

INTRODUCTION

The purpose of an Impact Fee Facilities Plan (IFFP) is to identify public facilities that are needed to accommodate development, and to determine which projects may be funded with impact fees. Utah law requires that an IFFP is prepared prior to an impact fee analysis and the establishment of an impact fee. According to Title 11, Chapter 36a-302 of the Utah Code, the IFFP is required to identify the following:

- The existing level of service
- A proposed level of service
- Any excess capacity to accommodate future growth at the proposed level of service
- The demands placed on existing public facilities by new development
- A proposed means by which the local political subdivision will meet those demands
- A general consideration of all potential revenue sources to finance the impacts on system improvements

This analysis incorporates the information provided in the Weber County Unincorporated Sewer Master Plan (SMP) for the West Weber County area, as prepared by CRS Engineers in 2013 and updated to the end of 2016. The SMP is included with this IFFP as Appendix A and provides existing sewer information for Weber County, and identifies upcoming demands on the existing sewer facilities. Based on future demands, the SMP recommends sewer pipe additions to accommodate existing homes and future growth without reducing levels of service of the sewer infrastructure.

This IFFP focuses on the improvements that are projected to be needed over the next ten years. Utah law requires that any impact fees collected for those improvements be spent within six years of being collected. Only capital improvements are included in this plan; all other maintenance and operation costs are assumed to be covered through Weber County General Fund as tax revenues increase because of additional development.

EXISTING LEVEL OF SERVICE (11-36A-302.1. A.I)

Per the Impact Fee Act, level of service (LOS) is defined as “the defined performance standard or unit of demand for each capital component of a public facility within a service area.” The LOS of the sewer system is determined by Utah Administrative Code R317-3-2, topography and location of the study area and the fact that this area is largely undeveloped, design flows are assumed to be at 400 gallons per day (GPD) per equivalent residential unit (ERU). Lastly, to determine the final flow to size sewer pipes, a peaking factor must be applied. Central Weber Sewer Improvement District has determined that a peaking factor of “2” is a reliable value for designing sewer trunk lines within the study area. Sizing of sewer pipes are based upon 800 GPD/ERU, given the peaking factor.

The SMP used as a basis of design of 800 GPD per ERU that incorporated minimum Utah State requirements for pipe sizing and pipe slope required by R317-3-2.3(D)(4). All piping and lift stations are designed for the build out demand of the study area for practical reasons.

The SMP designates four primary classifications of sewer infrastructure, including lift stations, eight-inch sewer pipe, twelve-inch sewer pipe, and fifteen-inch sewer pipe. Each classification has an assumed construction cost. A unit cost for each lift station and linear foot costs for the varying pipe sizes.

PROPOSED LEVEL OF SERVICE (11-36A-302.1. A.II)

All proposed projects identified in this document are based upon maintaining the existing level of service as outline above.

EXCESS CAPACITY TO ACCOMMODATE FUTURE GROWTH AT THE PROPOSED LEVEL OF SERVICE

An important element of the IFFP is the determination of excess capacity of the existing sewer infrastructure. Excess capacity is defined as the amount of available capacity in any given sewer pipe to operate within the LOS. Existing sewer pipes, owned and operated by Weber County currently service 166 ERU's and include pipes: 16.12, 21.13, 28.02, 28.03, 28.04, 28.09, 28.10, 28.11, 28.17, 28.19, 28.23, 29.04, and 29.06. These pipe description numbers coincide with Exhibit-1 of the SMP. Of the listed sewer pipes the following are planned to receive additional connections and have available capacity to accept the additional flow while maintaining the required LOS. These sewer pipes include: 16.12, 28.02, 28.17, and 29.06, see Table 1 and were constructed using funding from Weber County. This IFFP has excluded these segments in the cost analysis for consideration in the impact fee calculation.

Table 1: Existing Pipes with Excess Capacity

Pipe Number*	Location	Pipe Size	Year Installed	Installation Cost	Existing ERU's servicing	Existing ERU Capacity	Excess ERU Capacity %	ERU's serviced within	
								10 Year	Beyond 10 Year ERU
16.12	West along 900 South from 4100 West	12"	2002	\$59,884	43	1364	96.8%	207	1,157
28.02	East along 1800 South from 4300 West	12"	2005	\$219,880	20	1294	98.5%	236	1,058
28.17	East of Allen Road at 2200 South	8"	2005	\$14,738	6	74	91.9%	0	74
29.06	East along 2200 South from 4950 West	15"	2009	\$254,537	58	123	52.8%	0	123
*These pipe numbers coincide with EXHIBIT-1 of the SMP									

THE DEMANDS PLACED ON EXISTING PUBLIC FACILITIES BY NEW DEVELOPMENT

To meet the requirements of the Utah Impact Fee law, to “identify demands placed upon existing public facilities by new development activity at the proposed LOS” and to identify the means by which the political subdivision or private entity will meet those growth demands”, the following steps were completed:

1. Existing Demand – The sewer demand at the present time was estimated using Zoning, GPD/capita, 2010 census data, and peaking factor.
2. Existing Capacity – The capacity of the current sewer pipes was estimated using the determined LOS.
3. Existing Deficiencies – No existing deficiencies are currently known.
4. Future Demand – The future demand on the sewer pipes was identified by new developments working with the county to be built within the next 10 years.
5. Future Deficiencies – No future deficiencies are known, if zoning is densified in the study area additional calculations will be required.
6. Recommended Improvements – Based on existing terrain elevations and lift station locations, recommendations of were proposed sewer mains were made within the SMP.

These steps were the basis for the SMP.

Many homes currently existing within Unincorporated Weber County are using septic systems to handle their waste water. As development of the sewer infrastructure expands throughout the area impact fees will be collected from these homeowners as they will be required to connect their sewer to the new sewer pipes.

A PROPOSED MEANS BY WHICH THE LOCAL POLITICAL SUBDIVISION WILL MEET THOSE DEMANDS

10-Year Improvement Plan

The sewer pipes required to meet the demand of the Unincorporated Weber County area to be built are outlined in the SMP and presented in two categories, to be installed within 10 years and 11+ for installation. The 10 year pipes will be installed at various times from the present through 2025. Table 2 shows the pipes that are forecasted for construction in the next ten years with an approx. year to be constructed. This table includes all of the projects regardless of their eligibility of impact fee expenditure. The portion of the project, which is impact fee eligible is indicated in the *Weber County %* and the *Weber County Total* columns. These pipes can be found on Exhibit-1 of the SMP. A total of 1,219 ERU's will be able to be serviced by the sewer pipes outlined in Table 2 but a total of 8,187 ERU's will be utilizing these pipes after buildout of the study area. A growth/buildout projection of the study area showing current ERU's to be serviced by existing infrastructure, 10 year ERU's to serviced and an assumed 30-year buildout ERU graph is shown on Figure 1. Figure 2 shows the actual estimated ERU's to be utilizing the sewer infrastructure as it is built.

Table 2: Impact Fee Facilities Plan

ERU's Serviced and Project Cost												
*Pipe Number	Location	Pipe Size	Total Cost	Estimated Year of Construction	ERU's serviced in 10 years	ERU's serviced after Buildout	% of Pipe for 10 year demand	Funding Source	Weber County %	Developer %	**Weber County Total	Developer Total
9.08	North along 3600 West at 200 South	15"	\$1,051,336	2020	99	2,266	4.4%	W.C.	100%	0%	\$1,051,336	\$0
9.09	Branches west off of 9.08	12"	\$275,825	2021	52	52	100.0%	Developer	0%	100%	\$0	\$275,825
9.10	Branches east off of 9.08	12"	\$211,097	2021	72	72	100.0%	Developer	0%	100%	\$0	\$211,097
16.11	West along 900 South from 16.12	12"	\$232,496	2018	59	1,730	3.4%	W.C.	100%	0%	\$232,496	\$0
20.01	West along 900 South from 16.11	12"	\$570,632	2019	105	1,671	6.3%	W.C.	100%	0%	\$570,632	\$0
21.02	Branches south off of 20.01	12"	\$257,822	2022	40	40	100.0%	Developer	0%	100%	\$0	\$257,822
27.11	East of 3500 West at 2350 South	12"	\$450,391	2024	131	131	100.0%	Developer	0%	100%	\$0	\$450,391
28.05	South of 1800 South at 3950 West	8"	\$359,367	2018	116	116	100.0%	Developer	0%	100%	\$0	\$359,367
28.06	South of 1800 South at 3850 West	12"	\$457,235	2019	100	100	100.0%	W.C./Dev.	50%	50%	\$228,618	\$228,618
28.07	East of 4300 West at 1950 South	8"	\$201,541	2020	38	38	100.0%	Developer	0%	100%	\$0	\$201,541
28.08	East of 4300 West at 2175 South	8"	\$140,339	2020	39	39	100.0%	Developer	0%	100%	\$0	\$140,339
28.22	South along 4300 West at 2200 South	12"	\$339,732	2019	105	1,794	5.9%	W.C.	100%	0%	\$339,732	\$0
29.08	South of 2200 South at 4800 West	12"	\$390,840	2023	53	53	100.0%	W.C.	100%	0%	\$390,840	\$0
29.14	East of 5100 West at 2550 South	12"	\$518,839	2021	210	210	100.0%	W.C./Dev.	50%	50%	\$259,420	\$259,420
*These pipe numbers coincide with EXHIBIT-1 of the SMP										TOTALS:	\$3,073,073	\$2,384,419
**Table 3 divides the Weber County Total between existing users, 10 year ERU's, and Beyond 10 year ERU's												

