be the most current version. Eric indicated that disclaimer and acceptance verbiage can be added to the Flex Viewer tool so anyone using the maps will understand that the information can get out of date. David Bruketta reiterated that an objective of the plan is to update the information on an annual basis.

Eric Schmidt requested direction from the Team regarding security measures and public access to the Flex Viewer tool and layers. The Team desires internal use only by password protection, but allowances for temporary access outside of the Carson City firewall when needed for contractors or others who may request certain information through the City. Eric advised that the current ESRI GIS software will soon no longer be supported, but plans for better versions of GIS software with more capabilities are already in the works.

Appendix B contains documentation of meetings and final approvals. Appendix C contains delineation of capture zones including surface water protection areas and sources of recharge such as watersheds and Marlette Lake.

- b. Potential Contaminant Source Summary – Appendix D contains PCS documentation and references sources of data that are displayed in the Flex Viewer. Jill noted that because a single location may be identified in multiple databases used to identify PCSs, some locations are listed more than once in the reference tables. A summary cross-reference PCS snapshot by location is also included in the Appendix to identify the database references that apply to a single PCS location.

Additional tables are also included in Appendix D to summarize 2-year SWPA information for each well. Four tables also include 10-year SWPA data summaries. These tables are included to give a general overview of the characteristics of these areas for reference. Jill requested that the Team members advise her if any further edits are needed.

- c. Action Plan – Appendix E is currently the main focus for Team discussion and comment. Detailed discussion of each management strategy and action item was saved for the end of the Team Meeting.
- d. Education Plan – Appendix F outlines the educational and public outreach goals. Much of this is based on supporting the ongoing outreach efforts in the existing Well Head Protection Plan and educational programs provided in schools. The Appendix contains an outline of topics and classroom teaching that can be covered in schools. It is meant to be a stand-alone section of the CSWP Plan which can be pulled out and provided as a reference for educational coordinators.

Appendix G contains a copy of the Carson City Contingency Plan, provided as a reference. Team review and comment is needed to finalize the Appendices. A Microsoft Word copy will be made available on RCI's FTP drive for comment.

The target date for presentation to the Carson City Board of Supervisors is July 3 at 8:30 a.m. The tentative presentation format at the Board of Supervisors' meeting is approximately ½ hour presentation with a 10 minute introduction and State endorsement of the Plan by Kim Borgzinner and a 20 minute summary of the Plan by RCI with a request for formal adoption by resolution. Following adoption, the Plan and tools may also be presented to the Planning Commission for awareness and coordination purposes on July 30, and also to Open Space on August 18. To implement training and access to the tools, a User's Forum is tentatively scheduled in August and should also include the Fire Department.

3. **Discussion and Comments** – Kim Borgzinner requested coordination for new GIS personnel at NDEP with Eric Schmidt.

Appendix E – Action Plan was reviewed and discussed in detail with the Team. It was thought that the first item under Coordination and Planning should actually be split into two separate action items; one for needs assessment and one for public conservation designation by zoning. It was noted that the 25-year watershed area encompasses both State-owned property and residential property.

Wording edits were suggested for several action items. Action items relating to coordination with local agencies including Open Space and Public Works were re-arranged on the table to fall under the Coordination and Planning Management Strategy. There was discussion regarding erosion issues and coordination between Marlette-Hobart Water System and Carson City. Kelly Hale addressed priorities with regard to the Household Hazardous Waste Program management strategies and action items. Kelly recently met with RCI's Marvin Tebeau to discuss HHW coordination with Lyon County and Douglas County. She noted that disposal of pharmaceuticals is currently a low priority due to coordination and direction needs from the DEA and EPA. Kelly requested that assistance with educational tools for the pre-treatment program be included as a high priority action item.

4. **Project Timeline Next Steps**
 - a. May 14 is the suggested deadline for draft Plan review and comments. Jill suggested that all future changes to the draft Plan will be communicated to the Team by email, since today is the last scheduled Team Meeting before completion of the final document.
 - b. The final Plan document will be completed by the end of May or beginning of June.
 - c. The Plan will be presented at the Carson City Supervisor's meeting on July 3. The Team meeting was adjourned at 11:45 a.m.

Appendix E

Action Plans

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Appendix E

Action Plans

Appendix E includes the implementation Action Plans for Carson City, the Cottonwood MHP, and the State Of Nevada Stewart Complex. The individual Action Plans are organized by management strategy. The projects listed in the following table are not in order of priority. Instead, the items are grouped by strategy type such as public education, coordination, or monitoring, etc.

The Action Plans were developed using the existing WHP plans and the outcomes of the Team meetings. Where applicable, the specific actions also have supporting agencies, the priorities, and projected completion timeframes. The Action Plans follow the management strategies to achieve the source water protection goals. Implementation is dependent upon resource availability and the actions will be implemented as funding and time allows by the respective PWSs.

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Carson City Source Water Protection Action Plan

Carson City Source Water Protection Action Plan		Applicable Area							Key Implementing Department or Group	
Management Strategy	Action Description	Priority ^{1/}	County Wide	2-Yr SWPA	5-yr SWPA	10-yr SWPA	25-yr SWPA	Watershed/ Recharge		Other
Coordination and Planning	Consider conducting a source water protection needs assessment in collaboration with landowners.	High						X		Public Works, State Hobart/Marlette System
Coordination and Planning	Consider designating the land use "public conservation" to protect water quality.	Medium						X		Planning
Coordination and Planning	Consider direct coordination with State Parks for protection of surface water quality in the Marlette-Hobart water system.	Medium						X		Public Works, State Hobart/Marlette System
Coordination and Planning	Consider an agreement between Carson City and the State of Nevada to clarify roles and responsibilities regarding the Marlette-Hobart water system.	Medium	X					X		Public Works State Hobart/Marlette System
Coordination and Planning	Consider an annual interdepartmental CSWP Plan status update including assigning roles and responsibilities in coordination with other meetings or trainings (Planning, Health and Human Services, Public Works (environmental control, water stormwater, Fire Department, Open Space).	High	X							Public Works Director or Designee
Coordination and Planning	Consider annual updates and maintenance of the CSWP FlexViewer digital files	High	X							Public Works
Domestic Septic Tank Program	Maintain the existing program and continue to work toward completing mandatory connections in the New Empire and Southeast Carson City areas.	High		X	X	X	X			Public Works

