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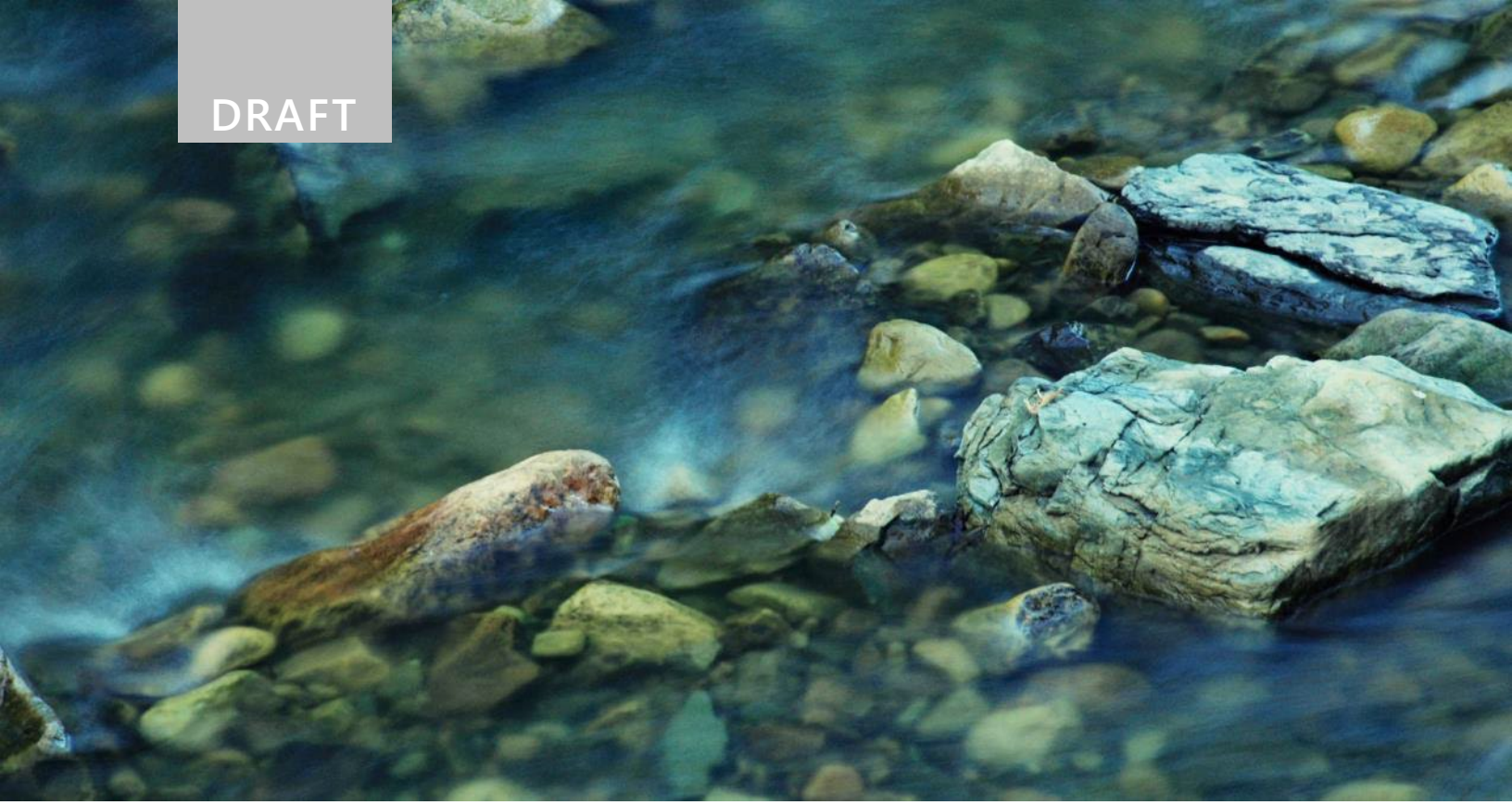

May 2023
Septic to Sewer Conversion Program Phase 1 Preliminary Engineering

ANCHOR QEA

Septic to Sewer Conversion Program – Phase 1 Overview and Summary

Prepared for
Three Lakes Water and Sanitation District

May 2023
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1 Introduction

Three Lakes Water & Sanitation District (TLWSD, the District) has requested Anchor QEA to deliver a program to prioritize the decommissioning of 600 to 700 existing septic tanks and Individual Sewage Disposal Systems (ISDS) and their subsequent connection to the existing sewage collection system. This program summary document reports on the first steps of the Septic to Sewer Conversion Program (SSCP). Phase 1 preliminary efforts include the following tasks:

- Develop a database to identify and characterize the existing septic tanks throughout the District
- Prioritize the conversion of septic tanks and connection to TLWSD facilities
- Develop a conceptual design for sanitary sewer service to the West of Downtown focus area
- Prepare a cost estimate for the design and construction of the West of Downtown wastewater handling improvements
- Develop the SSCP for eleven focus areas, including the overall program schedule and individual project costs

1.1 Project Background

TLWSD boundaries include one of the largest service areas in Colorado, which is also contiguous with a significant portion of Grand County. Historically, the District has discouraged new septic systems, however, as development has occurred in the service area over the years, septic tanks have been installed where District connection costs were perceived to be too high. Over time, the combination of increased tourism pressure on aging septic infrastructure that is adjacent to pristine groundwater and surface water is now causing negative environmental effects. When TLWSD projects future growth within the service area over the next several decades, there is a clear and urgent need to implement a Septic to Sewer Conversion Program to protect Three Lakes and the Colorado River headwaters.

Anchor QEA has created a phased approach to develop the SSCP. This is done by planning the engineering and construction of a series of improvement projects over the span of multiple decades. Such an approach is needed, to provide the District adequate time to acquire the required funding and to allow the District to manage construction to ensure limited disruption to the surrounding tourism-based economy. This will also allow the District to manage projects at a size and pace that fits better with their remote location and short construction season.

Given that this SSPC process is intended to span multiple decades, it is important to clarify the limits of Phase 1 efforts, and what overall program planning still requires development and refinement. The ancillary costs associated with connecting each focus area to the existing collection system, the downstream hydraulic impacts to the collection system, and associated effects on the existing wastewater treatment facilities are not reported in this summary document. However, these issues are integral parts of the SSCP, and the time/cost impacts of these additional issues should be developed and understood as soon as possible. These issues will have parallel timing requirements to what is presented here, and need to be clarified as the District develops the SSCP. To that end, Anchor QEA strongly recommends that the District develops a hydraulic analysis of the wastewater collection system that shows the effects of adding new flows from the focus areas. These downstream impacts should be addressed at the same time as the corresponding focus areas are connected to the system to avoid downstream hydraulic capacity problems.

1.2 Focus Area Development

TLWSD has identified eleven focus areas (see Figure 1), each of which were initially identified as target areas for a multispectral survey. The main goal of the survey was to identify aging or otherwise deteriorating septic tanks, or currently operating ISDS with infrared imaging. The results from this survey were intended for use by the District and Anchor QEA as system failure evidence in the Phase 1 assessment of existing septic tanks. In addition to the survey, Anchor QEA attempted to acquire individual Grand County permit records for septic tanks that the District was interested in connecting to the existing collection system. Unfortunately, the results of the multispectral survey did not provide useful information, and the effort to acquire individual septic tank permits was unsuccessful.

That said, Anchor QEA found value in using the focus areas as the main organizational unit for the SSCP. Each of the focus areas demonstrate the following characteristics:

- continuing development potential,
- contain operating septic tanks, and
- generally lack a point of connection to District facilities.

Each of these are important factors to consider when prioritizing the individual projects of the SSCP. Furthermore, the focus areas are adjacent to pristine waters, and may have issues related to aging or otherwise deteriorating septic tanks, posing various levels of environmental threat. Therefore, the focus areas concept is well suited to guide the phased approach to the SSCP. As the program was developed, it was found that project sizes could be optimized by attempting to connect a focus area, or strategic pairings of smaller focus areas to the existing collection system as individual construction projects.

1.3 Program Summary Document Overview

The SSCP develops the engineering and construction needs required to design and construct infrastructure to deliver sanitary sewer service to the eleven focus areas. Section 1 presented a brief project background and discussion on the development of the focus areas. Section 2 discusses the first and second preliminary tasks of Phase 1, which are to develop a prioritization framework database, and to objectively rank the eleven focus areas based on fifteen evaluation criteria. Section 3 presents and discusses the third and fourth preliminary tasks of Phase 1 which are to develop a conceptual design to bring sewer service and connection to District facilities to all parcels within the West of Downtown focus area, and to prepare a project cost estimate for the final design and construction of the proposed wastewater handling improvements. Section 4 presents and discusses the final preliminary task of phase 1, which is to develop a cost estimate, and schedule for the entire SSCP. The cost estimate for the West of Downtown focus area was unitized, based on the number of unconnected parcels within the focus area, and applied to the other ten focus areas to provide the District with a planning cost estimate for the entire SSCP. A conceptual construction schedule is also presented, which is divided into 7 phases, each of which provide the construction timeline and associated costs for connecting a focus area, or group of focus areas to the existing sewage collection system. Section 5 provides a summary of efforts completed relative to Phase 1 and discusses the next steps for advancing the development of the SSCP.

2 Prioritization Framework Database Development

The first and second preliminary tasks of Phase 1 of the SSCP were to develop a prioritization framework which was then used to rank the eleven focus areas relative to each other. The prioritization framework is presented as a database which is being used to record pertinent information and compare the eleven identified focus areas, or the parcels and subdivisions within a given focus area. The database developed in Task 1 was then used to provide an objective ranking of the focus areas to establish the relative order that the focus areas should be converted. The process required developing various evaluation criteria, which were established to provide a measure of the perceived risk, or opportunity associated with all parcels and subdivisions within a focus area. Numerical values were defined for each of the evaluation criteria which were then applied to the parcels and subdivisions within each focus area and aggregated to determine a final score for the entire focus area.

2.1 Development of Database Criteria

2.1.1 Data Sources

The main data source used in developing the evaluation criteria database was Geographic Information Systems (GIS) data provided to Anchor QEA by the District. These data had information on sewer connections, distances to water bodies, and parcel status. Some subdivision data, such as age, were found using various web-based sources specific to each subdivision.

2.2 Database Criteria

Fifteen evaluation criteria were identified by Anchor QEA and agreed upon by the District to help assess a given parcel or subdivision. The criteria were placed in a two-dimensional database (excel spreadsheet) where the criteria occupy the columns of the matrix and individual addresses (parcels), or groups of parcels (subdivisions) occupy the rows of the matrix. This organizational structure facilitates the ability to assign a numerical value, using weighting factors, and linear interpolation, to each of the criteria. The numerical values were then used to calculate a score for each of the parcels and subdivisions within a given focus area, which was used to assess both the relative importance of the parcels and subdivisions to the total score calculated for the focus area, and to allow for the objective ranking of each of the eleven focus areas.

The score for each of the parcels and subdivisions was determined through an aggregation of the point values associated with each of the evaluation criteria considered. Scores were calculated for all parcels and subdivisions within a given focus area and were aggregated to determine the total score for a focus area. The total scores for each focus were then used to determine a ranking for each focus area, relative to each other, which measures the importance of connecting a given focus area

to the existing sewage collection system. Table 1 summarizes the evaluation criteria included in the database, along with a description, the prioritization logic, and data sources used for each criterium.

Table 1
Summary of Evaluation Criteria

Database Field	Description	Prioritization	Data Source(s)
# Parcels	The total number of parcels in a subdivision	Higher number of parcels has higher prioritization	Grand County GIS data
# Residential Developed, No Connection	Total number of residential and developed parcels in a subdivision that has no sewer connection	Higher number of parcels has higher prioritization	Grand County GIS data
# Vacant Parcels	Total number of undeveloped, vacant parcels in a subdivision	Higher number of parcels has higher prioritization	Grand County GIS data
# Sewer Connections	Total number of parcels in a subdivision that are currently connected to the existing sewer line	Higher number of connected parcels lowers prioritization	Grand County GIS data
Not Developed Zoned	Number of parcels in a subdivision that will not be developed based on their zoning	Higher number of undevelopable parcels lowers prioritization	Grand County GIS data
Residential/Commercial	Zoning of the subdivisions/parcels	Priority assigned on scale of 1-10 based on perceived risk	Grand County GIS data
Proximity to Other Subdivisions	Distance in miles to the closest subdivision.	Lower distance has higher prioritization	Grand County GIS Mapping Portal
Age	Oldest year a home in the subdivision was built	Higher age has higher priority	Various sources from subdivisions
Proximity to Existing Collection Line	Distance in feet to the closest existing connecting sewer line	Closer distance has higher priority	Grand County GIS Data
Distance to WWTF	Distance in feet from the closest part of subdivision to the county's Wastewater Treatment Facility	Closer distance has higher priority	Grand County GIS Data
Proximity to Shadow Mountain Lake	Distance in miles from the closest part of the subdivision to the closest part of the body of surface water	Closer distance has higher priority	Grand County GIS Mapping Portal
Proximity to Lake Granby	Distance in miles from the closest part of the subdivision to the closest	Closer distance has higher priority	Grand County GIS Mapping Portal

Database Field	Description	Prioritization	Data Source(s)
	part of the body of surface water		
Proximity to Colorado River	Distance in miles from the closest part of the subdivision to the closest part of the body of surface water	Closer distance has higher priority	Grand County GIS Mapping Portal
Proximity to Grand Lake	Distance in miles from the closest part of the subdivision to the closest part of the body of surface water	Closer distance has higher priority	Grand County GIS Mapping Portal
Proximity to Other Surface Streams/Rivers	Distance in miles from the closest part of the subdivision to the closest part of the body of surface water	Closer distance has higher priority	Grand County GIS Mapping Portal

2.3 Prioritization Methodology

The evaluation criteria presented in Table 1 were grouped into three general categories, that is, those representing risk, opportunity, and perpetuation. The evaluation criteria that comprise the risk category are # Parcels; # Residential Developed, No Connection; Age; and Proximity to various water bodies (Shadow Mountain Lake, Lake Granby, Colorado River, Grand Lake, and Other Surface Streams/Rivers). This category represents the risk associated with contamination pathways into the environment from potentially compromised septic tanks.