Table 3: Weber County Total Cost Divided by Existing ERU's, 10 Year ERU's, and beyond 10 Year ERU's

Pipe Number*	Weber County Total cost for Pipe Construction	Cost Benefiting ERU		
		Existing ERU	10 Year ERU	Beyond 10 Year ERU
9.08	\$1,051,336	\$10,562	\$43,567	\$997,207
16.11	\$232,496	\$260	\$7,659	\$224,577
20.01	\$570,632	\$2,240	\$33,604	\$534,787
28.06	\$228,618	\$0	\$114,309	\$114,309
28.22	\$339,732	\$0	\$18,785	\$320,947
29.08	\$390,840	\$10,757	\$190,041	\$190,041
29.14	\$259,420	\$0	\$129,710	\$129,710

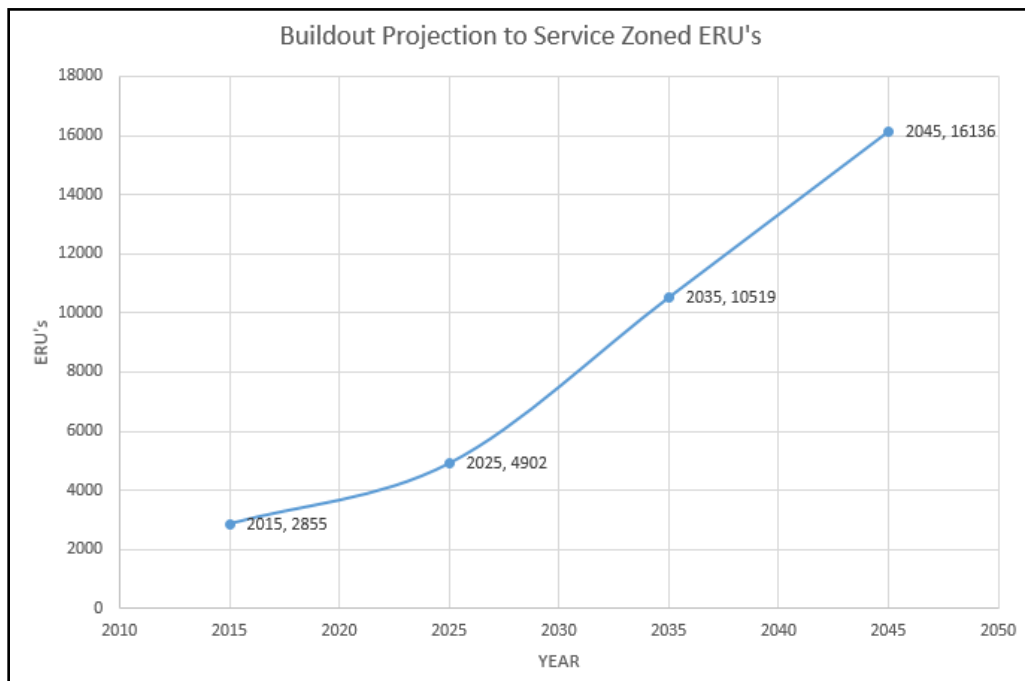


Figure 1: Buildout of ERU's to be Serviced by Sewer Infrastructure

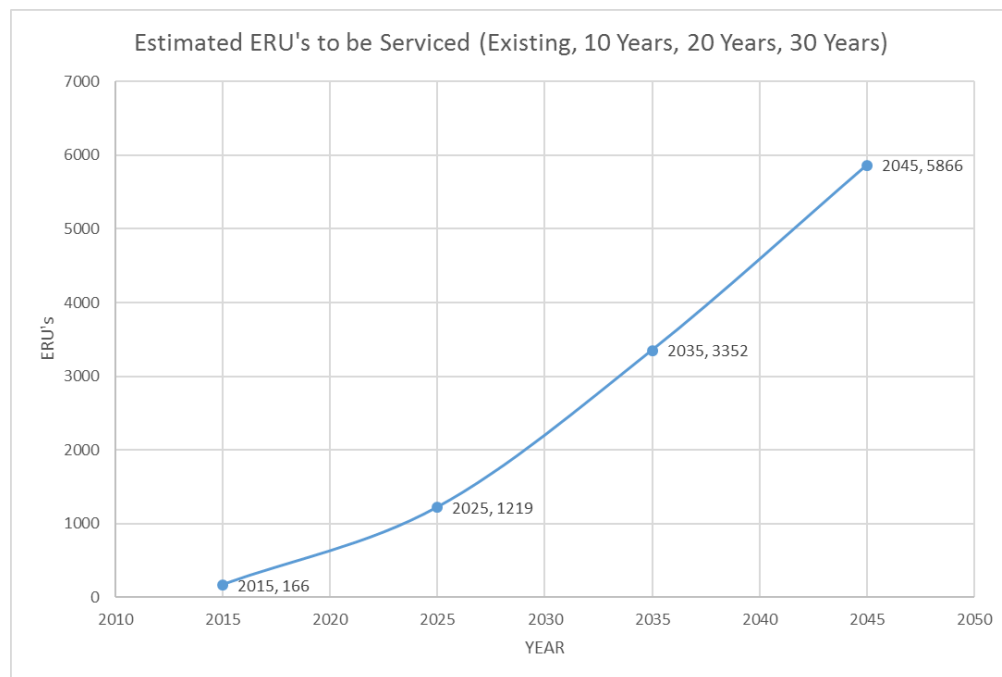


Figure 2: Estimated ERU's to be Serviced by Sewer Infrastructure

ALL REVENUE SOURCES TO FINANCE IMPACTS

Projects considered in this report do not have any funding other than general tax funds from the County.

1. General fund revenues are typically reserved for operation and maintenance purposes as they relate to sewer. However, general funds could be used if available to fund the expansion or introduction of specific services. Weber County currently uses their funding for their sewer improvements.
2. Developer dedications and exactions can both be credited against the developer's impact fee analysis. If the value of the developer dedications and/or exactions are less than the developer's impact fee liability, the developer will owe the balance of the liability to the County. If the dedications and/or exactions of the developer are greater than the impact fee liability, the County must reimburse the developer the difference.
3. Impact fees are a way for a community to obtain funds to assist in the construction of infrastructure improvements resulting from and needed to serve new growth. The premise behind impact fees is that if no new development occurred, the existing infrastructure would be adequate. Therefore, new developments should pay for the portion of required improvements that result from new growth. Impact fees are assessed for many types of infrastructures and facilities that are provided by a community, such as sewer facilities. According to state law, impact fees can only be used to fund growth related system improvements.

NECESSITY OF IMPROVEMENTS TO MAINTAIN LEVEL OF SERVICE

According to State statute, impact fees must only be used to fund projects that will serve needs caused by future development. They are not to be used to address present deficiencies. Only projects that address future needs are included in this IFFP. This ensures a fair fee since developers will not be expected to address present deficiencies.

Impact Fee Certification (11-36a-306)

According to state law, this report has been prepared in accordance with Utah Code Title 11 Chapter 36 titled "Impact Fees Act". This report relies upon the planning, engineering, land use, and other source data provided by the County and their designees and all results and projections are founded upon this information.

In accordance with Utah Code Annotate, 11-36a-306(1), CRS Engineers, certifies that this impact fee facilities plan:

1. Includes only the cost of public facilities are:
 - a. Allowed under the Impact Fees Act; and
 - b. Actually incurred; or
 - c. Are projected to be incurred or encumbered within six years of the day on which each impact fee is paid;
2. Does not include:
 - a. Costs of operation and maintenance of public facilities

- b. Cost of qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service supported by existing residents;
 - c. An expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement; and
3. Complies in each and every relevant respect with the Impact Fees Act
- This certification is made with the following limitations:
- 1. All of the recommendations for implementing this IFFP of IFA are followed in their entirety by the County.
 - 2. If any portion of the IFFP is modified or amended in any way, this certification is no longer valid.
 - 3. All information presented and used in the creation of this IFFP is assumed to be complete and correct, including any information received from the County or other outside sources.