Carson City Source Water Protection Action Plan		Applicable Area								Key Implementing Department or Group
Management Strategy	Action Description	Priority ^{1/}	County Wide	2-Yr SWPA	5-yr SWPA	10-yr SWPA	25-yr SWPA	Watershed/ Recharge	Other	
Domestic Septic Tank Program	Consider prioritizing municipal sewage facility extension projects based on the location of septic systems in the 2, 5, 10, or 25 year SWPAs.	High	X							Public Works
Domestic Septic Tank Program	Consider revising code language to allow more control over new septic systems on single parcels.	Low		X			X	X		Planning
Fuel Storage Tank Program	Develop and maintain management strategies directed at the ASTs.	Medium	X							Public Works, Fire Department
Household Hazardous Waste Program	Request technical assistance to update the HHW outreach and education process (handouts, mailings, website information, etc.).	High	X							Public Works
Household Hazardous Waste Program	Request technical assistance to formalize operating procedures for the existing HHW program.	High	X							Public Works
Household Hazardous Waste Program	Consider HHW Program collaboration with other communities or counties.	High	X							Public Works
Household Hazardous Waste Program	Evaluate the need and feasibility for accepting waste paint.	High	X							Public Works
Household Hazardous Waste Program	Consider expanding the HHW program to address disposal of pharmaceuticals from residential sources.	Low	X							Public Works

Carson City Source Water Protection Action Plan		Applicable Area							Key Implementing Department or Group	
Management Strategy	Action Description	Priority ^{1/}	County Wide	2-Yr SWPA	5-yr SWPA	10-yr SWPA	25-yr SWPA	Watershed/ Recharge		Other
Household Hazardous Waste Program	Consider expanding the HHW program to address disposal of bio hazardous materials such as needles, sharps and lancets.	Medium	X							Public Works
Maintenance	Continue best management practices that reduce stormwater contamination and the potential for contaminant infiltration in areas near wellheads.	Medium					X			Public Works, Planning
Open Space Management	Consider conducting an open space needs assessment for source water protection coordinated among Public Works and Open Space Departments for surface waters.	High					X	X		Open Space, Public Works
Open Space Management	Identify facilities or best management practices to protect runoff and recharge water quality.	Medium					X	X		Open Space, Public Works, State Hobart/Marlette System
Pretreatment Program	Consider adding the Assessor Parcel Number (APN) to forms and applications for ease of program tracking using GIS databases.	High	X							Public Works
Pretreatment Program	Consider adding to the permit checklist whether or not the facility is located within an SWPA.	High		X	X	X	X	X		Public Works
Pretreatment Program	Develop educational tools for Public Works to use when inspecting and educating businesses.	High	X							Public Works
Public Outreach and Education	Initiate classroom presentations to middle school science classes. Coordinate with the school district about perpetuating a school curriculum as described in the Carson City CSWP Education Plan.	High	X							School District

Carson City Source Water Protection Action Plan		Applicable Area								Key Implementing Department or Group
Management Strategy	Action Description	Priority ^{1/}	County Wide	2-Yr SWPA	5-yr SWPA	10-yr SWPA	25-yr SWPA	Watershed/Recharge	Other	
Public Outreach and Education	Consider presenting at appropriate school events, for example: annual Science, Technology, Math, and Engineering (STEM) night as described in the Carson City CSWP Education Plan.	High	X							Public Works
Public Outreach and Education	Consider coordination with schools to participate in "water week" or "public works week" activities.	High	X							School District, Public Works
Public Outreach and Education	Update communication materials: website, consumer confidence report, utility bills, etc. to be current with the CSWP Plan.	High	X							Public Works
Public Outreach and Education	Update the HHW program information available to the public on the city's web site.	High	X							Public Works
Public Outreach and Education	Update information for permit holders in Carson City's pretreatment program, which are located in SWPAs.	High		X		X				Public Works
Public Outreach and Education	Develop and distribute information regarding what to do in the event of a contaminant spill or leak. Target audience is pretreatment permit holders and other business storing with hazardous materials.	High	X							Public Works
Public Outreach and Education	Consider expanding CSWP educational materials available at the Children's Museum.	Low	X							Other
Public Outreach and Education	Consider coordination with Parks and Open Space for educational signage regarding source water protection for watershed/recharge SWPAs.	Medium						X		Open Space
Public Outreach and Education	As available, develop and distribute information on proper disposal of pharmaceuticals.	Medium	X							Public Works, Health

Carson City Source Water Protection Action Plan		Applicable Area								
Management Strategy	Action Description	Priority ^{1/}	County Wide	2-Yr SWPA	5-yr SWPA	10-yr SWPA	25-yr SWPA	Watershed/ Recharge	Other	Key Implementing Department or Group
Regulatory Measures	Consider including weather protection and covered bins in addition to secondary containment in Carson City Municipal Code (CCMC) Section 12.06.248- Sewerage Use- Secondary Containment.	Low	X							Public Works
Regulatory Measures	Request technical assistance to review code and to develop a strategy for revisions.	Low	X							Planning
Regulatory Measures	Consider code updates for septic system construction appropriate for watershed/recharge areas.	Low		X	X	X	X	X		Planning
Regulatory Measures	Collaborate with other local municipalities in developing appropriate Low Impact Design Standards for stormwater (consider for example appropriateness of infiltration measures near public supply wells).	Medium		X						Public Works
Shallow Groundwater Monitoring	Consider conducting an assessment of future groundwater monitoring needs and the triggers for developing and implementing new groundwater monitoring plans.	Low	X							Public Works, Planning
Solid Waste Management Program	Consider expanding the Solid Waste Management program to address the evolving concerns and regulations for proper disposal of wastes such as pharmaceuticals.	Low	X							Public Works
Spills and Complaints	Maintain best management practices that reduce spills and potential contaminant infiltration near wellheads.	High	X				X			Public Works

^{1/}Schedule: High Priority to be initiated within 5 years, Medium Priority to be initiated within 8 years, Low Priority to be initiated within 12 years

State of Nevada Stewart Complex Action Plan ¹

Carson City Source Water Protection Action Plan		Applicable Area								Key Implementing Department or Group ¹²
Management Strategy	Action Description	Priority ^{1/}	County Wide	2-Yr SWPA	5-yr SWPA	10-yr SWPA	25-yr SWPA	Watershed/ Recharge	Other	
Private Well Condition	Consider abandoning inactive wells located within SWPAs.	Medium		X	X	X		X		State Buildings and Grounds

¹**Schedule:** High Priority to be initiated within 5 years, Medium Priority to be initiated within 8 years, Low Priority to be initiated within 12 years

²**Implementation:** The lead responsibility for implementation of the action items for the Stewart Complex is State Buildings and Grounds.

