



CENTERVILLE WORK SESSION AGENDA

NOTICE IS HEREBY GIVEN THAT THE CENTERVILLE CITY COUNCIL WILL HOLD ITS WORK SESSION MEETING AT 5:30 PM ON FEBRUARY 15, 2022 AT CENTERVILLE CITY HALL COUNCIL CHAMBERS, 250 N. MAIN STREET. THE AGENDA IS SHOWN BELOW.

Meetings of the City Council of Centerville City may be conducted via electronic means pursuant to Utah Code Ann. 52-4-207, as amended. In such circumstances, contact will be established and maintained via electronic means and the meeting will be conducted pursuant to the Electronic Meetings Policy established by the City Council for electronic meetings.

Centerville City, in compliance with the Americans With Disabilities Act, provides accommodations and auxiliary communicative aids and services for all those citizens in need of assistance, including hearing devices. Persons requesting these accommodations for City-sponsored public meetings, services, programs, or events should call Jacob Smith, Administrative Services Director, at 801-295-3477, giving at least 24 hours notice prior to the meeting.

The full packet of backups materials can be found at <http://centerville.novusagenda.com/agendapublic>.

A. ROLL CALL

B. BUSINESS

1. Culinary Water Capital Facilities Plan (CFP)
The City Engineer and Public Works Director will present and discuss the 2022 Culinary Water Capital Facilities Plan
2. Spring Cleanup
Review and discuss 2022 Spring Cleanup plan and dumpsite options

C. CLOSED SESSION (Closed Meeting, if necessary, for reasons allowed by State Law, including, but not limited to, the provisions of section 52-4-205 of the Utah Open and Public Meetings Act, and for the Attorney-Client matters that are privileged pursuant to Utah Code ann. 78B-1-137, as amended)

D. ADJOURNMENT

Jennifer Hansen
Centerville City Recorder

CENTERVILLE

Staff Backup Report 2/15/2022

Item No. 1.

Short Title: Culinary Water Capital Facilities Plan (CFP)

Initiated By: Mike Carlson, Public Works Director

Staff Representative: Mike Carlson, Public Works Director

SUBJECT

The City Engineer and Public Works Director will present and discuss the 2022 Culinary Water Capital Facilities Plan

RECOMMENDATION

BACKGROUND

We currently have approximately \$400,000 to \$500,000 per year budgeted for culinary water replacement projects.

In order for us to keep up with replacement projects beginning in 2022-2023 the budgeted amount will need to be \$1.5M. This includes \$1.3M per year for main line, well and tank upgrades and replacements as outlined in the CFP and an additional \$200k per year for valve and lateral replacements.

ATTACHMENTS:

Description

- ❑ Culinary Water CFP - 2022 Proposed Final
- ❑ Water Meter Data Sheet
- ❑ Water Rate 30% Increase Scenario
- ❑ Water Rate 35% Increase Scenario



CENTERVILLE CITY - CULINARY WATER CAPITAL FACILITIES PLAN

February 2022

Prepared by: ESI Engineering, Inc. - Kevin Campbell, PE
Centerville City Engineer

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B Existing Water System Model
C Future Water System Model
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LIST OF ACRONYMS

ac-ft	acre-feet
AF	acre-feet
cfs	cubic feet per second
DDW	Division of Drinking Water
ERC	Equivalent Residential Connection
ERU	Equivalent Residential Unit
gal	gallon
gpd	gallons per day
gpm	gallons per minute
IFA	Impact Fee Analysis
IFFP	Impact Fee Facilities Plan
LOS	Level of Service
MG	million gallons
MGD	million gallons per day
PDD	peak day demand
PID	peak instantaneous demand
psi	pounds per square inch
UAC	Utah Administrative Code
UDEQ	Utah Department of Environmental Quality

1.0 EXECUTIVE SUMMARY

Centerville City's culinary water system was analyzed for source capacity, storage capacity, and distribution system adequacy. The existing system's source and storage capacity was found to be compliant with the Utah Administrative Code; however the distribution system is inadequate in several areas due to the inability to meet fire flow requirements.

Projected build-out of the City will require additional source capacity, storage capacity, and distribution system upgrades.

The system's elements and their current and future compliance with State code are summarized in Table 1.1.

Table 1.1 – Summary of Compliance

Element		Compliant?	
		Current	Projected Year 2050
Source	Water Rights	Yes	Yes
Source – flowrate	Peak Day Demand	Yes	Yes
Source – annual volume	Average Yearly Demand	Yes	Yes
Storage Capacity		Yes	No
Distribution System		No*	No

**The distribution system does meet the peak instantaneous and peak day demands but does not meet the minimum pressure demands during a fire flow in certain areas of the City. This is primarily due to undersized pipes and dead end lines. See Section 6 of this Plan for further detail.*

Current compliance does not eliminate the immediate need for projects, as other factors contribute to the relevancy of the projects, such as problematic conditions (leaks, accessibility, etc.) and emergency preparedness. Advanced planning for the replacement of ageing infrastructure approaching its life expectancy is critical for the long term resiliency and efficiency of the Water System.

A full list of recommended projects is found in Section 7 of this Plan. This list of projects is a summary of deficiencies and potential problems in the existing system and future deficiencies based on projected growth. The project list also includes replacement projects for ageing infrastructure.

Table 1.2 below gives the total costs associated with these projects.

Table 1.2 – Projects Cost Summary

Estimated Total Cost	Cost Breakdown		
	Replacement/ Deficiency	Impact Fee Eligible	Developer Cost
\$42,655,957	\$39,087,071	\$1,415,926	\$2,152,960

2.0 INTRODUCTION

2.1 Background

Centerville City, Utah is located in south Davis County, was originally settled in 1847, and was incorporated as a City in 1915. The City has a total area of 5.98 square miles of land and is bordered by Farmington City to the north, Bountiful City to the south, the Wasatch Mountain Range to the east, West Bountiful to the southwest and Great Salt Lake to the west. Interstate 15, Legacy Parkway, Parrish Lane (SR105) and Main Street (SR106) are the major transportation corridors that pass through the City. The 2010 census placed the city's population at 15,335 and the 2020 population estimate is 17,587. The "retail population" from the 2020 Water Department Report is 17,615.

Information for this plan was gathered from previous reports and plans, Centerville City personnel, State records, and other sources. This report independently analyzes and reviews the culinary water system and identifies projects necessary to bring the current system into full compliance with regulations; update and/or repair infrastructure based on known needs and age; and plan for future growth. It also evaluates projects based on the infrastructure's condition and its importance to the overall system. Additional information is provided which will be necessary to complete an Impact Fee Facility Plan. The Impact Fee Facility Plan will be completed separately.

2.2 Study Area

Centerville City's culinary water system currently serves all areas within the city boundaries. This report analyzes the potential future growth within the City boundaries only.

Land use is a mix of residential, commercial, industrial, agricultural and public facilities. The City's vision for future land use in the undeveloped northwesterly portion of the City (land area between Legacy Parkway and the Nature Conservancy) is slated for a Shorelands Commerce Park with the intent of creating a job center for the City. This plan has been adopted in the West Centerville Neighborhood Plan. It is understood that the service boundary and/or the proposed land uses may change depending on development. These factors may require periodic adjustments to this plan and the recommended culinary water capital facilities projects.

2.3 Water System Overview

In 2020 the City produced 68% of its culinary water from seven deep potable wells and 32% of the City's culinary water was purchased from Weber Basin Water Conservancy District. The City owns and maintains all of the culinary water storage and distribution facilities needed to serve its customers. This includes pump lines, transmission lines, distribution lines, and storage reservoirs. The City's current water system is illustrated in Exhibit 2.2. There are two irrigation district that provide Secondary water to most properties east of I-15 in the City. Weber Basin Conservancy District provides irrigation water north of approximately Chase Lane and Centerville Deuel Creek Irrigation Company provides irrigation water south of approximately Chase Lane. Culinary Water is used for irrigation west of I-15 and 269 homes east of I-15 use metered Culinary Water for irrigation. 95% of the City's Culinary Customers are currently using a separate pressurized irrigation system.

3.0 ERCs, DDW, AND GROWTH ESTIMATES

3.1 Equivalent Residential Connection

Water use varies from connection to connection throughout a water system. In order to avoid the complexity of analyzing each connection, a simple basic unit of water use can be defined for the purposes of comparison. This basic unit is called an Equivalent Residential Connection, or ERC. An ERC quantifies the typical daily water needed for one single family residential connection within the system, the most common type of connection in the City, and is then applied to non-residential users based on water usage. This unit is needed in order to compare non-residential users and evaluate the system with one single equalizing unit of measure.

“Equivalent Residential Connection (ERC) is a term used to evaluate service connections to consumers other than the typical residential domicile. Public water system management is expected to review annual metered drinking water volumes delivered to non-residential connections and estimate the equivalent number of residential connections that these represent based upon the average of annual metered drinking water volumes delivered to true single family residential connections. This information is utilized in [the] evaluation of the system's source and storage capacities (refer to R309-510).” -Utah Administrative Code R309-110-4

Metered water usage for residential customers from 2018 to 2020 was analyzed in order to calculate the equivalent residential connection usage. This data was provided by the City from their meter readings and is the amount of water used at each connection. See Table 3.1 below.

Table 3.1 – Yearly Average Use

	Average Use (gpd)	Average Residential Use (gpd)	Average Use per Residential Connection (gpd)
2018	1,357,723	906,013	182
2019	1,366,729	864,821	172
2020	1,372,734	941,403	187
Average			180

This average use per residence quantifies an ERC (1 ERC = 180 gpd). Once defined, an ERC can be applied to various water users within the system. The calculated use per ERC is then applied to users of the system based on consumption, which is then used to calculate the total number of ERCs for the City.

Table 3.2 – Yearly Average ERCs

	Residential Connections	ERCs for Non- Residential Connections	Total ERCs (consumption- based)
2018	4,976	1,665	6,641
2019	5,017	1,723	6,740
2020	5,031	1,555	6,586

Water consumption from non-residential users can be described as having more or less impact than a typical residence by stating its use in ERC terms. Some commercial connections can have an impact on the water system of several typical residences.

3.1.1 Production vs. Consumption

Various factors within a water system cause the water production to be higher than consumption. In Centerville, production includes water pumped from wells and Culinary water provided by Weber Basin. Flows from these sources are metered before being connected into the distribution system. Consumption, or metered water actually delivered to the consumer, is typically less than what is produced. Consumption flows are measured at the meter located at the individual connections. Assuming storage remains constant; factors that cause this difference include non-metered connections, water main breaks, small leaks, reservoir overflows, firefighting activities, and water line flushing.

$$\begin{aligned} \text{Production} &= \text{Consumption} + \text{Losses} \\ \text{or} \\ \text{Consumption} &= \text{Production} - \text{Losses} \end{aligned}$$

It is important for a water system manager to know the difference between production and consumption so that losses can be identified and reduced. It is common for some water systems to have losses as high as 20-30% of the production. Centerville City has had reliable meters at their water sources and made great efforts to minimize the amount of water lost. In 2019 the percentage loss was 14.55% and in 2020 it was down to 10.23%. The City has installed updated flow meters at their sources which are critical in tracking losses.

3.2 Division of Drinking Water

3.2.1 Source Sizing Requirements

The Division of Drinking Water (DDW) provides standard minimum requirements for sizing water infrastructure including sources, storage, and distribution facilities. The following table provides a summary of the DDW requirements per component:

Table 3.3 – DDW Source Sizing Requirements

Component	Measurement	DDW Requirement
Sources	- Flowrate - Volume	800 gpd/ERC for Peak Day Demand for Indoor Use 5,702 gpd/irrigated acre for Irrigation Use 146,000 gallons/ERC for Average Yearly Demand (400 gpd/ERC) 609,345 gallons/irrigated acre for Average Yearly Demand
Storage Facilities	Volume	400 gallons/ERC for Indoor Use 2,848 gallons/irrigated acre 2,750 gpm for 2 hrs per Fire Code for Type V bldg. over 10,000 SF
Distribution System	Pressure	20 psi during conditions of fire flow and fire demand experienced during peak day demand 30 psi during peak instantaneous demand 40 psi during peak day demand

3.2.2 Reduction of Sizing Requirements

The Utah Administrative Code (UAC) allows for the Director of the DDW to grant a reduction of the sizing requirements on a case-by-case basis. This is detailed in UAC R309-510-5.

Table 3.4 – ERC Comparison

Consumption per ERC (gpd)	Production per ERC (gpd)	DDW minimum per ERC (gpd)
180	N.A.	800

As shown in Table 3.4, the yearly average use per ERC based solely on consumption is less than the minimum required by State Code. These numbers include indoor use and some irrigation use. For the purposes of this Plan, the standard DDW requirements have been used.

3.3 Growth Estimates

Current population information has been estimated from official US Census Bureau data. From 2010 to 2020 the yearly population growth rate of Centerville averaged 1.5%. Based upon recent development within the City, it is believed that the yearly growth rate will increase in the coming years and is estimated to continue at 1.5% for the purposes of this report.

The ERC concept can also be applied to undeveloped land in order to estimate the amount of water needed in areas of growth or redevelopment. Using the Exhibit 2.1 “Future Land Use Map” from the City’s General Plan, ERCs were assigned to future residential units, commercial areas, and manufacturing areas. ERC values have been applied to the undeveloped areas on the City’s Land Use Map and are shown in Exhibit 3.1. Based on the Future Land Use Map, the total future number of ERCs is estimated to be 2,954. Using updated information for 2016 in conjunction with the projected ERCs shown in Exhibit 3.1; Table 3.5 and the accompanying graph give a breakdown of population projection and projected residential versus non-residential ERCs.

Table 3.5 – Population and ERC Projections

Year	Population Projection	Projected Residential ERCs	Projected Non-Residential ERCs	Projected Total ERCs
2010	15,335*	4,266*	ND	ND
2020	17,615*	5,031*	270*	5,301*
2030	20,257	5,785	310	6,095
2040	23,295	6,653	357	7,010
2050	26,790	7,651	410	8,061

*Actual data

ND – Data not available

The non-residential water uses may vary and can be difficult to estimate (for example, if a large industrial use, requiring significant Culinary Water source was developed in the Shorelands Commerce Park); therefore, assumptions were made in order to estimate the ERC values in these areas.

It is estimated that the City will reach add approximately 2,760 ERCs over the next 30 years. Due to changes in the economy and growth rate, it is recommended that this plan be reviewed approximately every five (5) to ten (10) years depending upon actual growth.

4.0 WATER SOURCES

4.1 Water Source Requirements

Utah Administrative Code R309-510-7 states that sources shall legally and physically meet water demands under two conditions:

- (a) The water system's source capacity shall be able to meet the anticipated water demand on the day of highest water consumption, which is the peak day demand.
 - i. 800 gpd/ERC for indoor water use
 - ii. 5,702 gpd/irrigated acre for irrigation use
- (b) The water system's source capacity shall also be able to provide one year's supply of water, which is the average yearly demand.
 - i. 146,000 gallons/ERC for indoor water use
 - ii. 609,345 gallons/irrigated acre for irrigation use

The values shown are the minimum sizing requirements that shall be used for determining the adequacy of water sources.

4.2 Existing Culinary Water Sources

Centerville City currently obtains its water from seven (7) sources: six (6) potable water wells and Weber Basin Conservancy District.

4.2.1 Wells in Production

The following wells are owned by Centerville City and are currently being used for production:

1. Rick's Creek Well - approx. 1550 North Main Street – 1,000 gpm
2. Carrington Well - SW corner of LDS church parking lot at 50 East Carrington Ln – 850 gpm
3. Chase Lane Well - SE corner of Griffith's Property at 970 North Main Street – 1,000 gpm
4. City Hall Well – 244 North 100 East – 800 gpm
5. Lyons Well – 41 East Center Street – 400 gpm
6. Church Well – NE corner of 200 South 200 East Intersection – 1,000 gpm

4.2.2 Wells NOT currently in Production

The following wells are owned by Centerville City but are not currently in production:

1. Rolling Hills Well – approx. 2150 North 300 East (east of Freedom Hills Park) – casing would need to be replaced if intended to be used in future.
2. Holbrook Well – approx. 1350 North Cottonwood Drive – bent casing and no chemical injection system. The casing would need to be replaced and a new pump house constructed if intended to be used in future.
3. Porter Lane Well – 160 West 400 South – casing would need to be replaced and new well head protection report completed if intended to be used in future. *It is recommended that this well be replaced in a different location. Ideally between Main Street and 300 East and south of the Deuel Creek Stream Channel.*

4.2.3 Weber Basin Conservancy District – Culinary Water

Centerville City has a contract with Weber Basin to purchase 500 Acre-ft per year of culinary water. This contract is yearly and the City pays for the entire 500 Acre-ft per year regardless of how much of it is used, therefore the City Water Department goes to great efforts to ensure this purchased water is fully distributed each year. 500 Acre-ft per year equates to 446,340 gallons per day or approximately 310 gallons per minute. A critical issue that the City is faced with is the rising rates from Weber Basin Conservancy District. Weber Basin is an important source for Centerville City, especially in emergency situations such as well contamination, power supply outages, and during refurbishing and maintaining of wells. Use of this source also allows time for aquifer recharge in the City Well head areas.

The following table shows the current water sources and their measured current production.

Table 4.1 – Existing Water Sources

Name of Source	Theoretical Maximum Volume		Actual Water System Production (2020)		
	Peak gpm	ac-ft/year ³	Peak gpm	Peak MGD	ac-ft/year
Rick's Creek Well	1,000	1,076	511	0.74	297
Carrington Well	850	914	387	0.56	136
Chase Lane Well	1,000	1,076	432	0.62	177
City Hall Well	800	860	317	0.46	324
Lyon's Well	400	430	192	0.28	64
Church Well	1,000	1,076	284	0.41	42
Weber Basin Conservancy Dist.	1,000	500	1,000	1.40	500
Totals	6,050	5,932	3,123	4.47	1,540

³ Pumping 16 hours per day (to allow for aquifer recharge)

4.3 Water Use Projections

4.3.1 Average Yearly Demand

Table 4.2 below illustrates the application of the State's water source requirements of 146,000 gal/ERC (0.448 ac-ft/ERC) of indoor use plus 609,345 gal/irrigated acre (1.87 ac-ft/acre) for outdoor use for the average yearly demand on the existing calculated ERCs. As can be seen, the City currently has the available source capacity to produce enough water to meet the average yearly demand requirements.

Table 4.2 – Existing Water Source Required Capacity

Year	ERCs	Irrigated Acres	Indoor Source Requirement (ac-ft/ERC/yr)	Outdoor Source Requirement (ac-ft/irr-ac)	Required Source Capacity (ac-ft/yr)	Available Source Capacity (ac-ft/yr)
2020	5,301	380	0.448	1.87	3,085	5,716

The City has sufficient water rights to cover future growth projected through 2050. However, rehabilitation of existing sources will be necessary in order to maintain and update existing wells and pump houses. The existing sources currently have the ability to produce 3,911 ac-ft/yr. As shown in Table 4.3, Centerville City has sufficient source capacity projected for 30 years.

Table 4.3 – Projected Average Yearly Demand

Year	Projected ERCs	Projected Source (ac-ft/yr)		Total Projected Use (ac-ft/yr)
		Wells (6)	Weber Basin	
2020	5,301 ¹	5,432 ¹	500 ¹	1,540
2030	6,095	5,432 ¹	500 ¹	1,771
2040	7,010	5,432 ¹	500 ¹	2,036
2050	8,061	5,432 ¹	500 ¹	2,342

¹Actual data

It is recommended that this report be verified and restudied every 10 years with updated and actual data.

4.3.2 Peak Day Demand

The State's average yearly demand requirements applied to the projected ERCs are shown in Table 4.4. Applying the State's source requirement of 800 gpd/ERC of indoor use and 5,702.4 gpd/acre of irrigation use for the peak day demand to the projected ERCs and irrigated acreage, it is apparent that the City's approved maximum flow from their water rights (8.72 MGD) is enough to cover the required demand. The maximum production of the six (6) wells and Weber Basin source is 8.42 MGD. This is sufficient to cover the 8.70 MGD projected in 2050 as shown in Table 4.4.

Table 4.4 – Projected Peak Day Demand and Supply

Year	Projected ERCs	Projected Irrigated Acres	Projected Peak Day Demand ² (MGD)	Existing Maximum Available Flow Rate ³ (MGD)	Water Rights' Maximum Flow Rate ⁴ (MGD)
2020	5031 ¹	380 ¹	6.19	8.71	8.72
2030	6,095	385	7.07	8.71	8.72
2040	7,010	390	7.83	8.71	8.72
2050	8,061	395	8.70	8.71	8.72

¹Actual data

² $(ERCs \times 800 \text{ gpd/ERC} + \text{Irr. Acres} \times 5,702.4 \text{ gpd/irr acre}) \div 1,000,000 \text{ gal/MG}$

³Existing total maximum flow rate available from all sources (wells and Weber Basin) from Table 4.1

⁴Existing total maximum flow rate based on approved water rights

This table shows that the City is currently compliant with the State DDW's rule for Peak Day Demand and should be depending upon development patterns until the year 2050. Centerville City may need to restudy irrigation use west of I-15 depending on usage patterns as this area is built out.

4.4 Future Water Source Needs

It is projected that Centerville City will have adequate source capacity to meet the future demands until approximately year 2050. It is critical that the City maintain and update the six (6) wells. Of upmost importance is protecting the aquifers as a resource. City personnel over recent years have varied times of day, months and seasons as to when they pump the wells in order to protect these invaluable natural resources. Several communities in South Davis County have unfortunately over pumped wells in recent years and damaged aquifers in their Cities. Centerville City has been fortunate to have many good wells with excellent aquifers, which has allowed them to alternate pumping and allow for recharge.