Signed: 

Dated: April 27, 2018

Appendix A: WEBER COUNTY Unincorporated Sewer Master Plan



WEBER COUNTY

Unincorporated Sewer Master Plan

December 23, 2013

Updated: December 2016



Prepared By:
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APPENDICES

Appendix A – Sewer Master Plan Exhibits

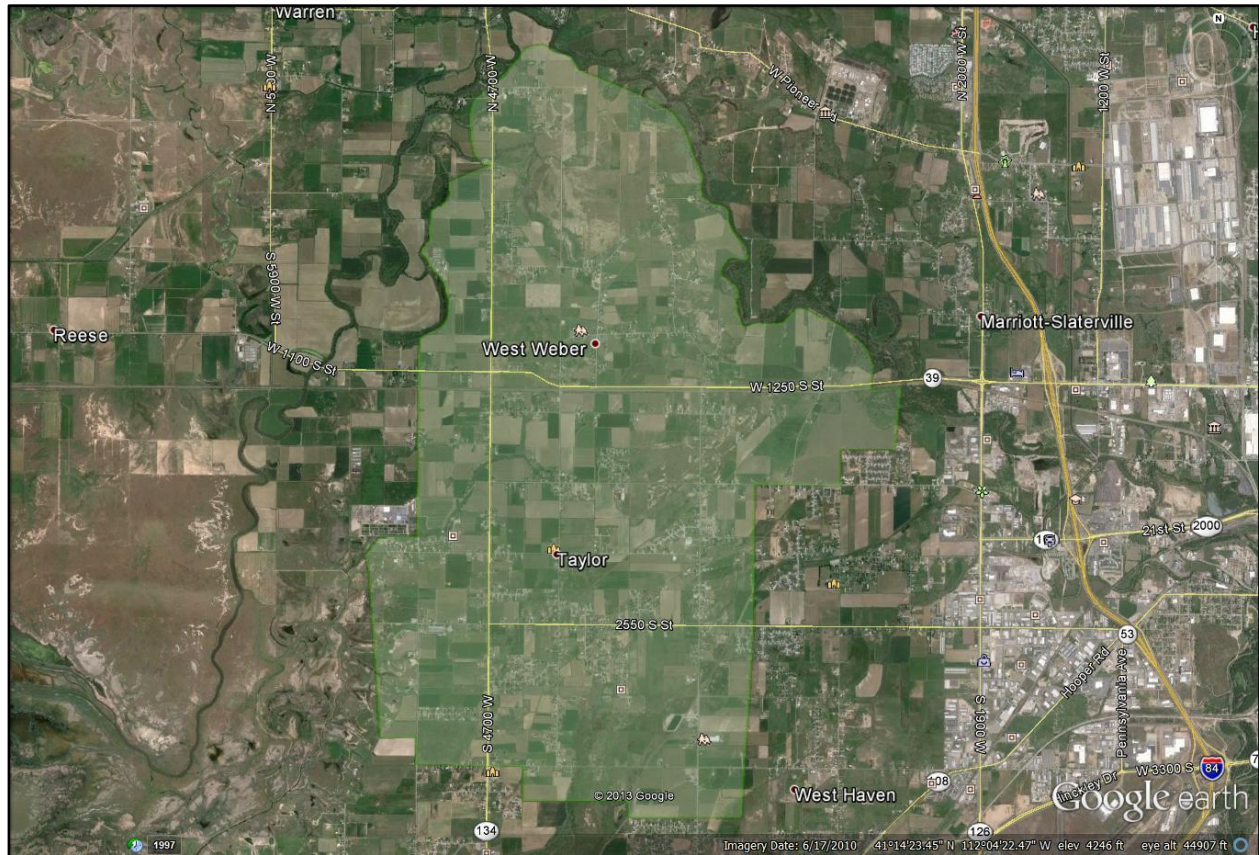
Appendix B – Sewer Master Plan Cost Estimate Table

Appendix C – Proposed Sewer Pipe Linear Foot Cost Estimates

1.0 INTRODUCTION

With the increase in development demand, Weber County desires to have a sanitary sewer master plan for the area, which is generally described in Figure 1:

Figure 1: Unincorporated Weber County Area of Sewer Master Plan

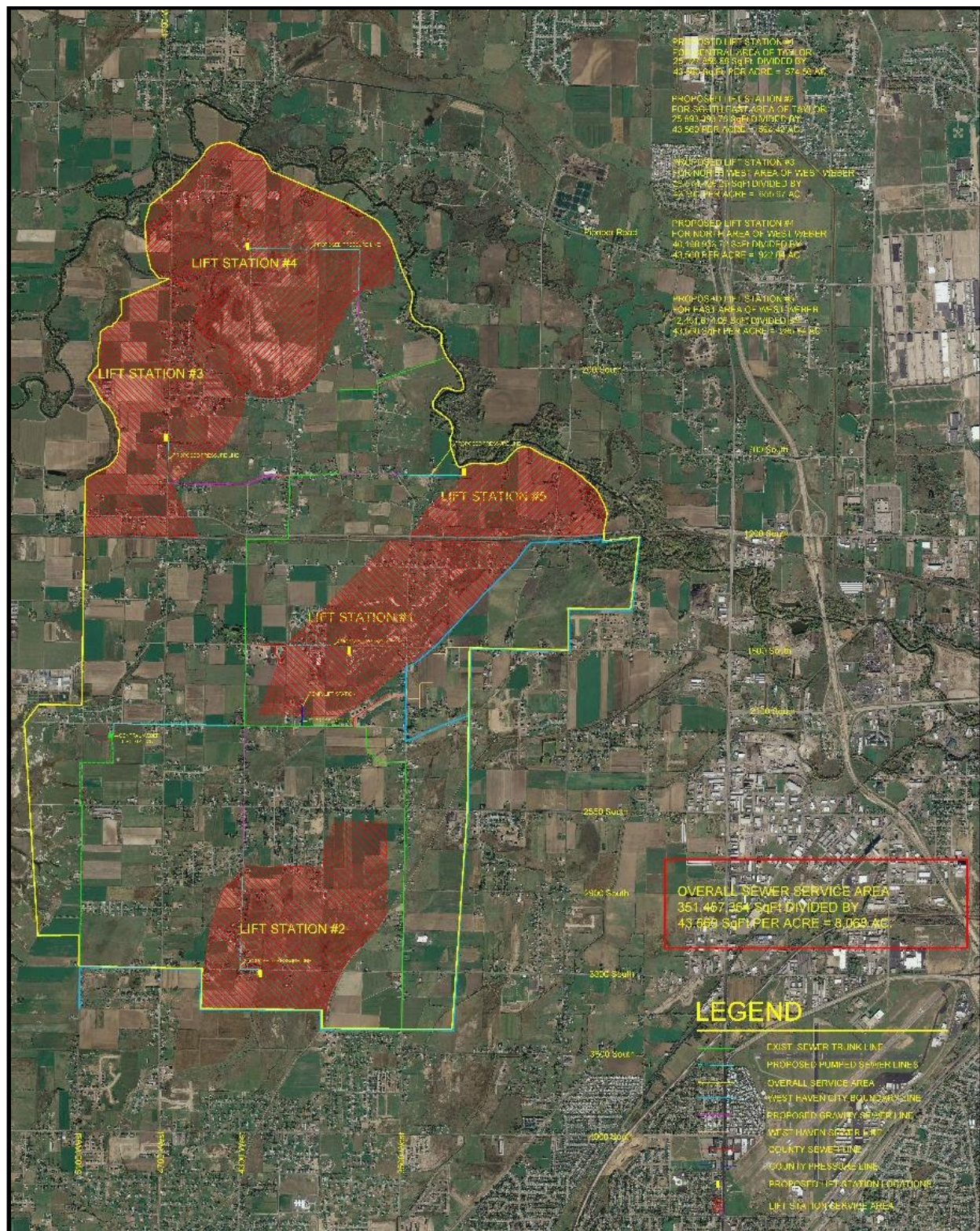


This area presently has no defined plan to provide sewer service to many of the existing homes as well as undeveloped areas within its boundaries. This document is prepared to present the design parameters used to layout and size sanitary sewer trunklines for the area.

The objective of this master plan is to provide a basis for determining the Sanitary Sewer Impact Fee charges to facilitate construction of sewer systems able to service the area.

Weber County supplied CRS Consulting Engineers with a proposed layout for the unincorporated area which included proposed locations for future lift stations, Figure 2. As CRS Engineers developed the sewer master plan layout for the area, the Weber County proposed lift station locations were determined as reasonable locations to service the area.

Figure 2: Weber County Supplied Proposed Lift Station Locations



2.0 EXISTING CONDITIONS

In existence, are some existing sanitary sewer trunk lines, mainlines, and lift stations. These existing facilities were accounted for and used where possible to extend new sanitary sewer service to areas presently not served.

2.1 Existing Sanitary Sewer Collection Systems

Within the study area, Central Weber Sewer Improvement District (CWSID) owns and maintains approximately 43,883 feet of 15-48 inch sewer trunkline. Lance Wood, engineer for CWSID, indicates sewer lines were installed in 2002 and operational in 2003. West Haven owns approximately 7,293 feet of 8-15 inch sewer lines and Weber County owns and maintains 10,784 feet of 8-15 inch sewer lines within the area.

2.2 Existing Sanitary Sewer Lift Stations

Two existing lift stations are owned and operated by CWSID, referred to as the “north lift station” and “south lift station” (NLS and SLS). CWSID has indicated that both the NLS and SLS were constructed in 2002.

The north lift station (NLS), located at 3050 West 200 South, is the final gravity collection point prior to the CWSID treatment facility. This lift station handles wastewater from the Unincorporated Weber County area, Hooper and the southwest area of West Haven. The NLS presently pumps approximately 3 million gallons per day (MGD) with a capacity of 10 MGD.

