

Section 1

Introduction and Purpose

1.1 Introduction

The City of Lincoln (City) and the Lower Platte South Natural Resources District (NRD) are in the process of developing a *Comprehensive Watershed Management Plan for the City of Lincoln* and its future growth areas, and Lancaster County where applicable. This comprehensive watershed plan is being developed basin by basin, through the completion of watershed master plans for individual basins. Watershed master plans are used as planning tools to be referenced in conjunction with proposed development and as a guide in the preparation of future capital improvement projects (CIPs).

The City and NRD have previously adopted watershed master plans for the Antelope Creek, Beal Slough, Cardwell Branch, Deadman's Run, Little Salt Creek, Southeast Upper Salt Creek (SEUSC) and Stevens Creek basins. Figure 1-1 shows the status of master plans for basins to be included in the Comprehensive Watershed Master Plan.

The Middle Creek Watershed Master Plan (Master Plan) was prepared as part of a larger study for the Salt Creek South Tributaries, which includes portions of Haines Branch, Middle Creek, and inner basins south of Antelope Creek. The 19 square mile portion of the Middle Creek Watershed that is included in this master plan lies within the 3-mile extraterritorial zoning jurisdiction of the City of Lincoln. Portions of the watershed do not lie within the City's planned Future Service Limit (representing City limits within the 30-year planning period) and the 2040 Lincoln-Lancaster County Comprehensive Plan identifies portions of the watershed as planning areas for long term growth of the City. The purpose of the Master Plan is to identify needed CIPs for water quality and stream stability as well as to quantify pre-development hydrologic conditions for sub-basins with potential future developments. The Master Plan also identifies special or unique areas in the watershed and indicates what, if any, affect these areas have on the Watershed CIPs.

This approach of identifying, evaluating and addressing potential CIPs proactively during the planning process allows for CIP implementation to occur in a highly cost-effective manner. Such an approach represents a significant savings of tax-revenue when compared to the alternative of waiting for significant water quality or stream stability issues to develop prior to implementing CIPs in a retro-fit fashion.

The project team was led by the City and NRD, in cooperation with Lancaster County (County). The City/NRD retained the consultant team of Intuition & Logic (I&L), in association with Heartland Center for Leadership Development (HC), and the U. S. Geological Survey (USGS) to provide assistance with the planning effort.

1.2 Watershed Characteristics

The Middle Creek Watershed is located within and west of the City of Lincoln, to the west of Salt Creek. The majority of the watershed study area is north of W Van Dorn St and south of

W Fletcher St (Figure 1-2). The entirety of the Middle Creek Watershed encompasses approximately 99 square miles, and extends approximately 4 miles west of 154th St/ Highway 103 to the west and northwest to a point approximately 4 miles north of Alvo Rd. Table 1-1 summarizes the Middle Creek watershed characteristics.

Table 1-1 Watershed Characteristics

Description	
Watershed Area	99 Square Miles
Watershed Length	Approximately 15 Miles
Watershed Width	Approximately 14 Miles

1.3 Study Area Characteristics

For the purposes of the watershed master plan, the Middle Creek Watershed study area is approximately 19 square miles from the upper study limits at SW 98th St to its confluence with Salt Creek located just east of the Highway 77 and Rosa Parks Way Interchange. The upper limits of the study area were determined based upon the limits of the current Extraterritorial Jurisdiction (ETJ). The studied portion of the watershed is approximately 7 miles in length with a maximum width of about 6 miles. There are over 81 miles of open channel within the watershed study area. Table 1-2 summarizes the Haines Branch watershed characteristics.