The evaluation criteria that highlight the opportunity category are # Vacant Parcels; Proximity to Other Subdivisions; Proximity to Existing Collection Line; and Distance to WWTF. This category represents opportunities for the District to limit the cost associated with connecting a given focus area to the existing sewage collection system by preferentially selecting focus areas which would have relatively minor downstream hydraulic impacts on the existing sewage collection system, or to highlight the strategic grouping of focus areas into a single construction project.

The evaluation criteria that comprise the perpetuation category are # Sewer Connections; Not Developed Zoned; and Residential/Commercial. This group aims to reduce the final score determined for a given parcel or subdivision, based on the number of parcels which either have existing sewer service, or are zoned to exclude any future connection to the existing sewage collection system.

2.3.1 Development and application of initial formulation

An initial formulation, using all fifteen evaluation criteria listed in Table 1, was developed for the West of Downtown focus area. Weighting factors were defined for each of the evaluation criteria to establish an initial formulation which was applied to all parcels and subdivisions within the West of Downtown focus area. The weighting factors were then calibrated to achieve an acceptable balance between the contribution of the risk, opportunity, and perpetuation evaluation criteria to the final score calculated for the West of Downtown focus area. Because West of Downtown included both subdivisions and individual parcels, it was determined appropriate to create weighting between them to acknowledge the relative impact of an entire subdivision when compared to a single property.

When a well-balanced formulation for West of Downtown was achieved, the same formulation and weighting factors were then applied to the other ten focus areas and initial rankings were determined. The results from the initial formulation immediately favored those focus areas with the largest number of existing septic tanks and undeveloped lots. Given the relatively small number of lots in the West of Downtown focus area, it was initially ranked low on the overall priority list. This outcome triggered an adjustment to the first formulation with the intent to produce a formulation where West of Downtown was ultimately ranked high in the overall priority list.

This application of the first formulation to each of the eleven focus areas also illustrated that several of the ranking criteria were providing little or no contrast between the dataset entries and were effectively creating unwanted background noise. Furthermore, after several formulation re-balancing attempts were made to reduce the ranking influence of the total number of septic tanks or undeveloped lots, other criteria were also found to have little to no effect on priority ranking.

As a result, the initial formulation was modified to include a refined subset of the original fifteen evaluation criteria, with updates to the weighting factors to impart a better balance between the contributions of the risk and opportunity evaluation criteria on the final score calculated for each focus area.

2.3.2 Development and application of final formulation

The final formulation reduces the applied evaluation criteria from the original fifteen criteria to develop more contrast in the ranking between focus areas. The first criterium removed was the # *Parcels*, as this criterium was determined to duplicate information that was already provided in the final score through the # *Residential Developed, No Connection*, and # *Vacant Parcels* evaluation criteria. The *Proximity to Other Subdivisions* criterium was also removed as it was determined to have a minimal impact on the final score for a parcel, or subdivision, considering its influence among all focus areas.

Finally, all criteria in the perpetuation category including *# Sewer Connections, Not Developed Zoned*, and *Residential/Commercial*, were removed from the formulation as they placed undue emphasis on existing development. Initial attempts were made to calibrate the perpetuation evaluation criteria such that their influence on the final score was deemed appropriate. Ultimately, it was determined that the influence of the perpetuation criteria on any acceptable formulation was quite small.

Another modification to the formulation was made to structure the weighting factors and interpolations such that each individual criterium contributes a specified percent weight to the final score for each focus area. Allocating 60% of the final score to the risk category, and 40% of the final score to the opportunity category was determined to impart a reasonable balance between the risk and opportunity evaluation criteria. Table 2 presents the percent weight of each of the final evaluation criteria assigned to the final score calculated for each focus area.

Table 2
Percent Wight of Final Score Attributed to Risk and Opportunity Evaluation Criteria

Category	Evaluation Criteria	Percent Weight (%)
Risk	# Residential Developed, No Connection	25
	Age	10
	Proximity to Shadow Mountain Lake	5
	Proximity to Lake Granby	5
	Proximity to Colorado River	5
	Proximity to Grand Lake	5
	Proximity to Other Surface Streams/Rivers	5
Opportunity	# Vacant Parcels	10
	Proximity to Existing Collection Line	5
	Distance to WWTF	25

The final formulation uses weighting factors to calculate the scores for the *# Residential Developed, No Connection* and *# Vacant Parcels* evaluation criteria. This approach provides some distinction between the contribution of a parcel, or subdivision to the final score calculated for a focus area. The scores for all other evaluation criteria were based on a linear interpolation with endpoints calibrated to maintain a reasonable balance between the weight of the final score associated with the risk and opportunity evaluation criteria. The formulation was structured to ensure that the contribution of the proximity categories, for example, was not overpowered by the number of parcels within a given focus area. This approach establishes consistency and allows one to derive a fair comparison of each focus area, ultimately yielding defensible rankings.

2.4 Final Rankings

The final rankings are presented in Table 3. The scores calculated represent a sound evaluation of the focus areas relative to each other. The structure of the final formulation seems somewhat agnostic to the number of parcels within a focus area, however, it is clear that there is a general trend suggesting that focus areas with more parcels should be of higher priority to the District as they represent greater unresolved risk.

Table 3
Focus Area Final Rankings

Focus Area	Number of Parcels	Final Score	Risk Ranking
West	113	2517	1
East	152	2309	2
Sunset South	179	1476	3
Northeast Downtown	46	1300	4
Northwest Downtown	49	1199	5
Center	71	1048	6
West Downtown	72	1006	7
Sunset West	160	985	8
Southwest	62	973	9
Sunset East	36	402	10
Sunset North	33	381	11

Another trend that can be inferred from the final tabulation is that the distance of a focus area to the wastewater treatment facility (WWTF) is important. Focus areas that are close in proximity to the WWTF should be considered higher priority by the District, as connecting these focus areas to the existing sewage collection system should have smaller proportionate hydraulic impacts, requiring less costly upsizing of the existing collection system. As previously mentioned, it is important to follow this effort with a hydraulic assessment to confirm where the additional focus area sewage flows can be accommodated, and where improvements to the existing collection system will be required to connect other focus areas.

2.5 Conclusions

While the final formulation fell short of placing West of Downtown at the top of the priority list, Table 3 is well aligned with the District's intent to prioritize septic tank conversion where District funds are spent resolving the greatest risk with maximal benefit and efficiency. The prioritization formulation effort developed the ranking process through multiple iterations and revisions and produced results that have been well tested, are objective, and ultimately informed by sound judgement. The final formulation represents the most reasonable calibration of the weighting factors

and interpolations applied to each of the retained evaluation criteria. Unfortunately, this formulation did not produce a particularly high ranking for the West of Downtown focus area.

When compared to the highest-ranking focus areas, West of Downtown is relatively far upstream from the Wastewater Treatment Facility (WWTF), and comparatively small, when considering the number of developable lots, or those with an existing septic system. While West of Downtown is located close in proximity to Shadow Mountain Lake, that is only one of the five proximity categories, all of which are weighted equally at 5% of the final score. With that that said, Anchor QEA acknowledges that District board and staff have knowledge of the West of Downtown focus area which does not translate numerically and is not included in the formulation used to rank the eleven focus areas. It is understood that there have been multiple positive *E. coli* tests that were confirmed in the District's laboratory that suggest septic tank failures.

The final formulation balances both risk and opportunity to give results that effectively establish an order in which the focus areas should ultimately be connected to the existing collection system. Given the environmental threat posed by the positive *E. coli* tests confirmed in the West of Downtown focus area that were not be captured in the formulation, it is recommended to begin the SSCP with this focus area.

It is important to note that while this ranking process has considered the effect of each focus area's proximity to the existing collection system and treatment plant, it has not addressed the anticipated hydraulic load from each focus area, where it connects to the existing collection system and the resulting effect on available capacity further downstream. Once a hydraulic capacity analysis has been performed, those results should inform whether or not there are any financial advantages to revising the current focus area priority rankings to produce a lower total cost outcome for the District.

3 Preliminary Conceptual Design for West of Downtown Focus Area

The third and fourth preliminary tasks of Phase 1 of the SSCP are to prepare a preliminary design, and project completion cost estimate for the West of Downtown Focus Area. This design concept considers all sewer service infrastructure that is needed to connect each parcel and subdivision within the West of Downtown focus area to the existing collection system. A cost estimate is also prepared to the Association for the Advancement of Cost Engineering (AACE) Class 3 level. This estimate should be considered a "budgetary estimate" of the probable costs associated with the final engineering and construction to build the sewer service infrastructure for the West of Downtown focus area. Appropriate levels of final engineering, contractor overhead and profit, and contingency have been applied to a line item, unit price construction cost estimate.

3.1 Preliminary Design Objectives

The preliminary design of the sewer service improvements for the West of Downtown focus area is guided by the basic principles to minimize initial capital costs and long-term operation and maintenance (O&M) costs. To achieve those goals, design objectives have been established to reduce the overall life cycle cost burden to the District.

The first objective is to employ the use of gravity flow sewer mains wherever possible. As the District knows well, gravity flow sewer mains are cost effective to own and operate long term, as they require no energy input to operate and can be cost effectively maintained by periodic flushing. The alternative wastewater force mains and the associated lift stations require year-round energy inputs to power the sewage pumping, and pipe heat tracing systems to prevent freezing of the force mains during the winter.

The second objective is to minimize the application of small District owned and operated lift stations, in favor of individual privately owned and operated grinder pump stations, where topography demands a pumped solution. This approach reduces O&M requirements for the District. It also moves the timing and costs of the pumped sewer service improvements to the individual properties to be consistent with District policy. The design concept for West of Downtown avoids new District lift stations in lieu of individual grinder pumps to provide service to properties which could not be served by a gravity sewer main.

The last objective is to optimize the design concept to integrate the new infrastructure into the existing collection system utilizing the closest available existing connection points. This general approach should reduce both engineering and construction costs by decreasing the expansion footprint, and the overall amount of material required to design and build. Reducing the expansion

footprint also has a beneficial effect on construction scheduling and duration requirements, as the District is disadvantaged with a relatively short construction season for below grade utilities.

Figure 2 shows existing conditions for the West of Downtown focus area. This figure clearly shows two available points of connection to the existing collection system. The first option is the western endpoint of the existing sewer line running west to east along Grand County Road (Co Rd) 47. As an alternative, service could be connected at the western endpoint of the existing sewer line running west to east along Co Rd 476.

Utilizing the sewer connection at Co Rd 47 requires most of the new sewage flow to be conveyed roughly 0.6 miles (mi) to the sewer line on United States Highway (US) 34 (not pictured in Figure 2) which ultimately leads to the Wastewater Treatment Facility (WWTF). Although this represents a short distance to make connection, the general flow direction of sewage within this focus area makes the Co Rd 47 sewer line an undesirable connection point. Sewage will generally flow from the southwest to the northeast within the West of Downtown focus area. Therefore, by connecting at Co Rd 47, most of the northern portion of the focus area would require pressurized force mains to reach this connection point, an obvious non-starter.

Connecting new infrastructure at the Co Rd 476 sewer line requires conveying all new flows roughly 1 mi to the sewer trunk main running along US-34. These new sewage flows will also be conveyed through the existing infrastructure running further north along Co Rd 476, and Golf Course Road (not pictured in Figure 2). It will be important to confirm the hydraulic capacity impacts at this location prior to beginning final design so that appropriate upgrades to the existing collection system can be designed if required. With that understanding, this connection location is still believed to be superior to the connection at Co Rd 47, which required the installation of a new lift station and force main.

Recently, the District was fortunate to acquire $1 million dollars (M) in Environmental Protection Agency (EPA) grant funding. That funding has a specific time frame over which it is expected to be utilized, and the District wishes to leverage that funding directly towards the construction of improvements for the West of Downtown focus area. Therefore, in developing the conceptual design and costs, Anchor QEA has created the framework to provide the final design to serve all properties in the focus area and then delineate that portion of the project that can be constructed with the remaining balance from the $1M EPA grant for the 2025 construction season.

Figure 3 presents the conceptual design for providing sewer service to the West of Downtown focus area. These proposed facilities are illustrated using a two-tone color scheme. Proposed sewer mains colored in red denote infrastructure comprising the initial 2025 phase of the SSCP. New facilities colored in orange illustrate the remaining infrastructure required to bring sewer service to the entire focus area. It would be the District's intent to acquire the required additional funding to perform a

follow-on construction project to complete the sewer service needs for the rest of the West of Downtown focus area.