The south lift station (SLS), located at 4940 West 2200 South, is the collection point for some of the southwest corner of the unincorporated Weber County area, the southwest area of West Haven as well as all of Hooper. The SLS presently pumps approximately 1.65 MGD with a capacity of 5 MGD.

2.3 Existing Sanitary Sewer Connections

Weber County indicated that 166 residential connections exist within the master plan area.

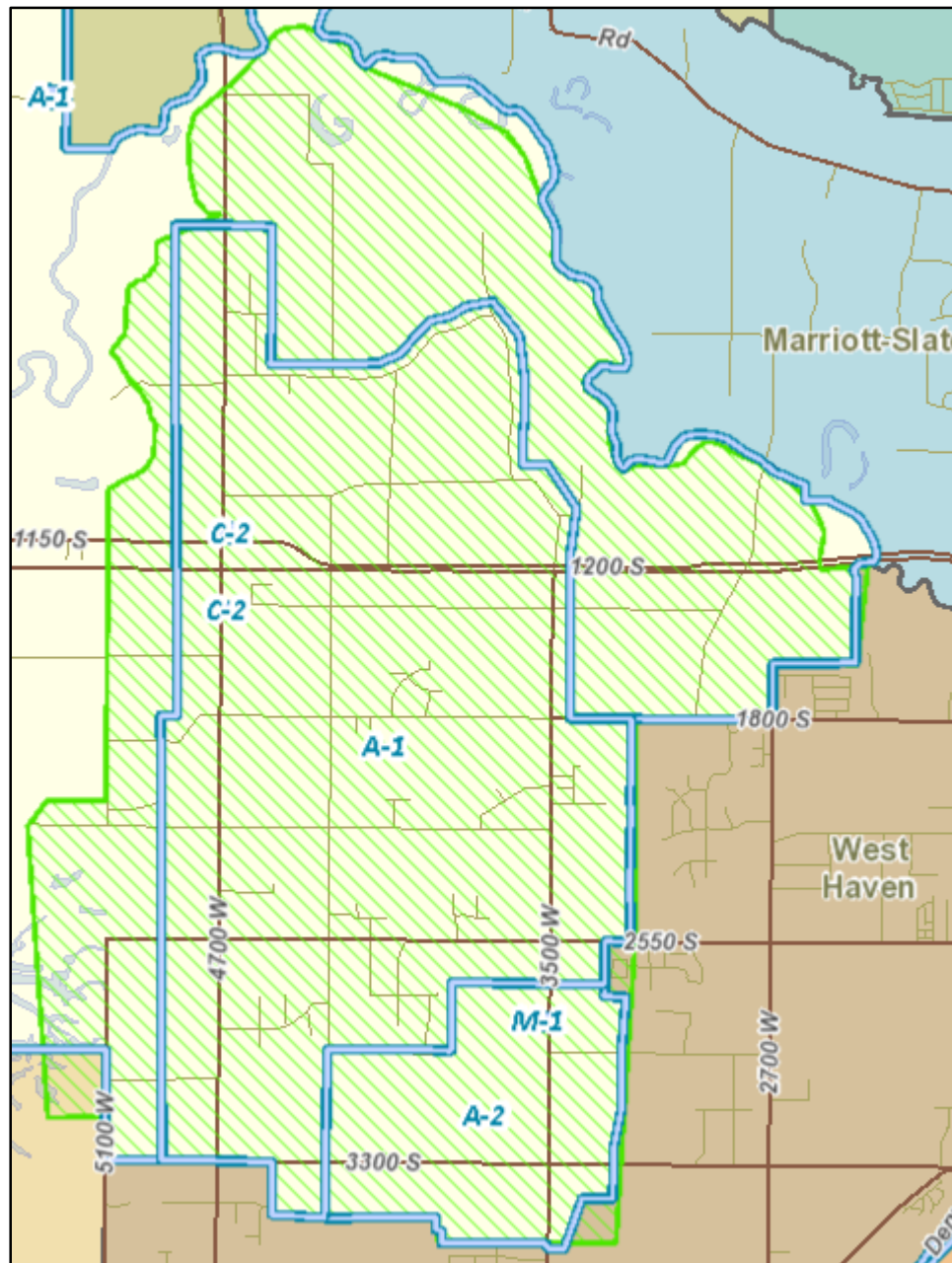
2.4 Existing Land Use

The zoning for the master plan area consist of a combination of “A-1” and “A-2” Agricultural Zoning, which limits density to 1 unit per acre. With development and open space allowances, some areas within the A-1 and A-2 will allow for 1.5 units per acre with a 50% bonus. This SMP applied a density of 2 units per acre for conservancy and potential zoning changes in the future.

There are two small areas that are zoned “C-2” Commercial and “M-1” Manufacturing, shown in Figure 5 and 6.

The Land Use Zoning is shown in Figure 3.

Figure 3: Study Area Zoning



3.0 PLANNING AND DESIGN PARAMETERS

The location, sizing of trunklines, positioning of future lift stations, and depth of sewer trunklines are determined by the following parameters.

3.1 Base Mapping for Design

The 7.5 minute USGS (United States Geological Survey) Quad maps from 1998 and 1999 were used to determine horizontal layout for new sanitary sewer trunklines and ground elevations from which the master plan was prepared. Given the general nature of the Master Plan, specific layouts and elevations must be verified by more accurate ground measuring methods prior to construction of any line.

3.2 Future Land Use Density

The master plan area is assumed to have a net density of 2 units per acre. The total area based upon Weber County calculations is 8,068 acres. The total number of residential units at build-out of the study area is 16,136 units.

3.3 Design Flow per Residential Unit

Utah Administrative Code R317-3-2 requires that new sewer systems shall be designed on the basis of an annual average daily rate of flow of 100 gallons per capita per day. The 2010 census states that average household size is 3.10 people per household. Given these parameters the master plan was designed by anticipating 400 gallons per day (GPD) per unit or otherwise known as an equivalent residential unit (ERU) be used to derive sewer flow demand for sizing trunklines.

3.4 Peaking Factor

Central Weber Sewer Improvement District has determined that a peaking factor of “2” is a reliable value for designing sewer trunklines within the study area. Given the peaking factor, 400 GPD/ERU is recognized as 800 GDP/ERU for the sizing of sewer pipes for this SMP.

3.5 Pipe Size and Minimum Slope

Utah Administrative Code R317-3-2.3(D)(4) requires specific minimum pipe size at certain flat slopes. The criteria is that the pipe convey flows at a velocity of 2 feet per second. For example, an 8 Inch sewer main cannot be laid at a slope flatter than 0.334%, 12 inch sewer mains must be laid no flatter than 0.194% and 15 inch sewer must be laid no flatter than 0.144%.

3.6 Depth of Bury

The SMP assumed a minimum bury depth for a sewer main in this area to be 7 feet. This depth is not meant to be a construction constraint, groundwater conditions and lift station depth will dictate minimum depth of sewer pipes up to a 3 feet minimum. Actual sewer pipe bury will be approved by Weber County on a case by case basis.

4.0 MASTER PLAN CONCEPTUAL DESIGN

4.1 Built-out Capacity

Total flow produced in the sewer master plan build out is 12.9 MGD. This flow is quantified by the full build out the study area totaling 16,136 units producing 800 gallons per day (GPD) per ERU.

4.2 Sewer Master Plan Exhibit

The sewer master plan pipe labeling is shown in Appendix A, Exhibit-1. The sewer master plan has been produced to highlight all proposed sewer trunklines for the study area. The master plan also indicates existing sewer trucklines as varying colored lines within Exhibit-1. All sewer lines throughout the study area existing or proposed are shown in Exhibit-1 with pipe identification numbers (pipe ID#) numbers. The pipe ID# of sewer lines both existing and proposed were determined by using the section number for which the sewer pipe is currently located or proposed, followed by a decimal number to indicate the sewer pipe within the section. The decimal number was determined by where the sewer pipe fell in relation to the section from left to right and top to bottom.

4.3 Proposed Lift Stations

The master plan study area land surface is flat with limited elevation changes. This meant for sewer trunklines to be buried at a depth of 7 feet and then to slope at a minimum sloping the depth of the trunkline increases substantially over the length of the study area. The need for lift stations in the future for the system to grow and service all ERU's was apparent. Weber County provided 5 proposed lift station locations to service the area. CRS with the use of contour map data confirmed the 5 proposed lift station locations to be sufficiently located with some minor adjustments to service the study area. The locations of the 5 proposed lift stations are shown in Appendix A, Exhibit-2. Exhibit-2 also includes the required invert depth, the areas served and volume to be experienced by each of the 5 lift stations.

4.4 Cost Estimate

Individual sewer trunkline pipe length cost estimates are shown in Appendix B. The length costs are based off sewer pipe linear foot cost break downs: 8", 12" and 15" pipe costs are shown in Appendix C. Industry standard costs are broken down into compiled linear foot (LF) costs. All trenching costs regardless of the pipe size was determined and applied to every proposed sewer line trench. The only varying costs are the various sewer pipes: 8" pipe @ \$13.10 per LF, 12" pipe @ \$15.70 per LF and 15" pipe @ \$18.70 per LF. Appendix C has the LF cost break down for each of pipe sizes including trenching cost.