4.4.1 Other Water Source Needs

It is not anticipated that Centerville City will have additional Water Source needs until after the year 2050. The City should, however be cautious as development west of I-15 occurs over time as this portion of the City will be irrigated with Culinary Water.

4.5 Water Source Projects

The following rehabilitation and maintenance projects relating to the City's water sources are recommended, in order of recommended priority:

Project		Description/Purpose
1	100 South Booster Station	Update and rehab booster station by 2031. Constructed in 1971.
2	Lyons Well and Pump House	Update and refurbish well and pump house by 2033. Constructed in 1983.
3	Ricks Creek Well and Pump House	Update and refurbish well and pump house by 2036. Constructed in 1986.
4	Weber Basin Booster Station	Update and rehab booster station by 2038. Constructed in 1978.
5	City Hall Well and Pump House	Update and refurbish well and pump house by 2041. Constructed in 1991.
6	Rolling Hills Booster Station	Update and rehab booster station by 2042. Constructed in 1982.
7	Pressurized Irrigation System West of I-15	Consider and study viability of pressurized secondary water system throughout west of I-15 in the City to reduce the peak culinary water usage.

5.0 WATER STORAGE

5.1 Water Storage Requirements

Utah Administrative Code R309-510-8 states:

Each public water system, or storage facility serving connections within a specific area, shall provide:

(a) equalization storage volume, to satisfy average day demands for water for indoor use and irrigation use,

- (b) fire flow storage volume, if the water system is equipped with fire hydrants intended to provide fire suppression water or as required by the local fire code official, and
- (c) emergency storage, if deemed appropriate by the water supplier or the Director.

Based on Table 510-4 of the aforementioned rule, 400 gallons/ERC of storage are required for equalization storage for indoor use. Based on Table 510-5 of the rule, 2,848 gallons/irrigated acre of storage are required for equalization storage for irrigation use.

Fire flow storage is typically dictated by the local fire official or, if none is available, a minimum of 1,500 gpm for 60 minutes is to be used. For Centerville City, a fire flow of 3,500 gpm for three (3) hours was used as the existing Level of Service for storage requirements. This standard is based on the International Fire Code for the type of building which Centerville Junior High School and the Wal-mart Supercenter fits into.

5.2 Existing Water Storage

The Centerville City water system typically operates four (4) pressure zones. Zones are provided so that pressure can be more evenly distributed. In general the storage tanks are located above the service zones. While all of Centerville City's tanks can service all zones, the tanks are generally arranged to provide storage for the service zones in the general vicinity of the storage reservoir.

Exhibit 2.2 illustrates the locations of the City's water storage reservoirs; Table 5.1 below lists the reservoirs' capacities and to which pressure zone each reservoir directly feeds.

Table 5.1 – Existing Water Storage

Name	Year Constructed	Zone (Direct Feed)	Zone (Capable of Feeding)	Capacity (gal)
Rolling Hills – approx. 2150 N. 400 E.	1981	1	All	500,000
Ricks Creek – approx. 1550 N. 300 E.	1988	2	All	1,000,000
Green Steel - approx. 1100 N. 700 E.	1971	2	All	500,000
Parrish Lane – approx. 400 N. 700 E.	1997	3	All	1,000,000
100 South – approx. 100 S. 700 E.	1971	4	All	1,500,000
Island View – approx. 150 S. 900 E.	1971	4	All	1,000,000
TOTAL				5,500,000

The Green Steel tank was recoated in 1998 and is currently in very poor condition. It is recommended that this reservoir be replaced within the next couple of years. The other reservoirs are constructed of reinforced concrete and are buried for the most part. The life cycle for the reinforced concrete reservoirs is 60 to 75 years.

5.3 Future Water Storage Needs

Table 5.2 details the projected storage required through buildout, including required fire storage.

Table 5.2 – Projected Required Storage Capacity

Year	Projected ERCs	Required Storage --Indoor ¹ -- (MG)	Required Storage --Irrigation ² -- (MG)	Required Storage -- Fire Flow ³ -- (MG)	Total Required Storage (MG)
2020	5,301	2.120	0.795	1.260	4.175
2030	6,095	2.438	0.914	1.260	4.612
2040	7,010	2.804	1.052	1.260	5.116
2050	8,061	3.224	1.209	1.260	5.693

¹Projected ERCs x 400 gal/ERC ÷ 1,000,000 gal/MG

²Residential ERCs x 150 gal/ERC ÷ 1,000,000 gal/MG

³3,500 gal/min x 180 min ÷ 1,000,000 gal/MG x 2 (North and South Zones)

The total required storage is currently being met and should be sufficient for the next 25 years or so. By the year 2050 the City could potentially need additional storage due to irrigation on land west of I-15 that has the potential for development. It is recommended that when the Green Steel Tank is replaced, the new reservoir be upsized to 750,000 gallons or 1,000,000 gallons depending on available funding and cost to value ratio analysis.

6.0 WATER DISTRIBUTION SYSTEM

6.1 Water Distribution System Requirements

Utah Administrative Code sections R309-105 and R309-510-9 describe the minimum requirements that a public water distribution system must meet.

Specifically, R309-105-9 discusses minimum water pressures under specific conditions:

- (1) *Unless otherwise specifically approved by the Director, no water supplier shall allow any connection to the water system where the dynamic water pressure at the point of connection will fall below 20 psi during the normal operation of the water system. Water systems approved prior to January 1, 2007, are required to maintain the above minimum dynamic water pressure at all locations within their distribution system. Existing public drinking water systems, approved prior to January 1, 2007, which expand their service into new areas or supply new subdivisions shall meet the minimum dynamic water pressure requirements in R309-105-9(2) at any point of connection in the new service areas or new subdivisions.*

- (2) *Unless otherwise specifically approved by the Director, new public drinking water systems constructed after January 1, 2007 shall be designed and shall meet the following minimum water pressures at points of connection:*
- (a) *20 psi during conditions of fire flow and fire demand experienced during peak day demand;*
 - (b) *30 psi during peak instantaneous demand; and*
 - (c) *40 psi during peak day demand.*
- (3) *Individual home booster pumps are not allowed as indicated in R309-540-5(4) (c).*

R309-510-9 references the above and goes on to discuss the peak instantaneous demand for indoor and irrigation use and fire flow. Indoor use, irrigation use, and fire flow were analyzed.

6.2 Fire Flow Requirements

State rule requires that the minimum fire flow for a distribution system is 1,500 gpm. The existing water system was evaluated as a whole using this minimum fire flow and larger structures were evaluated separately using fire flows recommended by the International Fire Code, Table B105.1. For example, a fire flow of 3,500 gpm was used to evaluate the distribution system near Centerville Junior High School and the Wal-mart Supercenter. It is recommended that large structures and combustible material structures be analyzed on a case-by-case basis.

6.3 Existing Water Distribution System

Using the computer modeling program, EPANet 2.0, the existing water system model was updated to reflect recent developments. After determining the fire flow, the model was then run for each scenario listed in R309-105-9(2):

1. The fire flow (1,500 gpm) was applied in conjunction with indoor peak day demand (800 gpd/ERC) and irrigation peak day demand (5,702.4 gpd/irrigated-acre). The result showed the following area is unable to meet the required fire flow at the minimum pressure (20 psi):
 - a. Ridgeline Circle and Sunrise Ridge Circle – east of Island View Drive
2. Peak instantaneous demand was applied using a factor of 2 times the peak day demand. No node servicing customers fell below 30 psi (minimum required).
3. Peak day demand was applied to the model. No node servicing customers fell below 40 psi (minimum required).

The State DDW's Hydraulic Modeling Rule (R309-511) requires that the existing water model is updated and re-run as development occurs in order to re-evaluate the system for compliance with minimum requirements and identify any deficiencies that would result due to the proposed development. Any system improvements or upsizing necessary in order to be compliant must be done as part of the development in order to receive approval.

Additionally, the DDW [R309-400-6(8)(h) and R309-550-5(4) and (5)] rules indicate that for those lines containing fire hydrants, the minimum water line size shall be 8" (unless a hydraulic analysis indicates that required flow and pressures can be maintained by 6" lines). As a general rule, the areas of the

system that had difficulty meeting the minimum flows and pressures contained lines less than 8". Therefore, the City should plan to replace the old 6" water lines as feasible in order to bring the system up to current regulations.

Other projects have been identified based on maintenance issues, providing needed reliability and redundancy in the system, and emergency preparedness. These projects are considered existing deficiencies.

6.4 Future Water Distribution System Needs

The Future Zoning Map was used to estimate where and what type of users are expected in the future. ERCs for residential areas were assigned based on the projected zoning and density associated with that zoning.

Appendix C contains the approximate future water model schematic with the appropriately sized water lines. The future water model should be updated and revised as needed as development occurs.

7.0 ASSET MANAGEMENT, PROJECTS, AND COST ESTIMATES

7.1 Asset Management System

Centerville City uses GIS database for their asset management system. They use this system to track leaks, type of pipe and age of existing infrastructure as well as identify problem areas. This GIS database is used when making decisions on repair and replacement projects.

7.2 Projects and Cost Estimates

As detailed in the previous sections, the existing and future water systems have been analyzed to determine needed system improvements. These improvements have been grouped, mainly by geography and type, and prioritized based on criticality to service the public and condition.

While a few of these projects will be driven by development, others are necessary to provide better efficiency and reliability of the system. A summarized list of the projects and their associated costs is shown in Table 7.1. An itemized cost estimate for each project is included in Appendix D.

Table 7.1 – Projects Cost Summary

Project Year	Project Description	Total Estimated Cost	Cost Breakdown		
			Replacement / Deficiency	Impact Fee Eligible	Developer Cost
2022	Nola Drive – 1360 N to 1680 N & 1375 N – Nola Dr to Peachtree Dr	\$483,358	\$483,358	\$0	\$0
2022	London Road – 400 E to Bonita Way	\$395,778	\$395,778	\$0	\$0
2022	Cottonwood Drive – Casa Loma Dr to 50 E	\$406,943	\$406,943	\$0	\$0
2023	Peachtree Drive – Casa Loma Dr to Main Street & Cherry Ln – Peachtree Dr to 1500 N	\$743,850	\$743,850	\$0	\$0
2023	Briarwood Drive – 400 E to Bonita Way	\$386,570	\$386,570	\$0	\$0
2023	Sunrise Ridge Circle & Ridgeline Circle	\$331,108	\$331,108	\$0	\$0
2024	Replace Porter Lane Well with New Well	\$2,000,000	\$2,000,000	\$0	\$0
2024	200 East & Deerfield Dr – Casa Loma Dr to Cottonwood Dr	\$410,495	\$410,495	\$0	\$0
2024	50 East – 1350 N to 1425 N	\$263,755	\$263,755	\$0	\$0
2024	Linda Loma Drive – 400 East to 700 N & Balsam Dr – Linda Loma to Bonita Way	\$397,228	\$397,228	\$0	\$0
2025	Replace Green Steel Tank with New Reservoir	\$2,014,598	\$2,014,598	\$0	\$0
2025	1250 North – 325 E to Deerfield Dr & 325 East – Barnard St to 1250 N	\$371,998	\$371,998	\$0	\$0
2025	Bonita Way – Briarwood Dr to Main Street	\$346,768	\$346,768	\$0	\$0
2026	Aquifer Recharge & Recovery Project	\$1,500,000	\$1,500,000	\$0	\$0
2026	Deerfield Drive – 1100 to Casa Loma Dr	\$270,208	\$270,208	\$0	\$0
2026	Pheasant Way – 575 N to 700 N & 700 North – Pheasant Way to Bonita Way & 275 East –	\$649,310	\$649,310	\$0	\$0

Project Year	Project Description	Total Estimated Cost	Cost Breakdown		
			Replacement / Deficiency	Impact Fee Eligible	Developer Cost
	London Rd to 700 N & Cherrywood Circle				
2026	625 North, 150 West & 550 North	\$397,155	\$397,155	\$0	\$0
2027	Barnard Street – Oakridge Dr to Main Street	\$620,818	\$620,818	\$0	\$0
2027	Parrish Lane – 400 East to Main Street	\$464,435	\$464,435	\$0	\$0
2028	Nola Drive – Barnard St to 1360 N & Nola Circle	\$278,763	\$278,763	\$0	\$0
2028	Hughes Street – Chase Ln to Barnard St	\$286,448	\$286,448	\$0	\$0
2028	Island View Drive – 100 S to 800 S & 725 South Circle	\$665,043	\$665,043	\$0	\$0
2029	Powell Ave – Oakridge Dr to Hughes St	\$230,441	\$230,441	\$0	\$0
2029	1100 North – 150 East to Main Street	\$220,255	\$220,255	\$0	\$0
2029	Doris Street – Chase Ln to Powell Ave	\$198,650	\$198,650	\$0	\$0
2029	Wilmar Circle – Chase Lane	\$138,693	\$138,693	\$0	\$0
2030	Jennings Lane – Waterline Casing and Transmission line beneath I-15, UPR, UTA & Legacy Hwy	\$743,488	\$0	\$743,488	\$0
2030	Lund Lane – Waterline Casing and Transmission line beneath I-15, UPR, UTA & Legacy Hwy	\$672,438	\$0	\$672,438	\$0
2030	1250 West Waterline Extension – Transmission Lines	\$2,152,960	\$0	\$0	\$2,152,960
2030	Parrish Lane – 400 East to 700 East	\$383,960	\$383,960	\$0	\$0
2031	Main Street (SR 106) – Porter Lane to 100 S.	\$432,680	\$432,680	\$0	\$0
2031	Main Street (SR 106) – Chase Ln to Lund Ln	\$1,326,315	\$1,326,315	\$0	\$0

Project Year	Project Description	Total Estimated Cost	Cost Breakdown		
			Replacement / Deficiency	Impact Fee Eligible	Developer Cost
2031	100 South Booster Station – Update and Rehab	\$145,000	\$145,000	\$0	\$0
2032	Canyon Way – 100 S to 400 S	\$356,845	\$356,845	\$0	\$0
2032	Page Lane – Main Street to 700 E	\$682,950	\$682,950	\$0	\$0
2033	700 East – Page Ln to 400 S & 950 South Circle	\$715,865	\$715,865	\$0	\$0
2033	Porter Ln – Frontage Rd to Main Street	\$568,400	\$568,400	\$0	\$0
2033	Lyons Well and Pump House – Update and refurbish well and pump house	\$725,000	\$725,000	\$0	\$0
2034	Parrish Lane (SR105) – Frontage Rd to Main Street (SR106)	\$724,420	\$724,420	\$0	\$0
2034	600 East – Aspen Way to Worsley Ln	\$351,190	\$351,190	\$0	\$0
2034	Worsley Lane – 400 E to 700 E	\$342,128	\$342,128	\$0	\$0
2035	700 East – 200 N to Center Street	\$382,655	\$382,655	\$0	\$0
2035	Center Street – 400 E to 600 E	\$257,230	\$257,230	\$0	\$0
2035	550 South Cul-de-sac – 400 E	\$220,038	\$220,038	\$0	\$0
2036	1200 South – Main Street to 240 N	\$284,563	\$284,563	\$0	\$0
2036	800 South – 300 E to 200 E	\$202,710	\$202,710	\$0	\$0
2036	Ricks Creek Well and Pump House – update and refurbish well and pump house	\$725,000	\$725,000	\$0	\$0
2037	700 South – 400 E to 700 E	\$326,903	\$326,903	\$0	\$0
2037	600 East – 700 S to 900 S	\$293,553	\$293,553	\$0	\$0
2037	650 East – 700 S to 900 S	\$254,910	\$254,910	\$0	\$0

Project Year	Project Description	Total Estimated Cost	Cost Breakdown		
			Replacement / Deficiency	Impact Fee Eligible	Developer Cost
2037	475 East & 850 South – 700 S to 600 E including 800 South Circle	\$319,580	\$319,580	\$0	\$0
2038	Weber Basin Booster Station – Update and refurbish	\$145,000	\$145,000	\$0	\$0
2038	780 South – Main Street to 150 W	\$262,450	\$262,450	\$0	\$0
2038	850 South – Main Street to 150 W	\$254,620	\$254,620	\$0	\$0
2038	150 West – 780 S to 875 S	\$167,258	\$167,258	\$0	\$0
2039	550 South – Main Street to 150 W	\$276,298	\$276,298	\$0	\$0
2039	700 South & 150 West – Main Street to 550 S – including 600 S Circle	\$354,163	\$354,163	\$0	\$0
2039	650 South – 150 W to 25 W	\$218,080	\$218,080	\$0	\$0
2039	75 West – 500 S to 350 S	\$166,388	\$166,388	\$0	\$0
2040	300 East – Chase Ln to 1150 N	\$237,075	\$237,075	\$0	\$0
2040	200 East – Chase Ln to 1150 N	\$263,930	\$263,930	\$0	\$0
2040	1100 North – 300 E to 150 E – including 175 East Circle	\$263,900	\$263,900	\$0	\$0
2041	City Hall Well and Pump House – Update and refurbish well and pump house	\$725,000	\$725,000	\$0	\$0
2041	Rick's Creek Way – Main Street to 200 W	\$321,175	\$321,175	\$0	\$0
2041	Milky Way – Rick's Creek Way to 200 W	\$311,895	\$311,895	\$0	\$0
2042	200 West – 1350 N to Jennings Ln	\$695,420	\$695,420	\$0	\$0
2042	Rolling Hills Booster Station – Update and rehab booster station	\$145,000	\$145,000	\$0	\$0

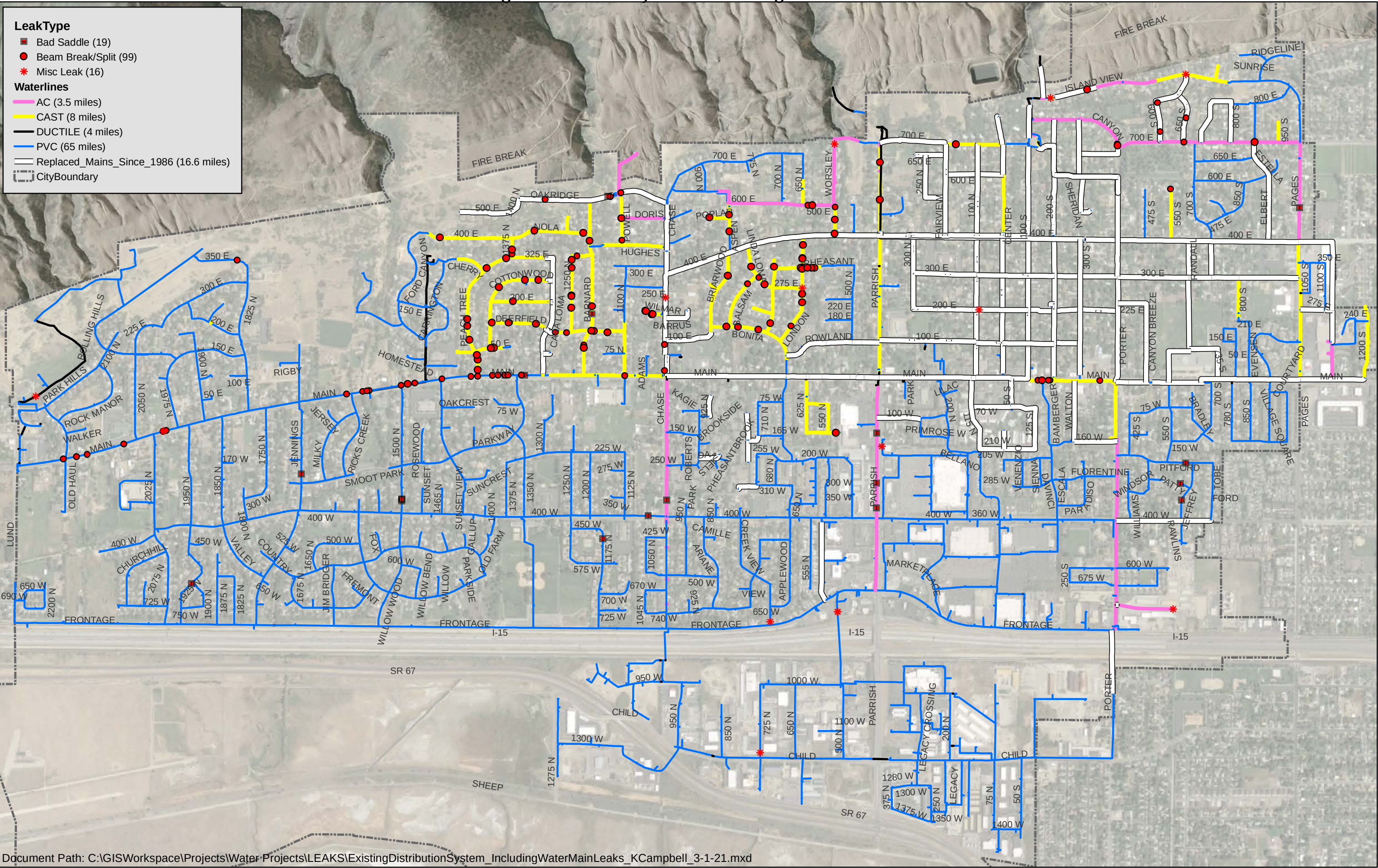
Project Year	Project Description	Total Estimated Cost	Cost Breakdown		
			Replacement / Deficiency	Impact Fee Eligible	Developer Cost
2043	300 East – Pages Lane to 300 N	\$1,167,540	\$1,167,540	\$0	\$0
2044	1500 North – Main Street to 200 W	\$284,273	\$284,273	\$0	\$0
2044	Willow Wood Drive – 250 W to Frontage Rd	\$489,230	\$489,230	\$0	\$0
2045	Willow Valley Drive & 1600 North – Pony Express to 400 West	\$676,715	\$676,715	\$0	\$0
2046	Replace Island View Reservoir	\$1,442,098	\$1,442,098	\$0	\$0
2047	1850 North – Main Street to 400 W	\$391,863	\$391,863	\$0	\$0
2047	1950 North – Main Street to 400 W	\$344,955	\$344,955	\$0	\$0
2048	1750 North – Main Street to 400 W	\$448,195	\$448,195	\$0	\$0
2048	400 West – Jennings Lane to 1950 N	\$490,753	\$490,753	\$0	\$0
2048	Greenfields PUD – 1950 N, 1900 N, 750 W, 1925 N, 450 W	\$695,710	\$695,710	\$0	\$0
2049	1900 North – Main Street to 300 E	\$436,958	\$436,958	\$0	\$0
2049	2050 North – Main Street to 300 E	\$469,365	\$469,365	\$0	\$0
2049	300 East & 1975 North – 1825 N to 150 E	\$466,755	\$466,755	\$0	\$0
2050	Replace 100 South Reservoir	\$1,980,446	\$1,980,446	\$0	\$0
TOTAL		\$42,655,957	\$39,087,071	\$1,415,926	\$2,152,960