Making use of the connection point running along Co Rd 476 allowed most of the focus area to be served primarily by gravity sewer mains. Two notable exceptions are the subdivision to the west of the intersection of Co Rd 47 and Co Rd 471 (Subdivision 1), and the subdivision to the south of the line running south to north along Co Rd 472 (Subdivision 2). The geography Subdivisions 1 and 2 would require pressurized flow to convey any sewage generated upgrade to the proposed gravity sewer main running south to north along Co Rd 471, and Co Rd 472, respectively. To ensure these subdivisions receive service, the installation of individual grinder pumps on most properties within the subdivisions is proposed. Utilizing grinder pumps eliminates the need for the District to install new lift stations, and ensures that the subdivisions receive service, both of which satisfy the design objectives presented in Section 3.1.

One omission from the preliminary design is the effort and cost associated with septic tank decommissioning within the focus area. Properties with existing septic tanks that will require conversion, as part of receiving new District sewer service, will need to be decommissioned according to Grand County standards. Typically, this process requires removing all existing sewage from the septic tank (or ISD) and backfilling the septic tank (or ISD) with flow fill or a similar material. The process would also entail the offsite disposal of the septage at a septage receiving facility approved by the State of Colorado (the State). Several such facilities exist on the Colorado front range as the District's WWTF is not capable of receiving such waste. While this process is recognized as a necessary element of the SSCP, at this preliminary design stage, the District has placed the septic tank decommissioning responsibility with individual property owners.

3.2 Preliminary Design Cost Estimate

Table 4 presents the AACE Level 3 cost estimate for the preliminary design for the proposed wastewater handling improvements to West of Downtown focus area. This cost includes the monies required to design and construct the entire preliminary design presented in Figure 3 (i.e. both the red and orange sections). The red section was developed with consideration for an initial 2025 budget maximum of $1M which the District received as an EPA grant on March 11, 2024. Table 5 presents a breakout cost estimate, detailing how the District should spend the awarded grant funding. In addition to the first construction project which is expected to break ground during the 2025 construction season, the District would need to secure an additional $1,523,709 to accomplish their goal of establishing sewer service to all addresses within the West of Downtown focus area.

The cost estimate presented in Table 4 attempts to capture the final engineering and construction efforts required to build the proposed sanitary sewer improvements to serve all parcels and subdivisions within West of Downtown focus area. The cost estimate presented in Table 5 attempts

to capture the final engineering efforts required to design the proposed sanitary sewer improvements to serve all parcels and subdivisions within West of Downtown focus area, and then detail how the remaining funds available from the EPA grant should be spent to kickoff a construction effort to intended to be put out for bid towards the end of 2024, with the goal of breaking ground in the 2025 construction season.

Table 4
Preliminary Design AACE Level 3 Cost Estimate

Item	Standard	Unit	Quantity	Unit Material Cost[1]	Unit Installation Cost	Total Cost
8" Gravity Pipe	ASTM D3034 SD35	Lf	7,264	$19	$71	$653,760
Manhole Structure	ASTM C478	Ea	25	$5,000	$10,000	$375,000
Manhole Cover	ASTM A-48	ea	25	$510	$500	$25,250
4" Pressure Pipe	ASTM D1784 DR18 150psi	lf	1,765	$12	$63	$132,375
Grinder Pump	1 HP, 7gpm @ 150 ft TDH	ea	9	$5,000	$5,000	$90,000
4" Sewer Tap	ASTM A240	ea	71	$285	$200	$34,435
4" Sewer Service[2]	ASTM D3034 SD35	lf	1,420	$10	$65	$106,500
2" Sewer Service[3]	ASTM D1784 DR18	lf	18	$10	$65	$13,500
					Subtotal	**$1,430,820**
					General Conditions (15 %)	$212,598
					Contractor Profit (10 %)	$141,732
					Construction Contingencies (20 %)	$283,464
					Total Construction Costs	**$2,068,614**
					Engineering Design (15 %)	$310,292
					Engineering Construction (7 %)	$144,803
					Total Project Costs	**$2,523,709**

1. Price includes transportation to Grand Lakes CO
2. Gravity service length assumes 20 lf average/sewer tap
3. Pressure service length assumes 20 lf average/sewer tap

Costs associated with any required upgrades to the existing downstream collection system, or WWTF are excluded from this cost estimate. It is expected that providing sewer service to the West of Downtown focus area will place additional hydraulic load on the existing collection system that may cause capacity issues. As previously mentioned, it is important to understand the downstream capacity impacts to the collection system as each of the focus areas are connected to the system. At various stages of the SSCP, the District will likely be required to make improvements to segments of the collection system leading to the sewer trunk line, the sewer trunk main line itself, and/or the WWTF. These downstream impacts and costs need to be understood as soon as possible so that the

District can understand the magnitude of these "offsite" costs and plan for them appropriately as the program moves forward.

Table 5
Breakout Cost Estimate for Initial Construction Project

Item	Standard	Unit	Quantity	Unit Material Cost[1]	Unit Installation Cost	Total Cost
8" Gravity Pipe	ASTM D3034 SD35	lf	3,270	$19	$71	$294,300
Manhole Structure	ASTM C478	ea	11	$5,000	$10,000	$165,000
Manhole Cover	ASTM A-48	ea	11	$510	$500	$11,100
4" Sewer Tap	ASTM A240	ea	25	$285	$200	$12,100
4" Sewer Service[2]	ASTM D3034 SD35	lf	500	$10	$65	$37,500
					Subtotal	**$520,000**
					General Conditions (10 %)	$52,000
					Contractor Profit (10 %)	$52,000
					Construction Contingencies (10 %)	$52,000
					Total Construction Costs	**$676,000**
					Engineering Design (from Table 4)	$310,300
					Engineering Construction (7 %)	$47,300
					Total Project Costs	**$1,033,600**

1. Price includes transportation to Grand Lakes CO
2. Gravity service length assumes 20 lf average/sewer tap

As previously stated, the District was awarded a $1M EPA grant on March 11, 2024, which is intended to design and construct sewer service improvements during the 2025 construction season. Table 5 provides the anticipated project costs. Anchor QEA recommends developing the final design for the entire focus area, leaving the District approximately $700 thousand (K) available for the 2025 construction season. With these funds, the District can connect 25 parcels at an average cost of $41K per lot.

Anchor QEA is currently working with the District to develop a proposal to perform a Wastewater Collection System Hydraulic Assessment. The Collection System Hydraulic Assessment would focus only on the portion of the collection system that is downstream from each of the eleven focus areas. The first step would be to identify the appropriate pipeline segments, and then to calculate the theoretical available system capacity. The system capacity be compared against existing wastewater flow information and the newly projected wastewater flows from the eleven focus areas to identify existing system capacity limitations. The evaluation process will include specific recommendations for improvements to resolve hydraulic capacity limitations and will be concluded with a preliminary construction cost estimate of the recommended improvements to integrate into the larger SSCP. Conducting this analysis in the near-term is integral to the success of the SSCP, as downstream

system capacity limitations may significantly impact the most logical, efficient manner in which the focus areas can ultimately be connected to the existing collection system.

3.3 Conclusions

Designing sewer service improvements for the West of Downtown focus area attempts to maximize the use of gravity sewer line, minimize the use of higher O&M cost infrastructure, and leverages existing infrastructure where appropriate. The preliminary design avoids the need for new District lift stations and utilizes grinder pumps only when necessary to provide service to vertically challenging properties in the focus area. The preliminary design connects to the existing wastewater collection system at a point that generally minimizes the downstream impacts of the sewage flows from the West of Downtown focus area on the existing collection system.

The design was further refined to delineate initial construction limits to achieve a total project size of $1M to match available funds awarded by the EPA in March 2024. The first construction project limits were selected to maximize the number of lots that could be served while minimizing the footprint of the expansion. This approach allows the District to provide the greatest impact for the funds available in the earliest stages of the SSCP.

4 Septic to Sewer Conversion Program Cost Estimate and Schedule

The final preliminary tasks of Phase 1 are to develop a cost estimate and schedule for the entire SSCP. The detailed cost estimate developed for the West of Downtown focus area was unitized and applied to the other ten focus areas. This allowed the final cost estimate to capture the total anticipated cost to provide sewer service to all properties in each focus area. A schedule has also been developed to provide a road map to guide the District through the entirety of the SSCP. The schedule provides anticipated time horizons, and details all subtasks under the planning, design, and construction tasks required to complete each phase of the SSCP.

4.1 SSCP Cost Estimate

4.1.1 Program Cost Estimate Methodology

Detailed costs were developed for the West of Downtown focus area and were presented earlier in Table 4 (Section 3.3) of this document. The detailed cost estimate was modified slightly and unitized based on the number of developable properties, defined as the sum of the # *Residential Developed, No Connection*, and # *Vacant Parcels* evaluation criteria presented in Table 1 (Section 2.2) of this document, in the West of Downtown focus area. This unit cost provides a cost per property based on the sewer service preliminary design for the West of Downtown focus area that was applied to the number of developable lots in each of the other ten focus areas.

By developing a unitized service connection cost basis, preliminary design for any other focus area can be delayed until a closer examination of the funds required for a specific Phase has been completed. Project costs were estimated primarily by utilizing property parcel counts and applying other anticipated cost factors. Starting with the cost basis developed in Table 4, additional cost factors include one District lift station per 75 developable lots within a focus area. The number of grinder pumps used in the unitized cost estimate was also set to 5% of the developable lots within any given focus area. Including these two cost factors anticipates the potential need to provide these elements where the topographic conditions have not yet been evaluated.

4.1.2 Program Cost Estimate

The program cost estimate is presented in Table 6. The detailed costs developed for the West of Downtown focus area presented in Table 4 were unitized by the 71 developed lots therein, yielding an estimated cost of $37K to connect a typical property to the existing sewage collection system.

Table 6
SSCP Focus Area Cost Estimate

Focus Area	Lot Ranking	Number of Lots[1]	Total Construction Cost
West Downtown	7	72	$2,523,709
East	2	152	$5,624,000
Sunset South	3	179	$6,623,000
West	1	113	$4,181,000
Southwest	9	62	$2,294,000
Northeast Downtown	4	46	$1,702,000
Northwest Downtown	5	49	$1,813,000
Center Total	6	71	$2,627,000
Sunset West	8	160	$5,920,000
Sunset East	10	36	$1,332,000
Sunset North	11	33	$1,221,000
Total SSCP Focus Area Costs			**$35,860,709**

1. Number of lots is the number of lots within a focus area that are either developed with no current connection or vacant

The itemized costs for each focus area also include a 20% construction contingency to address the variability of infrastructure needs that differ between focus areas. Additionally, the contingency is intended to capture the growing tendency within the District to further subdivide large single parcels into multiple single family lots, increasing the total construction cost of the SSCP.

While the total presented in Table 6 is a considerable sum, it represents the costs to design and construct service improvements within the eleven focus areas in 2024 dollars. Based on available lot counts, these improvements will add 973 potential residential sewer services to the District. With that scale of system expansion, it is easy to see the need to understand and account for the secondary or "offsite" cost impacts to the downstream collection system and WWTF. While Table 6 excludes any "offsite" costs, it provides a foundational view of the funds required to execute the SSCP.

This estimate also excludes any escalation to address inflation. Given the overall time frame of the SSCP, escalation will be a significant factor for the District to consider. As the SSCP progresses, cost estimates should be updated on an annual basis to account for economic fluctuations.

4.2 SSCP Schedule Development

4.2.1 Schedule Development methodology

The SSCP is organized into seven phases, each of which comprise a focus area or a strategic grouping of focus areas. The groupings were developed to ensure that each phase requires a similar

amount of funding, and therefore could be completed over a similar time horizon as each of the other phases. However, the schedule was built with ramp up (Phase 1) and tail off (Phase 7) periods to account for unique project needs at the very beginning and end of the SSCP.

The phases are generally comprised of the same tasks, executed in the same order, except for Phase 1, which has 10 tasks. The first 5 tasks of Phase 1 are unique to it and include preliminary efforts to assist in the planning and development of future phases of the SSCP. The first three preliminary tasks of Phase 1 are reported on in this program summary document and include the development of the prioritization database (Section 2), the preliminary design for the West of Downtown focus area (Section 3), and the development of the Septic to Sewer Conversion Program (Section 4).

Moving forward, Anchor QEA recommends the next two preliminary tasks of Phase 1 should be to perform a collection system hydraulic capacity assessment to determine the effect the eleven focus areas will have on the existing collection system, and to perform a high-level capacity assessment of adding new focus area flows and sewage loads to existing WWTF capacity. Anchor QEA is in the process of developing a scope and fee to perform the hydraulic capacity assessment as that presents the greatest short-term risk, from a planning standpoint, to the development of the SSCP. From a scheduling perspective, we anticipate completing all tasks relative to the hydraulic capacity assessment in 2024.

The last 5 tasks of Phase 1 follow the same order and timing as those developed for the other six phases and are projected to last 5 years each. These tasks include SSCP Financial Aid Planning (Task 6, or Task 1 in the other phases), Preliminary Engineering (Task 7, or Task 2 in the other phases), Final Engineering (Task 8, or Task 3 in the other phases), Preconstruction (Task 9, or Task 4 in the other phases), and Construction (Task 10, or Task 5 in the other phases).