APPENDIX A:

Sewer Master Plan Exhibits

EXHIBIT - 1

LEGEND

- SS --- PROPOSED GRAVITY LINES
- PROPOSED FORCED MAIN
- SS --- EXISTING GRAVITY LINE
- EXISTING FORCE MAIN
- SS --- EXISTING WEBER COUNTY SEWER
- SS --- EXISTING WEST HAVEN SEWER
- CONCEPTUAL SUBDIVISION
- POTENTIAL SUBDIVISIONS
- PROPOSED LIFT STATION
- EXISTING LIFT STATION

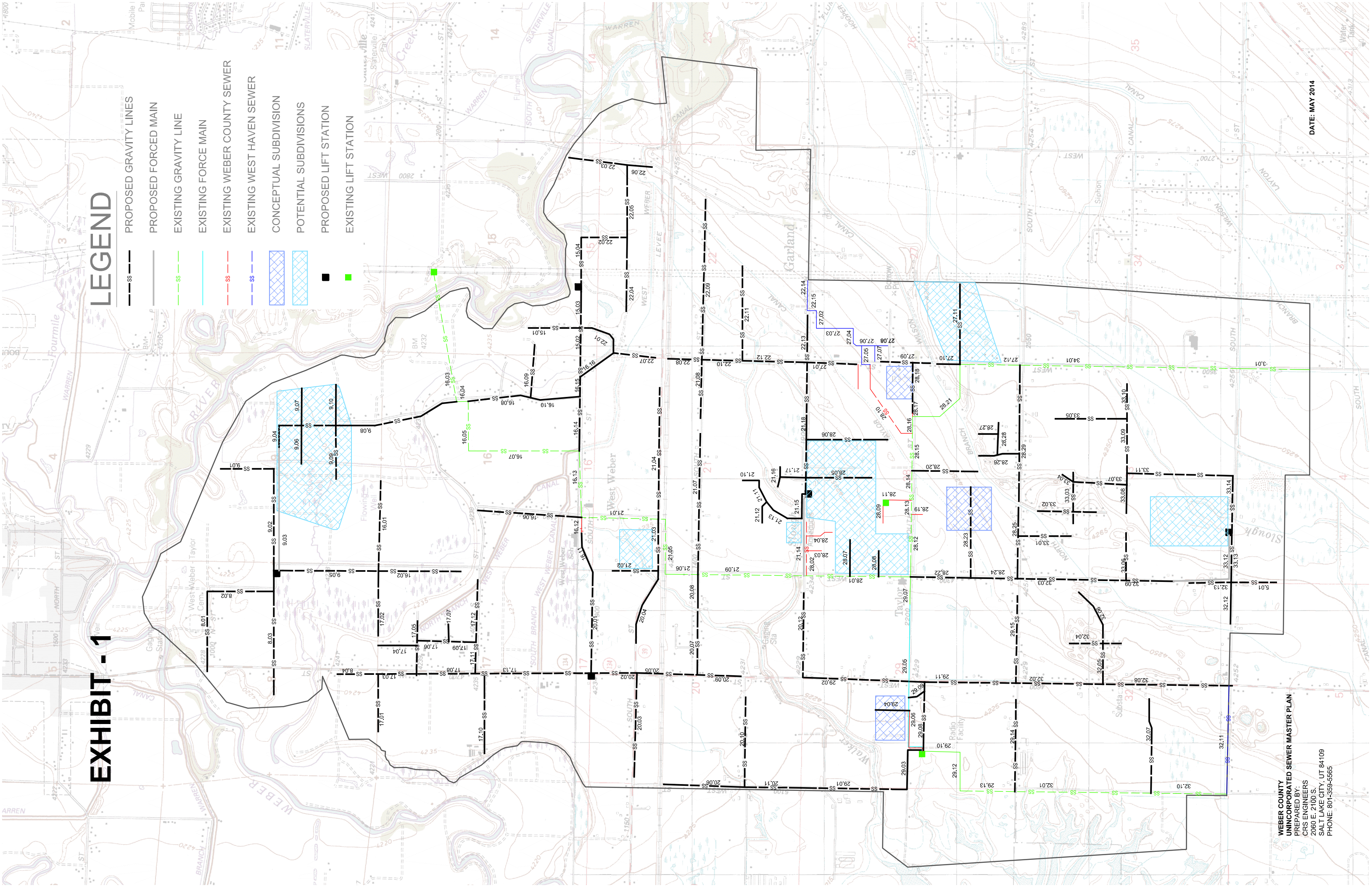
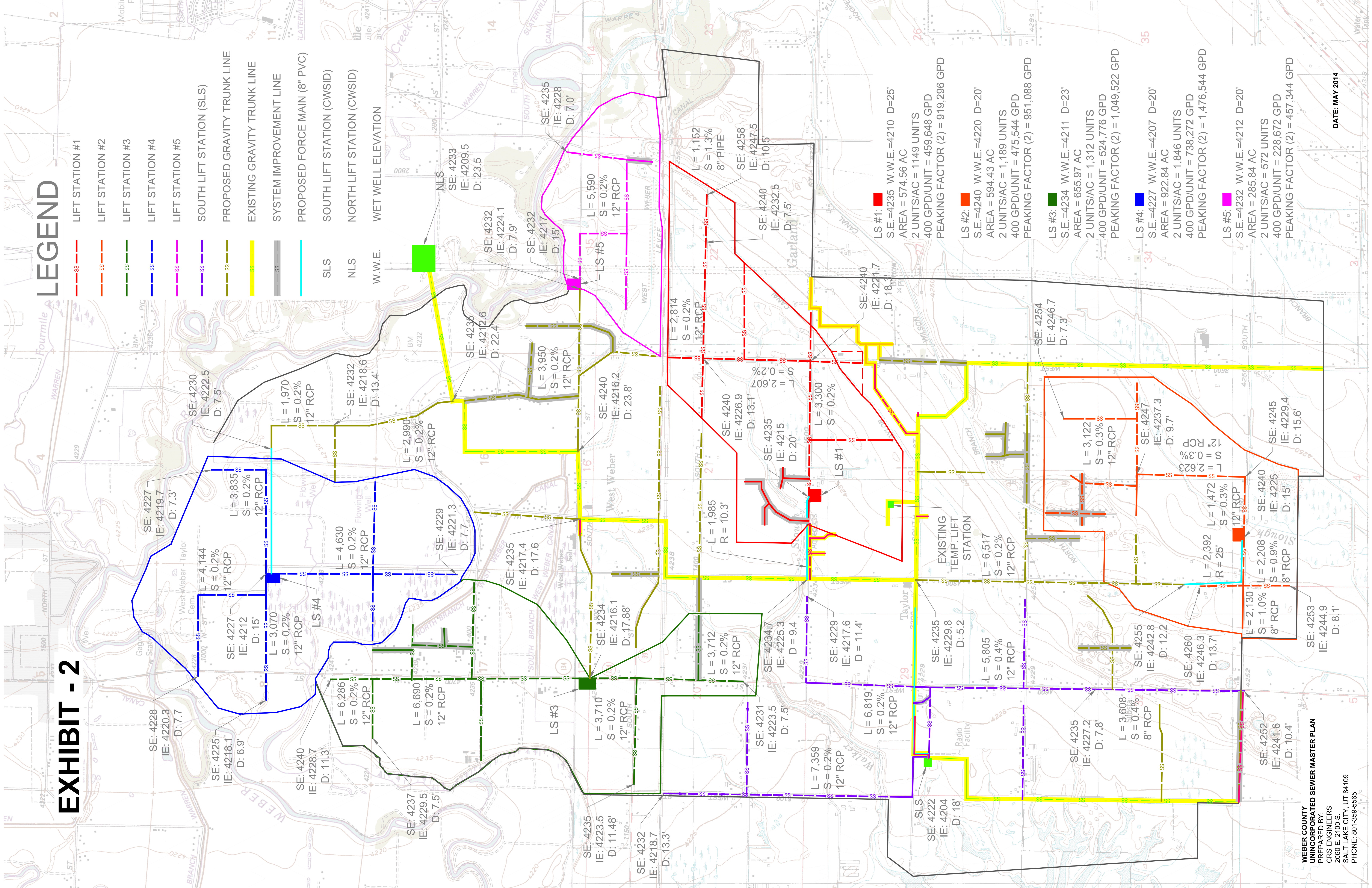


EXHIBIT - 2

LEGEND

- SS LIFT STATION #1
- SS LIFT STATION #2
- SS LIFT STATION #3
- SS LIFT STATION #4
- SS LIFT STATION #5
- SS SOUTH LIFT STATION (SLS)
- SS PROPOSED GRAVITY TRUNK LINE
- SS EXISTING GRAVITY TRUNK LINE
- SS SYSTEM IMPROVEMENT LINE
- SS PROPOSED FORCE MAIN (8" PVC)
- SLS SOUTH LIFT STATION (CWSID)
- NLS NORTH LIFT STATION (CWSID)
- W.W.E. WET WELL ELEVATION



WEBER COUNTY

UNINCORPORATED SEWER MASTER PLAN

PREPARED BY:

CRS ENGINEERS

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DATE: MAY 2014

APPENDIX B:

Sewer Master Plan Cost Estimate Table

Sanitary Sewer Pipe Identification with Probable Costs

Pipe ID.	Size	Length (FT)	Cost/LF	Total Cost	Priority (YRS)	ERU 10-Year	System	Project	Existing	Existing Owner**
8.01	12	1978	\$228.16	\$451,303	11+			\$451,303		
8.02	12	1650	\$228.16	\$376,466	11+		\$188,233.15	\$188,233		
8.03	12	3070	\$228.16	\$700,455	11+		\$525,342	\$175,114		
8.04	12	932	\$228.16	\$212,646	11+		\$106,323	\$106,323		
9.01	12	1314	\$228.16	\$299,804	11+		\$149,902	\$149,902		
9.02	12	2521	\$228.16	\$575,195	11+		\$575,195			
9.03	8	3021	\$224.18	\$677,259	11+		\$677,259			
9.04	12	572	\$228.16	\$130,508	11+		\$130,508			
9.05	12	2268	\$228.16	\$517,470	11+		\$517,470			
9.06	12	946	\$228.16	\$215,841	11+			\$215,841		
9.07	12	922	\$228.16	\$210,365	11+			\$210,365		
9.08a	15	3111	\$232.75	\$724,088	0-10	596	\$724,088			
9.08b	15	1406	\$232.75	\$327,248	0-10		\$327,248			
9.09	12	1321	\$228.16	\$301,401	0-10	52		\$301,401		
9.1	12	1011	\$228.16	\$230,671	0-10	72		\$230,671		
15.01	8	1292	\$224.18	\$289,646	11+		\$72,411	\$217,234		
15.02	12	1214	\$228.16	\$276,988	11+		\$276,988			
15.03	12	900	\$228.16	\$205,345	11+		\$205,345			
15.04	12	1111	\$228.16	\$253,487	11+		\$253,487			
16.01	12	2231	\$228.16	\$509,028	11+		\$254,514	\$254,514		
16.02	12	2038	\$228.16	\$464,993	11+		\$232,496	\$232,496		
16.03	48	3192	\$403.78	\$1,288,880					\$1,288,880	CW
16.04	48	287	\$403.78	\$115,886					\$115,886	CW
16.05	48	1222	\$403.78	\$493,425					\$493,425	CW
16.06a	12	1445	\$228.16	\$329,693	11+		\$329,693			
16.06b	12	1127	\$228.16	\$257,138	11+		\$257,138			
16.07	48	2745	\$403.78	\$1,108,388					\$1,108,388	CW
16.08	8	1558	\$224.18	\$349,278	11+		\$349,278			
16.09	8	1312	\$224.18	\$294,129	11+			\$294,129		
16.1	8	1235	\$224.18	\$276,867	11+		\$276,867			
16.11	12	1019	\$228.16	\$232,496	0-10	59	\$232,496			
16.12	12	397	\$228.16	\$90,580					\$90,580	WC
16.13	48	1645	\$403.78	\$664,225					\$664,225	CW
16.14	12	1349	\$228.16	\$307,790	11+		\$307,790			
16.15	12	486	\$228.16	\$110,886	11+		\$110,886			
16.16	12	1017	\$228.16	\$232,040	11+		\$232,040			
17.01	12	1425	\$228.16	\$325,130	11+			\$325,130		
17.02	12	1602	\$228.16	\$365,515	11+			\$365,515		
17.03	12	947	\$228.16	\$216,069	11+		\$216,069			
17.04	8	963	\$224.18	\$215,889	11+		\$215,889			
17.05	12	1308	\$228.16	\$298,435	11+		\$149,218	\$149,218		
17.06	8	785	\$224.18	\$175,984	11+		\$175,984			
17.07	8	427	\$224.18	\$95,727	11+			\$95,727		
17.08	12	1454	\$228.16	\$331,747	11+		\$331,747			
17.09	8	675	\$224.18	\$151,324	11+		\$151,324			
17.1	12	1974	\$228.16	\$450,391	11+		\$225,195	\$225,195		
17.11	12	777	\$228.16	\$177,281	11+		\$177,281			
17.12	12	1546	\$228.16	\$352,738	11+		\$352,738			
17.13	12	2873	\$228.16	\$655,508	11+		\$655,508			
20.01	12	2501	\$228.16	\$570,632	0-10	105	\$570,632			
20.02	12	1138	\$228.16	\$259,648	11+		\$259,648			

Sanitary Sewer Pipe Identification with Probable Costs

Pipe ID.	Size	Length (FT)	Cost/LF	Total Cost	Priority (YRS)	ERU-Pipe Capacity	System	Project	Existing	Existing Owner**
20.03	12	2574	\$228.16	\$587,287	11+		\$587,287			
20.04	12	1899	\$228.16	\$433,278	11+		\$216,639	\$216,639		
20.05	12	1495	\$228.16	\$341,101	11+		\$341,101			
20.06	12	2001	\$228.16	\$456,551	11+		\$228,275	\$228,275		
20.07	8	1561	\$224.18	\$349,951	11+		\$349,951			
20.08	8	817	\$224.18	\$183,158	11+		\$183,158			
20.09	12	2656	\$228.16	\$605,997	11+		\$605,997			
20.1	12	2209	\$228.16	\$504,009	11+		\$252,004	\$252,004		
20.11	12	1396	\$228.16	\$318,513	11+		\$318,513			
20.12	12	2089	\$228.16	\$476,629	11+		\$476,629			
21.01	48	2084	\$403.78	\$841,487					\$841,487	CW
21.02	12	1130	\$228.16	\$257,822	0-10	40		\$257,822		
21.03	12	1488	\$228.16	\$339,504	11+			\$339,504		
21.04a	12	1617	\$228.16	\$368,937	11+		\$184,468	\$184,468		
21.04b	12	1635	\$228.16	\$373,044	11+		\$186,522	\$186,522		
21.05	42	1361	\$359.57	\$489,379					\$489,379	CW
21.06	42	813	\$359.57	\$292,333					\$292,333	CW
21.07a	12	1793	\$228.16	\$409,093	11+		\$409,093			
21.07b	12	1700	\$228.16	\$387,874	11+		\$387,874			
21.08	12	1448	\$228.16	\$330,378	11+		\$330,378			
21.09	42	2656	\$359.57	\$955,025					\$955,025	CW
21.1	8	405	\$224.18	\$90,794	11+			\$90,794		
21.11	8	577	\$224.18	\$129,354	11+			\$129,354		
21.12	8	559	\$224.18	\$125,319	11+			\$125,319		
21.13	8	1111	\$224.18	\$249,068	11+		\$124,534	\$124,534		
21.14	8	1992	\$224.18	\$446,574	11+		\$446,574			
21.15	12	580	\$228.16	\$132,334	11+		\$132,334			
21.16	8	488	\$224.18	\$109,402	11+		\$109,402			
21.17	8	638	\$224.18	\$143,029	11+		\$143,029			
21.18a	12	1617	\$228.16	\$368,937	11+		\$368,937			
21.18b	12	1641	\$228.16	\$374,413	11+		\$374,413			
22.01	8	1137	\$224.18	\$254,897	11+		\$254,897			
22.02	12	1138	\$228.16	\$259,648	11+		\$259,648			
22.03	12	1451	\$228.16	\$331,062	11+			\$331,062		
22.04	12	1827	\$228.16	\$416,851	11+			\$416,851		
22.05	12	1795	\$228.16	\$409,550	11+		\$409,550			
22.06	8	615	\$224.18	\$137,873	11+		\$137,873			
22.07	12	1044	\$228.16	\$238,200	11+		\$238,200			
22.08	12	838	\$228.16	\$191,199	11+		\$191,199			
22.09	12	3966	\$228.16	\$904,888	11+		\$452,444	\$452,444		
22.1	12	1004	\$228.16	\$229,074	11+		\$229,074			
22.11	12	2339	\$228.16	\$533,670	11+			\$533,670		
22.12	12	1602	\$228.16	\$365,515	11+		\$365,515			
22.13	12	1164	\$228.16	\$265,580	11+			\$265,580		
22.14	12*	742	\$228.16	\$169,296					\$169,296	WH
22.15	12*	229	\$228.16	\$52,249					\$52,249	WH
27.01	12	1225	\$228.16	\$279,498	11+		\$139,749	\$139,749		
27.02	12*	439	\$228.16	\$100,163					\$100,163	WH
27.03	12*	913	\$228.16	\$208,311					\$208,311	WH
27.04	12*	601	\$228.16	\$137,125					\$137,125	WH
27.05	12*	681	\$228.16	\$155,378					\$155,378	WH
27.06	12*	324	\$228.16	\$73,924					\$73,924	WH
27.07	12*	388	\$228.16	\$88,527					\$88,527	WH