Cottonwood Mobile Home Park Wellhead Protection Plan Action Summary¹

Cottonwood Mobile Home Park Wellhead Protection Plan Action Summary		Source of Actions ^{1 2}			Key Implementing Department or Group ²
Management Strategy	Action Description	Cotton wood MHP Comments	WHP Plan -- Existing PCSs	WHP Plan - Future PCSs	
Coordination and Planning	Coordinate with Carson City to notify new businesses or activities (possible PCSs) when they plan to locate in a SWPA.			X	Cottonwood MHP
Coordination and Planning	Continue to review groundwater quality and compliance at Silver Oak Golf Club. Coordinate with NDEP and Carson City.		X		Cottonwood MHP
Domestic Septic Tank Program	Encourage Carson City to extend the sanitary sewer system and connect the neighborhood near to Cottonwood MHP that is currently served by septic systems.		X		Cottonwood MHP
Public Outreach and Education	Provide information about proper maintenance and abandonment of private wells to local homeowners.	X			Cottonwood MHP
Public Outreach and Education	Install "Wellhead Protection Area" signs along Arrowhead Drive.		X		Cottonwood MHP
Public Outreach and Education	Periodically host educational seminars for Cottonwood MHP residents and other interested persons on source water protection.		X		Cottonwood MHP
Public Outreach and Education	Distribute information to Cottonwood MHP residents on Carson City's Household Hazardous Waste collection program.		X		Cottonwood MHP
Public Outreach and Education	Periodically review, contact, assess and advise local PCSs that they are located in a SWPA.			X	Cottonwood MHP
Public Outreach and Education	Encourage public education about nitrate in groundwater and its detrimental health effects.			X	Cottonwood MHP

Cottonwood Mobile Home Park Wellhead Protection Plan Action Summary		Source of Actions ^{1, 2}			Key Implementing Department or Group ^{1, 2}
Management Strategy	Action Description	Cotton wood MHP Comments	WHP Plan -- Existing PCSs	WHP Plan - Future PCSs	
Regulatory Measures	Encourage Carson City and the State of Nevada to prohibit the use of solvent septic cleaners (i.e. solvents such as 1, 1, 1 trichloroethane.)		X		Cottonwood MHP
Regulatory Measures	Work with Carson City Supervisors to prohibit the expanded use of septic systems within the Cottonwood MHP Wellhead protection areas (Aquifer Science Inc., 2001)			X	Cottonwood MHP
Shallow Groundwater Monitoring	Encourage expansion of shallow groundwater monitoring programs in Carson City to include sampling for pharmaceuticals/endocrine disruptors.	X			Cottonwood MHP
Shallow Groundwater Monitoring	Encourage a study be initiated to assess potential impacts of deicing chemicals on groundwater in Eagle Valley.	X			Cottonwood MHP
Spills and Complaints	Request immediate notification of spills from PCSs, State and local agencies to Cottonwood MHP.		X		Cottonwood MHP
Private Well Condition	Consider a study of domestic wells in the vicinity of Cottonwood MHP to assess any health hazards and to assure that wells are properly sealed or abandoned.		X		Cottonwood MHP
Private Well Condition	Consider collaboration with State and local officials to establish a Private Domestic Well Program to fund repairs or abandonment of residential wells.	X			Cottonwood MHP

¹**Sources:** This summary was developed from Section 5.0 of the "Wellhead Protection Program (WHPP) For Cottonwood Mobile Home Park Water System, Carson City, Nevada" (Aquifer Science Inc., April 2001) and comments provided by the Cottonwood MHP.

²**Implementation:** Actions suggested by the water system owner during development of this document (Column 3) have not been formally adopted by the Cottonwood MHP. WHP Plan actions for existing and future PCSs (Columns 4 and 5) have been previously adopted by the Cottonwood MHP for implementation. The lead responsibility for implementation of these action items is the Cottonwood MHP.

Appendix F

Public Education and Outreach
Information & Materials

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1.0 Introduction

The Community Source Water Protection (CSWP) Plan for Public Water Systems in Carson City identifies education regarding source water protection plan implementation objectives. This Public Education and Outreach Plan (Education Plan) provides education goals, target audiences, tools and tactics to achieve the objective for education.

Source water protection programs in Nevada are initiated and implemented at local levels and depend on the willingness of a community to support the local program. Therefore, public education and participation is an important strategy to enable community members to be stewards of their local drinking water sources, to promote voluntary protection efforts, and to build public support.

2.0 Education Plan Goals

1. Help the target audiences to gain an understanding and awareness of how their actions can help to protect community source water.
2. Motivate a change in practices and personal behavior to prevent contamination of source water per the drinking water protection goals of the Community Source Water Protection Plan for Public Water Systems in Carson City.

3.0 Target Audiences for this Education Plan

The Local Planning Team that developed the CSWP Plan identified two priority target audiences:

- Carson City interdepartmental staff, including Carson City Emergency Responders
- School students

Carson City staff particularly in Public Works, Emergency, and Parks and Recreation need to be aware of the source water protection areas (SWPAs) because they work in these areas and direct many of the activities that occur there. Emergency responders in particular need to be familiar with the hydrology of the SWPAs because of the potential for emergencies such as spills, or emergency actions to clean up the spills, to contaminate source water. An education outline for the various departments in Carson City is provided as Attachment A.