Task 6 includes all activities, associated with gaining the required funding for the phase, or parts of the phase. The District will bear most of the responsibility for completing this task, with assistance from Anchor QEA when solicited. The primary state funding sources available to the District are the Colorado Water and Wastewater State Revolving Fund (SRF) and the Department of Local Affairs (DOLA). The schedule also details the steps required to apply for, and acquire federal funds through the US Department of Agriculture (USDA).

Task 7 details the necessary steps to complete preliminary engineering, and to address the application requirements for the State and Federal funding listed in Task 6. The ultimate deliverable from Task 6 will be a Basis of Design Report (BODR) which will require approval from the Colorado Department of Public Health and the Environment (CDPHE). Once CDPHE approves the BODR, the phase progresses to Final Engineering. During Task 8, the preliminary engineering design is finalized, and construction documents (plans and specifications) are developed. Ultimately, the construction documents must be approved by CDPHE, at which point the phase progresses to Preconstruction.

Task 9 documents the preconstruction and bid process leading up to the final task of a phase, Construction. Task 10 covers all the necessary steps to physically construct the designed sewer service improvements.

The phases will overlap such that the Phase 2 financial aid planning and preliminary design will begin 60 days prior to the date that the last subtask (Final Completion Inspections) under Task 10 of Phase 1 has been completed. The construction seasons for each phase will take place between June and November to ensure favorable in-situ conditions in this rural mountainous region. Following the current schedule, the SSCP is projected to wrap-up by 2059.

4.2.2 Construction Project Identification

Given the short construction season available to the District, it is estimated that a well outfitted and organized construction crew could complete roughly $1M in construction improvements over the course of an entire construction season. Given the amount of infrastructure required to connect all eleven focus areas to the existing collection system, the SSCP is built off the premise that two or three construction crews will be working within the District on any given season, with a capacity to construct approximately $2M to 3M per year (construction season).

Table 7
SSCP Focus Area Project Phases

Project Phase	Focus Areas	Timeframe	Cost Estimate
Phase 1	West of Downtown	2023-2029	$ 2,523,709
Phase 2	East	2028-2034	$ 5,624,000
Phase 3	Sunset South	2033-2039	$ 6,623,000
Phase 4	West and Southwest	2038-2044	$ 6,475,000
Phase 5	Northeast of Downtown, Northwest of Downtown, Central	2043-2049	$ 6,142,000
Phase 6	Sunset West	2048-2054	$ 5,920,000
Phase 7	Sunset East and Sunset North	2053-2059	$ 2,553,000

The phases, their focus areas, or groupings of focus areas, time horizon, and projected costs are presented above in Table 7. The $2M to 3M per year burn rate was used to develop the configuration, and time horizon established for each of the phases. Construction project (phase) sizes were constrained to require around $6M in funds for labor and materials, such that a phase could be completed over a 3-construction season period. Certain focus areas were bundled to ensure that the total project costs across all phases remain roughly equivalent. Notable exceptions to this are Phases 1, 3, 4 and 7. Phase 1 was intentionally structured to cost roughly half that of a typical phase, mainly

to allow sufficient time for the completion of preliminary planning tasks, and to launch the SSCP with a relatively modest construction project in an effort maximize the likelihood that success is demonstrated early in the SSCP. The last phase (Phase 7) is also smaller in size to allow for any efforts required to close out the SSCP at its conclusion. Phases 3, and 4 exceed the average project size, however these two phases represent efforts to connect the largest number of properties within a phase, thus explaining their elevated costs.

4.2.3 Required Cash Flows

4.2.3.1 Timeline for acquiring Engineering Design Funds

The two funding sources that will be sought for Engineering Design are from the DOLA and the SRF. The application process for DOLA fand SRF funding for each phase will begin after the SSCP Financial Plan for that phase is updated and finalized in late November of the year prior to the year funding is being sought. The application will be submitted by late January of the year funding is being sought, after which the District will confirm funding status over the course of a 60-day period, ending in April. There will be a final project financing public hearing one month later in May. After this public hearing, the SSCP Program will be updated with respect to the anticipated timeline for acquiring the required funds to complete a phase, or part of a phase. Should the District and Anchor QEA collectively adhere to the projected funding timeline, the District should be able to release funds during September.

A Project Needs Assessment (PNA) must be developed for the District to submit in conjunction with their application to receive SRF funding. The PNA will need to be submitted sometime between August and October of the year prior to the year funding is being sought. SRF and DOLA financial aid application coordination will begin once the PNA has been submitted in early November (around the same time when the SSCP Financial Plan for that phase is updated), and a financial aid notification will be provided 40 days later in January of the next year (i.e. the year funding is being sought).

4.2.3.2 Timeline for acquiring Construction Funds

One attractive alternative for funding for Task 10 (Construction) will be to utilize the USDA. Should the District wish to pursue this funding source, preparation of the USDA funding applications will begin once the District updates the SSCP financial plan in late November of the year prior to the year funding is being sought. The applications will be submitted in late January of the next year. The District will confirm USDA project funding status around April, or no later than 60 days after the application has been submitted. Like the timeline for acquiring Engineering monies described above, the final projected financing public hearing will occur in May, which should allow the funds to be released around September.

To receive USDA funding, the District must submit a Preliminary Engineering Report (PER) and an Environmental Report (ER) along with their application. The PER will begin in August of the year prior to the year funding is being sought. Once the PER is prepared by Anchor QEA, the District will be allowed a two-week review period, after which Anchor QEA will finalize the report by the end of October. Preparation of the ER will begin in October and continue into December. The District will be allowed a similar two-week review period for the ER, after which Anchor QEA will finalize the report by mid-January of the next year. USDA financial aid application coordination will begin once the SSCP Financial Plan for that phase is updated, and will extend through mid-March.

4.2.4 Program Construction Schedule

Included in Appendix A are three project workflow schedules that illustrate the completion of each phase of the SSCP. Figure A1 presents a graphical representation of the entire SSCP and is provided to show a high-level overview of the phases and their respective time horizons. Figure A2 provides a detailed breakdown of the anticipated tasks required to complete Phase 1 of the SSCP and is provided to highlight the preliminary tasks reported on in this program summary. Figure A3 provides a detailed breakdown of the tasks for Phase 2, which will be repeated, in kind, for all subsequent phases.

4.3 Cost Estimate and Schedule Conclusions

The program cost estimate and schedule were developed in tandem to provide the District a far field view of the implementation of the SSCP.

The program cost estimate provided includes various contingencies to capture the costs that were not explicitly listed in the detailed cost estimate provided for the West of Downtown focus area. Including a fixed number of lift stations, and grinder pumps for each of the focus areas ensures the program cost estimate is sufficiently robust to accommodate potentially disparate design needs that may be required to provide service to all residents throughout the eleven focus areas. The program cost estimate did not explicitly account for inflation, at this point in the SSCP, as such efforts were considered out of scope, and because the primary purpose of the program cost estimate is to help the District plan for future funding needs.

The program schedule was presented next, to provide the District with the anticipated tasks associated with the phases of the SSCP. The schedule was developed to provide ample time to complete each task, while also serving as a guide to ensure the SSCP is conducted efficiently and progresses over a reasonable timeframe. However, considering that the proposed completion timeframe is on the order of decades, not years, the schedule was built with sufficient flexibility such that it could be altered in the future as the SSCP unfolds and a better understanding of the specific time requirements for of each phase come further into focus.

5 Phase 1 SSCP Summary and Conclusions

5.1 Phase 1 Preliminary Tasks Summary and Conclusions

This program summary documents reports on the preliminary tasks completed to date in Phase 1 of the SSCP. The first and second preliminary tasks of Phase 1 of the SSCP developed a prioritization framework and applied that framework to objectively rank the eleven focus areas based on ten established evaluation criteria. Although the final formulation provided a middle-of-the-pack ranking for the District highlighted West of Downtown focus area, the final tabulation and priority ranking should be considered objective and informed by sound judgement. The final formulation balances both risk and opportunity to give results that provide a realistic order in which the focus areas should be connected to the existing collection system. While the formulation was developed to be objective in nature, Anchor QEA also considered input from the District regarding the desire to begin the SSCP with the West of Downtown focus area. It is understood that there were multiple positive *E. coli* tests that were confirmed in the District's laboratory. Although this information was not captured by the final formulation, this knowledge highlights the significant risk associated with the West of Downtown focus area, and elevates it's relative priority overall.

The third and fourth preliminary tasks of Phase 1 of the SSCP were to develop a conceptual design, and an accompanying cost estimate for the proposed wastewater handling improvements to the West of Downtown focus area. Approaching the design with objectives to maximize the use of gravity sewer line, minimize the use of infrastructure that is costly to the District to operate and maintain, and to leverage existing infrastructure where appropriate should ensure service is provided to all properties within the West of Downtown focus area, while generally minimizing costs assumed by the District. The detailed cost estimate presented herein (Table 4) considers the total costs associated with improvements within the focus area but does not address any "offsite" impacts to the downstream collection system or WWTF. The breakout cost estimate (Table 5) presents the costs associated with the initial construction of Phase 1 of the SSCP, which is anticipated to break ground in 2025. This construction project will utilize funds the District received from the EPA in a timely manner, and should be a solid foundation on which to execute the SSCP.

The final preliminary tasks were to develop a cost estimate, and schedule for the entire SSCP. The program cost estimate was based on a modified version of the detailed cost estimate developed for the West of Downtown focus areas and unitized based on the number of developable lots therein. This unit cost estimate was then applied to the other ten focus areas to provide the District a planning cost estimate for the entire SSCP. A conceptual construction schedule was also presented, which groups the SSCP into 7 phases, each of which provide the construction timeline and associated costs for connecting a focus area, or group of focus areas to the existing sewage collection system. The program cost estimate includes the appropriate contingencies to capture design needs that may

be required in other focus areas but were not necessary for the design of wastewater handling improvements for the West of Downtown focus area. The schedule was developed thoughtfully to provide the district a framework by which the SSCP could be executed, but with sufficient flexibility, given the long time-horizon of the overall program, such that modifications could be made easily in the future, should that be deemed necessary by the District or Anchor QEA.

5.2 Phase 1 Next Steps

Section 4 of this program summary document describes 5 initial tasks for Phase 1 of the SSCP. Three are reported on in this program summary document and the other two should be considered the immediate next steps for the advancement of the SSCP. The District will incur "offsite" costs related to the introduction of additional sewage flows from connecting the focus areas to the existing collection system. The time and cost impacts associated with this, and any impacts to the existing WWTF have not yet been quantified. These resultant impacts are key areas of investigation that should be incorporated into the overall planning strategy as soon as possible.

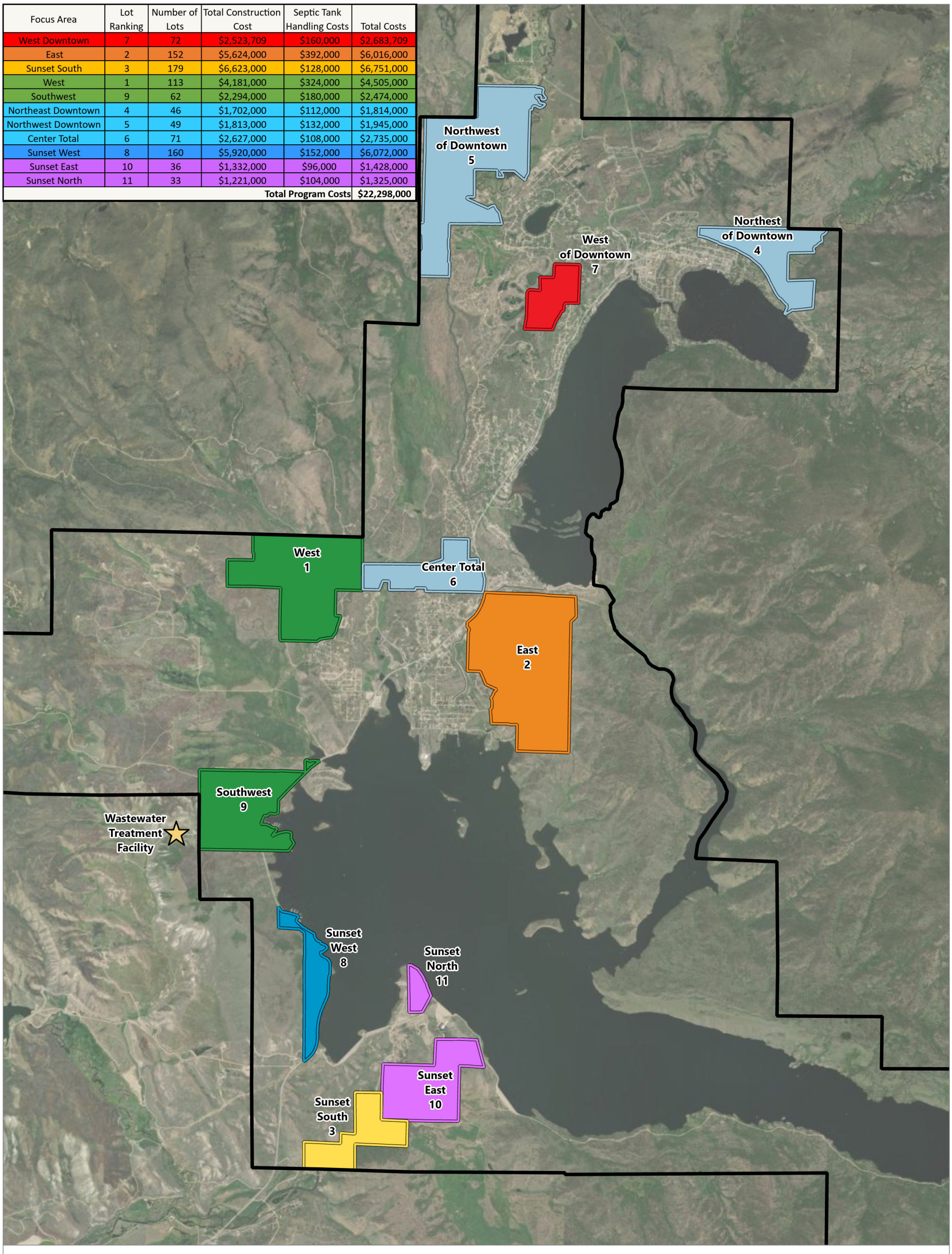
Anchor QEA is currently working with the District to develop a proposal to perform a Wastewater Collection System Hydraulic Assessment. This effort would focus primarily on that portion of the collection system that is downstream from each of the eleven focus areas. After identifying the appropriate pipeline segments, available system capacities will be calculated. This theoretical system capacity will be compared against existing wastewater flow information and newly projected wastewater flows from the eleven focus areas to identify existing system capacity limitations. The evaluation process will include specific recommendations for improvements to resolve hydraulic capacity limitations and will be concluded with a preliminary construction cost estimate of the recommended improvements to integrate into the larger SSCP.