Table 1-2 Study Area Characteristics

Description	
Watershed Area	19 Square Miles
Open Channel Length	Over 81 Miles
Watershed Length	Approximately 7 Miles
Watershed Width	Approximately 6 Miles

Status of Watershed Master Plans

- Master Plan Underway
- Master Plan Complete
- Corporate Limits & ETJ
- Floodplain

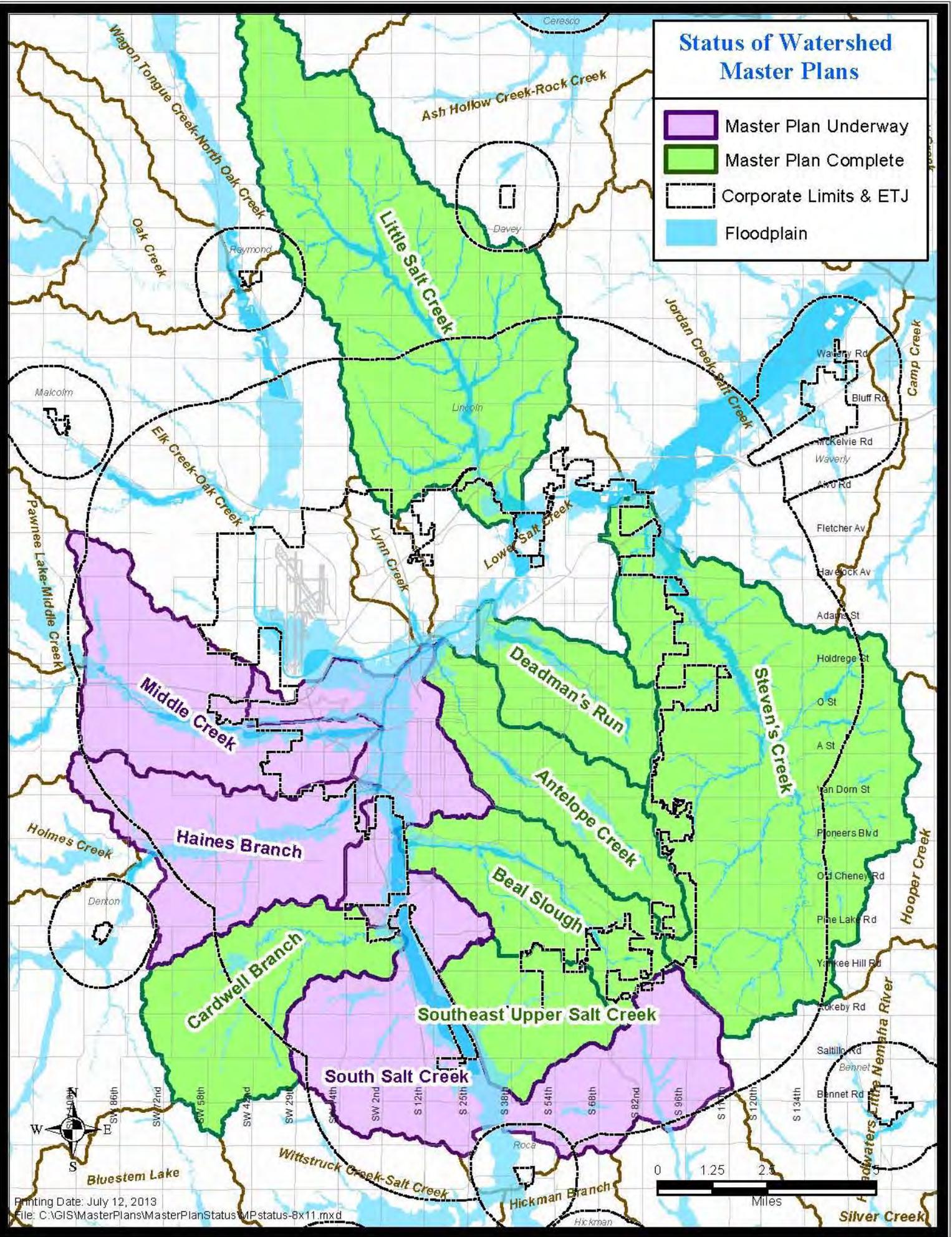
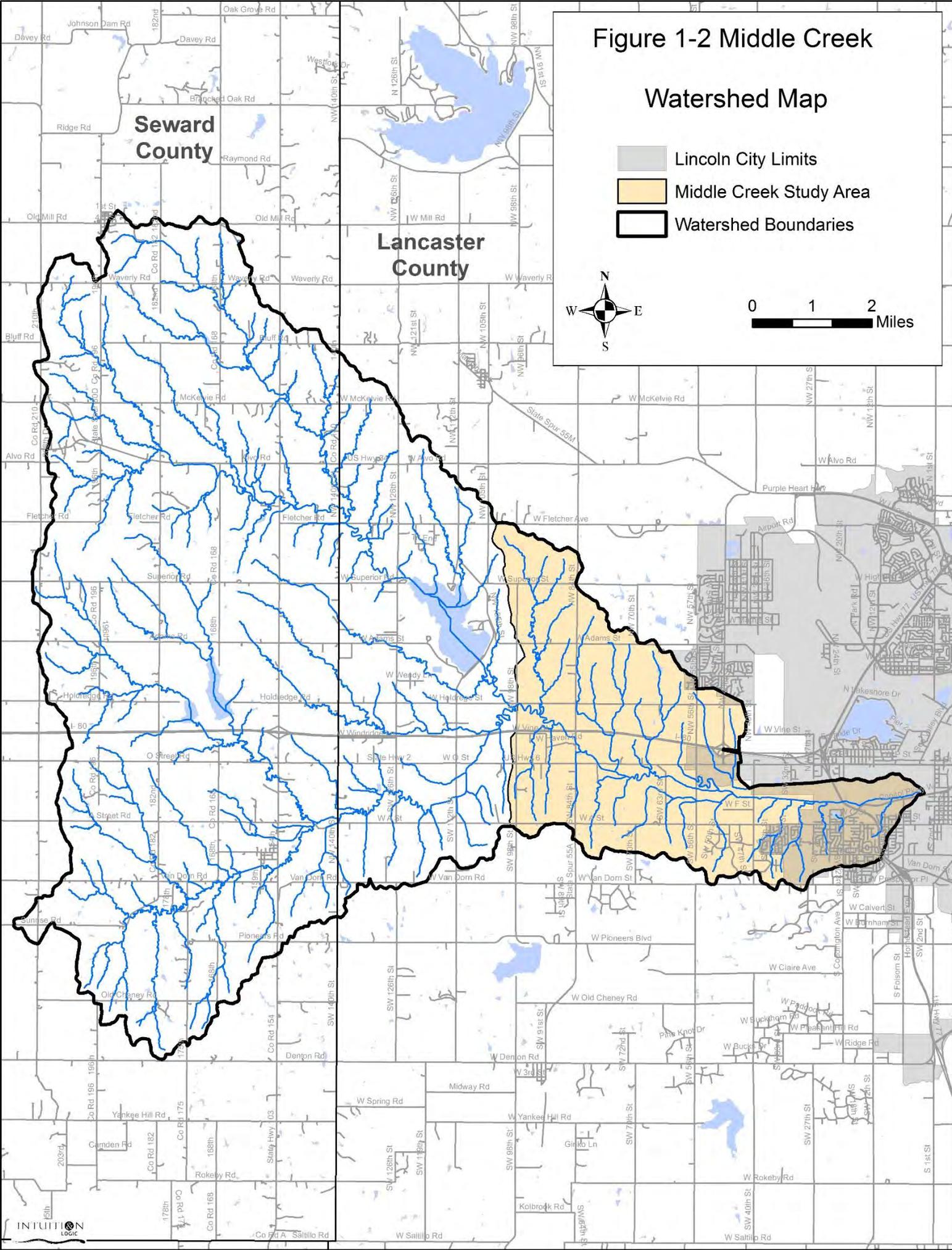