Science classes for students in or near the 6th or 7th grade level are a specified audience because they are receptive, the science blends well with their existing curriculums and because children often provide pressure on their parents and relatives to “do the right thing”. A school presentation content example is provided in Attachment B.

There are other important audiences identified in the CSWP Plan Action Plan including businesses and industries as well as households with the potential to contaminate drinking water. The tools described and provided in this Education Plan may be tailored for these audiences as well. The education and outreach approach and materials may be tailored using the various tools in this plan in order to best reach the identified audience.

4.0 Educational Tools for Presentations to Target Audiences in Carson City

During the process of preparing the CSWP Plan, three educational tools were developed to help facilitate immediate public education and awareness for source water protection. These tools are available through the Local Planning Team:

- The Flex Viewer for public water systems in Carson City;
- Groundwater Model and Watershed Model; and
- Power Point Presentation.

The Source Water Protection Flex Viewer

The Flex Viewer is powerful on-line mapping, planning and teaching tool developed for this CSWP Plan. The Flex Viewer created for the CSWP Plan has a wide variety of GIS base maps and layers. Base maps include topography, aerial photos, or street maps. Layers include potential contaminant sources, land uses, parcel boundaries, FEMA flood zones and others.

The Flex Viewer allows one to zoom in and out to view an area with variable detail to see where the SWPAs are located in the communities relative to a variety of activities. It is important for people to understand where their activities are relative to SWPAs. The Flex Viewer is available at <http://douglasnvgis.info/carson/swp> and is password protected.

The Watershed Model and Groundwater Model

The watershed model and groundwater model used together with the SWPA maps or the Flex Viewer are powerful tools to engage an audience and help them to understand how source water can be contaminated. The watershed model allows the presenter to show how contaminants from industry and residential activities can be washed into our drainages. The Groundwater model illustrates how contaminants in drainages can infiltrate into the ground and eventually contaminate a drinking water well. These models are available for purchase or may be borrowed from the NDEP. Attachment B includes a brief example for how the models can be used in a classroom.

- The watershed model may be purchased from Enviroscapes at <http://www.enviroscapes.com/nonpoint-source.html>
- The groundwater model may be purchased from several universities, however, they are variable in hardiness. The model, available from the University of Nebraska, Lincoln, is excellent <http://groundwater.unl.edu/>

PowerPoint Presentation

A PowerPoint Presentation was developed as a part of this CSWP Plan for Carson City. The slides may be removed to tailor a presentation for a specific audience. The presentation should be provided by someone from the Local Planning Team or a person trained in the CSWP Plan. The PowerPoint is available through the Local Planning Team and an outline is provided as Attachment C.

5.0 Useful CSWP Information

The CSWP Plan contains a variety of information that is useful to be familiar with when conducting public education and outreach. This information includes:

- Names and affiliations of the individuals who helped prepare the CSWP Plan (see page i);
- Source Water Protection Area maps for each community (viewed via the Flex Viewer <http://douglasnvgis.info/carson/swp> or the maps in the CSWP Plan Appendix A);
- A map of the areas around the drinking water source(s) that may be susceptible to contamination (see the CSWP Plan Appendix D);
- Inventory of activities and conditions that may adversely affect drinking water quality (see the CSWP Plan Appendix D);
- The Management Strategies that community intends to use to protect its drinking water sources (see the CSWP Plan Section 3.4);
- The Contingency Plan describing what the community would do to replace its drinking water supply if the source became contaminated (see the CSWP Plan Section 3.5); and
- The Action Plan that provides a schedule for implementation of the Public Education Plan (see the CSWP Plan Appendix E).

6.0 Educational Messages and Discussion Points

The presenter(s) should engage their audience in order to bring the source water protection concepts into a person's own experience. The discussions before, during and after the presentations help to facilitate this. The following questions can help to kick start open communication.

When you turn on the tap in your home where does the water come from?

Most people do not know where their water comes from unless they own their own well. If you are on your own well, then the water comes from the shallow aquifer in the immediate vicinity of your well. If you are connected to the public water system then your water comes from a source water protection area and is piped to your home.

What is Source Water Protection?

Source water protection is a way to prevent drinking water from becoming polluted. Much can be done to prevent pollution, such as the informed use of land and proper use and disposal of chemicals.

What are source water protection areas?

In Carson City, source water protection areas are specific areas surrounding public water supply wells as well as the watersheds for Kings Canyon, Ash Canyon, and the Marlette/Hobart water system. The areas are illustrated by the SWPA maps.

Why is it important to protect water at the source?

Protecting public drinking water supplies at the source *before* pollution enters our drinking water supply lessens potential health issues, the high costs associated with water treatment, and source water development. Public water users can help protect the community's source water. Managing land uses and human-caused sources of contamination are the keys to preventing pollution *before* it enters our drinking water supply at the source.

What contaminates the water we drink?

There are numerous pollutants that can contaminate surface and ground water. Some contaminants are a result of improper disposal of common household products such as cleaning products, waste oil, pet waste, fertilizers and pesticides. Others may be used or generated by businesses such as dry cleaners, film processing centers, salons, cemeteries, petroleum storage and handling facilities, etc. These and other harmful products, when improperly disposed of may threaten to contaminate our drinking water.

7.0 Other Education and Outreach Tools

The CSWP Local Planning Team should consider themselves Plan Ambassadors. The entire Team should take every opportunity to convey the essence and objectives of the CSWP Plan. The following tactics to help increase knowledge and change behavior in accordance with protecting our drinking water sources.

Inserts in water bills – Purveyors may want to insert information in water bills periodically to communicate updates on the CSWP Plan, testimonials collected, a special event related to protecting our community’s drinking water source, and real time changes happening at businesses or source water sites. Photos and links to information make newsletter inserts more interesting,

Website links – A Source Water Protection website can be developed to serve as the repository for education materials. Photos and links are very important on a website. Create a section for businesses to learn how they can become source water protectors and share stories of how they are helping protect their community’s source water. If resources allow, a more in-depth website or page can highlight source water protection projects. *All tactics should include a website address.* Additionally, websites operated by public water systems can also be used to communicate details of the CSWP Plan by incorporating information on the site or by containing links.