In addition to the proposed hydraulic assessment work, it is understood that the District was awarded a $1M grant from EPA, which the District plans to use to continue to develop and advance the SSCP. Figure 3 illustrates the proposed project limits to deliver sewer service to 25 properties within the West of Downtown focus area. Following District acceptance of this summary document and recommendations, Anchor QEA recommends that we proceed with final design of sewer service improvements for the West of Downtown focus area as described in Tasks 5-10 of Phase 1 of the SSCP (Section 4.2.1).

Figures

DRAFT

Focus Area	Lot Ranking	Number of Lots	Total Construction Cost	Septic Tank Handling Costs	Total Costs
West Downtown	7	72	$2,523,709	$160,000	$2,683,709
East	2	152	$5,624,000	$392,000	$6,016,000
Sunset South	3	179	$6,623,000	$128,000	$6,751,000
West	1	113	$4,181,000	$324,000	$4,505,000
Southwest	9	62	$2,294,000	$180,000	$2,474,000
Northeast Downtown	4	46	$1,702,000	$112,000	$1,814,000
Northwest Downtown	5	49	$1,813,000	$132,000	$1,945,000
Center Total	6	71	$2,627,000	$108,000	$2,735,000
Sunset West	8	160	$5,920,000	$152,000	$6,072,000
Sunset East	10	36	$1,332,000	$96,000	$1,428,000
Sunset North	11	33	$1,221,000	$104,000	$1,325,000
				Total Program Costs	**$22,298,000**



LEGEND:

- TLWD Boundary

Revised Focus Area Boundary

- West of Downtown (Phase 1)
- East (Phase 2)
- Sunset South (Phase 3)
- West (Phase 4)
  Southwest (Phase 4)
- Northwest of Downtown (Phase 5)
  Northeast of Downtown (Phase 5)
  Center Total (Phase 5)
- Sunset West (Phase 6)
- Sunset North (Phase 7)
  Sunset East (Phase 7)
- Wastewater Treatment Facility

SOURCE:
Aerial Imagery: Esri (2023)
NOTE:
TLWD: Three Lakes Watershed District

0 5,000
Feet

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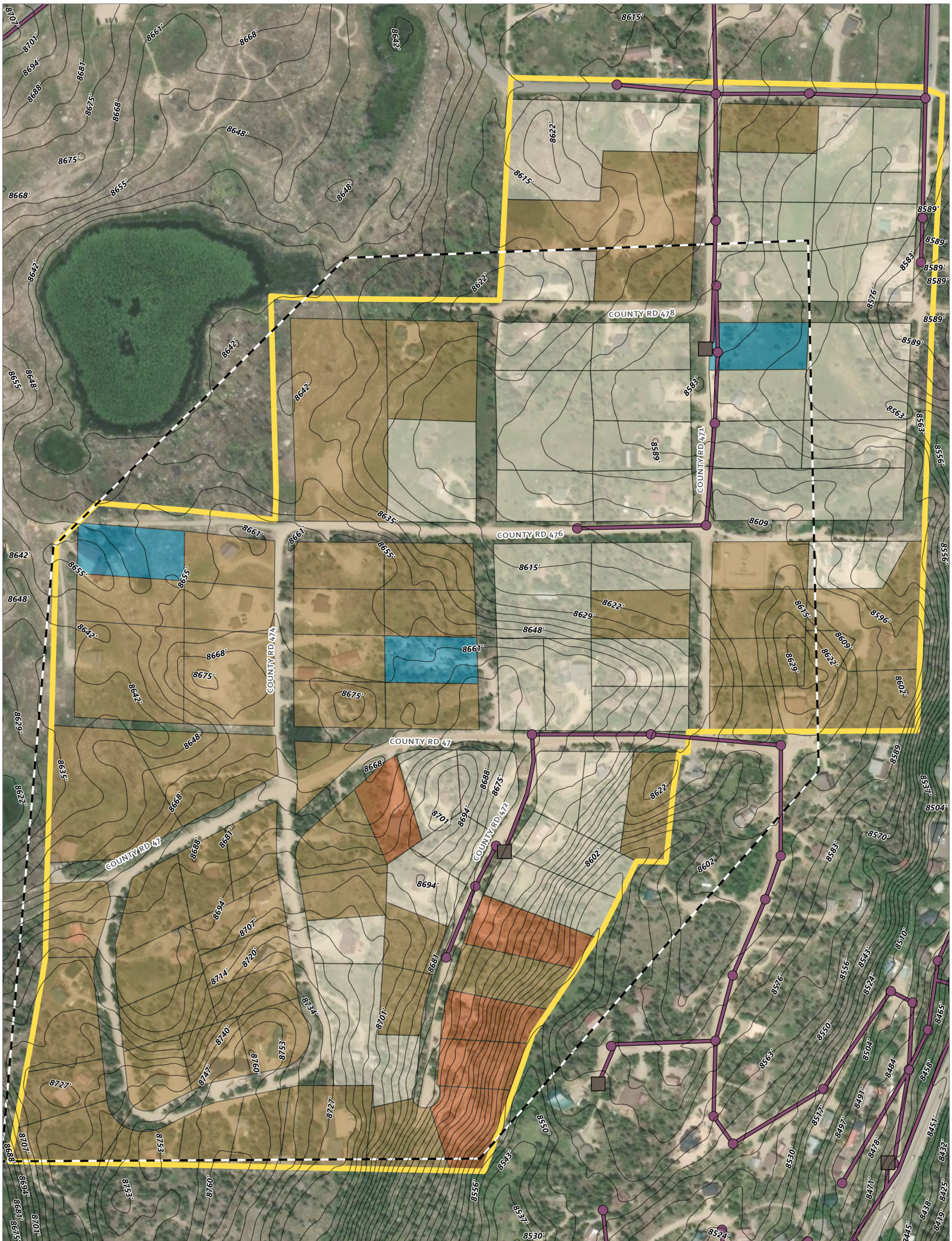
ANCHOR QEA

Figure 1
Septic to Sewer Conversion Program Prioritization Plan
Septic to Sewer Conversion Program Phase 1 Overview and Summary
Three Lakes Water and Sanitation District

DRAFT



LEGEND:

- Original Focus Area Boundary
- Revised Focus Area Boundary
- Existing Sewer Main
- Existing Manhole
- Existing Lift Station
- LiDAR Derived Elevation Contour (2-Foot)

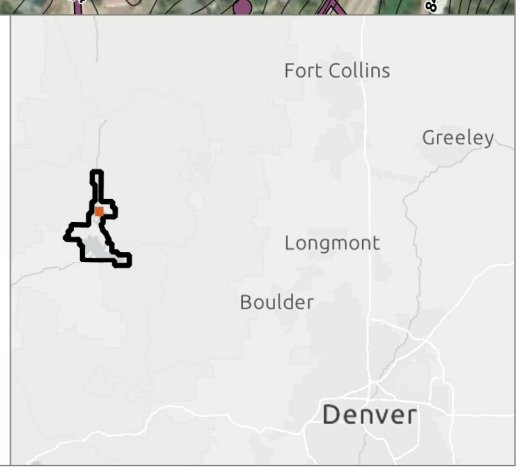
Tax Parcel - Tap Status

- Connected to Sewer
- Vacant - Tap Purchased
- Variance
- No Sewer Service

SOURCES:
1. Aerial Imagery: Esri (2023)
2. Sewer Data: TLWD (2023)
3.Tax Parcel: Grand County (2023)
4. Elevation Contour: USGS (2020)

NOTE:
TLWD: Three Lakes Watershed District.

0 300
Feet



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ANCHOR QEA

Figure 2
West of Downtown Focus Area Existing Wastewater Handling Facilities
Septic to Sewer Conversion Program Phase 1 Overview and Summary
Three Lakes Water and Sanitation District

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COUNTY RD 478
COUNTY RD 476
COUNTY RD 474
COUNTY RD 47
COUNTY RD 472
COUNTY RD 471

LEGEND:

- Original Focus Area Boundary
- Revised Focus Area Boundary
- Existing Sewer Main
- Proposed Pressure Main
- Proposed Gravity Sewer
- Phase 1 Initial Project Gravity Main
- Existing Manhole
- Proposed Manhole
- Phase 1 Initial Project Manhole
- Existing Lift Station
- Proposed Grinder Pump

Tax Parcel - Tap Status

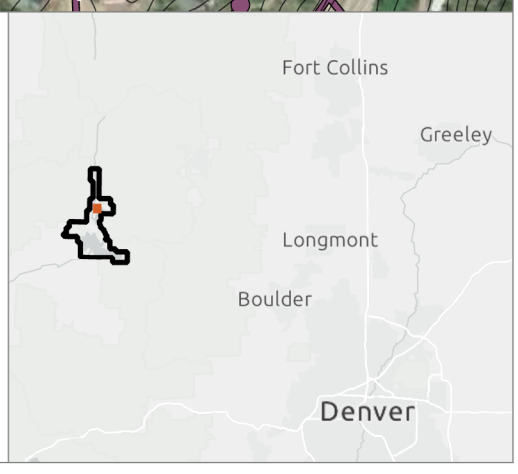
- Connected to Sewer
- Vacant - Tap Purchased
- Variance
- No Sewer Service

Direction of Flow

0 300
Feet

SOURCES:
1. Aerial Imagery: Esri (2023)
2. Sewer Data: TLWD (2023)
3.Tax Parcel: Grand County (2023)
4. Elevation Contour: USGS (2020)

NOTE:
TLWD: Three Lakes Watershed District.



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ANCHOR QEA

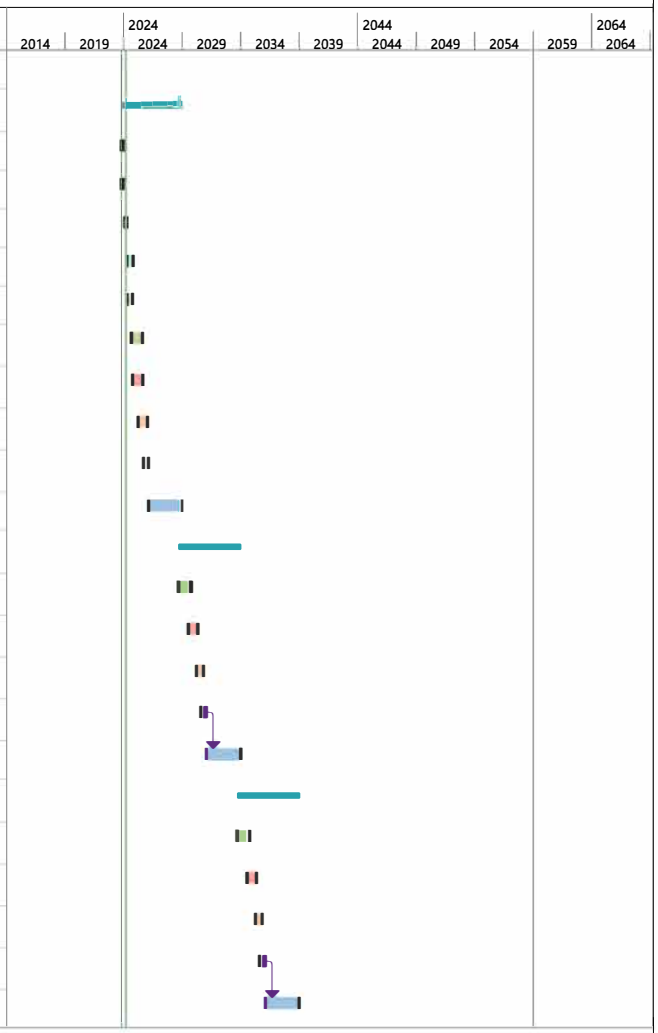
Figure 3
West of Downtown Sanitary Sewer Service Preliminary Design
Septic to Sewer Conversion Program Phase 1 Overview and Summary
Three Lakes Water and Sanitation District

