

TOWN OF
APPLE VALLEY

SEWER NEXUS RATE STUDY



Table of Contents

Section 1 - Introduction	1
1.1. Introduction	1
1.2. Goals and Objectives.....	1
1.3. Overview of the Nexus Study Process	2
1.4. Organization of this Report.....	2
1.5. Reliance on Data	3
1.6. Acknowledgements.....	3
Section 2 - Overview of Utility Rate-Making Principles, Processes and Issues	4
2.1. Introduction	4
2.2. Discussion of General Rate-Making Principles.....	4
2.3. The Revenue Sufficiency Process	5
2.4. The Rate Design Process	6
2.5. Financial Management Goals of the Town	7
Section 3 - Nexus Rate Study Development and Results	8
3.1. Revenue Sufficiency Analysis	8
3.2. Rate Design Analysis	14
Section 4 - Conclusions and Recommendations	18
4.1. Conclusions	18
4.2. Recommendations	18

Section 1 - Introduction

1.1. Introduction

The Town of Apple Valley's ("Town") Wastewater Division operates and maintains approximately 140 miles of collector sewer, trunk lines and interceptors as well as nine sewer lift (pump) stations providing sewer service to a population of over 22,000 citizens. By agreement, the treatment of the Town's wastewater is provided by the Victor Valley Wastewater Reclamation Authority (VWRA). The Town's trunk sewers convey wastewater flows to the sewer interceptor lines for the VWRA. VWRA serves the High Desert municipalities, including Apple Valley, Victorville, Hesperia, Adelanto, Oro Grande, Spring Valley Lake, and George Air Force Base.

Willdan Financial Services ("Willdan") was retained by the Town to conduct a Nexus Rate Study ("Nexus Rate Study") for the Town's wastewater utility ("Utility"). This report details the results of the Nexus Rate Study analysis for the forecast period, Fiscal Year (FY) 2017-18 to FY 2026-27, the results of which are presented in this Nexus Rate Study Report.

The results of the Nexus Rate Study presented herein include a financial plan and rate structure designed to provide revenues sufficient to fund the ongoing operating and capital costs necessary to operate the Town's sewer utility, while meeting the financial requirements and goals set forth by the Town for the sewer enterprise fund.

1.2. Goals and Objectives

The goal of the Nexus Rate Study was to develop cost based rates that will allow the Town to meet its ongoing costs (operations & maintenance and capital) as well as maintain industry standard financially prudent cash reserves for the sewer utility. More specifically the Nexus Rate Study was undertaken to:

- Conduct the analysis in accordance with industry standards consistent with Water Environment Federation ("WEF") guidelines;
- Develop financial plans and rates consistent with industry standards and best practices while recognizing the needs specific to the Town;

- The design of rates that will meet the Town’s revenue requirements based on Town specific sewer utility costs and reserve requirements; and
- Develop rates that comply with Proposition 218 requirements.

1.3. Overview of the Nexus Study Process

The Nexus Rate Study process consisted of two primary study components. First, a determination of the adequacy of system revenues to meet system expenses during the study forecast period was made. The result of this analysis, known as the Revenue Sufficiency Analysis, is an assessment of the ability of the existing sewer rate revenue stream to meet the projected financial requirements of the system during the forecast period and, to the extent required, the identification of the magnitude and timing of any required rate adjustments.

Second, specific rates and charges were developed which provide sufficient revenue, as identified in the Revenue Sufficiency Analysis, to recover costs in a manner consistent with general rate-making practice. This step is known as the Rate Design Analysis.

1.4. Organization of this Report

This Nexus Rate Study presents an overview of the rate-making concepts utilized in the development of the analysis contained herein. The analysis is followed by a discussion of the data, assumptions and results associated with each component of the analysis. Finally, appendices with detailed schedules are presented for further investigation into the data, assumptions and calculations which drive the results presented in this Nexus Rate Study. The report is organized as follows:

- Section 1 - Introduction
- Section 2 – Overview of Utility Rate-Making Principles, Processes and Issues
- Section 3 – Nexus Rate Study Development and Results
- Section 4 – Conclusions and Recommendations
- Appendix A – Revenue Under Existing Rates
- Appendix B - Sewer Financial Plan
- Appendix C – Sewer Rate Design

1.5. Reliance on Data

During the course of this project the Town (and/or its representatives) provided Willdan with a variety of technical information, including cost and revenue data. Willdan did not independently assess or test for the accuracy of such data – historic or projected. Willdan has relied on this data in the formulation of its findings and subsequent recommendations, as well as in the preparation of this report. As is often the case, there will be differences between actual and projected data, and these differences may be significant. Therefore, Willdan takes no responsibility for the accuracy of data or projections provided by or prepared on behalf of the Town, nor does Willdan have any responsibility for updating this report for events occurring after the date of this report.