Press releases – Developing relationships with local media and pitching stories and event ideas to them is an effective way to reach several audiences including business leaders and residents. Stories in local media outlets are a cost effective way to educate members of the community regarding the importance of source and drinking water protection efforts and can be accomplished by sending out media releases/advisories and by participating in interviews. Media relations are also a good tactic for recognizing residents, businesses, and owners who have made strides to protect source water. A list of media outlets for the Carson City area and a press release template are attached to this Education Plan.

Partnership with local chamber of commerce – Consider creating a “Source Water Protector of the Year” award or recognition. Encourage local businesses and members of the Chamber to make affordable and effective changes at their place of business that will help protect the community’s source water. Celebrate and honor all participants and award and recognize one business for being a key protector of source water.

Governing and Advisory Board, and local government leader’s education and engagement – Educate board members and other local government leaders regarding the importance of source water protection in our community. Also, engage local government leaders in a friendly challenge to protect source water. Ask leaders to participate in site visits, offer testimonials, and change their habits at both their place of business and home to protect source water.

Public meetings/conferences/community events – Publicize the meeting or event and use other tactics to support the education at the meeting, conference, or event.

Employee training on materials handling practices, emergency spill situations – Purveyors should have these items on hand and, if asked, they may consider including information on the importance of protecting your community's source water.

Social media (blogs, podcasts, Facebook, YouTube, Twitter, LinkedIn) – Through websites, blogs, YouTube, etc., audiences have an opportunity to get information anytime. It can also provide an interactive experience.

Site visits – Meet on-site with businesses to discuss how contamination can happen and how it affects the community's water supply in everyday terms.

Testimonials – Water users who have changed their practices in an effort to lessen their impact on source water and how and what they did and the results. These could be used in many forms: posters, electronic newsletters, at events and in presentations.

Site signage – Businesses that use low impact development or best management practices to lessen their impact on source water may post signs to indicate their dedication to their community's most important resource, drinking water. For example:

[INSERT BUSINESS NAME HERE] is dedicated to protection of (community name) drinking water sources through the use and support of best management practices.

Guest columns/editorials – Guest columns and editorial pieces to local newspapers enables the CSWP Team the opportunity to position the Team as source water protection experts. Guest columns from respected and well-known community members also offer a medium to encourage, educate, and motivate readers to protect their source water. Use the attached Nevada media list to assist you in pitching a guest column or editorial.

8.0 Ways to Measure Education and Outreach Success

Evaluating effectiveness is the foundation for a successful plan implementation. Effective evaluation is key in determining how well your messages and tactics are received and what changes can be made to improve the program. Based on the tactics chosen and the resources available, at least one form of measurement will work for each tactic. Establish the best form of evaluation as soon as the tactics are selected. When conducting outreach one should be thinking about the difference being made and how best to measure the impact. Quantitative and qualitative measurements should be considered.

Quantitative measurements – measure the amount of information, not necessarily the quality of information such as:

- The quantity of presentations delivered and people in attendance;
- The quantity of distributed materials; and
- The quantity of inquiries (phone calls, e-mail, e-newsletter, website testimonials and visits).

Qualitative measurements – measure the quality of the information by giving an opportunity for feedback. In this way you can determine how the messages you are communicating are being received.

This can be as simple as asking each and every person who has come into contact with your messages such as:

- Survey the presentation attendees;
- Email surveys to those who receive email communications; and
- Online survey of website visitors.

9.0 Educational Tips

Education outreach tools and tactics were created in formats to allow each user to personalize them to their individual needs. Depending on the tactics selected, users may need to create additional communication pieces. A few tips to remember when creating any communication piece include:

- Simple is best;
- Allow whitespace – do not fill every space;
- Be consistent in the look and message of every piece;
- Limit the communication piece to no more than three messages.

Finally, always include a call to action such as:

- “To learn more, log onto our website: www.carson.org”
- “To register for a presentation, contact your water purveyor.”
- “Take oil to one of the following disposal locations...”

A great idea without the resources to execute it will not be effective, nor will brochures that simply sit on the counter at the community library when they need to be in people’s hands. Therefore, when education for an audience is desired, these are a few things to consider:

- What is the best way to reach my audience?
- What is my budget?
- How much time do I have?
- How will I follow up to see if it was effective? And when?

Education Plan Attachment A

Education Outline for Carson City Departments

This curriculum is intended to be used along with the groundwater model and the watershed model and possibly presented as a Power Point presentation as appropriate.

The Nevada ISWP Program and CSWP Plan in Carson City

- What is Nevada's Integrated Source Water Protection Program
- What is Source Water Protection in Carson City
- How the CSWP Plan was developed, the team, inputs, approvals and future updates

Stormwater and Groundwater Hydrology

Use the watershed physical model and a groundwater physical model to review

- Contaminant sources, types, risks, travel ways
- Drinking water concepts: water sources, groundwater, watershed, wells, well capture zones, source water protection areas, water systems

Review of the SWPAs, PCS maps and GIS tool

- Review the SWPA maps, their availability and content. Review using the Flex Viewer Tool
- Review the Contaminant Source Inventory; Potential Contaminant Sources what they are and where they are located in their community
- Contaminant conduits: well construction, abandoned wells, pits
- Emergency surface water and groundwater contacts
- Source water protection area incorporation into planning, activities, and emergency response considerations

Review Implementation of the Action Plan (if applicable)

- Discuss the management strategies and Action Plan, including the status of individual Action Items.
- Review priorities, then as needed identify funding needs and resources.
- Assign duties and responsibilities for implementing the Action Plan.

Discussion

- How do the SWPAs impact City actions?
- What could be improved to help the training?