Figure 1-2 Middle Creek Watershed Map

- Lincoln City Limits
- Middle Creek Study Area
- Watershed Boundaries



0 1 2 Miles



1.4 Goals and Objectives

The goal of the study was to develop planning tools and improvement projects to address water quality, stream stability and provide guidance for sustainable future urban growth in the watershed. While developing the improvement projects, the project team incorporated community input, developed cost-effective improvement solutions, integrated water quality and natural resource components, integrated protection of existing infrastructure, minimized stakeholder impacts, and avoided any recommendation that would cause adverse impacts elsewhere in the watershed. The study included a wide range of services organized into the following major components:

Data Collection

- Watershed inventory to collect, compile, and evaluate existing GIS and other data for the watershed.

Hydrologic Data

- Model existing conditions to evaluate stormwater runoff for the 2-, 10-, 50-, 100-, and 500-year storm events for select sub-basins.

Water Quality

- Perform limited water quality sampling and assessment
- Evaluate typical water quality pollutant issues anticipated to arise with future urban development.
- Water quality project identification including:
 - Evaluation of potential Non-structural BMPs for Water Quality

Geomorphic

- Field data collection of the main stem and significant tributaries to quantify geomorphic channel characteristics.
- Geomorphic data analysis and scoring to indicate channel stability
- Field identification and data collection for potential capital improvement projects

Special Areas

- Watershed inventory and coordination with the City, County and NRD to identify special areas in the watershed.

Public Involvement & Facilitation

- Two open house meetings to disseminate information and solicit feedback from the public.
- Three newsletters to watershed residents and stakeholders to inform the public about the study and to present preliminary results.
- Publication of a project website
- The City, County and the NRD each host open public hearings regarding the Master Plan to provide several opportunities for public input."

Capital Improvement Projects

- Conceptual improvement projects to address stream instability problems and improve water quality.

1.5 Public Participation Process

Citizens and stakeholders were offered a variety of ways to provide input to the study and to contribute to the development of alternative concepts and solutions. Each public involvement activity provided the project team with ideas for presenting and refining its' recommendation. The following is a summary of the various components of the public participation process.

1.5.1 Open House Events

Two open house events for the Salt Creek South Tributaries were held during the study to solicit input, update the public on the status of the study, and to present preliminary results. The events were advertised by a direct mail newsletter, displaying electronic digital billboards at several locations, announcements in the Sunday issue of the Lincoln Journal Star, and advertising on the City Public Work's website. Both open house events followed the same



general format consisting of information stations at which the attendees could inquire more about the study and discuss their concerns with representatives from the project team. The open houses were held at Roper Elementary School on August 15, 2013, and May 8, 2014. A summary of both open house events is provided below.

Approximately 51 citizens participated in the first open house held on August 15, 2013. The first open house was designed to provide an overview of the study, including background information, purpose of the watershed master plan, and study goals and objectives. Participants were encouraged to visit information stations set up around the room that provided watershed-specific information.

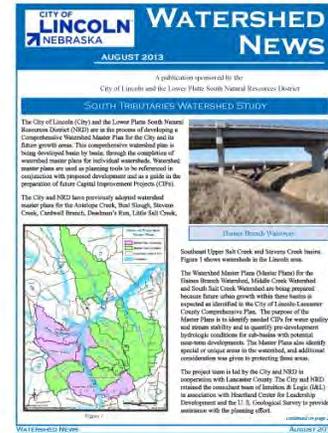
Approximately 35 citizens participated in the second open house held on May 8, 2014. The second open house was designed to be a continuation of the first open house. At the second open house, the citizens were provided with an update on the watershed master plan process and an overview of the watershed master plan recommendations including capital improvement projects. Participants were encouraged to visit information stations set up around the room that provided watershed-specific information.

The City, County and the NRD public hearings regarding the Master Plan are scheduled in October and November 2014.

1.5.2 Website and Newsletter

A series of three newsletters (Watershed News) and a project website were used to supply information about the study process and Master Plan recommendations. Each newsletter edition provided an effective means of informing the public about key aspects of the project. The newsletters were sent to landowners adjacent to the streams in the Middle Creek watershed, select groups, clubs and agencies, as well as a random selection of landowners within the watershed. See Appendix B for a copy of each Newsletter.

The project website was another mechanism used to inform the public about the progress of the study. The website contains general background information, preliminary study results, and handout materials that were distributed at the open houses. The website was regularly updated throughout the study process and was used to advertise upcoming events.



A copy of the public participation materials including summary documents, attendance lists, meeting minutes, newsletters, and presentation are provided in Appendix B.