1.6. Acknowledgements

Willdan wishes to extend our appreciation to the Town and its staff for their cooperation during the progress of this study. In particular, Willdan would like to thank Mr. Marc Puckett, Assistant Town Manager of Finance and Administration for his guidance and assistance throughout this project.

Section 2 - Overview of Utility Rate-Making Principles, Processes and Issues

2.1. Introduction

The Nexus Rate Study utilized generally accepted rate-making principles established by the Water Environment Federation (WEF) in its “Financing and Charges for Wastewater Systems, Manual of Practice No. 27 (2004)”, which resulted in the development of rates and charges which are projected to: 1) generate sufficient revenue to meet the financial requirements of the sewer utility, and 2) address the need to recover costs from users in a manner which is proportionate to the cost of providing service on a parcel basis, and fair and equitable relative to the service provided. A discussion of some of the key principles of rate-making, and how the processes employed herein are guided by those principles, is presented below.

2.2. Discussion of General Rate-Making Principles

While the individual rates for the utility vary based on a variety of factors, the development of rates should, for the most part, be consistent with general rate-making principles set forth in utility rate-making practice and literature and in compliance with State law. State Law requires that property-related fees and charges (including water and sewer utility rates) must be based upon the proportionate cost of providing the services. The principles by which rate practitioners are guided is that rates designed for any utility should strike a reasonable balance between several key factors. In general, rates designed should:

- Generate a stable rate revenue stream which, when combined with other sources of funds, is sufficient to meet the financial requirements and goals of the utility;
- Be fair and equitable – that is, they should generate revenue from customer classes which is reasonably in proportion to the cost to provide service to that customer class;
- Be easy to understand by customers; and
- Be easy to administer by the utility.

Striking the appropriate balance between the principles of rate-making is the result of a detailed process of evaluation of revenue requirements and cost of service, and how those translate into the rate design

alternatives which meet legal requirements and the specific objectives of the utility under the circumstances in which the utility operates.

2.3. The Revenue Sufficiency Process

In order to develop rates and charges which will generate sufficient revenue to meet the fiscal requirements of the sewer utility, a determination of the annual rate revenue required must be completed. The first step in the process is the Revenue Sufficiency Analysis. The Revenue Sufficiency Analysis compares the forecasted revenues of the utility under its existing rates to its forecasted operations and maintenance, capital, and reserve costs to determine the adequacy of the existing rates to recover the utility's costs.

The process employed in the Revenue Sufficiency Analysis involves a rigorous review of operating, maintenance and capital budgets for the utility, and results in the identification of revenue requirements of the system, such as operating expenses, capital expenses (minor and major), debt service expense (including a provision for debt service coverage), transfers in and out, and the maintenance of both restricted and unrestricted reserves at appropriate levels. These revenue requirements are then compared to the total sources of funds available during each year of the forecast period to determine the adequacy of projected revenues to meet projected revenue requirements. To the extent that the existing revenue stream is not sufficient to meet the annual revenue requirements of the system, a series of rate revenue increases are calculated which would be required to provide revenue sufficient to meet those needs.

2.3.1 Determination of the Revenue Requirements

The Town, as is typical for a public utility, operates its sewer utility on a "cash basis". Under the "cash basis" approach, revenues and expenses are recognized at the time physical cash is actually received or paid out. Revenue requirements are determined for a specified period of time (in the case of the Town an annual fiscal year), by summing the total anticipated expenses to be paid out during the fiscal year. Where cash flows and balances are insufficient, the revenue requirements analysis recommends the needed additional cash flows to meet all funding goals. The two primary categories of expenses are as follows:

- Operations and Maintenance (O&M) expenses, such as salaries and benefits of utility personnel, transfers out, existing and anticipated debt service, reserves, and, in the case of the Town, payments to the VVWRA, (the entity that provides treatment of the Town’s sewer flows); and
- Capital expenses, such as the annual capital improvement program, including sewer manhole rehabilitation and annual depreciation as a proxy for annual repair and replacement needs.

2.4. The Rate Design Process

With the rate revenue requirement determined in the Revenue Sufficiency Analysis, the development of specific rates and charges can commence. Once the rate revenue requirement has been identified, the manner in which those requirements should be recovered, and the billing units to be used to recover the required revenue determined, specific rates and charges can then be developed.

In the State of California, rates must adhere to and conform to the California Constitution article XIII D, section 6 commonly referred to as Proposition 218 (Prop 218). More specifically, Prop 218 requires that property related fees and charges, such as sewer rates, must not exceed the reasonable cost of providing the service associated with the fee or charge, and shall not exceed the proportional cost of the service attributable to the parcel that is subject to the fee or charge.