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Education Plan Attachment B

School Presentation Content Example

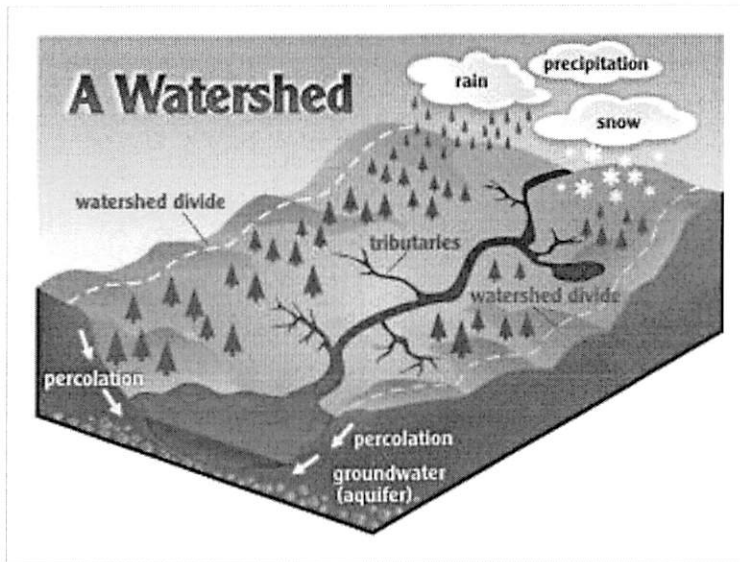
School presentations should last roughly 45 minutes. Introduce yourself and engage the students by asking several questions:

When you turn on the tap in your home, where does the water come from?

Depending on the answers the discussion evolves. A discussion regarding what the sewer does, streams on the west side of Carson City, rainfall quantities, or the Carson River as appropriate for the area.

What is a watershed?

Watershed is a difficult concept for most grade or intermediate school students. A drawing can facilitate the discussion. A watershed is the area of land where all of the water that is under it or drains off of it goes into the same place. The following figure is an example to describe what a watershed is.



Demonstration of the Watershed Model

- ✓ Invite the students to come close to see the watershed model and ask if they know:
- ✓ *What is a contaminant?* Discuss various forms such as oil and grease, factory chemicals, fertilizer, etc. and sprinkle it around.
- ✓ *How much rainfall does the community receive each year?* Discuss and then rain on the watershed, it flows down, then discuss infiltration, pull the plug and move to the groundwater model.
- ✓ Discuss the importance of individual actions to protect source water, drinking water.

Demonstration of the Groundwater Model

- ✓ Put the green and the red coloring into the lake and pond and pump different wells, discuss aquifers, contaminants, pumping, water movement, etc,

Demonstration of the Flex Viewer if WIFI is available or show the maps of the community:

- ✓ Discuss the well capture zones, source water protection areas, and what they mean. Point out the surface water sources.
- ✓ Discuss that different products are available that are more or less harmful to the environment. The importance of thinking about the chemicals they use and how they use them.
- ✓ Discuss the Household Hazardous Waste program available to Carson City residents. Provide flyers about the program if appropriate.
- ✓ Re-iterate that each person makes a difference to source water protection by his or her actions and choices they make every day.
- ✓ Discuss the difference between a water treatment plant (the Quill Plant) and the Wastewater Reclamation Facility (on 5th Street).
- ✓ Discuss the difference between wastewater and stormwater and how both can be contamination sources.

Education Plan Attachment C

Carson City PowerPoint Outline

1. Introduction

- Community Source Water Protection Plan for Public Water Systems in Carson City, Nevada
- Source Water = Public Drinking Water

2. Plan Purpose

- Purpose is to document the public drinking water resources in Carson City and the measures that the Local Planning Team intend to implement to protect those resources.
- The CSWP Plan is a tool to facilitate cooperation and education to aid in the management and continued safety of Carson City's drinking water resources.

3. Voluntary program

- Funded by the NDEP ISWPP, formerly the WHPP
- Carson City provided letters requesting participation in the program and committed staff to provide support for developing the plan
- Focused on preventing the pollution of community drinking water sources, which is groundwater and surface water.

4. CSWP Plan Benefits

- Less effort and money is needed to protect drinking water supplies than to clean them once contamination has occurred.
- Avoiding water supply contamination up front lessens:
 - > Associated health issues
 - > High costs of water treatment
 - > New source development

5. Plan Development Process

- A Local Planning Team composed of representatives for the various public water systems, planners, local and state government has met since August 2012 with a technical assistance provider, Resource Concepts, to develop the plan.

6. Goals

Goal 1:

Update the existing Wellhead Protection Program into a readily accessible Community Source Water Protection Plan (CSWP Plan).

Goal 1 Objectives:

- 1) Form a Local Planning Team
- 2) Inventory current public water supply sources
- 3) Update of Source Water Protection Area boundaries.
- 4) Prepare a Potential Contaminant Source inventory.
- 5) Develop source water protection management strategies and actions that are specific, measurable, achievable, reasonable, and timely.
- 6) Obtain CSWP Plan endorsement from NDEP.

Goal 2:

Implement and maintain the Community Source Water Protection Plan.

Goal 2 Objectives:

- 1) Establish a schedule and process to review and update the CSWP Plan.
- 2) Inform and educate city departments, industry, landowners and the public about their role in source water protection.
- 3) Manage and share information communitywide.
- 4) Use GIS and other digital tools to communicate and maintain the CSWP Plan.
- 5) Identify management strategies within 2-year and 10-year planning implementation windows.
- 6) Apply different strategies: countywide, within SWPAs, or to specific potential contaminant source concerns.
- 7) Develop a schedule to implement priority projects or actions.

7. Drinking water resources included in the Plan

- 4 public water systems including 33 existing and 2 future wells:
- Municipal watersheds: Ash Canyon Creek, Kings Canyon Creek, and the Marlette/Hobart water system.
- The recharge area in the Vicee Canyon area.

8. Well Capture Zones

- Capture Zones are the predicted groundwater extent influenced by groundwater pumping for specific travel times
- All wells were modeled to determine the 2, 5, and 10-year capture zones.
- (Maps for illustration)

9. Potential Contaminant Sources (PCSs)

- PCSs are facilities or human activities near wellheads that might release pollutants and contaminate drinking water supplies (groundwater)
- PCSs were identified in and near the well capture zones and watersheds
- Regionally the most common PCSs are:
 - > Industrial facilities
 - > Residential septic systems

10. Source Water Protection Areas

- SWPAs were developed for management to prevent groundwater pollution.
- Based on a 2, 5, 10 and 25-year time of travel in groundwater to a public well.