Appendix A
Selected Construction Project Workflow Schedules

Three Lakes Water & Sanitation District
Septic to Sewer Conversion Program
03/19/2024

A1 - Proposed Program Overview

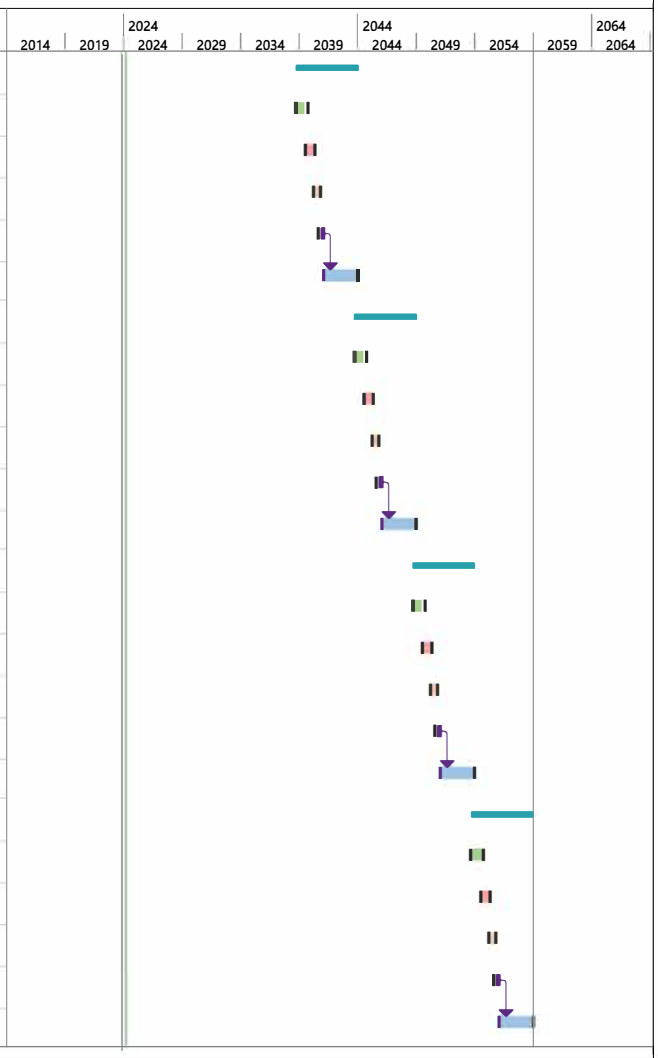
ID	Task Name	Duration	Start	Finish
1	Task 0 - Contract Authorization	1 day	Thu 11/2/23	Thu 11/2/23
2	***Phase 1 (2023 - 2029) WDT***			
3	Task 1 - Evaluation Database	61 days	Fri 11/3/23	Fri 1/26/24
7	Task 2 - WDT Preliminary Design	60 days	Thu 11/2/23	Wed 1/24/24
11	Task 3 - Septic to Sewer Conversion Program	52 days	Tue 2/6/24	Wed 4/17/24
18	Task 4 - Collection System Impact Program	142 days	Thu 4/18/24	Fri 11/1/24
27	Task 5 - WWTF Impact Program	131 days	Thu 4/18/24	Thu 10/17/24
35	Task 6 - SSCP Financial Aid Planning	251 days	Mon 9/9/24	Mon 8/25/25
47	Task 7 - Preliminary Engineering	225 days	Fri 10/18/24	Thu 8/28/25
69	Task 8 - Final Engineering	205 days	Fri 4/11/25	Thu 1/22/26
76	Task 9 - Preconstruction	113 days	Fri 9/19/25	Tue 2/24/26
87	Task 10 - Construction	746 days	Wed 2/25/26	Wed 1/3/29
297	***Phase 2 (2028 - 2033) East***			
298	Task 1 - SSCP Financial Aid Planning	281 days	Wed 9/6/28	Thu 10/4/29
310	Task 2 - Preliminary Engineering	210 days	Thu 7/19/29	Thu 5/9/30
332	Task 3 - Final Engineering	155 days	Thu 3/28/30	Thu 10/31/30
339	Task 4 - Preconstruction	123 days	Thu 8/15/30	Tue 2/4/31
350	Task 5 - Phase 2 Construction	762.75 days	Tue 2/4/31	Thu 1/5/34
570	***Phase 3 (2033 - 2039) Sunset South***			
571	Task 1 - SSCP Financial Aid Planning	281 days	Fri 9/9/33	Fri 10/6/34
583	Task 2 - Preliminary Engineering	210 days	Mon 7/24/34	Fri 5/11/35
605	Task 3 - Final Engineering	155 days	Mon 4/2/35	Fri 11/2/35
612	Task 4 - Preconstruction	123 days	Mon 8/20/35	Wed 2/6/36
623	Task 5 - Phase 3 Construction	758 days	Thu 2/7/36	Mon 1/3/39



Three Lakes Water & Sanitation District
Septic to Sewer Conversion Program
03/19/2024

A1 - Proposed Program Overview

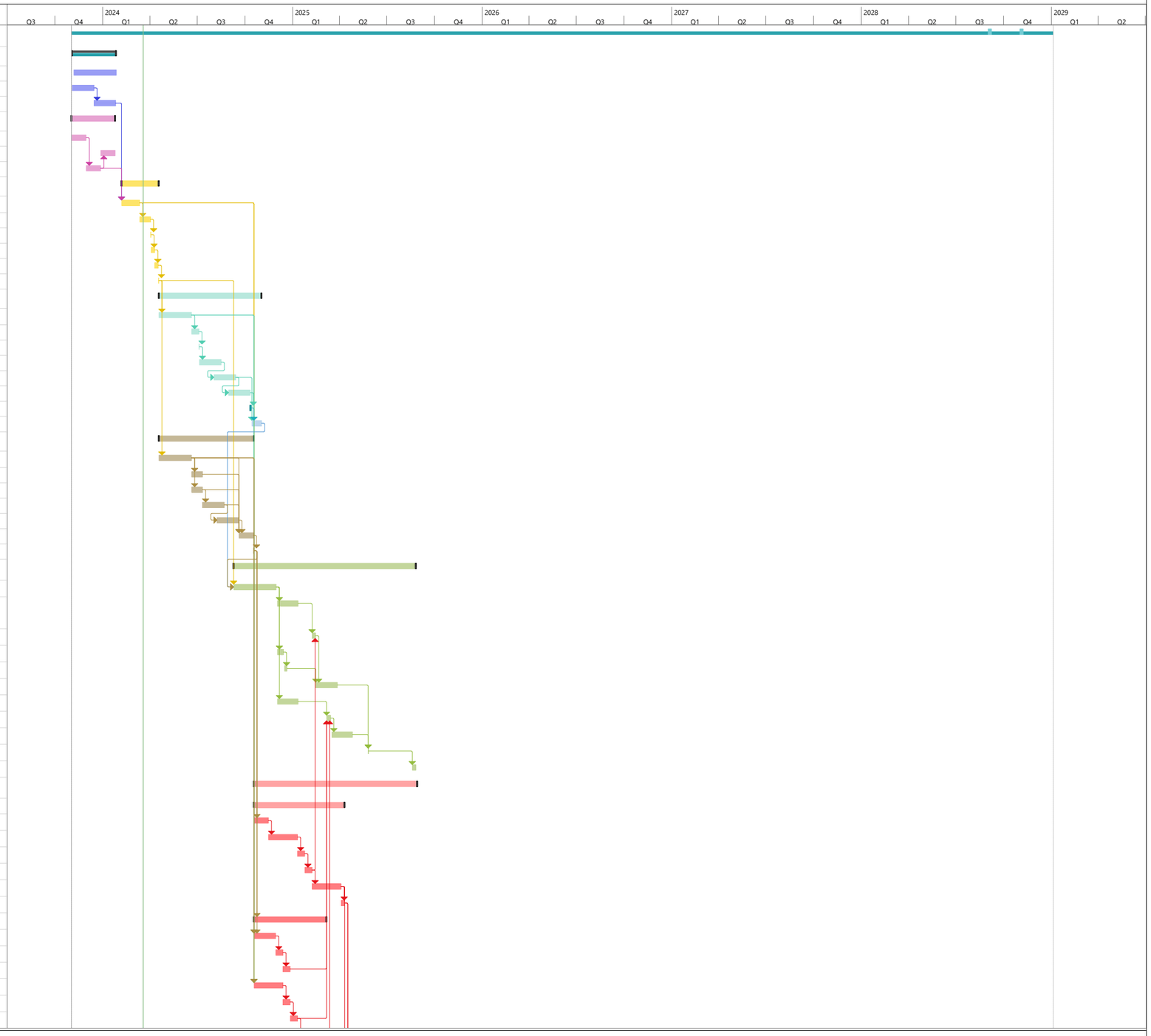
ID	Task Name	Duration	Start	Finish
836	***Phase 4 (2038 - 2044) West and Southwest***			
837	Task 1 - SSCP Financial Aid Planning	281 days	Tue 9/7/38	Tue 10/4/39
849	Task 2 - Preliminary Engineering	210 days	Wed 7/20/39	Tue 5/8/40
871	Task 3 - Final Engineering	155 days	Wed 3/28/40	Tue 10/30/40
878	Task 4 - Preconstruction	123 days	Wed 8/15/40	Fri 2/1/41
889	Task 5 - Phase 4 Construction	763.25 days	Mon 2/4/41	Thu 1/7/44
1101	***Phase 5 (2043 - 2049) NE DT, NW DT, Center***			
1102	Task 1 - SSCP Financial Aid Planning	281 days	Mon 9/7/43	Mon 10/3/44
1114	Task 2 - Preliminary Engineering	210 days	Tue 7/19/44	Mon 5/8/45
1136	Task 3 - Final Engineering	155 days	Tue 3/28/45	Mon 10/30/45
1143	Task 4 - Preconstruction	123 days	Tue 8/15/45	Thu 2/1/46
1154	Task 5 - Phase 5 Construction	764.25 days	Fri 2/2/46	Thu 1/7/49
1368	***Phase 6 (2048 - 2054) Sunset West***			
1369	Task 1 - SSCP Financial Aid Planning	281 days	Mon 9/7/48	Mon 10/4/49
1381	Task 2 - Preliminary Engineering	210 days	Tue 7/20/49	Mon 5/9/50
1403	Task 3 - Final Engineering	155 days	Tue 3/29/50	Mon 10/31/50
1410	Task 4 - Preconstruction	123 days	Tue 8/16/50	Thu 2/2/51
1421	Task 5 - Phase 6 Construction	761 days	Fri 2/3/51	Fri 1/2/54
1634	***Phase 7 (2053 - 2059) Sunset East, Sunset No***			
1635	Task 1 - SSCP Financial Aid Planning	281 days	Mon 9/8/53	Mon 10/5/54
1647	Task 2 - Preliminary Engineering	210 days	Tue 7/21/54	Mon 5/10/55
1669	Task 3 - Final Engineering	155 days	Tue 3/30/55	Mon 11/1/55
1676	Task 4 - Preconstruction	123 days	Tue 8/17/55	Thu 2/3/56
1687	Task 5 - Phase 7 Construction	762.25 days	Fri 2/4/56	Tue 1/7/59



Three Lakes Water & Sanitation District
Septic to Sewer Conversion Program
03/19/2024