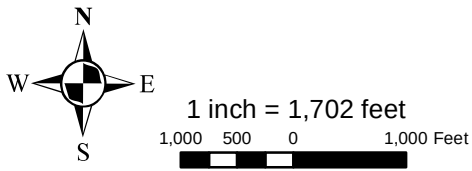
LeakType

- Bad Saddle (19)
- Beam Break/Split (99)
- Misc Leak (16)

Waterlines

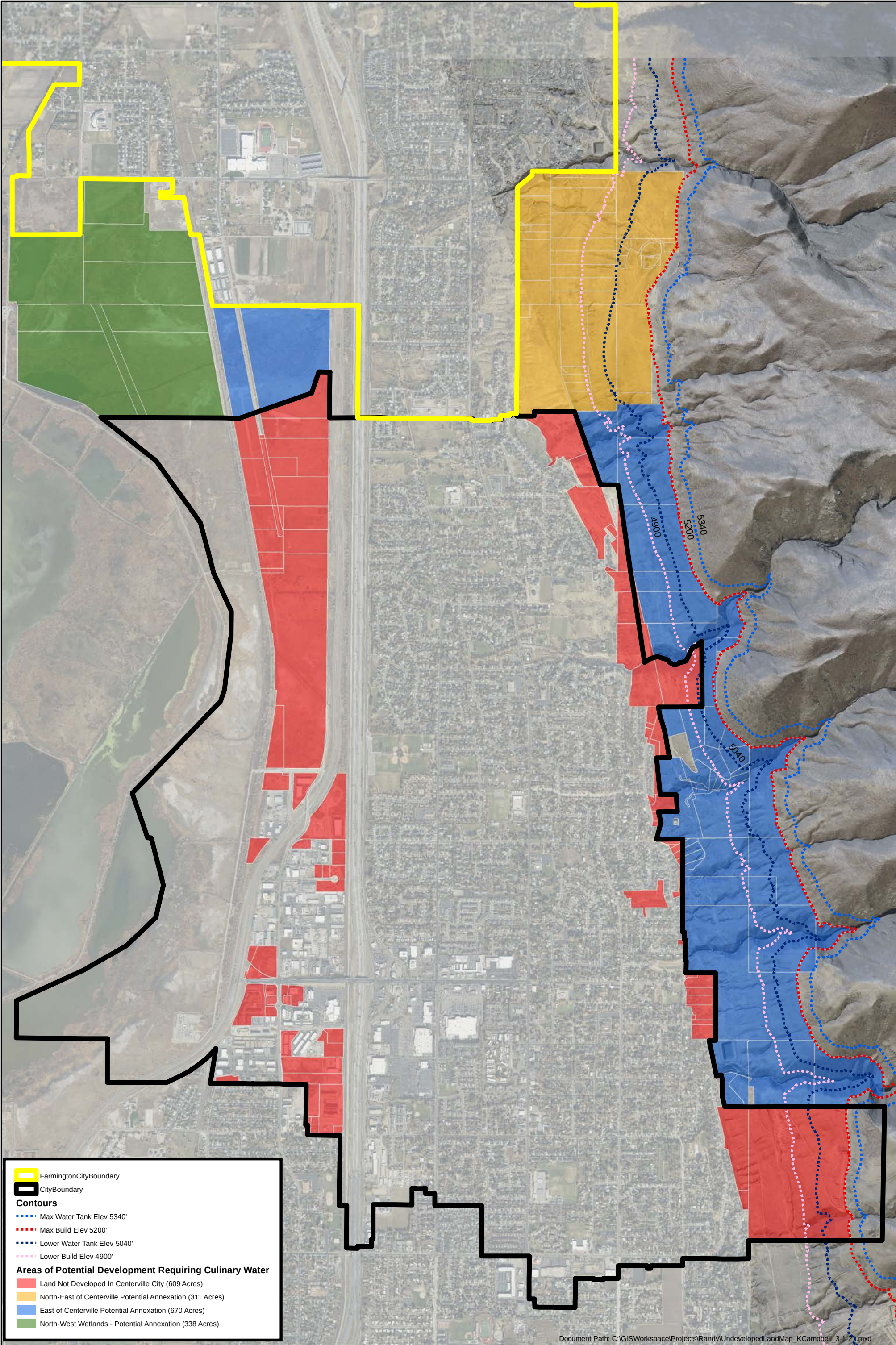
- AC (3.5 miles)
- CAST (8 miles)
- DUCTILE (4 miles)
- PVC (65 miles)
- Replaced_Mains_Since_1986 (16.6 miles)
- CityBoundary





Undeveloped Land Map

Date: 3/1/2021



- Farmington City Boundary
- City Boundary
- Contours**
 - Max Water Tank Elev 5340'
 - Max Build Elev 5200'
 - Lower Water Tank Elev 5040'
 - Lower Build Elev 4900'
- Areas of Potential Development Requiring Culinary Water**
 - Land Not Developed In Centerville City (609 Acres)
 - North-East of Centerville Potential Annexation (311 Acres)
 - East of Centerville Potential Annexation (670 Acres)
 - North-West Wetlands - Potential Annexation (338 Acres)

APPENDIX A

CENTERVILLE CITY – WATER RIGHTS	Date	7-28-17
	Compiled by:	Kevin L. Campbell, P.E.

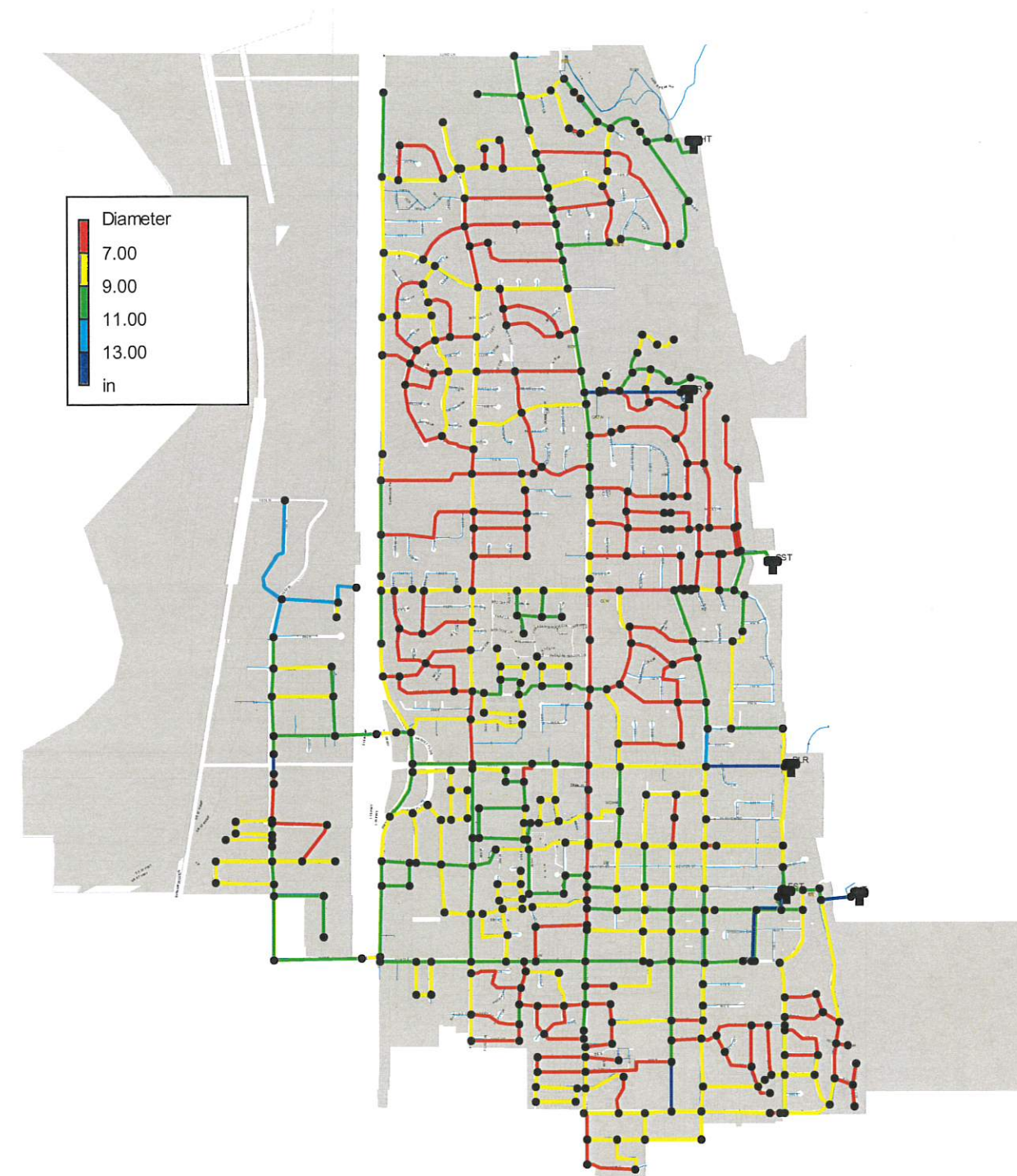
WR #	CH #	STATUS	PRIORITY	PROOF DUE	CFS	ACRE-FT / YR	SOURCE	COMMENTS
31-113		APPLWUC	1947		0.015	-	UGWW	A18420 – Lund Lane 2 families – Domestic Use
31-519	a29693	UNAP	2004		0.134	-	Spring	D82 – France Spring
31-549		UGWC	1870		0.003	-	Spring	U21333 – Hyrum Drake Spring – Domestic Use
31-638		UGWCDIS	1922		0.223	-	UGWT	U6234 – Underground water tunnels
31-643		APPLDIS	1936		-	-	Spring	A12016 – Cert 3181 – unnamed spring
31-661	a39580	APPLCERT	1960		0.870	-	UGWW	A31781 – Cert 6476 - Changed from Holbrook to Chase Lane Well in 2014
31-667	a19238	REJ	1995		0.133	-	UGWW	U234 – Williams water
31-776	a19243	REJ	1995		0.013	-	UGWW	U236 – Williams water
31-777	a27293	UGWC	1934	3-2020	1.337	-	UGWW	U4989 – Church Well
31-847	a19239	REJ	1995		0.156	-	UGWW	U17215 – Williams water
31-808	a19426	REJ	1995		0.056	-	UGWW	U18539 – Williams water
31-863	a19245	REJ	1995		0.089	-	UGWW	U18540 – Williams water
31-1293		PAC	1850		3.600	-	Surface	Parrish Creek surface water – validity in question – WR# not established in accordance with statute
31-1327	a3688	DILWUC	1848		0.700	-	Surface	D604 – a3688 – Centerville Deuel Creek - 10% Interest on 7 CFS
31-1334		DILWUC	1848		2.000	-	Surface	D604 – Centerville Deuel Creek
31-1827		APPLDIS	1949			-	UGWT	A21268
31-2829	a29691	APP	2004	8-2019	0.134	1.946	Spring	France Spring
31-2988		APPLAP	1965		0.067	-	Spring	A37087 – George's Spring 50 year date 11-2016
31-3828		APPLLAP	1966		0.015	-	UGWW	A37712

31-3922	a39578	APPLCERT	1968		0.200	58.90	UGWW	A38790 – Cert 12618 – from Holbrook to Chase Lane Well
31-4253	a28316	APPLCERT	1975		0.690	-	UGWW	A45039 – Carrington Well
31-4633	a39582	APPLCERT	1980		0.702	169.41	UGWW	A54585 – Cert 12783 – Holbrook Well to Chase Ln Well
31-4672		APPLCERT	1981		1.000	-	UGWD	A55855 – Community Park Pump Sta.
31-4756		APPLCERT	1983		1.000	-	UGWW	A58432 – Lyon's Well
31-4773		APPLCERT	1983		2.000	-	UGWW	A58738 – City Hall Well
31-4792	a10666a	APPLCERT	1960		1.130	-	UGWW	A31781 – Carrington Well
31-4846	a30696	APPLAPP	1985		1.000	43.60	UGWW	A60960 – Community Park Pump Sta.
31-4850		APPLCERT	1985		2.000	-	UGWW	A61147 – Rick's Creek Well
31-4858		APPLUNAP	1985		0.500	-	Spring	A61411 – France or Duncan Spring
31-4918		UGWCDIS	1934		-	-	UGWW	U8155 – disallowed due to being duplicate of U4989
31-5028		APPLUNAP	1990		3.000	-	UGWW	A64900
31-5137	a39579	APPLAPP	1985	4-2026	1.000	241.32	UGWW	A61147a – Rick's Creek Well, added point of diversion at Chase Lane Well
31-5149	a19247	APPLAPP	1983	6-2018	2.000	-	UGWW	A58432a - Church Well, City Hall Well and Porter Ln Well
31-5235	a39581	APPLAPP	1975	4-2026	0.110	26.55	UGWW	A45039a – changed from Holbrook Well to Chase Lane Well
TOTAL A. (ACRE-FT / YR)						541.726		
TOTAL B. (CFS)					12.746			
TOTAL A. + TOTAL B. (ACRE-FT / YR)					9,769.449			

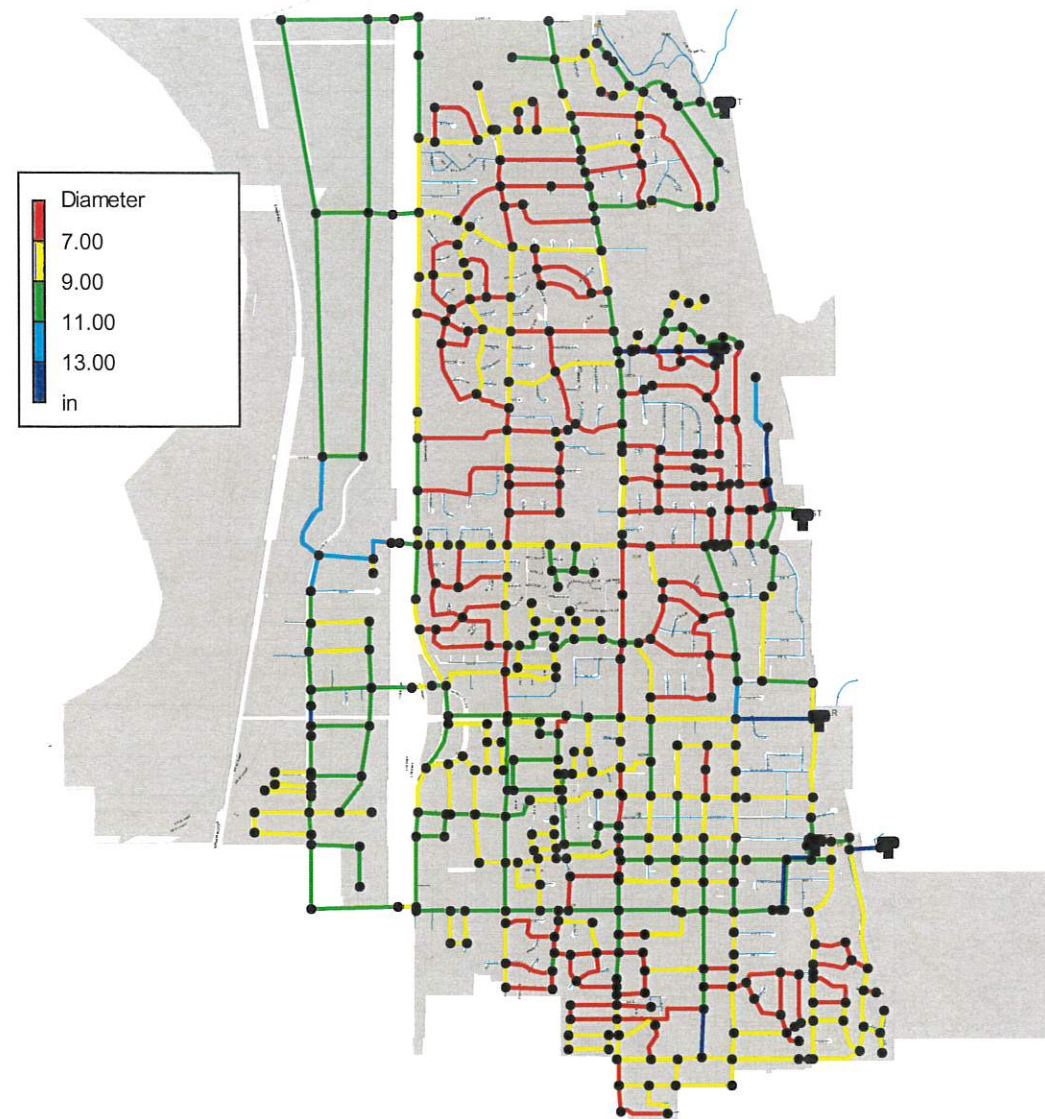
SHADING: Brown – Disallowed, Lapsed, Rejected, Unapproved
 Blue – Surface Water Rights

Acronyms / Abbreviations: APPL: Application, DIL: Diligence Claim, WUC: Water User Claim, UGWW: Underground Water Well, UGWT: Underground Water Tunnel, UGWD: Underground Water Drain, UGWC: Underground Water Claim, CERT: Certificate, Certificated or Certification, APP: Approved, REJ: Rejected, UNAP: Unapproved, DIS: Disallowed, PAC: Pending Adjudication Claim, LAP: Lapsed, WR: Water Right, CH: Change