11. Strategies to protect drinking water resources include:

- Coordination
- Domestic Septic Tank Program
- Fuel Storage Tank Program
- Household Hazardous Waste Program
- Maintenance
- Open Space Management
- Pretreatment Program
- Public Outreach and Education
- Regulatory Measures
- Shallow Groundwater Monitoring
- Solid Waste Management
- Spills and Leak Complaints

12. Actions to protect drinking water resources

From the Management Strategies, a series of Actions were identified as detailed in the Action Plan.

- (Pull appropriate detail as appropriate for the audience)

13. Next Steps

- Plan endorsement by local government bodies and the State of Nevada will allow Carson City and other PWS to request funding and technical assistance to implement the action plan and strategies.

14. Thank you

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Education Plan Attachment D

Media List for Communities in Carson City and Press Release Template

WEB PAGES

Carson City news and events web page www.carsonnow.org/
Carson City Public Works web page www.carson.org
Carson City Community Development web page www.carson.org
Nevada Source Water Protection Program web page <http://ndep.nv.gov/bwpc/sourcewater.htm>

NEWSPAPERS

[Nevada Appeal](#) (Carson City)
[Northern Nevada Business Weekly](#)
[Reno Gazette-Journal](#) (Reno)

TELEVISION

Reno:

[KNPB, Ch. 5, PBS](#)
[KOLO, Ch. 8, ABC](#)
[KRNV, Ch. 4, NBC](#)
[KTVN, Ch. 2, CBS](#)

Press Release Template

INSERT LOGO HERE

Date: Contact email@email.com

FOR IMMEDIATE RELEASE

Volunteer Team of Residents and Businesses Working Together to Help Protect Drinking Water in Carson City

(Carson City, Nev.) – With an annual rainfall of less than seven inches, few natural resources are as precious as water to residents of Nevada. Protecting our source water from possible contamination and pollution helps protect our drinking water. In *Carson City*, a Community Source Water Protection (CSWP) Team made up of local residents and business owners has been formed with the goal of helping inform and educate residents of *Carson City* about the importance of protecting our community’s drinking water sources.

The Team is made up of both business owners and residents who live and work in *Carson City*. They represent a cross section of organizations including Carson City staff, utility company representatives, first responders, community leaders, and many others.

The Team of volunteers is collaborating with *Nevada Division of Environmental Protection’s Integrated Source Water Protection Program (ISWPP)*.

ISWPP is a comprehensive, voluntary approach designed to help communities develop and implement a plan that protects their drinking water supply.

For more information on *Carson City’s CSWP Plan*, please visit *WEB SITE* or *(address)*.

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Education Plan Attachment E

Online Resources

For more information on your drinking water and source water protection go to:

Nevada Source Water Protections – General Information <http://ndep.nv.gov/bwpc/sourcewater.htm>

Nevada Integrated Source Water Protection Program <http://ndep.nv.gov/bwpc/wellhead.htm>

Nevada Drinking Water <http://water.epa.gov/drink/local/nv.cfm>

After the Storm: A Citizen's Guide to Understanding Stormwater
http://www.epa.gov/npdes/pubs/after_the_storm.pdf

This EPA link is excellent regarding water quality and things to look out for:
http://water.epa.gov/drink/info/well/upload/2003_06_03_privatewells_pdfs_household_wells.pdf

The State Laboratory has information regarding water quality analyses. Their Web site is
www.medicine.nevada.edu/nsph/

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Education Plan

Attachment F

Terms Defined

Aquifer: a naturally occurring, underground area of water-soaked sand or gravel.

Best Management Practices: are barriers, methods, measures or practices designed to prevent or reduce water pollution.

Bureau of Water Pollution Control (BWPC): the mission of BWPC is to protect the waters of the State from the discharge of pollutants. This is accomplished by issuing discharge permits, which define the quality of the discharge necessary to protect the quality of the waters of the State, enforcing the state's water pollution control laws and regulations, and by providing technical and financial assistance to dischargers. Through the NDEP, BWPC helps communities protect their drinking water.

Contamination: introduction of an undesirable chemical or biological substance not normally present in source water.

Ground water: water found beneath the earth's surface. The water is pumped to the surface for drinking water.

Integrated Source Water Protection Program (ISWPP): ISWPP is a comprehensive, voluntary approach designed to help communities develop and implement a plan that protects their drinking water supplies. ISWPP is a program created and monitored through BWPC.

Nevada Division of Environmental Protection (NDEP): NDEP will protect the State's natural resources through an effective, efficient program of permitting, enforcement of regulations, monitoring the environment, pollution prevention and remediation based on state and federal laws. NDEP encourages, motivates and supports communities' local source water protection activities; manages, shares and integrates source water protection information; develops federal, state and local source water protection partnerships; and integrates and implements source water protection at the state level.

Source water: consists of bodies of water such as lakes, springs, streams, rivers and ground water/aquifers that become our water supply.

Surface water: consists of springs, streams, and rivers that become our drinking water.

Watershed: A watershed is the area of land that drains to a common water body like a stream, river, or lake.

Well Capture Zone: The capture zone is that portion of the aquifer from which the well draws its water. A 2-year well capture zone is the portion of the aquifer from which the well would draw water within two years.

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Education Plan Attachment G

Contact Information

The following organizations and persons made development of this document possible. Contact one of the organizations listed below for information about the Community Source Water Protection Plan in your area, or contact the Nevada Division of Environmental Protection for general information about Nevada's Integrated Source Water Protection Program.