A2 - Phase 1 Program Schedule

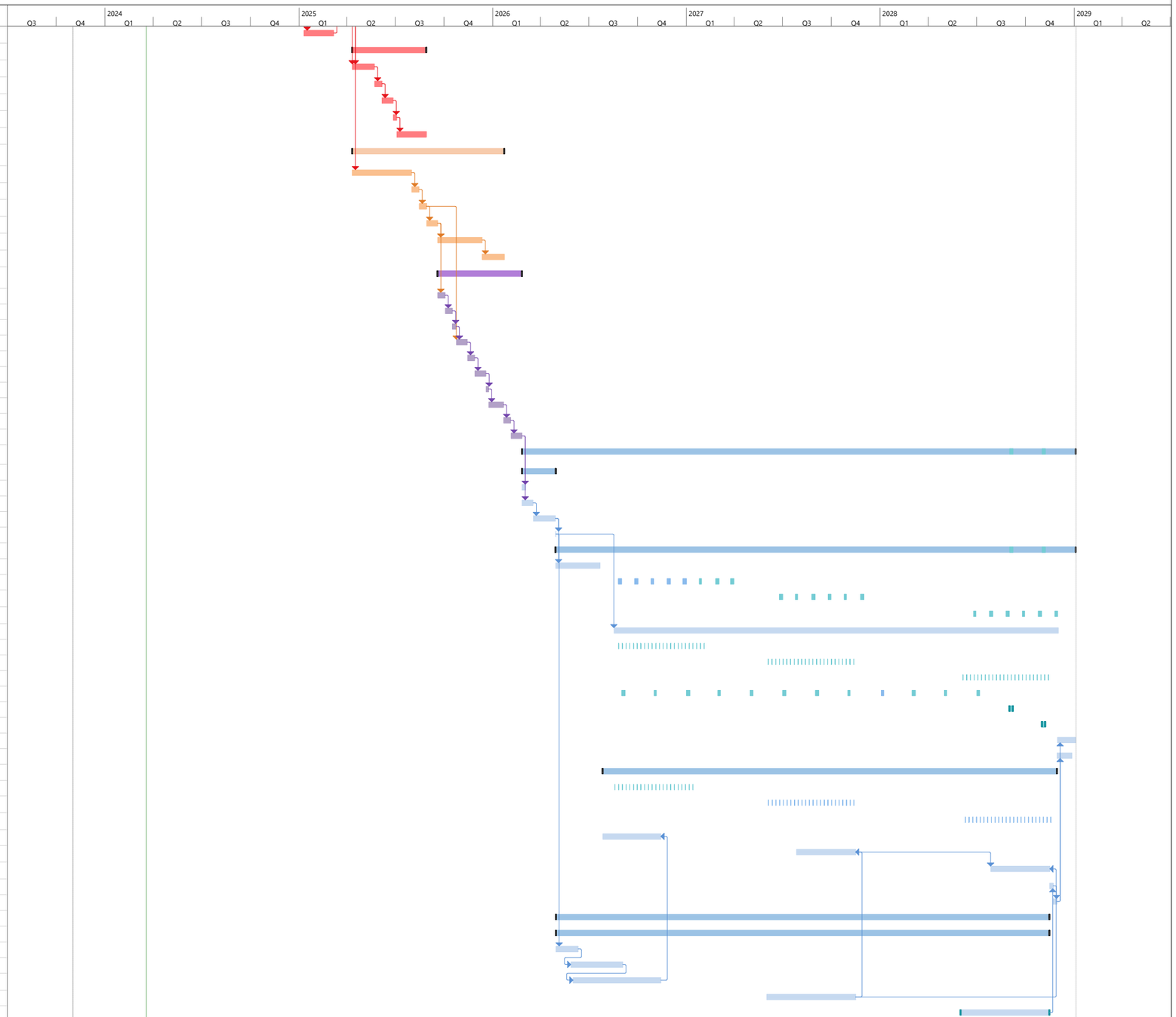
ID	Task Name	Duration	Start	Finish
1	***Phase 1 (2023 - 2029) WDT***			
2	Task 1 - Evaluation Database	61 days	Fri 11/3/23	Fri 1/26/24
3	Task 1.1 - Data Review and Assessment	60 days	Mon 11/6/23	Fri 1/26/24
4	Task 1.2 - Prioritization Framework Development	30 days	Fri 11/3/23	Thu 12/14/23
5	Task 1.3 - Septic Tank Prioritization Database Development.	30 days	Fri 12/15/23	Thu 1/25/24
6	Task 2 - WDT Preliminary Design	60 days	Thu 11/2/23	Wed 1/24/24
7	Task 2.1 - Septic Tank Removal Preliminary Design	20 days	Thu 11/2/23	Wed 11/29/23
8	Task 2.2 - Preliminary Construction Cost Estimate	20 days	Thu 12/28/23	Wed 1/24/24
9	Task 2.3 - Finalize West Downtown Conversion Preliminary Design	20 days	Thu 11/30/23	Wed 12/27/23
10	Task 3 - Septic to Sewer Conversion Program	52 days	Tue 2/6/24	Wed 4/17/24
11	Task 3.1 - Anchor Creates SSCP	25 days	Tue 2/6/24	Mon 3/11/24
12	Task 3.2 - District Reviews Draft SSCP Summary	15 days	Tue 3/12/24	Mon 4/1/24
13	Task 3.3 - Draft SSCP Summary Review Meeting w/ District	1 day	Tue 4/2/24	Tue 4/2/24
14	Task 3.4 - Incorporate Review Meeting Comments	5 days	Wed 4/3/24	Tue 4/9/24
15	Task 3.5 - Deliver Final SSCP Summary to District	5 days	Wed 4/10/24	Tue 4/16/24
16	Task 3.6 - District Adopts Final Summary	1 day	Wed 4/17/24	Wed 4/17/24
17	Task 4 - Collection System Impact Program	142 days	Thu 4/18/24	Fri 11/1/24
18	Task 4.1 - Anchor Develops Collection System Model	45 days	Thu 4/18/24	Wed 6/19/24
19	Task 4.2 - District Reviews Draft Model	10 days	Thu 6/20/24	Wed 7/3/24
20	Task 4.3 - Draft Model Review Meeting w/ District	1 day	Thu 7/4/24	Thu 7/4/24
21	Task 4.4 - Run model with addition of 11 Focus Areas	30 days	Fri 7/5/24	Thu 8/15/24
22	Task 4.5 - Develop Recommendations for Facilities Improvements	30 days	Fri 8/2/24	Thu 9/12/24
23	Task 4.6 - Prepare Program Cost Model & Schedule	30 days	Fri 8/30/24	Thu 10/10/24
24	Task 4.7 - Deliver Program Summary for District Acceptance	1 day	Fri 10/11/24	Fri 10/11/24
25	Task 4.8 - District Adopts Program Summary	15 days	Mon 10/14/24	Fri 11/1/24
26	Task 5 - WWTF Impact Program	131 days	Thu 4/18/24	Thu 10/17/24
27	Task 5.1 - Perform WWTF Condition Assessment	45 days	Thu 4/18/24	Wed 6/19/24
28	Task 5.2 - Develop Unit Processes Capacity Evaluation	15 days	Thu 6/20/24	Wed 7/10/24
29	Task 5.3 - Develop Future WWTF Discharge Permit Target Limits	15 days	Thu 6/20/24	Wed 7/10/24
30	Task 5.3 - Develop Recommendations for Facilities Improvements	30 days	Thu 7/11/24	Wed 8/21/24
31	Task 5.4 - Prepare Program Cost Model & Schedule	30 days	Thu 8/8/24	Wed 9/18/24
32	Task 5.5 - Deliver Program Summary for District Acceptance	20 days	Thu 9/19/24	Wed 10/16/24
33	Task 5.6 - District Adopts Program Summary	1 day	Thu 10/17/24	Thu 10/17/24
34	Task 6 - SSCP Financial Aid Planning	251 days	Mon 9/9/24	Mon 8/25/25
35	Task 6.1 - District Finalizes SSCP Phase 1 Financial Plan	60 days	Mon 9/9/24	Fri 11/29/24
36	Task 6.2 - District Prepares Colorado Wastewater SRF Grant & Loan Apps	30 days	Mon 12/2/24	Fri 1/10/25
37	Task 6.3 - District Submits Colorado SRF Grant & Loan Apps	5 days	Fri 2/7/25	Thu 2/13/25
38	Task 6.4 - District Prepares Colorado DOLA Funding Apps	10 days	Mon 12/2/24	Fri 12/13/24
39	Task 6.5 - District Submits Colorado Water DOLA Funding Apps	5 days	Mon 12/16/24	Fri 12/20/24
40	Task 6.6 - District Confirms Colorado Project Funding Status	30 days	Fri 2/14/25	Thu 3/27/25
41	Task 6.7 - District Prepares USDA Funding Applications	30 days	Mon 12/2/24	Fri 1/10/25
42	Task 6.8 - District Submits USDA Funding Applications	6 days	Fri 3/7/25	Fri 3/14/25
43	Task 6.9 - District Confirms USDA Project Funding Status	30 days	Mon 3/17/25	Fri 4/25/25
44	Task 6.10 - Final Project Financing Public Hearing	1 day	Mon 5/26/25	Mon 5/26/25
45	Task 6.11 - Initial Project Funding Becomes Available	5 days	Tue 8/19/25	Mon 8/25/25
46	Task 7 - Preliminary Engineering	225 days	Fri 10/18/24	Thu 8/28/25
47	**Task 7A - SSCP Phase 1 SRF Funding Coordination**	**125 days**	**Fri 10/18/24**	**Thu 4/10/25**
48	Task 7A.1- Phase 1 Program Update	20 days	Fri 10/18/24	Thu 11/14/24
49	Task 7A.2 - Phase 1 Draft Project Needs Assessment	40 days	Fri 11/15/24	Thu 1/9/25
50	Task 7A.3 - District Review of Draft PNA	10 days	Fri 1/10/25	Thu 1/23/25
51	Task 7A.4 - Finalize & Submit PNA to CDPHE	10 days	Fri 1/24/25	Thu 2/6/25
52	Task 7A.5 - SRF & DOLA Financial Aid Application Coordination	40 days	Fri 2/7/25	Thu 4/3/25
53	Task 7A.6 - SRF & DOLA Financial Aid Notification	5 days	Fri 4/4/25	Thu 4/10/25
54	**Task 7B - USDA Funding Coordination**	**100 days**	**Fri 10/18/24**	**Thu 3/6/25**
55	Task 7B.1 - Prepare Phase 1 Draft Prelim Engineering Report (PI	30 days	Fri 10/18/24	Thu 11/28/24
56	Task 7B.2 - District Review of Draft PER	10 days	Fri 11/29/24	Thu 12/12/24
57	Task 7B.3 - Finalize PER	10 days	Fri 12/13/24	Thu 12/26/24
58	Task 7B.4 - Prepare Phase 1 Draft Environmental Report (ER)	40 days	Fri 10/18/24	Thu 12/12/24
59	Task 7B.5 - District Review of Draft ER	10 days	Fri 12/13/24	Thu 12/26/24
60	Task 7B.6 - Finalize ER	10 days	Fri 12/27/24	Thu 1/9/25



Three Lakes Water & Sanitation District
Septic to Sewer Conversion Program
03/19/2024