Besides ensuring compliance with State law, another key principle for a comprehensive Nexus Rate Study is found in economic theory, which suggests the price of a commodity must roughly equal its cost or value if equity among customers is to be maintained – i.e., cost-based. In terms of economic theory, the principle is that the price of a commodity (sewer service) must be proportionately equal to its cost (the Town’s cost of providing the service). Because the Town provides collection of sewer flows, but relies on an outside entity to provide treatment, the rates assessed to customers must reflect the flows attributable to customers rather than both the strength and volume of flows contributed by each customer.

This Nexus Rate Study was performed to allocate the costs of providing service to users to ensure that rates are equitable and in compliance with Proposition 218 requirements.

2.5. Financial Management Goals of the Town

The establishment of specific financial management goals of a utility is a key step in developing financial plans which will ensure the financial health of the utility remains strong. The financial management goals of the Town are described below.

2.5.1 Minimum Unrestricted Working Capital Balance

In order to maintain a certain level of liquidity, the Town has developed a goal of maintaining unrestricted working capital reserves in an amount greater than or equal to approximately 3 months of operating expenses.

Section 3 - Nexus Rate Study Development and Results

3.1. Revenue Sufficiency Analysis

3.1.1 General Methodology

The general methodology utilized in the Revenue Sufficiency Analysis was discussed previously in Section 2.3. In summary, however, the level of revenues generated by rates must be sufficient to recover the fiscal requirements, or projected expenditures of the utility. To the extent that the projected revenue stream based upon current sewer rates was not sufficient to meet the annual revenue requirements of the system, a series of rate revenue increases were calculated to provide the revenue necessary to meet those expenditure needs, while satisfying the financial goals and objectives of the utility. From a financial perspective, the Town's sewer utility must "stand on its own" by meeting its financial obligations without assistance from other Town funds. The financial plan was developed for the ten-year period fiscal year (FY) 2017-18 through FY 2026-27

3.1.2 Data Items

Key data items reviewed, discussed and incorporated into the Revenue Sufficiency Analysis were:

- Financial management goals of the Town;
- FY 2015-16 fund balance;
- FY 2016-17 budget; and
- Capital improvement program (CIP).

General assumptions utilized in the analysis include the following:

- Customer growth;
- Cost escalation factors; and
- VVWRA rate increases.

A discussion of the use of each of the above data items and general assumptions is presented below.

3.1.3 FY 2015-16 Fund Balance

To better understand what funds the Town will have on hand to start the forecast period, a detailed review of fund balances from the FY 2015-16 period was discussed and reviewed with Town staff. Assumptions were made to estimate the actual unrestricted cash (available cash) balances available at the end of FY 2015-16, and therefore at the beginning of FY 2016-17. To determine the available cash balance at the end of FY 2015-16, a review of the Town’s current assets and current liabilities as identified in the Town’s FY 2015-16 Comprehensive Annual Financial Report (CAFR) was undertaken. A summary of the fund balance for the end of FY 2015-16 and therefore the beginning of FY 2016-17, as adjusted and subsequently used in this analysis, is presented in Table 3-1 below. A breakdown of the assets and liabilities can be found in Appendix B-3.

Table 3-1	
Beginning Fund Balance	
Fiscal Year Ending June 30, 2017	
Description	Sewer
Current Assets	\$6,936,748
Current Liabilities	<u>883,801</u>
Cash Balance	\$6,052,947

3.1.4 FY 2016-17 Budget

Staff provided Willdan with the FY 2016-17 budget, and associated line-item detail, as the basis for the projection of financial needs for FY 2016-17 (the base year). The FY 2016-2017 budget was also used as the basis for the projection of future budgetary line-items for the remainder of the forecast period. Cost escalation factors were reviewed by staff (see section 3.1.6.2) and were used to project line-item costs beyond the FY 2016-17 budget. Those factors were applied based on line-item cost classifications.

In order to maintain a certain level of liquidity, the City has developed a goal of maintaining unrestricted working capital reserves in an amount greater than or equal to approximately 3 months of operating expenses. The financial plan was developed such that there would be at least 3 months of working capital reserves for each year of the study period.

A summary of the FY 2016-17 budget, and subsequent projected budgetary expenses, is presented below in Table 3-2

A more detailed presentation of the line-item budgeted and projected revenues and expenses is presented in Schedules B-4 through B-6 of Appendix B.

Table 3-2 Operating Budget Fiscal Year Ending June 30, 2017	
Description	Sewer
Operations and Maintenance Expenses	\$2,982,384
Capital	2,017,182
Transfers	<u>748,400</u>
Total Expenses	\$5,747,966

3.1.5 Capital Improvements Plan (CIP)

The Town provided Willdan with a forecast of capital requirements for the ten-year study period. The capital projects identified by the Town are required to maintain service to customers by making investments in the collection system to repair or replace aging system components as they wear out over time. The Town provided cost estimates for capital projects in current day dollars which were subsequently annually escalated at 2.56% using the Engineering News Record (ENR) Construction Cost Index (CCI) to adjust the cost items to real dollars for the years in which construction is estimated to occur. These adjusted capital costs were then used in the analysis for rate-making purposes.