Organizations/Titles	Contact Information	Email address
Utilities		
Carson City Public Works <i>Water Operations Manager</i> <i>Utility Director</i> <i>Environmental Control Supervisor</i> <i>Chief Stormwater Engineer</i>	775-887-2355	RPalmer@carson.org DBruketta@carson.org KHale@carson.org RFellows@carson.org
Cottonwood Mobile Home Park <i>Proprietor</i>	775-883-8823	
Millhouse Inn Motel <i>Proprietor</i>	775-882-2715	
Marlette – Hobart Water System State of Nevada <i>Water Systems Manager</i>	775-687-1022	jerrywalker@admin.nv.gov
Planning		
Carson City Planning Department <i>Director</i>	775-887-2180	LPlemel@carson.org
Carson City Parks & Open Space Department <i>Open Space Manager</i>	775-887-2262	jpguzman@carson.org
State of Nevada		
Nevada Division of Environmental Protection, Bureau of Water Pollution Control	775-687-9503	kborgzinner@ndep.nv.gov
Technical Resources		
Carson Watershed Subconservancy District <i>General Manager</i>	775-887-7456	edjames@CWSD.org
Carson City Fire Department <i>Assistant Fire Chief</i> <i>Fire Chief</i>	775-887-2210	TTarulli@carson.org SGiomi@carson.org

Organizations/Titles	Contact Information	Email address
Douglas County GIS <i>GIS Supervisor</i>	775-782-9045	eschmidt@co.douglas.nv.us
Resource Concepts, Inc. <i>Senior Engineer</i> <i>Fluvial Geomorphologist</i> <i>Engineer Intern</i> <i>Principal</i>	775-883-1600	Jill@rci-nv.com Lynn@rci-nv.com Kristin@rci-nv.com Marvin@rci-nv.com

Appendix G

Contingency Plan

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Appendix G

Contingency Plans

Contingency planning for the public water systems in Carson City involves a combination of standalone procedures, BSDW required water system documents, and existing WHP Plans. Related documents are described in Section 3.5 of the CSWP Plan. In addition, the following information is provided specific to individual water systems.

- Carson City Public Works Procedure for water supply contingencies is attached in Appendix G.
- The Contingency Plan for the Cottonwood MHP is Section 7.0 of their existing WHP Plan (Aquifer Science Inc., 2001).

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CARSON CITY PUBLIC WORKS PROCEDURE

Ken Arnold, Public Works
Operations Manager

Revised: 02-06-07

Lack of Water Plan

CARSON CITY UTILITIES CONTINGENCY PLAN (For dealing with Water Demand that exceeds Supply capabilities)

This plan may be put into action upon authorization from the City Manager and /or designee in-order to avoid a city wide water emergency. It is anticipated that most instances of implementation of the plan would be for very short time frames.

City Manager or designee notified by Utilities Operations Manager or designee when it is determined that water demand is exceeding production capability in one or more pressure zones and/or storage levels are at the critical level (see attached Standard Operating Procedures for Storage Reservoirs). And that standard operating procedures such as adjusting pressure zones, increasing patrols to ensure compliance with restrictions, all production facilities are in operation and that all surface water that can be obtained from other users has been diverted to the treatment plant have yielded no effect.

- City Manager or designee notified by Utilities Operations Manager or designee that the following plan should be implemented.
- City Manager or designee approves and directs that Plan be implemented.

Voluntary cut backs

STAGE 1

- Contact the Carson City Parks Department and request that they voluntarily cut back outdoor irrigation of City parks, planters and City buildings as much as possible until further notice.
- Contact the Carson City School District and request that they voluntarily cut back outdoor irrigation as much as possible until further notice.
- Contact State Buildings and Grounds and request that they voluntarily cut back outdoor irrigation as much as possible until further notice.

- Contact Legislative Counsel Bureau Grounds Division and request that they voluntarily cut back outdoor irrigation as much as possible until further notice.
- Request that the Fire Department suspend all certification testing of Fire trucks and pumping equipment and suspend all drills with live water flow until further notice.
- Request that all residents in the affected areas voluntarily cut back outdoor irrigation as much as possible until further notice.

Required reduction of potable water use

STAGE 2

- Direct the Carson City Parks Department to **stop all** potable water irrigation of City parks, planters and City buildings until further notice.
- Contact the Carson City School District and direct them to **stop all** outdoor irrigation until further notice.
- Contact State Buildings and Grounds and direct them to **stop all** outdoor irrigation until further notice.
- Contact the Legislative Counsel Bureau Grounds Division and direct them to **stop all** outdoor irrigation until further notice.
- Direct the Carson City Fire Department to **stop all** certification testing of Fire trucks and pumping equipment and **stop all** drills with live water flow until further notice.
- Require all residents in the affected areas to **stop all** outdoor irrigation until further notice.
- Notify the media of additional watering restrictions in the affected areas and ask for everyone's assistance in conserving as much water as possible.

STAGE 3

- **Citywide ban on all outside irrigation until further notice!!!**



CARSON CITY, NEVADA
CONSOLIDATED MUNICIPALITY AND STATE CAPITAL

October 18, 2012

RECEIVED
NOV 07 2012
ENVIRONMENTAL PROTECTION

Kim Borgzinner, Coordinator
Integrated Source Water Protection Program
NDEP Bureau of Water Pollution Control
901 Stewart Street, Suite 4001
Carson City, Nevada 89701

Subject: Carson City Participation in the State of Nevada's Integrated Source Water Protection Program

Dear Ms. Borgzinner:

At our meeting on October 18, 2012, the Board of Supervisors approved Carson City's participation in the State of Nevada's Integrated Source Water Protection Program (ISWPP).

We, the Carson City Board of Supervisors, consider the quality of the City's drinking water supply a critical consideration in its future. Drinking water free from contamination is a resource that must be preserved and protected in order to ensure the future sustainability of each of our communities. We understand that the Nevada Division of Environmental Protection's Bureau of Water Pollution Control (NDEP) administers the ISWPP for the purpose of providing technical assistance to both the City and its communities on drinking water protection and preservation.

Further, we understand that the development and implementation of Community Source Water Protection (CSWP) plans within the City are an integral part of the City's participation in the ISWPP. The Carson City Board of Supervisors supports development of community-specific CSWP plans that promote local knowledge and understanding of drinking water resources, and local control over how these resources are best managed and protected.

The Board believes that the effort to develop CSWP plans throughout Carson City will entail a long-term commitment from the City and all of the communities within the City. Therefore, the Board directs staff to provide support to both NDEP and community representatives, consistent with the City's existing wellhead protection program, toward successful completion of CSWP plans throughout Carson City.

Sincerely,

Robert L. Crowell, Mayor
Board of Supervisor

Robert L. Crowell, Mayor

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