APPENDIX B - EXISTING WATER SYSTEM MODEL



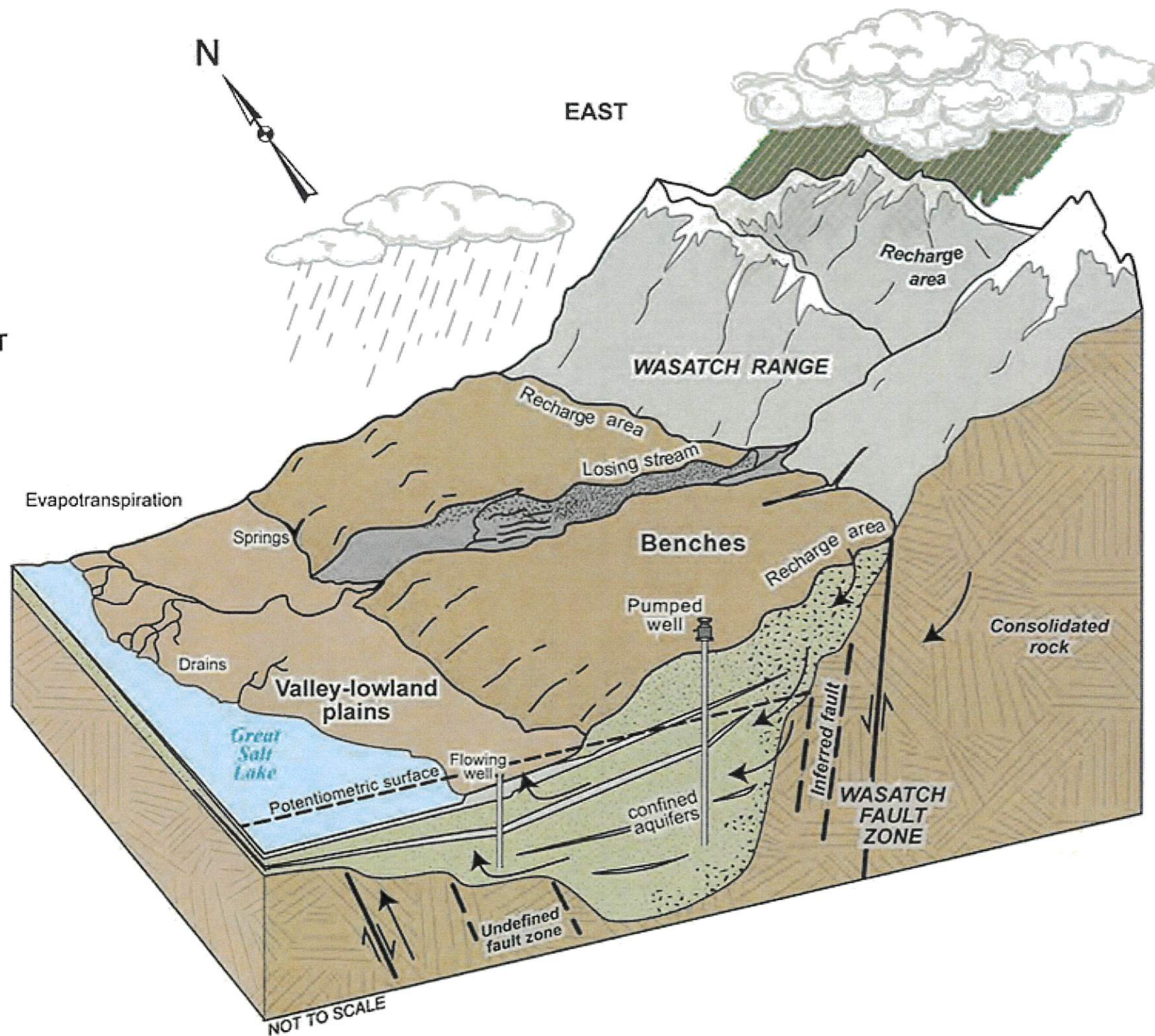
APPENDIX C - FUTURE WATER SYSTEM MODEL



WEST

EAST

N



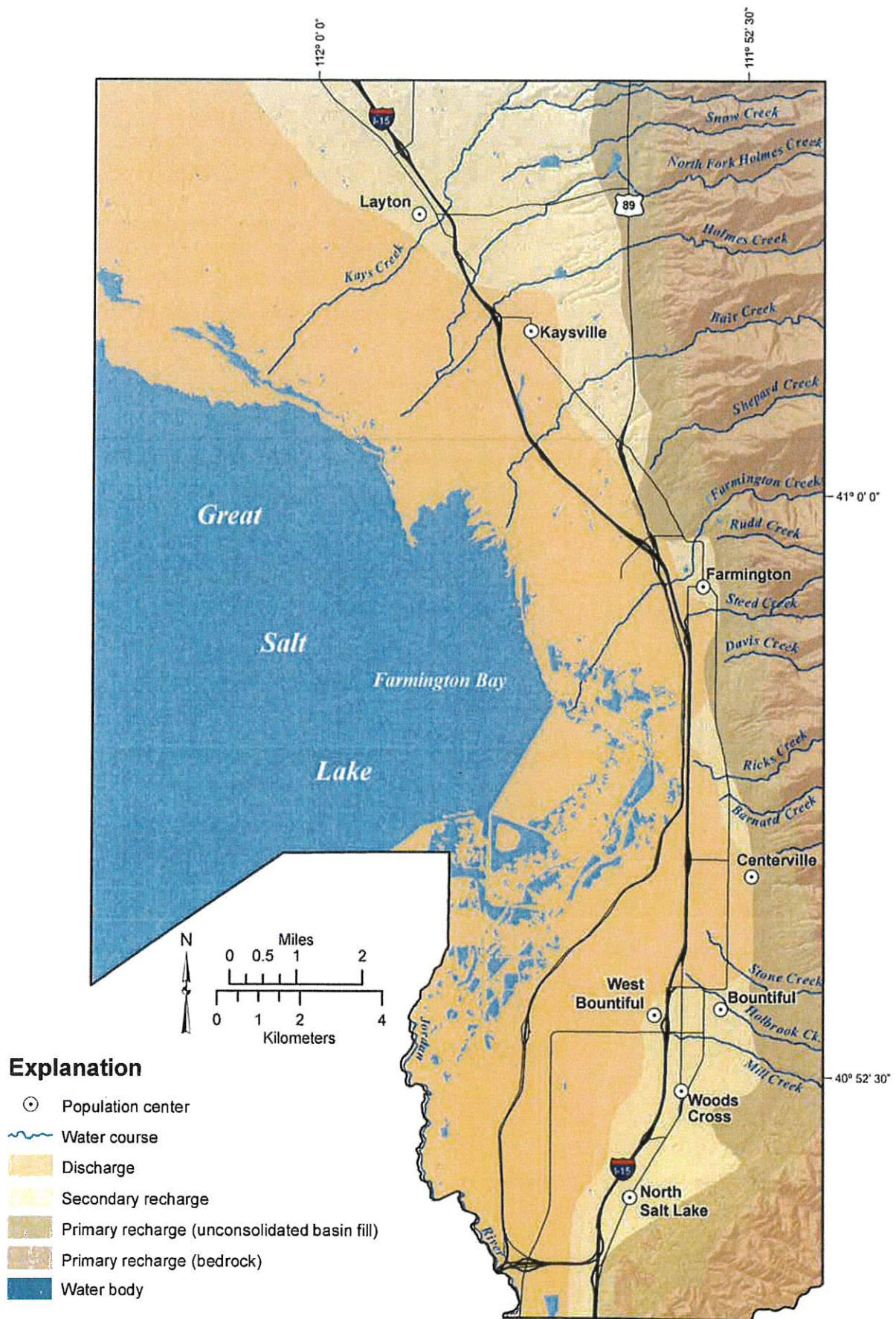


Figure 5. Recharge and discharge areas for the east shore area, Davis County, Utah (from Anderson and others, 1994).

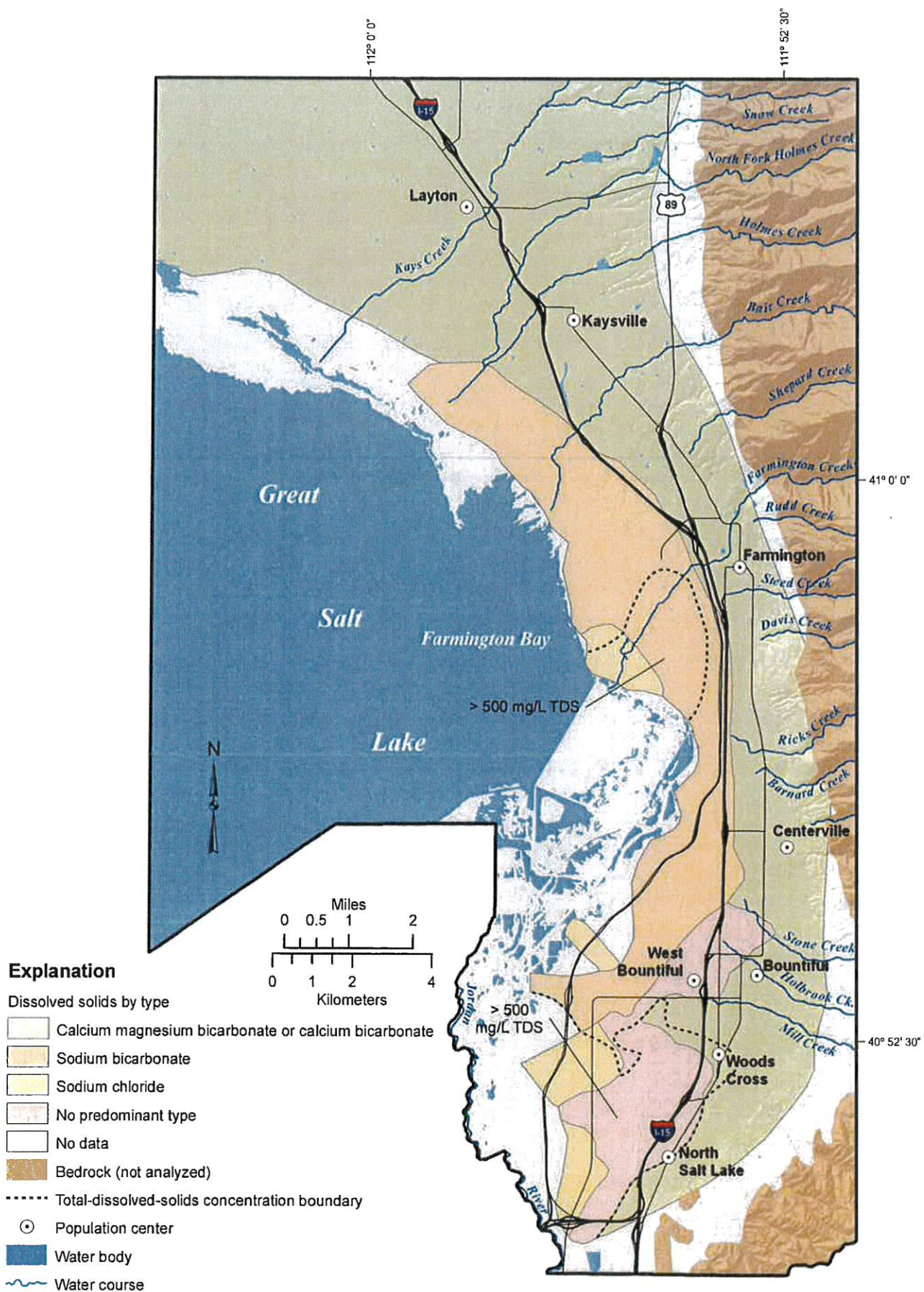


Figure 7. Ground-water quality types and areas with greater than or less than 500 mg/L total-dissolved-solids (TDS) concentrations, east shore area, Davis County, Utah (modified from Clark and others, 1990).

Table 1. Ground-water quality classes under the Utah Water Quality Board's total-dissolved-solids- (TDS) based classification system (modified from Utah Division of Water Quality, 1998).

Ground-Water Quality Class	TDS Concentration	Beneficial Use
Class IA/IB ¹ /IC ²	Less than 500 mg/L ³	Pristine/Irreplaceable/ Ecologically Important
Class II	500 to less than 3000 mg/L	Drinking Water ⁴
Class III	3,000 to less than 10,000 mg/L	Limited Use ⁵
Class IV	10,000 mg/L and greater	Saline ⁶

¹Irreplaceable ground water (Class IB) is a source of water for a community public drinking-water system for which no other reliable supply of comparable quality and quantity is available due to economic or institutional constraints; it is a ground-water quality class that is not based on TDS.

²Ecologically Important ground water (Class IC) is a source of ground-water discharge important to the continued existence of wildlife habitat; it is a ground-water quality class that is not based on TDS.

³For concentrations less than 7000 mg/L, mg/L is about equal to parts per million (ppm).

⁴Water having TDS concentrations in the upper range of this class must generally undergo some treatment before being used as drinking water.

⁵Generally used for industrial purposes.

⁶May have economic value as brine.

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land SurveyorsProject: **Nola Dr. 1360 N to 1680 N
1375 N - Nola to Peachtree**
Owner: **Centerville City**

Estimated by: BWN

Checked by: KLC

Sheet No.

1 of 1

Project No.

22 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	2,000	LF	\$50.00	\$100,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	14	EA	\$600.00	\$8,400.00
3	Materials & Install 8" valves	9	EA	\$1,400.00	\$12,600.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	3	EA	\$1,700.00	\$5,100.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	5	EA	\$4,000.00	\$20,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	30	EA	\$1,800.00	\$54,000.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	150	CY	\$20.00	\$3,000.00
11	Excavate and haul away native material	1,200	CY	\$20.00	\$24,000.00
12	Import sand bedding (including compaction)	1,200	TN	\$15.00	\$18,000.00
13	Import granular barrow (including compaction)	1,200	TN	\$20.00	\$24,000.00
14	Import untreated base course (including compaction)	450	TN	\$25.00	\$11,250.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$333,350.00
16	Contingency	25%			\$83,337.50
17	Design Engineering and Survey	10%			\$33,335.00
18	Construction Management and Staking	10%			\$33,335.00
Total Construction Project (Items 1-18)					\$483,357.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

London Rd. 400 E to**Bonita Way**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

22 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,500	LF	\$50.00	\$75,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	6	EA	\$600.00	\$3,600.00
3	Materials & Install 8" valves	5	EA	\$1,400.00	\$7,000.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	5	EA	\$1,700.00	\$8,500.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	5	EA	\$4,000.00	\$20,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	24	EA	\$1,800.00	\$43,200.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	120	CY	\$20.00	\$2,400.00
11	Excavate and haul away native material	900	CY	\$20.00	\$18,000.00
12	Import sand bedding (including compaction)	900	TN	\$15.00	\$13,500.00
13	Import granular barrow (including compaction)	1,000	TN	\$20.00	\$20,000.00
14	Import untreated base course (including compaction)	350	TN	\$25.00	\$8,750.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$272,950.00
16	Contingency	25%			\$68,237.50
17	Design Engineering and Survey	10%			\$27,295.00
18	Construction Management and Staking	10%			\$27,295.00
	Total Construction Project (Items 1-18)				\$395,777.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land SurveyorsProject: **Cottonwood - Casa Loma
to 50 E**Owner: **Centerville City**

Estimated by: BWN

Checked by: KLC

Sheet No.

1 of 1

Project No.

22 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,500	LF	\$50.00	\$75,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	6	EA	\$600.00	\$3,600.00
3	Materials & Install 8" valves	4	EA	\$1,400.00	\$5,600.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	4	EA	\$1,700.00	\$6,800.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	5	EA	\$4,000.00	\$20,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	30	EA	\$1,800.00	\$54,000.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	120	CY	\$20.00	\$2,400.00
11	Excavate and haul away native material	900	CY	\$20.00	\$18,000.00
12	Import sand bedding (including compaction)	900	TN	\$15.00	\$13,500.00
13	Import granular barrow (including compaction)	1,000	TN	\$20.00	\$20,000.00
14	Import untreated base course (including compaction)	350	TN	\$25.00	\$8,750.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$280,650.00
16	Contingency	25%			\$70,162.50
17	Design Engineering and Survey	10%			\$28,065.00
18	Construction Management and Staking	10%			\$28,065.00
	Total Construction Project (Items 1-18)				\$406,942.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

**Peachtree - Casa Loma
to Main & Cherry Ln**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

23 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	3,400	LF	\$50.00	\$170,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	9	EA	\$600.00	\$5,400.00
3	Materials & Install 8" valves	6	EA	\$1,400.00	\$8,400.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	6	EA	\$1,700.00	\$10,200.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	11	EA	\$4,000.00	\$44,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	42	EA	\$1,800.00	\$75,600.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$20,000.00	\$20,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	250	CY	\$20.00	\$5,000.00
11	Excavate and haul away native material	2,020	CY	\$20.00	\$40,400.00
12	Import sand bedding (including compaction)	2,000	TN	\$15.00	\$30,000.00
13	Import granular barrow (including compaction)	2,300	TN	\$20.00	\$46,000.00
14	Import untreated base course (including compaction)	800	TN	\$25.00	\$20,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$513,000.00
16	Contingency	25%			\$128,250.00
17	Design Engineering and Survey	10%			\$51,300.00
18	Construction Management and Staking	10%			\$51,300.00
	Total Construction Project (Items 1-18)				\$743,850.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Briarwood - 400 E to**Bonita Way**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

23 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,200	LF	\$50.00	\$60,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	6	EA	\$600.00	\$3,600.00
3	Materials & Install 8" valves	3	EA	\$1,400.00	\$4,200.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	4	EA	\$4,000.00	\$16,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	42	EA	\$1,800.00	\$75,600.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	90	CY	\$20.00	\$1,800.00
11	Excavate and haul away native material	750	CY	\$20.00	\$15,000.00
12	Import sand bedding (including compaction)	700	TN	\$15.00	\$10,500.00
13	Import granular barrow (including compaction)	800	TN	\$20.00	\$16,000.00
14	Import untreated base course (including compaction)	300	TN	\$25.00	\$7,500.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$266,600.00
16	Contingency	25%			\$66,650.00
17	Design Engineering and Survey	10%			\$26,660.00
18	Construction Management and Staking	10%			\$26,660.00
	Total Construction Project (Items 1-18)				\$386,570.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206
Salt Lake City, Utah
Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Sunrise Cir.**& Ridgeline Cir.**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

23 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 10" PVC C900 (including tracer wire, disinfect, and pressure test)	1,200	LF	\$53.00	\$63,600.00
2	Materials & Install 10" fittings (includes tees, bends, and thrust blocks)	5	EA	\$700.00	\$3,500.00
3	Materials & Install 10" valves	2	EA	\$1,500.00	\$3,000.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	1	EA	\$1,700.00	\$1,700.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	4	EA	\$4,000.00	\$16,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	20	EA	\$1,800.00	\$36,000.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	90	CY	\$20.00	\$1,800.00
11	Excavate and haul away native material	750	CY	\$20.00	\$15,000.00
12	Import sand bedding (including compaction)	750	TN	\$15.00	\$11,250.00
13	Import granular barrow (including compaction)	800	TN	\$20.00	\$16,000.00
14	Import untreated base course (including compaction)	300	TN	\$25.00	\$7,500.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$228,350.00
16	Contingency	25%			\$57,087.50
17	Design Engineering and Survey	10%			\$22,835.00
18	Construction Management and Staking	10%			\$22,835.00
	Total Construction Project (Items 1-18)				\$331,107.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

200 East &**Deerfield Dr.**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

24 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,500	LF	\$50.00	\$75,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	5	EA	\$600.00	\$3,000.00
3	Materials & Install 8" valves	4	EA	\$1,400.00	\$5,600.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	4	EA	\$1,700.00	\$6,800.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	5	EA	\$4,000.00	\$20,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	31	EA	\$1,800.00	\$55,800.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	120	CY	\$20.00	\$2,400.00
11	Excavate and haul away native material	900	CY	\$20.00	\$18,000.00
12	Import sand bedding (including compaction)	900	TN	\$15.00	\$13,500.00
13	Import granular barrow (including compaction)	1,000	TN	\$20.00	\$20,000.00
14	Import untreated base course (including compaction)	400	TN	\$25.00	\$10,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$283,100.00
16	Contingency	25%			\$70,775.00
17	Design Engineering and Survey	10%			\$28,310.00
18	Construction Management and Staking	10%			\$28,310.00
	Total Construction Project (Items 1-18)				\$410,495.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land SurveyorsProject: **50 E - 1350 N to 1425 N**Owner: **Centerville City**

Estimated by: BWN

Checked by: KLC

Sheet No.

1 of 1

Project No.

24 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	800	LF	\$50.00	\$40,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	4	EA	\$600.00	\$2,400.00
3	Materials & Install 8" valves	3	EA	\$1,400.00	\$4,200.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	4	EA	\$1,700.00	\$6,800.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	3	EA	\$4,000.00	\$12,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	16	EA	\$1,800.00	\$28,800.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	60	CY	\$20.00	\$1,200.00
11	Excavate and haul away native material	500	CY	\$20.00	\$10,000.00
12	Import sand bedding (including compaction)	500	TN	\$15.00	\$7,500.00
13	Import granular barrow (including compaction)	550	TN	\$20.00	\$11,000.00
14	Import untreated base course (including compaction)	200	TN	\$25.00	\$5,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$181,900.00
16	Contingency	25%			\$45,475.00
17	Design Engineering and Survey	10%			\$18,190.00
18	Construction Management and Staking	10%			\$18,190.00
	Total Construction Project (Items 1-18)				\$263,755.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Linda Loma Dr.**& Balsam Dr.**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

24 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,500	LF	\$50.00	\$75,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	9	EA	\$600.00	\$5,400.00
3	Materials & Install 8" valves	3	EA	\$1,400.00	\$4,200.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	3	EA	\$1,700.00	\$5,100.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	5	EA	\$4,000.00	\$20,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	27	EA	\$1,800.00	\$48,600.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	120	CY	\$20.00	\$2,400.00
11	Excavate and haul away native material	900	CY	\$20.00	\$18,000.00
12	Import sand bedding (including compaction)	900	TN	\$15.00	\$13,500.00
13	Import granular barrow (including compaction)	1,000	TN	\$20.00	\$20,000.00
14	Import untreated base course (including compaction)	350	TN	\$25.00	\$8,750.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$273,950.00
16	Contingency	25%			\$68,487.50
17	Design Engineering and Survey	10%			\$27,395.00
18	Construction Management and Staking	10%			\$27,395.00
	Total Construction Project (Items 1-18)				\$397,227.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Green Steel Tank

Owner:

Replacement**Centerville City**

Estimated by:

CDP

11/1/2020

Checked by:

KLC

Sheet No.

1 of 1

Project No.