A summary table of the adjusted CIP for the FY 2016-17 – FY 2021-22 study period is presented below in Table 3-3. The CIP for the full forecast period is presented in the Schedules B-6 of Appendix B.

Table 3-3 Capital Improvement Plan Fiscal Years Ending June 30 (\$ thousands)							
	2017	2018	2019	2020	2021	2022	Total
Capital Costs	\$2,017	\$1,941	\$2,047	\$2,159	\$2,278	\$2,403	\$12,845
Note: Values are rounded to the nearest \$1,000							

3.1.6 General Assumptions

In order to develop the financial and rate projections, certain assumptions were made with regard to elements of the revenue sufficiency analysis. A summary of those assumptions is presented below.

3.1.6.1. System Growth

The Town anticipates population growth of 0.6% per year based on their analysis of current Town population growth projections and trends per the Census Bureau Esri report. Through discussions with Town staff, it was determined that the 0.6% annual population increase would reasonably translate to a 0.6% annual increase in sewer service units, and is consistent with recent system growth trends. The Town tracks service units on an equivalent dwelling unit (EDU) basis (see section 3.1.6.2). In addition, there is anticipated to be an additional 37.5 EDUs in FY 2019 in anticipation of the opening of a Big Lots store.

3.1.6.2. Equivalent Dwelling Units (EDUs)

The Town tracks its sewer service units and assesses rates on an EDU basis which the Town Code Section 10.01.010 (w) defines as:

“Equivalent dwelling unit or EDU means the quantity and quality of domestic wastewater discharged from a standard or average single family dwelling unit, having approximately 20 plumbing fixtures capable of contributing 245 gallons per day of domestic sewage.”

As an example, a commercial development with 162 plumbing fixture units (PFU) would represent 8.1 EDUs (162 PFU / 20 PFU per EDU). The monthly fee this commercial account would pay would be 8.1 EDUs x \$31.43 per month = \$254.58 per month.

The Town’s use of 245 gallons per day and 20 PFUs per EDU matches the schedule used by VVWRA for purposes of assessing connection fees.

3.1.6.3. O&M Escalation Factors

Willdan worked with Town staff to identify reasonable cost escalation factors to be applied to operations and maintenance expenses in recognition of increasing costs over time. It was determined that a 2% general inflationary factor represented a reasonable estimate of annual cost increases during the study period. There were, however, some expenses which were anticipated to have increases above the projected 2% general inflationary increase. Personnel increases were projected to increase at an annual rate of 3%, and electricity costs were projected to increase at an annual rate of 6%.

3.1.6.4. Victor Valley Water Reclamation Authority (VWVRA) Escalation Factors

As stated previously, the Town provides collection of sewer flows, but does not provide treatment. Treatment is provided by VWVRA, who bills the Town at a rate per million gallons (MG) of flow. VWVRA rates were projected to increase at the rate of system growth (annual increase in EDUs) plus 7% for FY 2018, 9% for FY 2019 and 5% per year thereafter.

3.1.6.5. Results of the Revenue Sufficiency Analysis

After a thorough review of the above-mentioned data elements, a draft of the Revenue Sufficiency Analysis was developed and reviewed with Town staff. This draft provided the forum in which various alternative assumptions were discussed, tested and evaluated for both their reasonableness and their impact upon the ultimate financial health of the utility. Table 3-4 provides a summary of the annual revenue requirements incorporating the assumptions in Section 3 of this report as compared to the projected rate revenue described in more detail in Schedule A-1 of Appendix A under the Town's existing sewer rates.

Table 3-4					
Revenue Requirements vs. Revenue Under Existing Rates					
Fiscal Years Ending June 30 (\$ thousands)					
	2018	2019	2020	2021	2022
Revenue Under Existing Rates ⁽¹⁾	\$5,920	\$5,960	\$5,998	\$6,035	\$6,072
Revenue Requirements ⁽²⁾	5,873	6,242	6,538	6,849	7,176
Difference	47	(282)	(540)	(814)	(1,104)
(1) See Appendix A-1					
(2) See Appendix C-2					
Note: Values are rounded to the nearest \$1,000					

The resulting financial plan presented herein is the embodiment of the data, assumptions and review process undertaken with Town staff.

3.1.6.6. Rate Revenue Increases Required

As discussed in sections 3.1.6.3 and 3.1.6.4, operations and maintenance expenses including VWVRA treatment charges are growing at a faster rate than the Town's increase in service units (section 3.1.6.1). The average annual increase in revenue requirements (identified in Table 3-4) is projected at 4.55%.

Our financial analysis of the sewer utility indicates that the increase in operating costs is projected to outpace revenue increases through growth in service units alone. Revenue increases above growth in service units are therefore required in order to maintain the financial integrity of the sewer utility.