Pipe ID.	Size	Length (FT)	Cost/LF	Total Cost	Priority (YRS)	ERU-Pipe Capacity	System	Project	Existing	Existing Owner**
27.08	12*	324	\$228.16	\$73,924					\$73,924	WH
27.09	8	957	\$224.18	\$214,544	11+		\$214,544			
27.1	8	566	\$224.18	\$126,888	11+		\$63,444	\$63,444		
27.11	12	1974	\$228.16	\$450,391	0-10	131		\$450,391		
27.12	30	1490	\$287.98	\$429,086					\$429,086	CW
28.01	42	2623	\$359.57	\$943,159					\$943,159	CW
28.02	12*	1334	\$228.16	\$304,367					\$304,367	WC
28.03	12*	371	\$228.16	\$84,648					\$84,648	WC
28.04	12*	670	\$228.16	\$152,868					\$152,868	WC
28.05	8	1603	\$224.18	\$359,367	0-10	116		\$359,367		
28.06a	12	1002	\$228.16	\$228,618	0-10	101	\$114,309	\$114,309		
28.06b	12	1002	\$228.16	\$228,618	0-10		\$114,309	\$114,309		
28.07	8	899	\$224.18	\$201,541	0-10	38		\$201,541		
28.08	8	626	\$224.18	\$140,339	0-10	39		\$140,339		
28.09	8	576	\$224.18	\$129,130					\$129,130	WC
28.1	12	576	\$228.16	\$131,421					\$131,421	WC
28.11	2(FM)	2214	\$228.16	\$505,149					\$505,149	WC
28.12	30	1547	\$287.98	\$445,501					\$445,501	CW
28.13	30	351	\$287.98	\$101,080					\$101,080	CW
28.14	30	734	\$287.98	\$211,375					\$211,375	CW
28.15	30	927	\$287.98	\$266,955					\$266,955	CW
28.16	30	416	\$287.98	\$119,799					\$119,799	CW
28.17	8	91	\$224.18	\$20,401					\$20,401	WC
28.18	8	1243	\$228.16	\$283,605	11+			\$283,605		
28.19	8	276	\$228.16	\$62,973					\$62,973	WC
28.2	12	1624	\$228.16	\$370,534	11+			\$370,534		
28.21	30	2190	\$287.98	\$630,670					\$630,670	CW
28.22	12	1489	\$228.16	\$339,732	0-10	105	\$339,732			
28.23	12	2250	\$228.16	\$513,363					\$513,363	WC
28.24	12	1157	\$228.16	\$263,983	11+		\$263,983			
28.25	12	1763	\$228.16	\$402,249	11+		\$402,249			
28.26	8	1002	\$224.18	\$224,632	11+		\$112,316	\$112,316		
28.27	8	481	\$224.18	\$107,832	11+		\$53,916	\$53,916		
28.28	8	798	\$224.18	\$178,899	11+		\$89,449	\$89,449		
28.29	12	3366	\$228.16	\$767,991	11+		\$767,991			
29.01	12	2630	\$228.16	\$600,064	11+		\$600,064			
29.02a	12	1514	\$228.16	\$345,436	11+		\$345,436			
29.02b	12	1503	\$228.16	\$342,927	11+		\$342,927			
29.03	12	1365	\$228.16	\$311,440	11+		\$311,440			
29.04	8	835	\$224.18	\$187,194					\$187,194	WC
29.05	18	3979	\$239.86	\$954,421					\$954,421	CW
29.06	15	1345	\$232.75	\$313,050					\$313,050	WC
29.07	30	685	\$287.98	\$197,264					\$197,264	CW
29.08	12	1713	\$228.16	\$390,840	0-10	53	\$390,840			
29.09	8	432	\$224.18	\$96,847	11+		\$96,847			
29.1	36	892	\$319.64	\$285,123					\$285,123	CW
29.11a	12	782	\$228.16	\$178,422	11+		\$178,422			
29.11b	12	1481	\$228.16	\$337,907	11+		\$337,907			
29.12	36	959	\$319.64	\$306,539					\$306,539	CW
29.13	36	1359	\$319.64	\$434,397					\$434,397	CW
29.14a	12	1267	\$228.16	\$289,080	0-10	210	\$144,540	\$144,540		
29.14b	12	1007	\$228.16	\$229,759	0-10		\$114,879	\$114,879		
29.15	12	2159	\$228.16	\$492,600	11+		\$246,300	\$246,300		

Pipe ID.	Size	Length (FT)	Cost/LF	Total Cost	Priority (YRS)	ERU-Pipe Capacity	System	Project	Existing	Existing Owner**
32.01	30	3375	\$287.98	\$971,923					\$971,923	CW
32.02	12	2159	\$228.16	\$492,600	11+		\$492,600			
32.03	12	2652	\$228.16	\$605,084	11+		\$605,084			
32.04	8	1268	\$224.18	\$284,265	11+		\$142,133	\$142,133		
32.05	12	1010	\$228.16	\$230,443	11+		\$230,443			
32.06	12	1479	\$228.16	\$337,451	11+			\$337,451		
32.07	12	2346	\$228.16	\$535,267	11+			\$535,267		
32.08	12	3201	\$228.16	\$730,345	11+		\$730,345			
32.09	12	1175	\$228.16	\$268,090	11+		\$268,090			
32.1	24	1877	\$255.24	\$479,084					\$479,084	CW
32.11	15	2652	\$232.75	\$617,255					\$617,255	WH
32.12	12	1024	\$228.16	\$233,637	11+			\$233,637		
32.13	12	1038	\$228.16	\$236,832	11+		\$236,832			
33.01	8	1307	\$224.18	\$293,008	11+		\$146,504	\$146,504		
33.02	8	876	\$224.18	\$196,385	11+		\$196,385			
33.03	8	1256	\$224.18	\$281,575	11+		\$281,575			
33.04	12	320	\$228.16	\$73,012	11+			\$73,012		
33.05	12	1771	\$228.16	\$404,074	11+			\$404,074		
33.06	12	1175	\$228.16	\$268,090	11+			\$268,090		
33.07	12	1330	\$228.16	\$303,455	11+		\$303,455			
33.08	12	700	\$228.16	\$159,713	11+			\$159,713		
33.09	12	1635	\$228.16	\$373,044	11+		\$373,044			
33.1	12	860	\$228.16	\$196,219	11+			\$196,219		
33.11	12	2623	\$228.16	\$598,467	11+		\$598,467			
33.12	8	2340	\$224.18	\$524,590	11+		\$524,590			
33.13	12	1238	\$228.16	\$282,464	11+		\$282,464			
33.14	12	1402	\$228.16	\$319,882	11+		\$319,882			
34.01	30/15	5304	\$260.36	\$1,380,971					\$1,380,971	CW
3.01	15	1793	\$232.75	\$417,322					\$417,322	CW
5.01	12	1116	\$228.16	\$254,628	11+			\$254,628		

	ERU Capacity	System	Project	Existing
OVERALL TOTAL:		\$31,607,235	\$14,072,870	\$18,994,994
TOTAL (0-10 YRS):	1,717	3,073,074	2,429,570	
TOTAL (11+ YRS):		\$28,534,161	\$11,643,300	

* Pipe size not confirmed

** WC: Weber County

** WH: West Haven

** CW: Central Weber Sewer Improvement District

APPENDIX C:

Proposed Sewer Pipe Linear Foot Cost Estimates

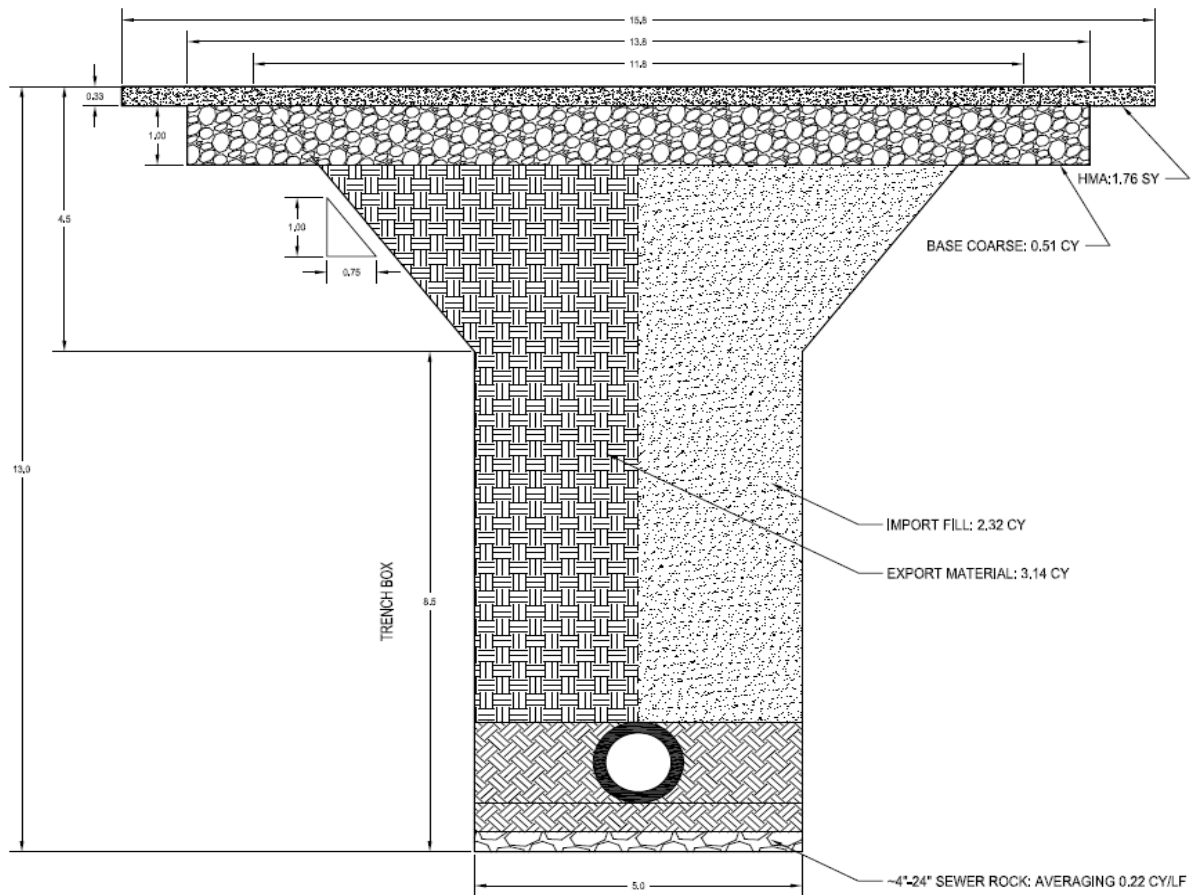
Trench Details-8"RCP

Average Depth: 13 Feet

LF Volume: 3.14 Cubic Yds

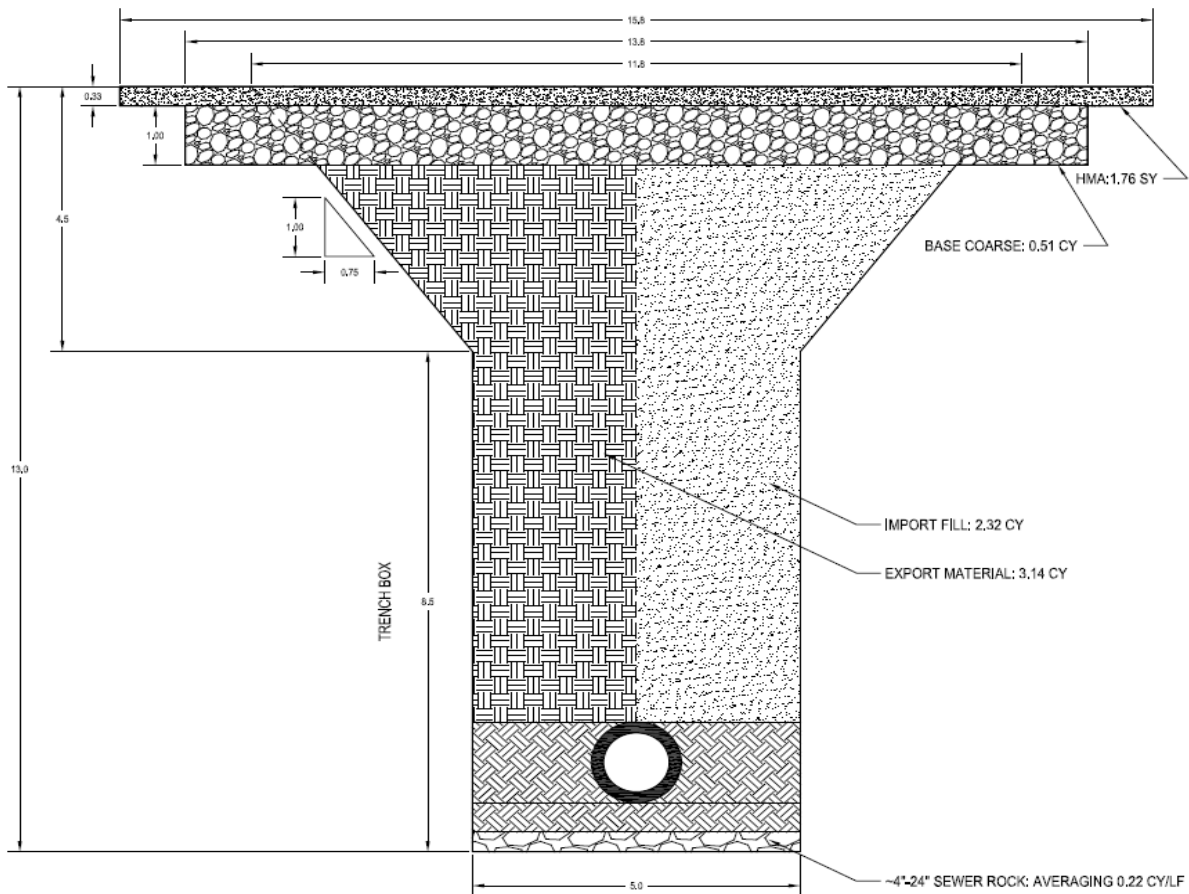
Cost Estimate

Date Used	Item Description	Qty	Unit	Unit Price/LF
2/27/2013	MOBILIZATION AND PERMITS	1	LS/LF	\$ 8.30
2/27/2013	TRAFFIC CONTROL & FLAGGING	1	LS/LF	\$ 4.20
2/27/2013	SAW CUT, REMOVE AND DISPOSE OF EXISTING ASPHALT	1	LF	\$ 1.50
11/1/2012	REMOVE AND DISPOSE OF EXCAVATED MATERIAL	3.14	CY/LF	\$ 25.12
10/22/2013	Trench Box 10Hx16L (\$1,575/Month)(Assume 150' laid/day)	1	LF	\$ 0.033
10/22/2013	8" RCP	1.0000	LF	\$ 13.10
27/2/2013	BEDDING SAND	0.1	CY/LF	\$ 0.82
11/28/2011	GRANULAR BORROW	2.32	CY/LF	\$ 37.12
11/1/2012	5' DIA. CONCRETE MANHOLE ON 6'X6' CONCRETE BASE	0.0025	LF	\$ 21.25
11/28/2011	UNTREATED BASE COURSE	0.51	CY/LF	\$ 15.30
27/2/2013	ASPHALT ROAD (3")	1.76	SY/LF	\$ 19.80
SubtotalTotal/LF:				\$ 146.54
Contingency (20%)				\$ 29.31
TOTAL/LF:				\$ 175.85



Average Depth: 13 Feet
LF Volume: 3.14 Cubic Yds

Date Used	Item Description	Qty	Unit	Unit Price/LF
2/27/2013	MOBILIZATION AND PERMITS	1	LS/LF	\$ 8.30
2/27/2013	TRAFFIC CONTROL & FLAGGING	1	LS/LF	\$ 4.20
2/27/2013	SAW CUT, REMOVE AND DISPOSE OF EXISTING ASPHALT	1	LF	\$ 1.50
11/1/2012	REMOVE AND DISPOSE OF EXCAVATED MATERIAL	3.14	CY/LF	\$ 25.12
10/22/2013	Trench Box 10Hx16L (\$1,575/Month)(Assume 150' laid/day)	1	LF	\$ 0.033
10/22/2013	12" RCP	1.0000	LF	\$ 15.70
27/2/2013	BEDDING SAND	0.1	CY/LF	\$ 0.82
11/28/2011	GRANULAR BORROW	2.32	CY/LF	\$ 37.12
11/1/2012	5' DIA. CONCRETE MANHOLE ON 6'X6' CONCRETE BASE	0.0025	LF	\$ 21.25
11/28/2011	UNTREATED BASE COURSE	0.51	CY/LF	\$ 15.30
27/2/2013	ASPHALT ROAD (3")	1.76	SY/LF	\$ 19.80
		SubtotalTotal/LF:		\$ 149.14
		Contingency (20%)		\$ 29.83
		TOTAL/LF:		\$ 178.97



Trench Details-15"RCP

Average Depth: 13 Feet

LF Volume: 3.14 Cubic Yds

Cost Estimate

Date Used	Item Description	Qty	Unit	Unit Price/LF
2/27/2013	MOBILIZATION AND PERMITS	1	LS/LF	\$ 8.30
2/27/2013	TRAFFIC CONTROL & FLAGGING	1	LS/LF	\$ 4.20
2/27/2013	SAW CUT, REMOVE AND DISPOSE OF EXISTING ASPHALT	1	LF	\$ 1.50
11/1/2012	REMOVE AND DISPOSE OF EXCAVATED MATERIAL	3.14	CY/LF	\$ 25.12
10/22/2013	Trench Box 10Hx16L (\$1,575/Month)(Assume 150' laid/day)	1	LF	\$ 0.033
10/22/2013	15" RCP	1.0000	LF	\$ 18.70
27/2/2013	BEDDING SAND	0.1	CY/LF	\$ 0.82
11/28/2011	GRANULAR BORROW	2.32	CY/LF	\$ 37.12
11/1/2012	5' DIA. CONCRETE MANHOLE ON 6'X6' CONCRETE BASE	0.0025	LF	\$ 21.25
11/28/2011	UNTREATED BASE COURSE	0.51	CY/LF	\$ 15.30
27/2/2013	ASPHALT ROAD (3")	1.76	SY/LF	\$ 19.80
Subtotal				Total/LF: \$ 152.14
Contingency (20%)				\$ 30.43
TOTAL/LF:				\$ 182.57