25-###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Excavation for tank and valve building	5,000	CY	\$3.00	\$15,000.00
2	Backfill tank and valve building	3,000	CY	\$2.50	\$7,500.00
3	Tank - reinforced concrete	1	LS	\$500,000.00	\$500,000.00
4	Tank piping	1	LS	\$18,000.00	\$18,000.00
5	Valve building	1	LS	\$80,000.00	\$80,000.00
6	Valve building piping	1	LS	\$22,000.00	\$22,000.00
7	Transmission line	350	FT	\$65.00	\$22,750.00
8	Drain line	700	FT	\$75.00	\$52,500.00
9	Drainage structures	10	EA	\$4,500.00	\$45,000.00
10	Curb and gutter	400	FT	\$35.00	\$14,000.00
11	Concrete drive approach	400	SF	\$12.00	\$4,800.00
12	Roadbase - Access Road	200	TN	\$35.00	\$7,000.00
13	Asphalt - Access Road	100	TN	\$90.00	\$9,000.00
14	Retaining wall	100	FT	\$150.00	\$15,000.00
15	Chain link fence and gate	1	LS	\$12,000.00	\$12,000.00
16	Landscape, slope stability, and irrigation	1	LS	\$25,000.00	\$25,000.00
17	Power connection and building electrical	1	LS	\$15,000.00	\$15,000.00
18	Erosion control - during construction	1	LS	\$5,000.00	\$5,000.00
19	Utility Relocation	1	LS	\$50,000.00	\$50,000.00
20	Site BMP's	1	LS	\$20,000.00	\$20,000.00
21	Mobilization	1	LS	\$55,000.00	\$55,000.00
22	Remove and haul away existing tank	1	LS	\$50,000.00	\$50,000.00
Subtotal (Items 1-22)					\$1,044,550.00
23	Contingency	25%			\$261,137.50
24	Property acquisition	1 LS			\$500,000.00
25	Design Engineering and Survey	10%			\$104,455.00
26	Construction Management and Staking	10%			\$104,455.00
Total Construction Project (1-26)					\$2,014,597.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

1250 N & 325 E -**Barnard to Deerfield**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

25 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,400	LF	\$50.00	\$70,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	4	EA	\$600.00	\$2,400.00
3	Materials & Install 8" valves	2	EA	\$1,400.00	\$2,800.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	5	EA	\$4,000.00	\$20,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	25	EA	\$1,800.00	\$45,000.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	110	CY	\$20.00	\$2,200.00
11	Excavate and haul away native material	850	CY	\$20.00	\$17,000.00
12	Import sand bedding (including compaction)	800	TN	\$15.00	\$12,000.00
13	Import granular barrow (including compaction)	1,000	TN	\$20.00	\$20,000.00
14	Import untreated base course (including compaction)	350	TN	\$25.00	\$8,750.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$256,550.00
16	Contingency	25%			\$64,137.50
17	Design Engineering and Survey	10%			\$25,655.00
18	Construction Management and Staking	10%			\$25,655.00
	Total Construction Project (Items 1-18)				\$371,997.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Bonita Way -**Briarwood to Main**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

25 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 10" PVC C900 (including tracer wire, disinfect, and pressure test)	450	LF	\$55.00	\$24,750.00
2	Materials & Install 10" fittings (includes tees, bends, and thrust blocks)	3	EA	\$700.00	\$2,100.00
3	Materials & Install 10" valves	2	EA	\$1,500.00	\$3,000.00
4	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	950	LF	\$50.00	\$47,500.00
5	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	5	EA	\$600.00	\$3,000.00
6	Materials & Install 8" valves	3	EA	\$1,400.00	\$4,200.00
7	Materials & Tie-in to existing line (includes sleeves and reducers)	6	EA	\$1,700.00	\$10,200.00
8	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	4	EA	\$4,000.00	\$16,000.00
9	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	26	EA	\$1,800.00	\$46,800.00
10	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
11	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
12	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
13	Pulverize and haul away asphalt (including saw-cutting)	110	CY	\$20.00	\$2,200.00
14	Excavate and haul away native material	850	CY	\$20.00	\$17,000.00
15	Import sand bedding (including compaction)	700	TN	\$15.00	\$10,500.00
16	Import granular barrow (including compaction)	1,000	TN	\$20.00	\$20,000.00
17	Import untreated base course (including compaction)	350	TN	\$25.00	\$8,750.00
18	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-18)				\$239,150.00
19	Contingency	25%			\$59,787.50
20	Design Engineering and Survey	10%			\$23,915.00
21	Construction Management and Staking	10%			\$23,915.00
	Total Construction Project (Items 1-21)				\$346,767.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Deerfield Dr. -**1100 N to Casa Loma Dr.**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

26 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,000	LF	\$50.00	\$50,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	5	EA	\$600.00	\$3,000.00
3	Materials & Install 8" valves	3	EA	\$1,400.00	\$4,200.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	3	EA	\$1,700.00	\$5,100.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	3	EA	\$4,000.00	\$12,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	9	EA	\$1,800.00	\$16,200.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	80	CY	\$20.00	\$1,600.00
11	Excavate and haul away native material	600	CY	\$20.00	\$12,000.00
12	Import sand bedding (including compaction)	600	TN	\$15.00	\$9,000.00
13	Import granular barrow (including compaction)	700	TN	\$20.00	\$14,000.00
14	Import untreated base course (including compaction)	250	TN	\$25.00	\$6,250.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$186,350.00
16	Contingency	25%			\$46,587.50
17	Design Engineering and Survey	10%			\$18,635.00
18	Construction Management and Staking	10%			\$18,635.00
	Total Construction Project (Items 1-18)				\$270,207.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206
Salt Lake City, Utah
Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project: **Pheasant Way, 700 N
275 E, & Cherrywood Cir.**

Owner: **Centerville City**

Estimated by: BWN

Checked by: KLC

Sheet No.
1 of 1

Project No.
26 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	2,850	LF	\$50.00	\$142,500.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	12	EA	\$600.00	\$7,200.00
3	Materials & Install 8" valves	4	EA	\$1,400.00	\$5,600.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	5	EA	\$1,700.00	\$8,500.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	9	EA	\$4,000.00	\$36,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	42	EA	\$1,800.00	\$75,600.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	220	CY	\$20.00	\$4,400.00
11	Excavate and haul away native material	1,700	CY	\$20.00	\$34,000.00
12	Import sand bedding (including compaction)	1,700	TN	\$15.00	\$25,500.00
13	Import granular barrow (including compaction)	1,900	TN	\$20.00	\$38,000.00
14	Import untreated base course (including compaction)	700	TN	\$25.00	\$17,500.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$447,800.00
16	Contingency	25%			\$111,950.00
17	Design Engineering and Survey	10%			\$44,780.00
18	Construction Management and Staking	10%			\$44,780.00
	Total Construction Project (Items 1-18)				\$649,310.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project: **650 North, 150 West,
& 550 North**
Owner: **Centerville City**

Estimated by: BWN

Checked by: KLC

Sheet No.

1 of 1

Project No.

26 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,500	LF	\$50.00	\$75,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	4	EA	\$600.00	\$2,400.00
3	Materials & Install 8" valves	2	EA	\$1,400.00	\$2,800.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	1	EA	\$1,700.00	\$1,700.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	5	EA	\$4,000.00	\$20,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	32	EA	\$1,800.00	\$57,600.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	120	CY	\$20.00	\$2,400.00
11	Excavate and haul away native material	900	CY	\$20.00	\$18,000.00
12	Import sand bedding (including compaction)	900	TN	\$15.00	\$13,500.00
13	Import granular barrow (including compaction)	1,000	TN	\$20.00	\$20,000.00
14	Import untreated base course (including compaction)	300	TN	\$25.00	\$7,500.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$273,900.00
16	Contingency	25%			\$68,475.00
17	Design Engineering and Survey	10%			\$27,390.00
18	Construction Management and Staking	10%			\$27,390.00
Total Construction Project (Items 1-18)					\$397,155.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

**Barnard Street -
Oakridge to Main
Centerville City**

Sheet No.

1 of 1

Owner:

Estimated by: BWN

Checked by: KLC

Project No.

27 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	2,350	LF	\$50.00	\$117,500.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	10	EA	\$600.00	\$6,000.00
3	Materials & Install 8" valves	7	EA	\$1,400.00	\$9,800.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	7	EA	\$1,700.00	\$11,900.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	8	EA	\$4,000.00	\$32,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	39	EA	\$1,800.00	\$70,200.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away concrete pavement (including saw-cutting)	550	CY	\$60.00	\$33,000.00
11	Excavate and haul away native material	1,400	CY	\$20.00	\$28,000.00
12	Import sand bedding (including compaction)	1,400	TN	\$15.00	\$21,000.00
13	Import granular barrow (including compaction)	1,600	TN	\$20.00	\$32,000.00
14	Import untreated base course (including compaction)	550	TN	\$25.00	\$13,750.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$428,150.00
16	Contingency	25%			\$107,037.50
17	Design Engineering and Survey	10%			\$42,815.00
18	Construction Management and Staking	10%			\$42,815.00
	Total Construction Project (Items 1-18)				\$620,817.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Parrish Lane -**400 E to Main St.**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

27 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,800	LF	\$50.00	\$90,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	4	EA	\$600.00	\$2,400.00
3	Materials & Install 8" valves	4	EA	\$1,400.00	\$5,600.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	4	EA	\$1,700.00	\$6,800.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	6	EA	\$4,000.00	\$24,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	35	EA	\$1,800.00	\$63,000.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	150	CY	\$20.00	\$3,000.00
11	Excavate and haul away native material	1,100	CY	\$20.00	\$22,000.00
12	Import sand bedding (including compaction)	1,100	TN	\$15.00	\$16,500.00
13	Import granular barrow (including compaction)	1,200	TN	\$20.00	\$24,000.00
14	Import untreated base course (including compaction)	400	TN	\$25.00	\$10,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$320,300.00
16	Contingency	25%			\$80,075.00
17	Design Engineering and Survey	10%			\$32,030.00
18	Construction Management and Staking	10%			\$32,030.00
	Total Construction Project (Items 1-18)				\$464,435.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Nola Dr. & Nola Cir. -

Owner:

Barnard to 1360 N

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

28 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	900	LF	\$50.00	\$45,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	4	EA	\$600.00	\$2,400.00
3	Materials & Install 8" valves	2	EA	\$1,400.00	\$2,800.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	3	EA	\$4,000.00	\$12,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	20	EA	\$1,800.00	\$36,000.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	70	CY	\$20.00	\$1,400.00
11	Excavate and haul away native material	550	CY	\$20.00	\$11,000.00
12	Import sand bedding (including compaction)	550	TN	\$15.00	\$8,250.00
13	Import granular barrow (including compaction)	600	TN	\$20.00	\$12,000.00
14	Import untreated base course (including compaction)	200	TN	\$25.00	\$5,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$192,250.00
16	Contingency	25%			\$48,062.50
17	Design Engineering and Survey	10%			\$19,225.00
18	Construction Management and Staking	10%			\$19,225.00
	Total Construction Project (Items 1-18)				\$278,762.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Hughes St. -**Barnard to Chase**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

28 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	950	LF	\$50.00	\$47,500.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	4	EA	\$600.00	\$2,400.00
3	Materials & Install 8" valves	3	EA	\$1,400.00	\$4,200.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	3	EA	\$1,700.00	\$5,100.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	3	EA	\$4,000.00	\$12,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	17	EA	\$1,800.00	\$30,600.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	75	CY	\$20.00	\$1,500.00
11	Excavate and haul away native material	600	CY	\$20.00	\$12,000.00
12	Import sand bedding (including compaction)	600	TN	\$15.00	\$9,000.00
13	Import granular barrow (including compaction)	700	TN	\$20.00	\$14,000.00
14	Import untreated base course (including compaction)	250	TN	\$25.00	\$6,250.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$197,550.00
16	Contingency	25%			\$49,387.50
17	Design Engineering and Survey	10%			\$19,755.00
18	Construction Management and Staking	10%			\$19,755.00
	Total Construction Project (Items 1-18)				\$286,447.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206
Salt Lake City, Utah
Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

**Island View Dr. &
725 S Cir. - 100 S to 800 S**

Sheet No.

1 of 1

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Project No.

28 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	2,800	LF	\$50.00	\$140,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	8	EA	\$600.00	\$4,800.00
3	Materials & Install 8" valves	3	EA	\$1,400.00	\$4,200.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	3	EA	\$1,700.00	\$5,100.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	9	EA	\$4,000.00	\$36,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	51	EA	\$1,800.00	\$91,800.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$20,000.00	\$20,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	250	CY	\$20.00	\$5,000.00
11	Excavate and haul away native material	1,700	CY	\$20.00	\$34,000.00
12	Import sand bedding (including compaction)	1,700	TN	\$15.00	\$25,500.00
13	Import granular barrow (including compaction)	1,900	TN	\$20.00	\$38,000.00
14	Import untreated base course (including compaction)	650	TN	\$25.00	\$16,250.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$458,650.00
16	Contingency	25%			\$114,662.50
17	Design Engineering and Survey	10%			\$45,865.00
18	Construction Management and Staking	10%			\$45,865.00
	Total Construction Project (Items 1-18)				\$665,042.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Powell Ave. -**Oakridge to Hughes**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

29 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	700	LF	\$50.00	\$35,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	3	EA	\$600.00	\$1,800.00
3	Materials & Install 8" valves	2	EA	\$1,400.00	\$2,800.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	3	EA	\$1,700.00	\$5,100.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	2	EA	\$4,000.00	\$8,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	12	EA	\$1,800.00	\$21,600.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	75	CY	\$20.00	\$1,500.00
11	Excavate and haul away native material	450	CY	\$20.00	\$9,000.00
12	Import sand bedding (including compaction)	450	TN	\$15.00	\$6,750.00
13	Import granular barrow (including compaction)	500	TN	\$20.00	\$10,000.00
14	Import untreated base course (including compaction)	175	TN	\$25.00	\$4,375.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$158,925.00
16	Contingency	25%			\$39,731.25
17	Design Engineering and Survey	10%			\$15,892.50
18	Construction Management and Staking	10%			\$15,892.50
	Total Construction Project (Items 1-18)				\$230,441.25

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

1100 North -**Main St. to 150 E**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

29 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	600	LF	\$50.00	\$30,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	4	EA	\$600.00	\$2,400.00
3	Materials & Install 8" valves	2	EA	\$1,400.00	\$2,800.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	3	EA	\$1,700.00	\$5,100.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	2	EA	\$4,000.00	\$8,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	12	EA	\$1,800.00	\$21,600.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	50	CY	\$20.00	\$1,000.00
11	Excavate and haul away native material	400	CY	\$20.00	\$8,000.00
12	Import sand bedding (including compaction)	400	TN	\$15.00	\$6,000.00
13	Import granular barrow (including compaction)	450	TN	\$20.00	\$9,000.00
14	Import untreated base course (including compaction)	200	TN	\$25.00	\$5,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$151,900.00
16	Contingency	25%			\$37,975.00
17	Design Engineering and Survey	10%			\$15,190.00
18	Construction Management and Staking	10%			\$15,190.00
Total Construction Project (Items 1-18)					\$220,255.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Doris St.**Chase Ln. to Powell Ave.**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

29 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	550	LF	\$50.00	\$27,500.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	2	EA	\$600.00	\$1,200.00
3	Materials & Install 8" valves	2	EA	\$1,400.00	\$2,800.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	2	EA	\$4,000.00	\$8,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	9	EA	\$1,800.00	\$16,200.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	45	CY	\$20.00	\$900.00
11	Excavate and haul away native material	350	CY	\$20.00	\$7,000.00
12	Import sand bedding (including compaction)	350	TN	\$15.00	\$5,250.00
13	Import granular barrow (including compaction)	400	TN	\$20.00	\$8,000.00
14	Import untreated base course (including compaction)	150	TN	\$25.00	\$3,750.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$137,000.00
16	Contingency	25%			\$34,250.00
17	Design Engineering and Survey	10%			\$13,700.00
18	Construction Management and Staking	10%			\$13,700.00
Total Construction Project (Items 1-18)					\$198,650.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Wilmar Place Cir.

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

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Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	250	LF	\$50.00	\$12,500.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	2	EA	\$600.00	\$1,200.00
3	Materials & Install 8" valves	1	EA	\$1,400.00	\$1,400.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	1	EA	\$1,700.00	\$1,700.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	1	EA	\$4,000.00	\$4,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	7	EA	\$1,800.00	\$12,600.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	20	CY	\$20.00	\$400.00
11	Excavate and haul away native material	150	CY	\$20.00	\$3,000.00
12	Import sand bedding (including compaction)	120	TN	\$15.00	\$1,800.00
13	Import granular barrow (including compaction)	140	TN	\$20.00	\$2,800.00
14	Import untreated base course (including compaction)	50	TN	\$25.00	\$1,250.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$95,650.00
16	Contingency	25%			\$23,912.50
17	Design Engineering and Survey	10%			\$9,565.00
18	Construction Management and Staking	10%			\$9,565.00
	Total Construction Project (Items 1-18)				\$138,692.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

**Jennings Lane - Line
Beneath I15, UPR & UDOT**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

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Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 18" grade B steel casting (including boring, & entrance & exit pits)	800	LF	\$400.00	\$320,000.00
2	Materials & Install 10" HDPE DR 11 waterline with spacers (including tracer wire, disinfect, and pressure test)	800	LF	\$90.00	\$72,000.00
3	Materials & Install 10" fittings (includes tees, bends, and thrust blocks)	20	EA	\$700.00	\$14,000.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
6	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
7	Excavate and haul away native material	150	CY	\$20.00	\$3,000.00
8	Import sand bedding (including compaction)	100	TN	\$15.00	\$1,800.00
9	Import granular barrow (including compaction)	200	TN	\$20.00	\$2,800.00
10	Import untreated base course (including compaction)	50	TN	\$25.00	\$1,250.00
11	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
12	UPR, UDOT, & UTA right of entry permits (including insurance as required)	1	LS	\$2,500.00	\$2,500.00
13	UPR & UTA flagging and inspection	1	LS	\$5,000.00	\$5,000.00
Subtotal (Items 1-13)					\$463,750.00
14	Contingency	25%			\$115,937.50
15	Design Engineering and Survey	10%			\$46,375.00
16	Construction Management and Staking	10%			\$46,375.00
Total Construction Project (Items 1-16)					\$672,437.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

**Lund Lane - Line
Beneath I15, UPR & UDOT
Owner: Centerville City**

Sheet No.

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Estimated by:

BWN

Checked by:

KLC

Project No.

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Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 18" grade B steel casting (including boring, & entrance & exit pits)	900	LF	\$400.00	\$360,000.00
2	Materials & Install 10" HDPE DR 11 waterline with spacers (including tracer wire, disinfect, and pressure test)	900	LF	\$90.00	\$81,000.00
3	Materials & Install 10" fittings (includes tees, bends, and thrust blocks)	20	EA	\$700.00	\$14,000.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
6	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
7	Excavate and haul away native material	150	CY	\$20.00	\$3,000.00
8	Import sand bedding (including compaction)	100	TN	\$15.00	\$1,800.00
9	Import granular barrow (including compaction)	200	TN	\$20.00	\$2,800.00
10	Import untreated base course (including compaction)	50	TN	\$25.00	\$1,250.00
11	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
12	UPR, UDOT, & UTA right of entry permits (including insurance as required)	1	LS	\$2,500.00	\$2,500.00
13	UPR & UTA flagging and inspection	1	LS	\$5,000.00	\$5,000.00
Subtotal (Items 1-13)					\$512,750.00
14	Contingency	25%			\$128,187.50
15	Design Engineering and Survey	10%			\$51,275.00
16	Construction Management and Staking	10%			\$51,275.00
Total Construction Project (Items 1-16)					\$743,487.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project: **1250 West Extension
Transmission Line**
Owner: **Centerville City**

Estimated by: BWN

Checked by: KLC

Sheet No.

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Project No.

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Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 10" PVC C900 (including tracer wire, disinfect, and pressure test)	12,000	LF	\$55.00	\$660,000.00
2	Materials & Install 10" fittings (includes tees, bends, and thrust blocks)	50	EA	\$700.00	\$35,000.00
3	Materials & Install 10" valves	20	EA	\$1,500.00	\$30,000.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	4	EA	\$1,700.00	\$6,800.00
5	Materials & Instal fire hydrant (includes valve and trust blocks)	40	EA	\$4,000.00	\$160,000.00
6	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
7	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
8	Excavate and haul away native material	8,000	CY	\$20.00	\$160,000.00
9	Import sand bedding (including compaction)	8,000	TN	\$15.00	\$120,000.00
10	Import granular barrow (including compaction)	10,000	TN	\$20.00	\$200,000.00
11	Import untreated base course (including compaction)	3,000	TN	\$25.00	\$75,000.00
12	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-12)					\$1,484,800.00
13	Contingency	25%			\$371,200.00
14	Design Engineering and Survey	10%			\$148,480.00
15	Construction Management and Staking	10%			\$148,480.00
Total Construction Project (Items 1-15)					\$2,152,960.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Parrish Lane -**400 E to 700 E**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

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Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 14" PVC C900 (including tracer wire, disinfect, and pressure test)	1,200	LF	\$75.00	\$90,000.00
2	Materials & Install 14" fittings (includes tees, bends, and thrust blocks)	3	EA	\$100.00	\$300.00
3	Materials & Install 14" valves	3	EA	\$2,800.00	\$8,400.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	3	EA	\$1,700.00	\$5,100.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	4	EA	\$4,000.00	\$16,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	20	EA	\$1,800.00	\$36,000.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	100	CY	\$20.00	\$2,000.00
11	Excavate and haul away native material	850	CY	\$20.00	\$17,000.00
12	Import sand bedding (including compaction)	900	TN	\$15.00	\$13,500.00
13	Import granular barrow (including compaction)	800	TN	\$20.00	\$16,000.00
14	Import untreated base course (including compaction)	300	TN	\$25.00	\$7,500.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$264,800.00
16	Contingency	25%			\$66,200.00
17	Design Engineering and Survey	10%			\$26,480.00
18	Construction Management and Staking	10%			\$26,480.00
	Total Construction Project (Items 1-18)				\$383,960.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Main St. -**Porter Ln. to 100 S**

Owner:

Centerville City

Estimated by: BWN

Checked by: KLC

Sheet No.

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Project No.

31 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,300	LF	\$60.00	\$78,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	8	EA	\$600.00	\$4,800.00
3	Materials & Install 8" valves	7	EA	\$1,400.00	\$9,800.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	9	EA	\$1,700.00	\$15,300.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	4	EA	\$4,000.00	\$16,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	20	EA	\$1,800.00	\$36,000.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$25,000.00	\$25,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	100	CY	\$20.00	\$2,000.00
11	Excavate and haul away native material	800	CY	\$20.00	\$16,000.00
12	Import sand bedding (including compaction)	800	TN	\$15.00	\$12,000.00
13	Flowable fill	400	CY	\$50.00	\$20,000.00
14	Import granular barrow (including compaction)	900	TN	\$20.00	\$18,000.00
15	Import untreated base course (including compaction)	300	TN	\$25.00	\$7,500.00
16	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-16)				\$298,400.00
17	Contingency	25%			\$74,600.00
18	Design Engineering and Survey	10%			\$29,840.00
19	Construction Management and Staking	10%			\$29,840.00
	Total Construction Project (Items 1-19)				\$432,680.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206
Salt Lake City, Utah
Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

**Main St. -
Chase Ln. to Lund Ln.**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

31 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 10" PVC C900 (including tracer wire, disinfect, and pressure test)	6,900	LF	\$70.00	\$483,000.00
2	Materials & Install 10" fittings (includes tees, bends, and thrust blocks)	24	EA	\$700.00	\$16,800.00
3	Materials & Install 10" valves	20	EA	\$1,500.00	\$30,000.00
4	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,800	LF	\$60.00	\$108,000.00
5	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	10	EA	\$600.00	\$6,000.00
6	Materials & Install 8" valves	6	EA	\$1,400.00	\$8,400.00
7	Materials & Tie-in to existing line (includes sleeves and reducers)	24	EA	\$1,700.00	\$40,800.00
8	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	29	EA	\$4,000.00	\$116,000.00
9	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	110	EA	\$1,800.00	\$198,000.00
10	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
11	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
12	Remove and replace concrete (including saw-cutting)	1	LS	\$25,000.00	\$25,000.00
13	Pulverize and haul away asphalt (including saw-cutting)	650	CY	\$20.00	\$13,000.00
14	Excavate and haul away native material	5,200	CY	\$20.00	\$104,000.00
15	Import sand bedding (including compaction)	5,300	TN	\$15.00	\$79,500.00
16	Flowable fill	400	CY	\$50.00	\$20,000.00
17	Import granular barrow (including compaction)	5,400	TN	\$20.00	\$108,000.00
18	Import untreated base course (including compaction)	2,000	TN	\$25.00	\$50,000.00
19	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-19)					\$914,700.00
20	Contingency	25%			\$228,675.00
21	Design Engineering and Survey	10%			\$91,470.00
22	Construction Management and Staking	10%			\$91,470.00
Total Construction Project (Items 1-22)					\$1,326,315.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

100 South**Booster Station**

Owner:

Centerville City

Estimated by: BWN

Checked by: KLC

Sheet No.