The analysis indicated that the Town would need to increase sewer rate revenues by 4.7%, in addition to the anticipated growth in service units for FY 2018-19, in order to meet that year’s revenue requirements (a deficit of \$282,000 from Table 3-4). Table 3-5 below reflects our projections of revenue increases required during the forecast period in order for the Town to meet its ongoing operational costs (revenue requirements) and meet minimum prudent financial and system maintenance standards.

Table 3-5 Projected Rate Revenue Increases Fiscal Years Ending June 30	
Description	Sewer Rate Revenue Increases
2017-18	0.00%
2018-19	4.73%
2019-20	4.09%
2020-21	4.11%
2021-22	4.13%

A more detailed presentation of the pro forma, including a fund balance reconciliation is presented in Schedule B-2 of Appendix B.

3.1.6.7. Summary of Revenue Sufficiency Analysis

The resulting financial plan is presented in Table 3-6, which provides for funding of projected revenue requirements based on the current knowledge of expected expenditure forecasts during the forecast period, as provided by the Town, and is projected to meet or exceed the financial operations of the sewer utility. A more detailed presentation of the financial plan, including fund balance reconciliations for the full 10-year forecast period, is presented in Schedule B-2 of Appendix B.

Table 3-6					
Projected Net Operating Fund Results					
Fiscal Years 2017-18- to 2021-22					
(\$ thousands)					
Description	17-18	18-19	19-20	20-21	21-22
Beginning Fund Balance	\$7,245	\$8,010	\$8,738	\$9,472	\$10,213
Total Operating Revenue	6,639	6,970	7,272	7,590	7,925
Operating Expenses	<u>3,170</u>	<u>3,417</u>	<u>3,585</u>	<u>3,761</u>	<u>3,947</u>
Net Revenue	3,469	3,553	3,688	3,829	3,977
<u>Less:</u>					
CIP and Transfers Out	<u>2,704</u>	<u>2,826</u>	<u>2,954</u>	<u>3,088</u>	<u>3,229</u>
Net Cash Flow	765	727	734	741	748
Ending Fund Balance	\$8,010	\$8,738	\$9,472	\$10,213	\$10,961
Note: Variances are due to rounding values to the nearest \$1,000					

3.1.6.8. Revenue Sufficiency Analysis Conclusions

Based on the revenue requirements identified in our analysis, it is our opinion that:

- Revenue projections based on existing rates are insufficient to meet the revenue requirements for FY 2018-19 through FY 2021-22;
- Rate revenue adjustments are needed in order to keep pace with increasing O&M and capital costs; and
- The proposed rate revenue increases identified in Table 3-6, maintain the financial integrity of the Town’s sewer utility based upon the assumptions contained in this report.

3.2. Rate Design Analysis

3.2.1 General Methodology

With the rate revenue requirement determined in the Revenue Sufficiency Analysis, the development of specific rates and charges was completed as described below.

First, the rate design goals of the Town were reviewed to identify areas the Town wanted to address over the forecast period included in this Nexus Rate Study. Next, an assessment of the existing rate design was completed to identify areas which have worked well for the Town with regard to their specific goals and objectives, and the general goals and objectives of utility rate-making. In addition to the Town’s goals, rate design should seek to achieve the following industry standard objectives:

- Generate a stable rate revenue stream which, when combined with other sources of funds, is sufficient to meet the financial requirements and goals of the utility;
- Be fair and equitable – that is, they should generate revenue from customer classes which is reasonably in proportion to the cost to provide service to that customer class;
- Be easy to understand by customers;
- Be easy to administer by the utility; and
- Be compliant with State law, specifically Proposition 218, whereby the rates must be based upon the proportionate cost of providing sewer service.

This analysis was conducted consistent with the provisions of Proposition 218.

3.2.2 Review of Existing Rate Structure

The Town's current sewer rates are comprised of a flat monthly charge per equivalent dwelling unit (EDU), with the EDU being the basis for estimated sewer flow. As discussed in section 3.1.6.2, an EDU represents the estimated flow of a single family residential customer (245 gallons per day returned to the sewer system and 20 plumbing fixtures). In other words, each single-family customer is assigned 1 EDU. The Town does not provide treatment service for sewer flows, but rather collects and conveys the flows to the Victor Valley Wastewater Reclamation Authority ("VWVRA") for treatment. Therefore, there are no incremental costs to the Town for higher strength (Biological Oxygen Demand and Total Suspended Solids) flows from a given customer or type of customer; however, as the Town is charged for treatment based on the flows sent to VWVRA, those customers that produce more flows than a single-family residence should pay a proportionately higher monthly fee. This is not to say that a development or customer with higher flows should pay a higher unit cost or rate, but rather the fee assessed on a monthly basis should be reflective of their proportionate share of contributed sewer flows. If a property or customer contributes the equivalent flow of two single family residences, the monthly fee charged to this property or customer will be two times the monthly rate per single EDU. Willdan deems it is appropriate for the Town to charge a rate based on an EDU basis as there is not a different cost to the Town for treatment of flows from different customer classes; however, there is a direct correlation of costs incurred by the Town and the volume of flows the Town conveys to VWVRA.