A2 - Phase 1 Program Schedule

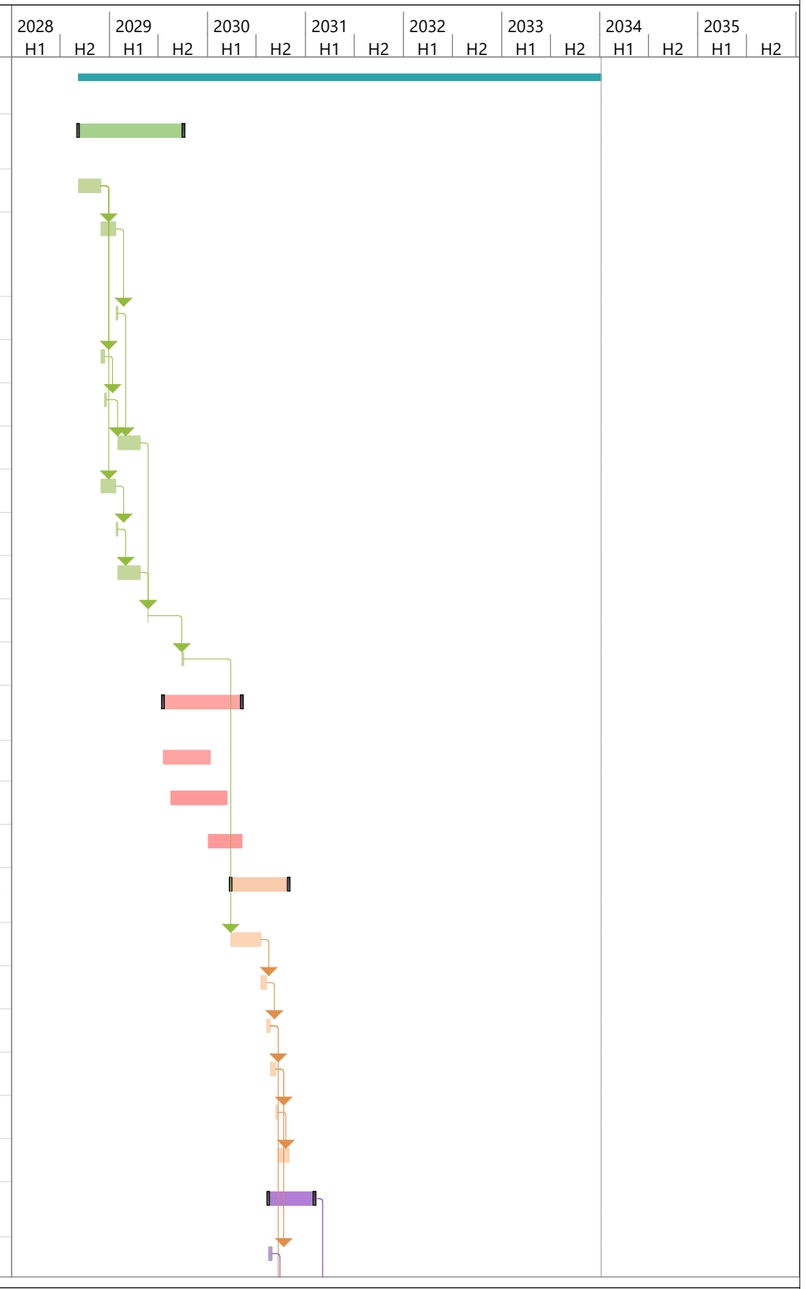
ID	Task Name	Duration	Start	Finish
61	Task 7B.7 - USDA Financial Aid Application Coordination	40 days	Fri 1/10/25	Thu 3/6/25
62	**Task 7C - Basis of Design Report (BDR)**	**100 days**	**Fri 4/11/25**	**Thu 8/28/25**
63	Task 7C.1 - Prepare Phase 1 Draft BDR	30 days	Fri 4/11/25	Thu 5/22/25
64	Task 7C.2 - District Reviews BDR	10 days	Fri 5/23/25	Thu 6/5/25
65	Task 7C.3 - Prepare Final BDR	15 days	Fri 6/6/25	Thu 6/26/25
66	Task 7C.4 - Submit Final BDR to CDPHE	5 days	Fri 6/27/25	Thu 7/3/25
67	Task 7C.5 - CDPHE Approval of BDR	40 days	Fri 7/4/25	Thu 8/28/25
68	Task 8 - Final Engineering	205 days	Fri 4/11/25	Thu 1/22/26
69	Task 8.1 - Prepare Phase I Draft CMAR Plans and Specifications	80 days	Fri 4/11/25	Thu 7/31/25
70	Task 8.2 - District Reviews Draft Construction Documents	10 days	Fri 8/1/25	Thu 8/14/25
71	Task 8.3 - Prepare Final CMAR Plans and Specifications	10 days	Fri 8/15/25	Thu 8/28/25
72	Task 8.4 - Submit CMAR Plans and Specs to CDPHE & District	15 days	Fri 8/29/25	Thu 9/18/25
73	Task 8.5 - CDPHE Approval of CMAR Plans & Specs	60 days	Fri 9/19/25	Thu 12/11/25
74	Task 8.6 - Self Certification	30 days	Fri 12/12/25	Thu 1/22/26
75	Task 9 - Preconstruction	113 days	Fri 9/19/25	Tue 2/24/26
76	Task 9.1 - Prepare Draft Phase 1 CMAR Request for Proposals	10 days	Fri 9/19/25	Thu 10/2/25
77	Task 9.2 - District Reviews Draft CMAR RFP	10 days	Fri 10/3/25	Thu 10/16/25
78	Task 9.3 - Prepare Final CMAR RFP	5 days	Fri 10/17/25	Thu 10/23/25
79	Task 9.4 - Publicly Advertise CMAR RFP	15 days	Fri 10/24/25	Thu 11/13/25
80	Task 9.5 - CMAR Selection	10 days	Fri 11/14/25	Thu 11/27/25
81	Task 9.6 - District Executes CMAR Preconstruction Contract	15 days	Fri 11/28/25	Thu 12/18/25
82	Task 9.7 - Preconstruction Coordination Meeting w/CMAR	3 days	Fri 12/19/25	Tue 12/23/25
83	Task 9.8 - CMAR Develops Initial Guaranteed Maximum Price (GM	20 days	Wed 12/24/25	Tue 1/20/26
84	Task 9.9 - District Reviews Initial GMP Proposal	10 days	Wed 1/21/26	Tue 2/3/26
85	Task 9.10 - District & CMAR Negotiate Final GMP	15 days	Wed 2/4/26	Tue 2/24/26
86	Task 10 - Construction	746 days	Wed 2/25/26	Wed 1/3/29
87	**Task 10A - Construction Contract Initiation**	**46 days**	**Wed 2/25/26**	**Wed 4/29/26**
88	Task 10A.1 - Construction Contract Preparation	5 days	Wed 2/25/26	Tue 3/3/26
89	Task 10A.2 - Construction Document Conformance	15 days	Wed 2/25/26	Tue 3/17/26
90	Task 10A.3 - Construction Contract Review and Notice to Procee	30 days	Wed 3/18/26	Tue 4/28/26
91	Task 10A.4 - Construction Kickoff Meeting	1 day	Wed 4/29/26	Wed 4/29/26
92	**Task 10B - Construction Office**	**701 days**	**Wed 4/29/26**	**Wed 1/3/29**
93	Task 10B.1 - Construction Submittal Review	60 days	Wed 4/29/26	Tue 7/21/26
94	Task 10B.2 - Construction Pay Application Review (Season 1)	156.25 days	Tue 8/25/26	Wed 3/31/27
103	Task 10B.3 - Construction Pay Application Review (Season 2)	113.25 days	Fri 6/25/27	Wed 12/1/27
110	Task 10B.4 - Construction Pay Application Review (Season 3)	113.25 days	Sun 6/25/28	Thu 11/30/28
117	Task 10B.5 - Construction Communication	600 days	Mon 8/17/26	Fri 12/1/28
118	Task 10B.6 - Weekly Construction Meetings (Season 1)	115.25 days	Wed 8/26/26	Wed 2/3/27
143	Task 10B.7 - Weekly Construction Meetings (Season 2)	115.25 days	Fri 6/4/27	Fri 11/12/27
168	Task 10B.8 - Weekly Construction Meetings (Season 3)	115.25 days	Mon 6/5/28	Mon 11/13/28
193	Task 10B.9 - Construction Change Management	482.25 days	Tue 9/1/26	Thu 7/6/28
206	Task 10B.10 - Project Closeout	5 days	Fri 9/1/28	Thu 9/7/28
207	Task 10B.11 - Construction Record Documents	5 days	Wed 11/1/28	Tue 11/7/28
208	Task 8B.10 - Project Closeout	25 days	Thu 11/30/28	Wed 1/3/29
209	Task 8B.11 - Construction Record Documents	20 days	Wed 11/29/28	Wed 12/27/28
210	**Task 10C - Construction Field**	**612.25 days**	**Mon 7/27/26**	**Wed 11/29/28**
211	Task 10C.1 - Construction Observation (Season 1)	105.25 days	Wed 8/19/26	Wed 1/13/27
234	Task 10C.2 - Construction Observation (Season 2)	116 days	Fri 6/4/27	Fri 11/12/27
259	Task 10C.3 - Construction Observation (Season 3)	116 days	Fri 6/9/28	Fri 11/17/28
284	Task 10C.3 - Quality Control Coordination (Season 1)	80 days	Mon 7/27/26	Fri 11/13/26
285	Task 10C.4 - Quality Control Coordination (Season 2)	80 days	Tue 7/27/27	Mon 11/15/27
286	Task 10C.5 - Quality Control Coordination (Season 3)	80 days	Thu 7/27/28	Wed 11/15/28
287	Task 10C.6 - Substantial Completion Inspections	5 days	Wed 11/15/28	Wed 11/22/28
288	Task 10C.7 - Final Completion Inspections	5 days	Wed 11/22/28	Wed 11/29/28
289	**Task 10D - CMAR Construction**	**664.25 days**	**Thu 4/30/26**	**Wed 11/15/28**
290	**Task 10D.1 - West of Downtown Construction**	**664.25 days**	**Thu 4/30/26**	**Wed 11/15/28**
291	Submittals	30 days	Thu 4/30/26	Wed 6/10/26
292	Equipment& Material Delivery	70 days	Thu 5/28/26	Wed 9/2/26
293	Construction (Season 1)	120 days	Mon 6/1/26	Fri 11/13/26
294	Construction (Season 2)	120 days	Tue 6/1/27	Mon 11/15/27
295	Construction (Season 3)	120 days	Thu 6/1/28	Wed 11/15/28



Three Lakes Water & Sanitation District
Septic to Sewer Conversion Program
03/19/2024

A3 - Phase 2 Program Schedule

ID	Task Name	Duration	Start	Finish
1	***Phase 2 (2028 - 2033) East***			
2	Task 1 - SSCP Financial Aid Planning	281 days	Wed 9/6/28	Wed 10/3/29
3	Task 1.1 - District Updates SSCP Financial Plan	60 days	Wed 9/6/28	Tue 11/28/28
4	Task 1.2 - District Prepares Colorado Wastewater SRF Grant & Loan Apps	40 days	Wed 11/29/28	Tue 1/23/29
5	Task 1.3 - District Submits Colorado SRF Grant & Loan Apps	5 days	Wed 1/24/29	Tue 1/30/29
6	Task 1.4 - District Prepares Colorado DOLA Funding Apps	10 days	Wed 11/29/28	Tue 12/12/28
7	Task 1.5 - District Submits Colorado Water DOLA Funding Apps	5 days	Wed 12/13/28	Tue 12/19/28
8	Task 1.6 - District Confirms Colorado Project Funding Status	60 days	Wed 1/31/29	Tue 4/24/29
9	Task 1.7 - District Prepares USDA Funding Applications	40 days	Wed 11/29/28	Tue 1/23/29
10	Task 1.8 - District Submits USDA Funding Applications	5 days	Wed 1/24/29	Tue 1/30/29
11	Task 1.9 - District Confirms USDA Project Funding Status	60 days	Wed 1/31/29	Tue 4/24/29
12	Task 1.10 - Final Project Financing Public Hearing	1 day	Wed 5/23/29	Wed 5/23/29
13	Task 1.11 - Initial Project Funding Becomes Available	5 days	Thu 9/27/29	Wed 10/3/29
14	Task 2 - Preliminary Engineering	210 days	Thu 7/19/29	Wed 5/8/30
15	**Task 2A - SSCP Phase 2 SRF Funding Coordination**	**125 days**	**Thu 7/19/29**	**Wed 1/9/30**
22	**Task 2B - USDA Funding Coordination**	**150 days**	**Thu 8/16/29**	**Wed 3/13/30**
30	**Task 2C - Phase 2 Basis of Design Report (BDR)**	**90 days**	**Thu 1/3/30**	**Wed 5/8/30**
36	Task 3 - Final Engineering	155 days	Thu 3/28/30	Wed 10/30/30
37	Task 3.1 - Prepare Draft Phase 2 CMAR Plans and Specifications	80 days	Thu 3/28/30	Wed 7/17/30
38	Task 3.2 - District Reviews Draft Construction Documents	15 days	Thu 7/18/30	Wed 8/7/30
39	Task 3.3 - Prepare Final CMAR Plans and Specifications	10 days	Thu 8/8/30	Wed 8/21/30
40	Task 3.4 - Submit CMAR Plans and Specs to CDPHE & District	15 days	Thu 8/22/30	Wed 9/11/30
41	Task 3.5 - CDPHE Approval of CMAR Plans & Specs	5 days	Thu 9/12/30	Wed 9/18/30
42	Task 3.6 - Self Certification	30 days	Thu 9/19/30	Wed 10/30/30
43	Task 4 - Preconstruction	123 days	Thu 8/15/30	Mon 2/3/31
44	Task 4.1 - Prepare Draft Phase 2 CMAR Request for Proposals	10 days	Thu 8/15/30	Wed 8/28/30



Three Lakes Water & Sanitation District
Septic to Sewer Conversion Program
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A3 - Phase 2 Program Schedule

ID	Task Name	Duration	Start	Finish
45	Task 4.2 - District Reviews Draft CMAR RFP	10 days	Thu 8/29/30	Wed 9/11/30
46	Task 4.3 - Prepare Final CMAR RFP	5 days	Thu 9/12/30	Wed 9/18/30
47	Task 4.4 - Publicly Advertise CMAR RFP	20 days	Thu 9/19/30	Wed 10/16/30
48	Task 4.5 - CMAR Selection	10 days	Thu 10/17/30	Wed 10/30/30
49	Task 4.6 - District Executes CMAR Preconstruction Contract	15 days	Thu 10/31/30	Wed 11/20/30
50	Task 4.7 - Preconstruction Coordination Meeting w/CMAR	3 days	Thu 11/21/30	Mon 11/25/30
51	Task 4.8 - CMAR Develops Initial Guaranteed Maximum Price (GM	20 days	Tue 11/26/30	Mon 12/23/30
52	Task 4.9 - District Reviews Initial GMP Proposal	10 days	Tue 12/24/30	Mon 1/6/31
53	Task 4.10 - District & CMAR Negotiate Final GMP	20 days	Tue 1/7/31	Mon 2/3/31
54	Task 5 - Phase 2 Construction	763 days	Tue 2/4/31	Thu 1/5/34
55	**Task 5A - Construction Contract Initiation**	**46 days**	**Tue 2/4/31**	**Tue 4/8/31**
60	**Task 5B - Construction Office**	**717 days**	**Wed 4/9/31**	**Thu 1/5/34**
188	**Task 5C - Construction Field**	**672 days**	**Wed 5/7/31**	**Thu 12/1/33**
189	Task 5C.1 - Construction Observation (Season 1)	106 days	Wed 5/7/31	Wed 10/1/31
212	Task 5C.2 - Construction Observation (Season 2)	116 days	Wed 6/9/32	Wed 11/17/32
237	Task 5C.3 - Construction Observation (Season 3)	116 days	Wed 6/8/33	Wed 11/16/33
262	Task 5C.4 - Quality Control Coordination (Season 1)	80 days	Wed 7/30/31	Tue 11/18/31
263	Task 5C.5 - Quality Control Coordination (Season 2)	80 days	Tue 7/27/32	Mon 11/15/32
264	Task 5C.6 - Quality Control Coordination (Season 3)	80 days	Fri 7/29/33	Thu 11/17/33
265	Task 5C.7 - Substantial Completion Inspections	5 days	Fri 11/18/33	Thu 11/24/33
266	Task 5C.8 - Final Completion Inspections	5 days	Fri 11/25/33	Thu 12/1/33
267	**Task 5D - CMAR Construction**	**682 days**	**Wed 4/9/31**	**Thu 11/17/33**
268	**Task 5D.1 - East Construction**	**682 days**	**Wed 4/9/31**	**Thu 11/17/33**
269	Submittals	30 days	Wed 4/9/31	Tue 5/20/31
270	Equipment & Material Delivery	70 days	Wed 5/21/31	Tue 8/26/31
271	Construction (Season 1)	120 days	Wed 6/4/31	Tue 11/18/31
272	Construction (Season 2)	120 days	Tue 6/1/32	Mon 11/15/32
273	Construction (Season 3)	120 days	Fri 6/3/33	Thu 11/17/33