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Project No.

31 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Update & replace pumps and appurtenances as needed	1	LS	\$100,000.00	\$100,000.00
	Subtotal (Item 1)				\$100,000.00
2	Contingency	25%			\$25,000.00
3	Design Engineering and Survey	10%			\$10,000.00
4	Construction Management and Staking	10%			\$10,000.00
	Total Construction Project (Items 1-4)				\$145,000.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Canyon Way -**100 S to 400 S**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

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Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,300	LF	\$50.00	\$65,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	7	EA	\$600.00	\$4,200.00
3	Materials & Install 8" valves	3	EA	\$1,400.00	\$4,200.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	4	EA	\$1,700.00	\$6,800.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	4	EA	\$4,000.00	\$16,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	23	EA	\$1,800.00	\$41,400.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	100	CY	\$20.00	\$2,000.00
11	Excavate and haul away native material	800	CY	\$20.00	\$16,000.00
12	Import sand bedding (including compaction)	800	TN	\$15.00	\$12,000.00
13	Import granular barrow (including compaction)	900	TN	\$20.00	\$18,000.00
14	Import untreated base course (including compaction)	300	TN	\$25.00	\$7,500.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$246,100.00
16	Contingency	25%			\$61,525.00
17	Design Engineering and Survey	10%			\$24,610.00
18	Construction Management and Staking	10%			\$24,610.00
	Total Construction Project (Items 1-18)				\$356,845.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Pages Lane -**Main St. to 700 E**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

32 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	3,000	LF	\$50.00	\$150,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	9	EA	\$600.00	\$5,400.00
3	Materials & Install 8" valves	7	EA	\$1,400.00	\$9,800.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	9	EA	\$1,700.00	\$15,300.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	10	EA	\$4,000.00	\$40,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	40	EA	\$1,800.00	\$72,000.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	250	CY	\$20.00	\$5,000.00
11	Excavate and haul away native material	1,800	CY	\$20.00	\$36,000.00
12	Import sand bedding (including compaction)	1,800	TN	\$15.00	\$27,000.00
13	Import granular barrow (including compaction)	2,000	TN	\$20.00	\$40,000.00
14	Import untreated base course (including compaction)	700	TN	\$25.00	\$17,500.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$471,000.00
16	Contingency	25%			\$117,750.00
17	Design Engineering and Survey	10%			\$47,100.00
18	Construction Management and Staking	10%			\$47,100.00
Total Construction Project (Items 1-18)					\$682,950.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land SurveyorsProject: **700 E & 950 S Cir. -
Pages Ln. to 400 S**
Owner: **Centerville City**

Estimated by: BWN

Checked by: KLC

Sheet No.

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Project No.

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Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	3,400	LF	\$50.00	\$170,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	12	EA	\$600.00	\$7,200.00
3	Materials & Install 8" valves	8	EA	\$1,400.00	\$11,200.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	9	EA	\$1,700.00	\$15,300.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	11	EA	\$4,000.00	\$44,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	30	EA	\$1,800.00	\$54,000.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	275	CY	\$20.00	\$5,500.00
11	Excavate and haul away native material	2,000	CY	\$20.00	\$40,000.00
12	Import sand bedding (including compaction)	2,000	TN	\$15.00	\$30,000.00
13	Import granular barrow (including compaction)	2,300	TN	\$20.00	\$46,000.00
14	Import untreated base course (including compaction)	700	TN	\$25.00	\$17,500.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$493,700.00
16	Contingency	25%			\$123,425.00
17	Design Engineering and Survey	10%			\$49,370.00
18	Construction Management and Staking	10%			\$49,370.00
Total Construction Project (Items 1-18)					\$715,865.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

**Porter Lane -
Frontage Rd. to Main St.**

Owner:

Centerville City

Estimated by: BWN

Checked by: KLC

Sheet No.

1 of 1

Project No.

33 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 10" PVC C900 (including tracer wire, disinfect, and pressure test)	2,200	LF	\$55.00	\$121,000.00
2	Materials & Install 10" fittings (includes tees, bends, and thrust blocks)	11	EA	\$700.00	\$7,700.00
3	Materials & Install 10" valves	11	EA	\$1,500.00	\$16,500.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	11	EA	\$1,700.00	\$18,700.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	7	EA	\$4,000.00	\$28,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	32	EA	\$1,800.00	\$57,600.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	175	CY	\$20.00	\$3,500.00
11	Excavate and haul away native material	1,300	CY	\$20.00	\$26,000.00
12	Import sand bedding (including compaction)	1,300	TN	\$15.00	\$19,500.00
13	Import granular barrow (including compaction)	1,400	TN	\$20.00	\$28,000.00
14	Import untreated base course (including compaction)	500	TN	\$25.00	\$12,500.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$392,000.00
16	Contingency	25%			\$98,000.00
17	Design Engineering and Survey	10%			\$39,200.00
18	Construction Management and Staking	10%			\$39,200.00
	Total Construction Project (Items 1-18)				\$568,400.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

**Lyons Well and Pump
House - Update & Refurbish**

Owner:

Centerville City

Estimated by: BWN

Checked by: KLC

Sheet No.

1 of 1

Project No.

33 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Update and refurbish well and well house	1	LS	\$500,000.00	\$500,000.00
	Subtotal (Item 1)				\$500,000.00
2	Contingency	25%			\$125,000.00
3	Design Engineering and Survey	10%			\$50,000.00
4	Construction Management and Staking	10%			\$50,000.00
	Total Construction Project (Items 1-4)				\$725,000.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

**Parrish Lane
Frontage Rd. to Main St.**

Owner:

Centerville City

Estimated by: BWN

Checked by: KLC

Sheet No.

1 of 1

Project No.

34 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	2,500	LF	\$60.00	\$150,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	8	EA	\$600.00	\$4,800.00
3	Materials & Install 8" valves	10	EA	\$1,400.00	\$14,000.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	9	EA	\$1,700.00	\$15,300.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	8	EA	\$4,000.00	\$32,000.00
6	Materials & Install commercial saddle & laterel, remove & replace meter and meter pit	25	EA	\$3,600.00	\$90,000.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	200	CY	\$20.00	\$4,000.00
11	Excavate and haul away native material	1,500	CY	\$20.00	\$30,000.00
12	Import sand bedding (including compaction)	1,500	TN	\$15.00	\$22,500.00
13	Flowable fill	700	CY	\$50.00	\$35,000.00
14	Import granular barrow (including compaction)	1,700	TN	\$20.00	\$34,000.00
15	Import untreated base course (including compaction)	600	TN	\$25.00	\$15,000.00
16	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-16)				\$499,600.00
17	Contingency	25%			\$124,900.00
18	Design Engineering and Survey	10%			\$49,960.00
19	Construction Management and Staking	10%			\$49,960.00
	Total Construction Project (Items 1-19)				\$724,420.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land SurveyorsProject: **600 East - Aspen Way
to Worsley Ln.**Owner: **Centerville City**

Estimated by: BWN

Checked by: KLC

Sheet No.

1 of 1

Project No.

34 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,400	LF	\$50.00	\$70,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	7	EA	\$600.00	\$4,200.00
3	Materials & Install 8" valves	5	EA	\$1,400.00	\$7,000.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	4	EA	\$1,700.00	\$6,800.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	4	EA	\$4,000.00	\$16,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	14	EA	\$1,800.00	\$25,200.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	125	CY	\$20.00	\$2,500.00
11	Excavate and haul away native material	850	CY	\$20.00	\$17,000.00
12	Import sand bedding (including compaction)	850	TN	\$15.00	\$12,750.00
13	Import granular barrow (including compaction)	950	TN	\$20.00	\$19,000.00
14	Import untreated base course (including compaction)	350	TN	\$25.00	\$8,750.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$242,200.00
16	Contingency	25%			\$60,550.00
17	Design Engineering and Survey	10%			\$24,220.00
18	Construction Management and Staking	10%			\$24,220.00
	Total Construction Project (Items 1-18)				\$351,190.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Worsley Lane -**400 E to 700 E**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

34 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 10" PVC C900 (including tracer wire, disinfect, and pressure test)	1,200	LF	\$55.00	\$66,000.00
2	Materials & Install 10" fittings (includes tees, bends, and thrust blocks)	4	EA	\$700.00	\$2,800.00
3	Materials & Install 10" valves	3	EA	\$1,500.00	\$4,500.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	3	EA	\$1,700.00	\$5,100.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	4	EA	\$4,000.00	\$16,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	21	EA	\$1,800.00	\$37,800.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	100	CY	\$20.00	\$2,000.00
11	Excavate and haul away native material	750	CY	\$20.00	\$15,000.00
12	Import sand bedding (including compaction)	750	TN	\$15.00	\$11,250.00
13	Import granular barrow (including compaction)	750	TN	\$20.00	\$15,000.00
14	Import untreated base course (including compaction)	300	TN	\$25.00	\$7,500.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$235,950.00
16	Contingency	25%			\$58,987.50
17	Design Engineering and Survey	10%			\$23,595.00
18	Construction Management and Staking	10%			\$23,595.00
	Total Construction Project (Items 1-18)				\$342,127.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

700 East -**200 N to Center St.**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

35 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,500	LF	\$50.00	\$75,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	5	EA	\$600.00	\$3,000.00
3	Materials & Install 8" valves	4	EA	\$1,400.00	\$5,600.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	4	EA	\$1,700.00	\$6,800.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	5	EA	\$4,000.00	\$20,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	20	EA	\$1,800.00	\$36,000.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	150	CY	\$20.00	\$3,000.00
11	Excavate and haul away native material	900	CY	\$20.00	\$18,000.00
12	Import sand bedding (including compaction)	900	TN	\$15.00	\$13,500.00
13	Import granular barrow (including compaction)	1,000	TN	\$20.00	\$20,000.00
14	Import untreated base course (including compaction)	400	TN	\$25.00	\$10,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$263,900.00
16	Contingency	25%			\$65,975.00
17	Design Engineering and Survey	10%			\$26,390.00
18	Construction Management and Staking	10%			\$26,390.00
Total Construction Project (Items 1-18)					\$382,655.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

**Center Street -
400 E to 600 E**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

35 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	800	LF	\$50.00	\$40,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	3	EA	\$600.00	\$1,800.00
3	Materials & Install 8" valves	2	EA	\$1,400.00	\$2,800.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	3	EA	\$1,700.00	\$5,100.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	3	EA	\$4,000.00	\$12,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	15	EA	\$1,800.00	\$27,000.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	60	CY	\$20.00	\$1,200.00
11	Excavate and haul away native material	500	CY	\$20.00	\$10,000.00
12	Import sand bedding (including compaction)	500	TN	\$15.00	\$7,500.00
13	Import granular barrow (including compaction)	600	TN	\$20.00	\$12,000.00
14	Import untreated base course (including compaction)	200	TN	\$25.00	\$5,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$177,400.00
16	Contingency	25%			\$44,350.00
17	Design Engineering and Survey	10%			\$17,740.00
18	Construction Management and Staking	10%			\$17,740.00
Total Construction Project (Items 1-18)					\$257,230.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

550 S Cul-da-sac**Off 400 E**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

35 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	650	LF	\$50.00	\$32,500.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	2	EA	\$600.00	\$1,200.00
3	Materials & Install 8" valves	1	EA	\$1,400.00	\$1,400.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	1	EA	\$1,700.00	\$1,700.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	2	EA	\$4,000.00	\$8,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	14	EA	\$1,800.00	\$25,200.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	50	CY	\$20.00	\$1,000.00
11	Excavate and haul away native material	400	CY	\$20.00	\$8,000.00
12	Import sand bedding (including compaction)	400	TN	\$15.00	\$6,000.00
13	Import granular barrow (including compaction)	500	TN	\$20.00	\$10,000.00
14	Import untreated base course (including compaction)	150	TN	\$25.00	\$3,750.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$151,750.00
16	Contingency	25%			\$37,937.50
17	Design Engineering and Survey	10%			\$15,175.00
18	Construction Management and Staking	10%			\$15,175.00
	Total Construction Project (Items 1-18)				\$220,037.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

1200 South -**Main St. to 240 E**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

36 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	950	LF	\$50.00	\$47,500.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	4	EA	\$600.00	\$2,400.00
3	Materials & Install 8" valves	2	EA	\$1,400.00	\$2,800.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	3	EA	\$4,000.00	\$12,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	18	EA	\$1,800.00	\$32,400.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	75	CY	\$20.00	\$1,500.00
11	Excavate and haul away native material	600	CY	\$20.00	\$12,000.00
12	Import sand bedding (including compaction)	600	TN	\$15.00	\$9,000.00
13	Import granular barrow (including compaction)	700	TN	\$20.00	\$14,000.00
14	Import untreated base course (including compaction)	250	TN	\$25.00	\$6,250.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$196,250.00
16	Contingency	25%			\$49,062.50
17	Design Engineering and Survey	10%			\$19,625.00
18	Construction Management and Staking	10%			\$19,625.00
	Total Construction Project (Items 1-18)				\$284,562.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

800 South -**300 E to 200 E**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

36 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	550	LF	\$50.00	\$27,500.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	2	EA	\$600.00	\$1,200.00
3	Materials & Install 8" valves	1	EA	\$1,400.00	\$1,400.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	1	EA	\$1,700.00	\$1,700.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	3	EA	\$4,000.00	\$12,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	10	EA	\$1,800.00	\$18,000.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	50	CY	\$20.00	\$1,000.00
11	Excavate and haul away native material	350	CY	\$20.00	\$7,000.00
12	Import sand bedding (including compaction)	350	TN	\$15.00	\$5,250.00
13	Import granular barrow (including compaction)	400	TN	\$20.00	\$8,000.00
14	Import untreated base course (including compaction)	150	TN	\$25.00	\$3,750.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$139,800.00
16	Contingency	25%			\$34,950.00
17	Design Engineering and Survey	10%			\$13,980.00
18	Construction Management and Staking	10%			\$13,980.00
	Total Construction Project (Items 1-18)				\$202,710.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

**Ricks Creek Well and Pump
House - Update & Refurbish**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

36 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Update and refurbish well and well house	1	LS	\$500,000.00	\$500,000.00
	Subtotal (Item 1)				\$500,000.00
2	Contingency	25%			\$125,000.00
3	Design Engineering and Survey	10%			\$50,000.00
4	Construction Management and Staking	10%			\$50,000.00
	Total Construction Project (Items 1-4)				\$725,000.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

700 South -**400 E to 700 E**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

37 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,000	LF	\$50.00	\$50,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	9	EA	\$600.00	\$5,400.00
3	Materials & Install 8" valves	5	EA	\$1,400.00	\$7,000.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	5	EA	\$1,700.00	\$8,500.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	3	EA	\$4,000.00	\$12,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	26	EA	\$1,800.00	\$46,800.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	75	CY	\$20.00	\$1,500.00
11	Excavate and haul away native material	600	CY	\$20.00	\$12,000.00
12	Import sand bedding (including compaction)	600	TN	\$15.00	\$9,000.00
13	Import granular barrow (including compaction)	700	TN	\$20.00	\$14,000.00
14	Import untreated base course (including compaction)	250	TN	\$25.00	\$6,250.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$225,450.00
16	Contingency	25%			\$56,362.50
17	Design Engineering and Survey	10%			\$22,545.00
18	Construction Management and Staking	10%			\$22,545.00
	Total Construction Project (Items 1-18)				\$326,902.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

600 East -**700 S to 900 S**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

37 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,000	LF	\$50.00	\$50,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	5	EA	\$600.00	\$3,000.00
3	Materials & Install 8" valves	3	EA	\$1,400.00	\$4,200.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	3	EA	\$1,700.00	\$5,100.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	3	EA	\$4,000.00	\$12,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	18	EA	\$1,800.00	\$32,400.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	75	CY	\$20.00	\$1,500.00
11	Excavate and haul away native material	600	CY	\$20.00	\$12,000.00
12	Import sand bedding (including compaction)	600	TN	\$15.00	\$9,000.00
13	Import granular barrow (including compaction)	700	TN	\$20.00	\$14,000.00
14	Import untreated base course (including compaction)	250	TN	\$25.00	\$6,250.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$202,450.00
16	Contingency	25%			\$50,612.50
17	Design Engineering and Survey	10%			\$20,245.00
18	Construction Management and Staking	10%			\$20,245.00
	Total Construction Project (Items 1-18)				\$293,552.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

650 East -**700 S to 900 S**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

37 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	800	LF	\$50.00	\$40,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	3	EA	\$600.00	\$1,800.00
3	Materials & Install 8" valves	2	EA	\$1,400.00	\$2,800.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	3	EA	\$4,000.00	\$12,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	15	EA	\$1,800.00	\$27,000.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	65	CY	\$20.00	\$1,300.00
11	Excavate and haul away native material	500	CY	\$20.00	\$10,000.00
12	Import sand bedding (including compaction)	500	TN	\$15.00	\$7,500.00
13	Import granular barrow (including compaction)	600	TN	\$20.00	\$12,000.00
14	Import untreated base course (including compaction)	200	TN	\$25.00	\$5,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$175,800.00
16	Contingency	25%			\$43,950.00
17	Design Engineering and Survey	10%			\$17,580.00
18	Construction Management and Staking	10%			\$17,580.00
Total Construction Project (Items 1-18)					\$254,910.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project: **475 E, 850 S, & 800 S -
700 S to 600 E**
Owner: **Centerville City**

Estimated by: BWN

Checked by: KLC

Sheet No.

1 of 1

Project No.

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Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,100	LF	\$50.00	\$55,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	5	EA	\$600.00	\$3,000.00
3	Materials & Install 8" valves	3	EA	\$1,400.00	\$4,200.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	4	EA	\$4,000.00	\$16,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	20	EA	\$1,800.00	\$36,000.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	90	CY	\$20.00	\$1,800.00
11	Excavate and haul away native material	700	CY	\$20.00	\$14,000.00
12	Import sand bedding (including compaction)	700	TN	\$15.00	\$10,500.00
13	Import granular barrow (including compaction)	800	TN	\$20.00	\$16,000.00
14	Import untreated base course (including compaction)	300	TN	\$25.00	\$7,500.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$220,400.00
16	Contingency	25%			\$55,100.00
17	Design Engineering and Survey	10%			\$22,040.00
18	Construction Management and Staking	10%			\$22,040.00
	Total Construction Project (Items 1-18)				\$319,580.00

 ESI Engineering, Inc. 3500 South Main, Suite 206 Salt Lake City, Utah Phone (801) 263-1752 Consulting Engineers & Land Surveyors	Project:		Weber Basin Booster Station		Sheet No. 1 of 1
	Owner:		Centerville City		
	Estimated by:	BWN			Project No.
	Checked by:	KLC			38 - ###
Conceptual Estimate					
ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Update & replace pumps and appurtenances as needed	1	LS	\$100,000.00	\$100,000.00
	Subtotal (Item 1)				\$100,000.00
2	Contingency	25%			\$25,000.00
3	Design Engineering and Survey	10%			\$10,000.00
4	Construction Management and Staking	10%			\$10,000.00
	Total Construction Project (Items 1-4)				\$145,000.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206
Salt Lake City, Utah
Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

**780 South -
Main St. to 150 W**
Owner: **Centerville City**

Sheet No.

1 of 1

Owner:

Estimated by: BWN

Checked by: KLC

Project No.