3.2.3 Revised Rates

As discussed in Section 3.2.2, Willdan did not identify any problems with the Town’s existing sewer rate structure, and through discussions with Town staff it was determined that the existing sewer structure is effectively meeting the Town’s goals and is consistent with WEF rate making practices. As such, no changes are proposed to the current sewer rate structure itself, but the rates themselves are proposed to increase in an across-the-board manner consistent with the financial plan projections.

The Town does not track or monitor strength of sewer flows from its customers, nor does it meter sewer flows themselves from its customers, but rather projects flows for each customer based on plumbing fixture units (consistent with how VVWRA’s plumbing fixture assumptions used as the basis for charging the Town for treatment) and an assumption of 245 gallons of domestic sewage per 20 fixture units (or 12.25 gallons per day of domestic sewage flow per fixture unit as identified in Town Code Section 10.01.010 (w)). The example identified in section 3.1.6.2, illustrates that a commercial property with 162 PFUs, would represent 8.1 EDUs (162 / 20). Therefore, in allocating the costs equitably among the Town’s customer base the commercial property in the example would represents one account, but 20 EDUs based on its respective contributed sewer flows. Without the need to assess rates using strength characteristics, the rates were designed on a volume basis. The unit cost for flows is the same for all customers and types of customers; however, those customers contributing greater volumes of sewer flows are proposed to pay a proportionately higher monthly fee based on their volume of discharge. As such, the annual revenue requirements were divided by the projected number of EDUs for the same fiscal year to determine the annual fee per EDU. The annual value was then divided by 12 to determine the monthly rate per EDU as summarized in Table 3-7.

Table 3-7					
Proposed Sewer Rates					
Fiscal Years 2017-18 through FY 2021-22 (\$/EDU)					
Monthly Charge	17-18	18-19	19-20	20-21	21-22
Per EDU	\$31.43	\$32.92	\$34.26	\$35.67	\$37.14

The total revenue requirements by year and the anticipated rates per EDU from Table 3-7 can be found in Appendix C-2. Appendix C-2 identifies the annual revenue requirements to operate the sewer utility and the number of EDUs served on an annual basis (monthly EDUs multiplied by 12 months). The annual revenue requirements divided by the annual EDUs served determines the monthly rate per EDU.

3.2.4 Summary of the Nexus Rate Study

The Nexus Rate Study presented herein utilized generally accepted rate-making principles which resulted in the development of rates and charges which are projected to: 1) generate sufficient revenue to meet the financial requirements of the utility, 2) address the need to recover costs from users in a manner which is fair and equitable relative to service provided, and 3) meet the financial and rate design goals of the Town.

Section 4 - Conclusions and Recommendations

4.1. Conclusions

- Projected operating revenues and operating expenses for the forecast period were developed by, and/or in consultation with, Town staff and are based upon reasonable projections.
- The projected capital project expenses have been developed by Town staff to address sewer system renewal and replacement.
- Based on Conclusions 1 and 2 above, Willdan is of the opinion that the financial projections presented herein demonstrate the sewer utility's ability to meet its obligations with regard to:
 - Operating expenses,
 - Non-operating expenses,
 - Capital project expenses, and
 - Key financial policies, including maintenance of at least 3 months of operating reserve balances.
- The proposed rates presented herein are in conformance with industry standard rate-making practice, Proposition 218 and/or the Town's rate policies with respect to:
 - The fair and equitable recovery of costs through sewer rates;
 - Sewer rates based upon the proportionate cost of providing sewer collection services, and
 - Generation of sufficient revenue to fully recover system revenue requirements and reserve requirements.

4.2. Recommendations

- It is recommended that the Town implement the proposed rates presented in this Report for FY 2018-19 through FY 2021-22.
- It is recommended that the Town update the Revenue Sufficiency Analysis portion of this study each year to ensure projected revenue is sufficient to fund projected expenses going forward as assumptions made during this analysis may change and have a material impact upon the analysis.

APPENDIX A

Revenue Under Existing Rates										
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	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Rate per EDU	\$31.43	\$31.43	\$31.43	\$31.43	\$31.43	\$31.43	\$31.43	\$31.43	\$31.43	\$31.43
Annual EDUs	188,352	189,637	190,825	192,012	193,200	194,388	195,575	196,763	197,951	199,138
Annual Revenue	5,919,908	5,960,298	5,997,625	6,034,952	6,072,279	6,109,606	6,146,933	6,184,261	6,221,588	6,258,915

APPENDIX B

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>
Projected Population	72,021	72,478	72,973	73,430	73,887	74,344	74,801	75,258	75,715	76,172	76,629
Change in Population		457.0	457.0	457.0	457.0	457.0	457.0	457.0	457.0	457.0	457.0
Big Lots - EDUs			37.5								

Growth in Customers and Flow:

Rate Revenue	RR1 - Growth	0.0%	0.6%	0.7%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
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Percent of Year Rate Increase is Effective	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
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Cost Escalation Factors

Cost Description	Class Code	Escalator
Personnel	Personnel	3.00%
Operating	Operating	2.00%
Non Operating	Non Operating	3.00%
Electricity	Electricity	6.00%
Chemicals	Chemicals	4.00%
Other Capital	Other Capital	3.00%
Minor Capital	Minor Capital	3.00%
Transfers	Transfers	2.00%
Existing Bond Debt Service	Existing Bond Debt Service	0.00%
New Bond Debt Service	New Bond Debt Service	0.00%
Existing SRF Debt Service	Existing SRF Debt Service	0.00%
New SRF Debt Service	New SRF Debt Service	0.00%

Town of Apple Valley, CA
Pro Forma with Debt Service Coverage and Fund Balance Reconciliation

Line No		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	Operations											
1	Sewer Rate Revenue Increases	0.00%	0.00%	4.73%	4.09%	4.11%	4.13%	4.16%	2.64%	2.18%	2.23%	0.00%
	% of Year Rate Increase Effective	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
2	Beginning Unrestricted Fund Balance	\$ 6,052,947	\$ 7,244,981	\$ 8,010,110	\$ 8,737,570	\$ 9,471,887	\$ 10,213,047	\$ 10,961,204	\$ 11,716,505	\$ 12,478,375	\$ 13,246,661	\$ 14,021,463
3	Rate Revenue	\$ 6,300,000	\$ 5,957,472	\$ 6,281,906	\$ 6,579,562	\$ 6,892,612	\$ 7,221,885	\$ 7,568,250	\$ 7,815,513	\$ 8,030,524	\$ 8,255,157	\$ 8,489,915
4	Total Rate Revenue	\$ 6,300,000	\$ 5,957,472	\$ 6,281,906	\$ 6,579,562	\$ 6,892,612	\$ 7,221,885	\$ 7,568,250	\$ 7,815,513	\$ 8,030,524	\$ 8,255,157	\$ 8,489,915
5	Other Operating Revenue	637,000	637,000	637,000	637,000	637,000	637,000	637,000	637,000	637,000	637,000	637,000
6	Interest Income - Operating Fund	3,000	44,330	50,850	55,830	60,700	65,620	70,580	75,590	80,650	85,750	90,890
7	Total Operating Revenue	\$ 6,940,000	\$ 6,638,802	\$ 6,969,756	\$ 7,272,392	\$ 7,590,312	\$ 7,924,505	\$ 8,275,830	\$ 8,528,103	\$ 8,748,174	\$ 8,977,907	\$ 9,217,805
8	Operating Expenses	(2,982,384)	(3,169,507)	(3,416,542)	(3,584,512)	(3,761,221)	(3,947,138)	(4,142,750)	(4,348,575)	(4,400,848)	(4,454,212)	(4,508,700)
9	Net Revenue	\$ 3,957,616	\$ 3,469,295	\$ 3,553,214	\$ 3,687,880	\$ 3,829,091	\$ 3,977,367	\$ 4,133,080	\$ 4,179,528	\$ 4,347,326	\$ 4,523,695	\$ 4,709,105
	Plus:											
	Other Sources of Funds											
10	Transfers In	-	-	-	-	-	-	-	-	-	-	-
	Less:											
	Other Uses of Funds											
11	Minor Capital	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12	Major Capital Funded with Existing Reserves/Current Cash	(2,017,182)	(1,940,797)	(2,047,120)	(2,159,358)	(2,277,838)	(2,402,916)	(2,534,960)	(2,557,982)	(2,702,170)	(2,854,486)	(3,015,388)
13	Transfers Out	(748,400)	(763,368)	(778,635)	(794,208)	(810,092)	(826,294)	(842,820)	(859,676)	(876,870)	(894,407)	(912,295)
14	Non Operating Expenses	-	-	-	-	-	-	-	-	-	-	-
15	Existing SRF Debt Service	-	-	-	-	-	-	-	-	-	-	-
16	Existing Revenue Bond Debt Service	-	-	-	-	-	-	-	-	-	-	-
17	New Revenue Bond Debt Service	-	-	-	-	-	-	-	-	-	-	-
18	Net Cash Flow	\$ 1,192,034	\$ 765,129	\$ 727,460	\$ 734,316	\$ 741,161	\$ 748,157	\$ 755,301	\$ 761,870	\$ 768,286	\$ 774,802	\$ 781,422
19	Ending Unrestricted Fund Balance	\$ 7,244,981	\$ 8,010,110	\$ 8,737,570	\$ 9,471,887	\$ 10,213,047	\$ 10,961,204	\$ 11,716,505	\$ 12,478,375	\$ 13,246,661	\$ 14,021,463	\$ 14,802,886
20	Months of O&M and R&R Capital	29	30	31	32	33	33	34	34	36	38	39
21	Target Unrestricted Fund Balance	\$ 745,596	\$ 792,377	\$ 854,135	\$ 896,128	\$ 940,305	\$ 986,784	\$ 1,035,687	\$ 1,087,144	\$ 1,100,212	\$ 1,113,553	\$ 1,127,175
	Debt Service Coverage Calculations:											
	Revenue Bond Debt Service Coverage											
	Rate Covenant Debt Service Coverage Test:											
22	Net Revenue Available for Debt Service Coverage Test	\$ 3,957,616	\$ 3,469,295	\$ 3,553,214	\$ 3,687,880	\$ 3,829,091	\$ 3,977,367	\$ 4,133,080	\$ 4,179,528	\$ 4,347,326	\$ 4,523,695	\$ 4,709,105
	Revenue Bond Debt Service:											
23	Existing Revenue Bond Debt Service	-	-	-	-	-	-	-	-	-	-	-
24	New Revenue Bond Debt Service	-	-	-	-	-	-	-	-	-	-	-
25	Total Revenue Bond Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
26	Debt Service Coverage - Rate Covenant											
27	Debt Service Coverage Requirement	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
	Parity Debt Service Coverage Test:											
28	Net Revenue Available for Debt Service Coverage Test	\$ 3,957,616	\$ 3,469,295	\$ 3,553,214	\$ 3,687,880	\$ 3,829,091	\$ 3,977,367	\$ 4,133,080	\$ 4,179,528	\$ 4,347,326	\$ 4,523,695	\$ 4,709,105
29	Maximum Revenue Bond Debt Service	-	-	-	-	-	-	-	-	-	-	-
30	Debt Service Coverage - Parity Test											
31	Debt Service Coverage Requirement	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
	SRF Debt Service Coverage Test											
	SRF Test:											
32	Net Revenue Available for Debt Service Coverage Test	\$ 3,957,616	\$ 3,469,295	\$ 3,553,214	\$ 3,687,880	\$ 3,829,091	\$ 3,977,367	\$ 4,133,080	\$ 4,179,528	\$ 4,347,326	\$ 4,523,695	\$ 4,709,105
	Less:											
33	Existing Revenue Bond Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
34	Net Revenue Available for SRF Debt Service Coverage Test	\$ 3,957,616	\$ 3,469,295	\$ 3,553,214	\$ 3,687,880	\$ 3,829,091	\$ 3,977,367	\$ 4,133,080	\$ 4,179,528	\$ 4,347,326	\$ 4,523,695	\$ 4,709,105
35	Existing SRF Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
36	New SRF Debt Service	-	-	-	-	-	-	-	-	-	-	-
37	Total SRF Debt Service	-	-	-	-	-	-	-	-	-	-	-
38	Debt Service Coverage - SRF Test											
39	Debt Service Coverage Requirement	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10