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Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	800	LF	\$50.00	\$40,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	2	EA	\$600.00	\$1,200.00
3	Materials & Install 8" valves	1	EA	\$1,400.00	\$1,400.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	3	EA	\$4,000.00	\$12,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	19	EA	\$1,800.00	\$34,200.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	65	CY	\$20.00	\$1,300.00
11	Excavate and haul away native material	500	CY	\$20.00	\$10,000.00
12	Import sand bedding (including compaction)	500	TN	\$15.00	\$7,500.00
13	Import granular barrow (including compaction)	600	TN	\$20.00	\$12,000.00
14	Import untreated base course (including compaction)	200	TN	\$25.00	\$5,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$181,000.00
16	Contingency	25%			\$45,250.00
17	Design Engineering and Survey	10%			\$18,100.00
18	Construction Management and Staking	10%			\$18,100.00
	Total Construction Project (Items 1-18)				\$262,450.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

850 South -**Main St. to 150 W**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

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Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	800	LF	\$50.00	\$40,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	2	EA	\$600.00	\$1,200.00
3	Materials & Install 8" valves	1	EA	\$1,400.00	\$1,400.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	3	EA	\$4,000.00	\$12,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	16	EA	\$1,800.00	\$28,800.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	65	CY	\$20.00	\$1,300.00
11	Excavate and haul away native material	500	CY	\$20.00	\$10,000.00
12	Import sand bedding (including compaction)	500	TN	\$15.00	\$7,500.00
13	Import granular barrow (including compaction)	600	TN	\$20.00	\$12,000.00
14	Import untreated base course (including compaction)	200	TN	\$25.00	\$5,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$175,600.00
16	Contingency	25%			\$43,900.00
17	Design Engineering and Survey	10%			\$17,560.00
18	Construction Management and Staking	10%			\$17,560.00
Total Construction Project (Items 1-18)					\$254,620.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

150 West -**780 S to 875 S**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

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Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	400	LF	\$50.00	\$20,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	2	EA	\$600.00	\$1,200.00
3	Materials & Install 8" valves	1	EA	\$1,400.00	\$1,400.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	1	EA	\$4,000.00	\$4,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	8	EA	\$1,800.00	\$14,400.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	35	CY	\$20.00	\$700.00
11	Excavate and haul away native material	250	CY	\$20.00	\$5,000.00
12	Import sand bedding (including compaction)	250	TN	\$15.00	\$3,750.00
13	Import granular barrow (including compaction)	300	TN	\$20.00	\$6,000.00
14	Import untreated base course (including compaction)	100	TN	\$25.00	\$2,500.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$115,350.00
16	Contingency	25%			\$28,837.50
17	Design Engineering and Survey	10%			\$11,535.00
18	Construction Management and Staking	10%			\$11,535.00
Total Construction Project (Items 1-18)					\$167,257.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

550 South -**Main St. to 150 W**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

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Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	900	LF	\$50.00	\$45,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	4	EA	\$600.00	\$2,400.00
3	Materials & Install 8" valves	4	EA	\$1,400.00	\$5,600.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	4	EA	\$1,700.00	\$6,800.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	3	EA	\$4,000.00	\$12,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	15	EA	\$1,800.00	\$27,000.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	75	CY	\$20.00	\$1,500.00
11	Excavate and haul away native material	550	CY	\$20.00	\$11,000.00
12	Import sand bedding (including compaction)	550	TN	\$15.00	\$8,250.00
13	Import granular barrow (including compaction)	650	TN	\$20.00	\$13,000.00
14	Import untreated base course (including compaction)	200	TN	\$25.00	\$5,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$190,550.00
16	Contingency	25%			\$47,637.50
17	Design Engineering and Survey	10%			\$19,055.00
18	Construction Management and Staking	10%			\$19,055.00
Total Construction Project (Items 1-18)					\$276,297.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project: **700 S, 150 W, & 600 S -
Main St. to 550 S**
Owner: **Centerville City**

Estimated by: BWN

Checked by: KLC

Sheet No.

1 of 1

Project No.

39 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,200	LF	\$50.00	\$60,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	7	EA	\$600.00	\$4,200.00
3	Materials & Install 8" valves	4	EA	\$1,400.00	\$5,600.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	3	EA	\$1,700.00	\$5,100.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	4	EA	\$4,000.00	\$16,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	27	EA	\$1,800.00	\$48,600.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	100	CY	\$20.00	\$2,000.00
11	Excavate and haul away native material	750	CY	\$20.00	\$15,000.00
12	Import sand bedding (including compaction)	750	TN	\$15.00	\$11,250.00
13	Import granular barrow (including compaction)	800	TN	\$20.00	\$16,000.00
14	Import untreated base course (including compaction)	300	TN	\$25.00	\$7,500.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$244,250.00
16	Contingency	25%			\$61,062.50
17	Design Engineering and Survey	10%			\$24,425.00
18	Construction Management and Staking	10%			\$24,425.00
Total Construction Project (Items 1-18)					\$354,162.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

650 South -**150 W to 25 W**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

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Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	600	LF	\$50.00	\$30,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	5	EA	\$600.00	\$3,000.00
3	Materials & Install 8" valves	2	EA	\$1,400.00	\$2,800.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	2	EA	\$4,000.00	\$8,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	14	EA	\$1,800.00	\$25,200.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	50	CY	\$20.00	\$1,000.00
11	Excavate and haul away native material	350	CY	\$20.00	\$7,000.00
12	Import sand bedding (including compaction)	350	TN	\$15.00	\$5,250.00
13	Import granular barrow (including compaction)	400	TN	\$20.00	\$8,000.00
14	Import untreated base course (including compaction)	150	TN	\$25.00	\$3,750.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$150,400.00
16	Contingency	25%			\$37,600.00
17	Design Engineering and Survey	10%			\$15,040.00
18	Construction Management and Staking	10%			\$15,040.00
Total Construction Project (Items 1-18)					\$218,080.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

75 West -**500 S to 350 S**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

39 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	400	LF	\$50.00	\$20,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	4	EA	\$600.00	\$2,400.00
3	Materials & Install 8" valves	1	EA	\$1,400.00	\$1,400.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	1	EA	\$4,000.00	\$4,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	7	EA	\$1,800.00	\$12,600.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	35	CY	\$20.00	\$700.00
11	Excavate and haul away native material	250	CY	\$20.00	\$5,000.00
12	Import sand bedding (including compaction)	250	TN	\$15.00	\$3,750.00
13	Import granular barrow (including compaction)	300	TN	\$20.00	\$6,000.00
14	Import untreated base course (including compaction)	100	TN	\$25.00	\$2,500.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$114,750.00
16	Contingency	25%			\$28,687.50
17	Design Engineering and Survey	10%			\$11,475.00
18	Construction Management and Staking	10%			\$11,475.00
Total Construction Project (Items 1-18)					\$166,387.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

300 East -**Chase Ln. to 1150 N**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

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Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	700	LF	\$50.00	\$35,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	3	EA	\$600.00	\$1,800.00
3	Materials & Install 8" valves	2	EA	\$1,400.00	\$2,800.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	2	EA	\$4,000.00	\$8,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	16	EA	\$1,800.00	\$28,800.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	60	CY	\$20.00	\$1,200.00
11	Excavate and haul away native material	450	CY	\$20.00	\$9,000.00
12	Import sand bedding (including compaction)	450	TN	\$15.00	\$6,750.00
13	Import granular barrow (including compaction)	500	TN	\$20.00	\$10,000.00
14	Import untreated base course (including compaction)	150	TN	\$25.00	\$3,750.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$163,500.00
16	Contingency	25%			\$40,875.00
17	Design Engineering and Survey	10%			\$16,350.00
18	Construction Management and Staking	10%			\$16,350.00
Total Construction Project (Items 1-18)					\$237,075.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206
Salt Lake City, Utah
Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

200 East -**Chase Ln. to 1150 N**

Owner:

Centerville City

Estimated by: BWN

Checked by: KLC

Sheet No.

1 of 1

Project No.

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Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	700	LF	\$50.00	\$35,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	3	EA	\$600.00	\$1,800.00
3	Materials & Install 8" valves	2	EA	\$1,400.00	\$2,800.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	3	EA	\$1,700.00	\$5,100.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	2	EA	\$4,000.00	\$8,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	15	EA	\$1,800.00	\$27,000.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	60	CY	\$20.00	\$1,200.00
11	Excavate and haul away native material	450	CY	\$20.00	\$9,000.00
12	Import sand bedding (including compaction)	450	TN	\$15.00	\$6,750.00
13	Import granular barrow (including compaction)	500	TN	\$20.00	\$10,000.00
14	Import untreated base course (including compaction)	150	TN	\$25.00	\$3,750.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$163,400.00
16	Contingency	25%			\$40,850.00
17	Design Engineering and Survey	10%			\$16,340.00
18	Construction Management and Staking	10%			\$16,340.00
Total Construction Project (Items 1-18)					\$236,930.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

1100 N & 175 E -**300 E to 150 E**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

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Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	850	LF	\$50.00	\$42,500.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	4	EA	\$600.00	\$2,400.00
3	Materials & Install 8" valves	3	EA	\$1,400.00	\$4,200.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	5	EA	\$1,700.00	\$8,500.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	3	EA	\$4,000.00	\$12,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	13	EA	\$1,800.00	\$23,400.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	75	CY	\$20.00	\$1,500.00
11	Excavate and haul away native material	500	CY	\$20.00	\$10,000.00
12	Import sand bedding (including compaction)	500	TN	\$15.00	\$7,500.00
13	Import granular barrow (including compaction)	600	TN	\$20.00	\$12,000.00
14	Import untreated base course (including compaction)	200	TN	\$25.00	\$5,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$182,000.00
16	Contingency	25%			\$45,500.00
17	Design Engineering and Survey	10%			\$18,200.00
18	Construction Management and Staking	10%			\$18,200.00
	Total Construction Project (Items 1-18)				\$263,900.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

**City Hall Well and Pump
House - Update & Refurbish**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

41 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Update and refurbish well and well house	1	LS	\$500,000.00	\$500,000.00
	Subtotal (Item 1)				\$500,000.00
2	Contingency	25%			\$125,000.00
3	Design Engineering and Survey	10%			\$50,000.00
4	Construction Management and Staking	10%			\$50,000.00
	Total Construction Project (Items 1-4)				\$725,000.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Rick's Creek Way -**Main St. to 200 W**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

41 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,100	LF	\$50.00	\$55,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	7	EA	\$600.00	\$4,200.00
3	Materials & Install 8" valves	3	EA	\$1,400.00	\$4,200.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	3	EA	\$1,700.00	\$5,100.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	4	EA	\$4,000.00	\$16,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	19	EA	\$1,800.00	\$34,200.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	90	CY	\$20.00	\$1,800.00
11	Excavate and haul away native material	700	CY	\$20.00	\$14,000.00
12	Import sand bedding (including compaction)	700	TN	\$15.00	\$10,500.00
13	Import granular barrow (including compaction)	800	TN	\$20.00	\$16,000.00
14	Import untreated base course (including compaction)	300	TN	\$25.00	\$7,500.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$221,500.00
16	Contingency	25%			\$55,375.00
17	Design Engineering and Survey	10%			\$22,150.00
18	Construction Management and Staking	10%			\$22,150.00
	Total Construction Project (Items 1-18)				\$321,175.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Milky Way -**Rick's Creek to 200 W**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

41 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,100	LF	\$50.00	\$55,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	6	EA	\$600.00	\$3,600.00
3	Materials & Install 8" valves	3	EA	\$1,400.00	\$4,200.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	3	EA	\$1,700.00	\$5,100.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	3	EA	\$4,000.00	\$12,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	18	EA	\$1,800.00	\$32,400.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	90	CY	\$20.00	\$1,800.00
11	Excavate and haul away native material	700	CY	\$20.00	\$14,000.00
12	Import sand bedding (including compaction)	700	TN	\$15.00	\$10,500.00
13	Import granular barrow (including compaction)	800	TN	\$20.00	\$16,000.00
14	Import untreated base course (including compaction)	300	TN	\$25.00	\$7,500.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$215,100.00
16	Contingency	25%			\$53,775.00
17	Design Engineering and Survey	10%			\$21,510.00
18	Construction Management and Staking	10%			\$21,510.00
Total Construction Project (Items 1-18)					\$311,895.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206
Salt Lake City, Utah
Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

**200 West -
1350 N to Jennings Ln.
Owner: Centerville City**

Sheet No.

1 of 1

Owner:

Estimated by: BWN

Checked by: KLC

Project No.

42 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	2,900	LF	\$50.00	\$145,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	15	EA	\$600.00	\$9,000.00
3	Materials & Install 8" valves	9	EA	\$1,400.00	\$12,600.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	9	EA	\$1,700.00	\$15,300.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	10	EA	\$4,000.00	\$40,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	44	EA	\$1,800.00	\$79,200.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	250	CY	\$20.00	\$5,000.00
11	Excavate and haul away native material	1,800	CY	\$20.00	\$36,000.00
12	Import sand bedding (including compaction)	1,800	TN	\$15.00	\$27,000.00
13	Import granular barrow (including compaction)	2,000	TN	\$20.00	\$40,000.00
14	Import untreated base course (including compaction)	700	TN	\$25.00	\$17,500.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$479,600.00
16	Contingency	25%			\$119,900.00
17	Design Engineering and Survey	10%			\$47,960.00
18	Construction Management and Staking	10%			\$47,960.00
	Total Construction Project (Items 1-18)				\$695,420.00

 Consulting Engineers & Land Surveyors	ESI Engineering, Inc. 3500 South Main, Suite 206 Salt Lake City, Utah Phone (801) 263-1752	Project:		Rolling Hills Booster Station		Sheet No. 1 of 1
		Owner:		Centerville City		Project No. 42 - ###
		Estimated by:	BWN			
		Checked by:	KLC			
Conceptual Estimate						
ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT	
1	Update & replace pumps and appurtenances as needed	1	LS	\$100,000.00	\$100,000.00	
	Subtotal (Item 1)					\$100,000.00
2	Contingency	25%			\$25,000.00	
3	Design Engineering and Survey	10%			\$10,000.00	
4	Construction Management and Staking	10%			\$10,000.00	
	Total Construction Project (Items 1-4)				\$145,000.00	

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

300 East -**Pages Ln. to 300 N**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

43 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 14" PVC C900 (including tracer wire, disinfect, and pressure test)	800	LF	\$60.00	\$48,000.00
2	Materials & Install 14" fittings (includes tees, bends, and thrust blocks)	4	EA	\$800.00	\$3,200.00
3	Materials & Install 14" valves	2	EA	\$1,600.00	\$3,200.00
4	Materials & Install 10" PVC C900 (including tracer wire, disinfect, and pressure test)	2,600	LF	\$55.00	\$143,000.00
5	Materials & Install 10" fittings (includes tees, bends, and thrust blocks)	12	EA	\$700.00	\$8,400.00
6	Materials & Install 10" valves	10	EA	\$1,500.00	\$15,000.00
7	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,400	LF	\$50.00	\$70,000.00
8	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	8	EA	\$600.00	\$4,800.00
9	Materials & Install 8" valves	5	EA	\$1,400.00	\$7,000.00
10	Materials & Tie-in to existing line (includes sleeves and reducers)	18	EA	\$1,700.00	\$30,600.00
11	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	16	EA	\$4,000.00	\$64,000.00
12	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	75	EA	\$1,800.00	\$135,000.00
13	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
14	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
15	Remove and replace concrete (including saw-cutting)	1	LS	\$25,000.00	\$25,000.00
16	Pulverize and haul away asphalt (including saw-cutting)	375	CY	\$20.00	\$7,500.00
17	Excavate and haul away native material	3,000	CY	\$20.00	\$60,000.00
18	Import sand bedding (including compaction)	3,000	TN	\$15.00	\$45,000.00
19	Import granular barrow (including compaction)	3,500	TN	\$20.00	\$70,000.00
20	Import untreated base course (including compaction)	1,100	TN	\$25.00	\$27,500.00
21	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-21)				\$805,200.00
22	Contingency	25%			\$201,300.00
23	Design Engineering and Survey	10%			\$80,520.00
24	Construction Management and Staking	10%			\$80,520.00
	Total Construction Project (Items 1-24)				\$1,167,540.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

1500 North -**Main St. to 200 W**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

44 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,000	LF	\$50.00	\$50,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	3	EA	\$600.00	\$1,800.00
3	Materials & Install 8" valves	3	EA	\$1,400.00	\$4,200.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	3	EA	\$4,000.00	\$12,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	16	EA	\$1,800.00	\$28,800.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	80	CY	\$20.00	\$1,600.00
11	Excavate and haul away native material	600	CY	\$20.00	\$12,000.00
12	Import sand bedding (including compaction)	600	TN	\$15.00	\$9,000.00
13	Import granular barrow (including compaction)	700	TN	\$20.00	\$14,000.00
14	Import untreated base course (including compaction)	250	TN	\$25.00	\$6,250.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$196,050.00
16	Contingency	25%			\$49,012.50
17	Design Engineering and Survey	10%			\$19,605.00
18	Construction Management and Staking	10%			\$19,605.00
	Total Construction Project (Items 1-18)				\$284,272.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

**Willow Wood Dr. -
250 W to Frontage Rd.**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

44 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,800	LF	\$50.00	\$90,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	15	EA	\$600.00	\$9,000.00
3	Materials & Install 8" valves	8	EA	\$1,400.00	\$11,200.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	9	EA	\$1,700.00	\$15,300.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	6	EA	\$4,000.00	\$24,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	33	EA	\$1,800.00	\$59,400.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$15,000.00	\$15,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	150	CY	\$20.00	\$3,000.00
11	Excavate and haul away native material	1,100	CY	\$20.00	\$22,000.00
12	Import sand bedding (including compaction)	1,100	TN	\$15.00	\$16,500.00
13	Import granular barrow (including compaction)	1,200	TN	\$20.00	\$24,000.00
14	Import untreated base course (including compaction)	400	TN	\$25.00	\$10,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$337,400.00
16	Contingency	25%			\$84,350.00
17	Design Engineering and Survey	10%			\$33,740.00
18	Construction Management and Staking	10%			\$33,740.00
	Total Construction Project (Items 1-18)				\$489,230.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land SurveyorsProject: **Willow Valley Dr. & 1600 N
Pony Express to 400 W**Owner: **Centerville City**

Estimated by: BWN

Checked by: KLC

Sheet No.

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Project No.

45 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	2,600	LF	\$50.00	\$130,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	12	EA	\$600.00	\$7,200.00
3	Materials & Install 8" valves	10	EA	\$1,400.00	\$14,000.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	11	EA	\$1,700.00	\$18,700.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	9	EA	\$4,000.00	\$36,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	51	EA	\$1,800.00	\$91,800.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$20,000.00	\$20,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	200	CY	\$20.00	\$4,000.00
11	Excavate and haul away native material	1,600	CY	\$20.00	\$32,000.00
12	Import sand bedding (including compaction)	1,600	TN	\$15.00	\$24,000.00
13	Import granular barrow (including compaction)	1,800	TN	\$20.00	\$36,000.00
14	Import untreated base course (including compaction)	600	TN	\$25.00	\$15,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$466,700.00
16	Contingency	25%			\$116,675.00
17	Design Engineering and Survey	10%			\$46,670.00
18	Construction Management and Staking	10%			\$46,670.00
	Total Construction Project (Items 1-18)				\$676,715.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

Island View Reservoir

Owner:

Replacement**Centerville City**

Estimated by:

CDP

11/1/2020

Checked by:

KLC

Sheet No.

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Project No.

46-###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Excavation for tank and valve building	5,000	CY	\$3.00	\$15,000.00
2	Backfill tank and valve building	3,000	CY	\$2.50	\$7,500.00
3	Tank - reinforced concrete	1	LS	\$500,000.00	\$500,000.00
4	Tank piping	1	LS	\$18,000.00	\$18,000.00
5	Valve building	1	LS	\$80,000.00	\$80,000.00
6	Valve building piping	1	LS	\$22,000.00	\$22,000.00
7	Transmission line	350	FT	\$65.00	\$22,750.00
8	Drain line	700	FT	\$75.00	\$52,500.00
9	Drainage structures	10	EA	\$4,500.00	\$45,000.00
10	Curb and gutter	400	FT	\$35.00	\$14,000.00
11	Concrete drive approach	400	SF	\$12.00	\$4,800.00
12	Roadbase - Access Road	200	TN	\$35.00	\$7,000.00
13	Asphalt - Access Road	100	TN	\$90.00	\$9,000.00
14	Retaining wall	100	FT	\$150.00	\$15,000.00
15	Chain link fence and gate	1	LS	\$12,000.00	\$12,000.00
16	Landscape, slope stability, and irrigation	1	LS	\$25,000.00	\$25,000.00
17	Power connection and building electrical	1	LS	\$15,000.00	\$15,000.00
18	Erosion control - during construction	1	LS	\$5,000.00	\$5,000.00
19	Utility Relocation	1	LS	\$50,000.00	\$50,000.00
20	Site BMP's	1	LS	\$20,000.00	\$20,000.00
21	Mobilization	1	LS	\$55,000.00	\$55,000.00
	Subtotal (Items 1-21)				\$994,550.00
22	Contingency	25%			\$248,637.50
23	Design Engineering and Survey	10%			\$99,455.00
24	Construction Management and Staking	10%			\$99,455.00
	Total Construction Project (1-24)				\$1,442,097.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

1850 North -**Main St. to 400 W**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

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Project No.

47 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,400	LF	\$50.00	\$70,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	5	EA	\$600.00	\$3,000.00
3	Materials & Install 8" valves	2	EA	\$1,400.00	\$2,800.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	5	EA	\$4,000.00	\$20,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	28	EA	\$1,800.00	\$50,400.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$20,000.00	\$20,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	120	CY	\$20.00	\$2,400.00
11	Excavate and haul away native material	900	CY	\$20.00	\$18,000.00
12	Import sand bedding (including compaction)	900	TN	\$15.00	\$13,500.00
13	Import granular barrow (including compaction)	1,000	TN	\$20.00	\$20,000.00
14	Import untreated base course (including compaction)	350	TN	\$25.00	\$8,750.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$270,250.00
16	Contingency	25%			\$67,562.50
17	Design Engineering and Survey	10%			\$27,025.00
18	Construction Management and Staking	10%			\$27,025.00
	Total Construction Project (Items 1-18)				\$391,862.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

1950 North -**Main St. to 400 W**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

47 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,300	LF	\$50.00	\$65,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	5	EA	\$600.00	\$3,000.00
3	Materials & Install 8" valves	2	EA	\$1,400.00	\$2,800.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	4	EA	\$4,000.00	\$16,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	19	EA	\$1,800.00	\$34,200.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$20,000.00	\$20,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	100	CY	\$20.00	\$2,000.00
11	Excavate and haul away native material	800	CY	\$20.00	\$16,000.00
12	Import sand bedding (including compaction)	800	TN	\$15.00	\$12,000.00
13	Import granular barrow (including compaction)	900	TN	\$20.00	\$18,000.00
14	Import untreated base course (including compaction)	300	TN	\$25.00	\$7,500.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$237,900.00
16	Contingency	25%			\$59,475.00
17	Design Engineering and Survey	10%			\$23,790.00
18	Construction Management and Staking	10%			\$23,790.00
Total Construction Project (Items 1-18)					\$344,955.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

1750 North -**Main St. to 400 W**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

48 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,800	LF	\$50.00	\$90,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	6	EA	\$600.00	\$3,600.00
3	Materials & Install 8" valves	3	EA	\$1,400.00	\$4,200.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	6	EA	\$4,000.00	\$24,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	28	EA	\$1,800.00	\$50,400.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$20,000.00	\$20,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	150	CY	\$20.00	\$3,000.00
11	Excavate and haul away native material	1,100	CY	\$20.00	\$22,000.00
12	Import sand bedding (including compaction)	1,100	TN	\$15.00	\$16,500.00
13	Import granular barrow (including compaction)	1,200	TN	\$20.00	\$24,000.00
14	Import untreated base course (including compaction)	400	TN	\$25.00	\$10,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$309,100.00
16	Contingency	25%			\$77,275.00
17	Design Engineering and Survey	10%			\$30,910.00
18	Construction Management and Staking	10%			\$30,910.00
	Total Construction Project (Items 1-18)				\$448,195.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

**400 West -
Jennings Ln. to 1950 N
Centerville City**

Sheet No.

1 of 1

Owner:

Estimated by: BWN

Checked by: KLC

Project No.

48 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,950	LF	\$50.00	\$97,500.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	7	EA	\$600.00	\$4,200.00
3	Materials & Install 8" valves	6	EA	\$1,400.00	\$8,400.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	7	EA	\$1,700.00	\$11,900.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	6	EA	\$4,000.00	\$24,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	29	EA	\$1,800.00	\$52,200.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$20,000.00	\$20,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	150	CY	\$20.00	\$3,000.00
11	Excavate and haul away native material	1,200	CY	\$20.00	\$24,000.00
12	Import sand bedding (including compaction)	1,200	TN	\$15.00	\$18,000.00
13	Import granular barrow (including compaction)	1,300	TN	\$20.00	\$26,000.00
14	Import untreated base course (including compaction)	450	TN	\$25.00	\$11,250.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
Subtotal (Items 1-15)					\$338,450.00
16	Contingency	25%			\$84,612.50
17	Design Engineering and Survey	10%			\$33,845.00
18	Construction Management and Staking	10%			\$33,845.00
Total Construction Project (Items 1-18)					\$490,752.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land SurveyorsProject: **Green Fields PUD - 1925 N
1950 N, 1900 N, 750 W, 450**Owner: **Centerville City**

Estimated by: BWN

Checked by: KLC

Sheet No.

1 of 1

Project No.

48 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	2,700	LF	\$50.00	\$135,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	20	EA	\$600.00	\$12,000.00
3	Materials & Install 8" valves	4	EA	\$1,400.00	\$5,600.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	2	EA	\$1,700.00	\$3,400.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	9	EA	\$4,000.00	\$36,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	66	EA	\$1,800.00	\$118,800.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$20,000.00	\$20,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	200	CY	\$20.00	\$4,000.00
11	Excavate and haul away native material	1,600	CY	\$20.00	\$32,000.00
12	Import sand bedding (including compaction)	1,600	TN	\$15.00	\$24,000.00
13	Import granular barrow (including compaction)	1,800	TN	\$20.00	\$36,000.00
14	Import untreated base course (including compaction)	600	TN	\$25.00	\$15,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$479,800.00
16	Contingency	25%			\$119,950.00
17	Design Engineering and Survey	10%			\$47,980.00
18	Construction Management and Staking	10%			\$47,980.00
	Total Construction Project (Items 1-18)				\$695,710.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

1900 North -**Main St. to 300 E**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

49 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,550	LF	\$50.00	\$77,500.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	10	EA	\$600.00	\$6,000.00
3	Materials & Install 8" valves	8	EA	\$1,400.00	\$11,200.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	8	EA	\$1,700.00	\$13,600.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	5	EA	\$4,000.00	\$20,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	26	EA	\$1,800.00	\$46,800.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$20,000.00	\$20,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	150	CY	\$20.00	\$3,000.00
11	Excavate and haul away native material	950	CY	\$20.00	\$19,000.00
12	Import sand bedding (including compaction)	950	TN	\$15.00	\$14,250.00
13	Import granular barrow (including compaction)	1,100	TN	\$20.00	\$22,000.00
14	Import untreated base course (including compaction)	400	TN	\$25.00	\$10,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$301,350.00
16	Contingency	25%			\$75,337.50
17	Design Engineering and Survey	10%			\$30,135.00
18	Construction Management and Staking	10%			\$30,135.00
	Total Construction Project (Items 1-18)				\$436,957.50

**ESI Engineering, Inc.**

3500 South Main, Suite 206

Salt Lake City, Utah

Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

2050 North -**Main St. to 300 E**

Owner:

Centerville City

Estimated by:

BWN

Checked by:

KLC

Sheet No.

1 of 1

Project No.

49 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,700	LF	\$50.00	\$85,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	8	EA	\$600.00	\$4,800.00
3	Materials & Install 8" valves	4	EA	\$1,400.00	\$5,600.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	4	EA	\$1,700.00	\$6,800.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	6	EA	\$4,000.00	\$24,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	35	EA	\$1,800.00	\$63,000.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$20,000.00	\$20,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	200	CY	\$20.00	\$4,000.00
11	Excavate and haul away native material	1,100	CY	\$20.00	\$22,000.00
12	Import sand bedding (including compaction)	1,100	TN	\$15.00	\$16,500.00
13	Import granular barrow (including compaction)	1,200	TN	\$20.00	\$24,000.00
14	Import untreated base course (including compaction)	400	TN	\$25.00	\$10,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$323,700.00
16	Contingency	25%			\$80,925.00
17	Design Engineering and Survey	10%			\$32,370.00
18	Construction Management and Staking	10%			\$32,370.00
	Total Construction Project (Items 1-18)				\$469,365.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206
Salt Lake City, Utah
Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project: **300 E & 1975 N -
1825 N to 150 E**
Owner: **Centerville City**

Estimated by: BWN

Checked by: KLC

Sheet No.
1 of 1

Project No.
49 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Materials & Install 8" PVC C900 (including tracer wire, disinfect, and pressure test)	1,700	LF	\$50.00	\$85,000.00
2	Materials & Install 8" fittings (includes tees, bends, and thrust blocks)	8	EA	\$600.00	\$4,800.00
3	Materials & Install 8" valves	4	EA	\$1,400.00	\$5,600.00
4	Materials & Tie-in to existing line (includes sleeves and reducers)	4	EA	\$1,700.00	\$6,800.00
5	Materials & Remove and replace fire hydrant (includes valve and trust blocks)	6	EA	\$4,000.00	\$24,000.00
6	Materials & Install 3/4" saddle & laterel, remove & replace meter and meter pit	34	EA	\$1,800.00	\$61,200.00
7	Remove or decommission old line	1	LS	\$5,000.00	\$5,000.00
8	Pothole existing utility	1	LS	\$3,000.00	\$3,000.00
9	Remove and replace concrete (including saw-cutting)	1	LS	\$20,000.00	\$20,000.00
10	Pulverize and haul away asphalt (including saw-cutting)	200	CY	\$20.00	\$4,000.00
11	Excavate and haul away native material	1,100	CY	\$20.00	\$22,000.00
12	Import sand bedding (including compaction)	1,100	TN	\$15.00	\$16,500.00
13	Import granular barrow (including compaction)	1,200	TN	\$20.00	\$24,000.00
14	Import untreated base course (including compaction)	400	TN	\$25.00	\$10,000.00
15	Mobilization, Traffic Control, and Restore landscaping	1	LS	\$30,000.00	\$30,000.00
	Subtotal (Items 1-15)				\$321,900.00
16	Contingency	25%			\$80,475.00
17	Design Engineering and Survey	10%			\$32,190.00
18	Construction Management and Staking	10%			\$32,190.00
	Total Construction Project (Items 1-18)				\$466,755.00

**ESI Engineering, Inc.**

3500 South Main, Suite 206
Salt Lake City, Utah
Phone (801) 263-1752

Consulting Engineers & Land Surveyors

Project:

100 South Reservoir

Owner:

**Replacement
Centerville City**

Sheet No.

1 of 1

Estimated by:

CDP

11/1/2020

Project No.

Checked by:

KLC

50 - ###

Conceptual Estimate

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Excavation for tank and valve building	7,500	CY	\$3.00	\$22,500.00
2	Backfill tank and valve building	4,500	CY	\$2.50	\$11,250.00
3	Tank - reinforced concrete	1	LS	\$750,000.00	\$750,000.00
4	Tank piping	1	LS	\$27,000.00	\$27,000.00
5	Valve building	1	LS	\$80,000.00	\$80,000.00
6	Valve building piping	1	LS	\$22,000.00	\$22,000.00
7	Transmission line	525	FT	\$65.00	\$34,125.00
8	Drain line	1,050	FT	\$75.00	\$78,750.00
9	Drainage structures	10	EA	\$4,500.00	\$45,000.00
10	Curb and gutter	600	FT	\$35.00	\$21,000.00
11	Concrete drive approach	600	SF	\$12.00	\$7,200.00
12	Roadbase - Access Road	300	TN	\$35.00	\$10,500.00
13	Asphalt - Access Road	150	TN	\$90.00	\$13,500.00
14	Retaining wall	150	FT	\$150.00	\$22,500.00
15	Chain link fence and gate	1	LS	\$18,000.00	\$18,000.00
16	Landscape, slope stability, and irrigation	1	LS	\$37,500.00	\$37,500.00
17	Power connection and building electrical	1	LS	\$22,500.00	\$22,500.00
18	Erosion control - during construction	1	LS	\$7,500.00	\$7,500.00
19	Utility Relocation	1	LS	\$50,000.00	\$50,000.00
20	Site BMP's	1	LS	\$30,000.00	\$30,000.00
21	Mobilization	1	LS	\$55,000.00	\$55,000.00
	Subtotal (Items 1-21)				\$1,365,825.00
22	Contingency	25%			\$341,456.25
23	Design Engineering and Survey	10%			\$136,582.50
24	Construction Management and Staking	10%			\$136,582.50
	Total Construction Project (1-24)				\$1,980,446.25

Sizes and Quantity's of Water Meters				
Meter Sheet date Aug 4th 2021				
Size	Quantity	Quantity Billed Million	Non Bill City Account	Quantity Billed Million
3/4"	4,521	29.975	9	0.018
1"	288	6.756	9	0.118
1.5"	76	3.154	2	0.009
2"	38	4.301	5	0.098
3"	8	0.73	0	0
4"	3	1.888	0	0
Totals	4,934	46.804	25	0.243

Current Rates

Meter Size	Base Rate	\$1.14 per 1,000 gallons	\$1.56 per 1,000 gallons	\$2.04 per 1,000 gallons
3/4"	\$26.86	0-5,000	5,000- 10,000	Above 10,000
1"	\$60.90	0-10,000	10,000- 20,000	Above 20,000
1 1/2"	\$140.32	0-30,000	30,000- 60,000	Above 60,000
2"	\$231.09	0-50,000	50,000- 100,000	Above 100,000
3"	\$514.74	0-110,000	110,000- 220,000	Above 220,000
4"	\$1,422.42	0-310,000	310,000- 620,000	Above 620,000

FY22 Budgeted Revenue	\$	2,800,000	FY22 Capital Project Budget	\$447,659
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Increase: 30%

Meter Size	Base Rate	\$1.48 per 1,000 gallons	\$2.03 per 1,000 gallons	\$2.65 per 1,000 gallons
3/4"	\$34.92	0-5,000	5,000- 10,000	Above 10,000
1"	\$79.17	0-10,000	10,000- 20,000	Above 20,000
1 1/2"	\$182.42	0-30,000	30,000- 60,000	Above 60,000
2"	\$300.42	0-50,000	50,000- 100,000	Above 100,000
3"	\$669.16	0-110,000	110,000- 220,000	Above 220,000
4"	\$1,849.15	0-310,000	310,000- 620,000	Above 620,000

FY22 Budgeted Water Sales Revenue	\$	2,800,000	FY22 Capital Project Budget	\$	447,659
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Increase in Revenue	\$	840,000		\$	840,000
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Total Revenue		\$ 3,640,000	Potential Budget		\$ 1,287,659
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Current Rates

Meter Size	Base Rate	\$1.14 per 1,000 gallons	\$1.56 per 1,000 gallons	\$2.04 per 1,000 gallons
3/4"	\$26.86	0-5,000	5,000- 10,000	Above 10,000
1"	\$60.90	0-10,000	10,000- 20,000	Above 20,000
1 1/2"	\$140.32	0-30,000	30,000- 60,000	Above 60,000
2"	\$231.09	0-50,000	50,000- 100,000	Above 100,000
3"	\$514.74	0-110,000	110,000- 220,000	Above 220,000
4"	\$1,422.42	0-310,000	310,000- 620,000	Above 620,000

FY22 Budgeted Revenue	\$	2,800,000	FY22 Capital Project Budget	\$447,659
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Increase: 35%

Meter Size	Base Rate	\$1.54 per 1,000 gallons	\$2.11 per 1,000 gallons	\$2.75 per 1,000 gallons
3/4"	\$36.26	0-5,000	5,000- 10,000	Above 10,000
1"	\$82.22	0-10,000	10,000- 20,000	Above 20,000
1 1/2"	\$189.43	0-30,000	30,000- 60,000	Above 60,000
2"	\$311.97	0-50,000	50,000- 100,000	Above 100,000
3"	\$694.90	0-110,000	110,000- 220,000	Above 220,000
4"	\$1,920.27	0-310,000	310,000- 620,000	Above 620,000

FY22 Budgeted Water Sales Revenue	\$	2,800,000	FY22 Capital Project Budget	\$ 447,659
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Increase in Revenue	\$	980,000		\$ 980,000
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Total Revenue	<u><u>\$ 3,780,000</u></u>	Potential Budget	<u><u>\$ 1,427,659</u></u>
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CENTERVILLE

Staff Backup Report 2/15/2022

Item No. 2.

Short Title: Spring Cleanup

Initiated By: Mike Carlson, Public Works Director

Staff Representative: Mike Carlson, Public Works Director

SUBJECT

Review and discuss 2022 Spring Cleanup plan and dumpsite options

RECOMMENDATION

Staff recommends a single dumpsite at the west parking lot of Community Park

BACKGROUND

Cost of a one site clean-up is approximately \$10,000 compared to cost of curbside pickup approximately \$60,000. Placing any sort of waste directly into the gutter is illegal as it's a stormwater conveyance channel. Park strip placement is legal, but hard to contain and usually overflows into gutter

Utah DEQ highly discourages curbside cleanup

Residents are now accustomed to a one site cleanup

Scope of Work:

Arranging for fencing at the park

Staff scheduling

Parking lot sweeping

Green waste removal

ATTACHMENTS:

Description

- ▣ Proposed Cleanup Dates & Times
- ▣ Drainage Utility Supervisor Report and Recommendation
- ▣ DEQ Letter - Curbside Green Waste Collection

Cleanup Dates & Times

Proposed dumpsite dates:

March 26 concluding April 2

Hours:

Saturday, March 26th: 9:00 AM to 7:00 PM

Sunday, March 27th: Closed

Monday, March 28th: 4:00 PM to 7:00 PM

Tuesday, March 29th: 4:00 PM to 7:00 PM

Wednesday, March 30th: 4:00 PM to 7:00 PM

Thursday, March 31st: 4:00 PM to 7:00 PM

Friday, April 1st: 4:00 PM to 7:00 PM

Saturday, April 2nd: 9:00 AM to 7:00 PM

Brant,

After our conversation about spring clean-up on Monday, February 7, I called and spoke with Jeanne Riley, the manager of the Municipal Storm Water Division of the DEQ for the State of Utah. I spoke to her about the council's desire to bring back curbside spring cleanup. She told me that any sort of curbside cleanup was highly discouraged by the state. Placing any sort of waste directly into the gutter is illegal as it is a stormwater conveyance channel. I asked about placing items in the park strip and Jeanne told me that this practice is highly discouraged by the DEQ, but technically is a legal practice. Jeanne also stressed that if we choose to go this route that we **MUST ENFORCE** our ordinances pertaining to placing items in the gutter. Enforcement would include citations for those placing items in the gutter. This is something we must do to comply with our escalating enforcement practices required by our UPDES MS4 permit. Jeanne offered to write a letter to city officials discouraging a curbside pickup and said she would email it to me by the end of the week.

I must stress that I do not have the time to write citations and deal with conflicts that strictly enforcing our ordinances would likely require. Assistance would be needed from another department able to write such citations. This would require actively writing tickets during the weeks leading up to and during the week of the clean-up. In years past, we have seen people put their trimmings in the parkstrip, curb and gutter a month or more prior to the curbside pick-up.

I reached out to a tree removal company to get some rough estimates of doing a curbside cleanup vs a single dumpsite. After discussions with this company, I estimate that a curbside spring clean-up would cost approximately \$60,000. My estimation for a single dumpsite spring clean-up, including temporary fences, staff wages, parking lot sweeping, and green waste removal is \$10,000.

City staff **STRONGLY** recommends continued use of a single dumpsite at the west parking lot of Community Park, the same location as last year. The State is aware of curbside cleanups, and as stated above, is very much against this practice. Being charged with the tutelage of the city's stormwater program, I am uncomfortable allowing people to leave potential contaminants on the parkstrip. Even if done legally, we are toeing the line and will undoubtedly have residents who do not follow the rules who **MUST** be dealt with according to the statutes of the city and state. After eliminating our curbside clean up and switching to a dump site, it doesn't make sense to revert back to our old, more expensive and borderline illegal practice of curbside spring clean-up. I have not received a single complaint from residents about having a single dumpsite, only high praise and many "thank you's".

Thanks,

Cameron Woodbury



State of Utah

SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Kimberly D. Shelley
Executive Director

DIVISION OF WATER QUALITY
Erica Brown Gaddis, PhD
Director

February 14, 2022

VIA EMAIL
READ RECEIPT REQUESTED

Cameron Woodbury
Drainage Utility Supervisor
Centerville City Corporation
655 North 12450 West
Centerville, UT 84014

Subject: Centerville City Curbside Green Waste Collection

Dear Mr. Woodbury:

Thank you for informing the Division of Water Quality (DWQ) that Centerville City is considering a return to curbside green waste collection. DWQ understands that Centerville's curbside green waste collection would consist of residents placing un-containerized green bulk waste materials in the street gutters for pick up by the Centerville City Department of Public Works. DWQ has reviewed Centerville City Ordinance section 16.04.040(d) which specifically allows for this practice. DWQ understands that curbside green waste collection occurred in 2018, but that in 2019 and 2020, green waste collection was conducted at a centralized city park location. This letter was requested by the City to outline permit requirements related to the practice of curbside green waste collection and the potential water quality impacts associated with the practice.

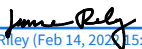
Centerville City holds Utah Pollutant Discharge Elimination System (UPDES) Permit No. UTR090009 which is regulated under the General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) Permit. As such, Centerville City is required to develop, implement, and enforce a Storm Water Management Plan (SWMP) designed to reduce the discharge of pollutants to the Maximum Extent Practicable from the MS4, protect water quality, and satisfy the appropriate water quality requirements of the Utah Water Quality Act. An MS4 is a system of conveyances that is owned by a public entity that discharges to waters of the state that is designed or used to collect or convey stormwater including curb and gutter, storm drains, pipes, ditches, swales, ponds, basins, etc.

MS4 Permit Part 4.2.3, *Illicit Discharge Detection and Elimination (IDDE)*, requires Centerville City to prohibit, through ordinance or other regulatory mechanism, non-storm water discharges to the MS4, including spills, illicit connections, illegal dumping, and sanitary sewer overflows into the storm sewer system and to cease such non-stormwater discharges when discovered. MS4 Permit Part 4.2.6, *Pollution Prevention and Good Housekeeping for Municipal Operations*, requires Centerville City to implement a program of standard operating procedures, pollution prevention Best Management Practices (BMPs), storm water pollution prevention plans or similar type of documents and a training component that have the ultimate goal of preventing or reducing the discharge of pollutants to the MS4 and waters of the state. MS4 Permit Part 3.2, *Nitrogen and Phosphorous Reduction*, requires Centerville to address the reduction in water quality impacts associated with nitrogen and phosphorous in discharges from the MS4.

The placement of organic materials (bulk green waste) into street gutters which are MS4 stormwater conveyance structures, may result in materials coming into contact with and polluting stormwater as well as, the transport of organic matter via the storm drain system to waters of the state. Increasing inputs of organic matter can lead to higher nutrient (nitrogen and phosphorous) loads discharged to the receiving water, which can lead to dissolved oxygen deficits. Centerville City's MS4 permit requires that the City's SWMP include BMPs to reduce the addition of pollutants including organic matter to the MS4 and that the City's ordinance explicitly prohibit non-stormwater inputs to the MS4.

If you have any questions concerning this letter or permit requirements do not hesitate to contact me at (801) 536-4369 or jriley@utah.gov.

Sincerely,


Jeanne Riley (Feb 14, 2022 15:02 MST)

Jeanne Riley
DWQ General Permitting Manager

JR:cjh

Cc: Via Email
Leanna Littler-Woolf, DWQ MS4 Program Coordinator

DWQ-2022-002599