Town of Apple Valley, CA
Beginning Fund Balance Reconciliation

BEGINNING BALANCES		
Line No:		Operations
1	Current assets:	
2	Cash and Investments	\$ 6,230,644
3	Accounts Receivable	692,233
4	Interest Receivable	11,742
5	Due From Other Governments	2,129
6		-
7		-
8		-
9		-
10		-
11		-
12	Total Current Assets	\$ 6,936,748
	Current Liabilities:	
13	Accounts Payable	\$ 243,199
14	Accrued Liabilities	21,526
15	Due to Other Governments	366,513
16	Unearned Revenue	207,968
17	Amounts Due to Bondholders	44,595
18	Certificates of Participation	-
19	Due to other funds	-
20	Deferred revenue	-
21	Total Current Liabilities	\$ 883,801
	Adjustments:	
22	Removal of Inventories (Not Liquid)	-
23	Other Assets (Unkown Cash)	-
24	Net Adjustments	\$ -
25	Net Beginning Balances (Curr Assets less Current Liabilities - with Adjustments)	\$ 6,052,947

Town of Apple Valley, CA
Revenue

Line No.	Summary												
Code	Description	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
1													
2	RR1	Rate Revenue	\$ 6,300,000	\$ 5,957,472	\$ 6,281,906	\$ 6,579,562	\$ 6,892,612	\$ 7,221,885	\$ 7,568,250	\$ 7,815,513	\$ 8,030,524	\$ 8,255,157	\$ 8,489,915
3	OR	Other Operating Revenue	637,000	637,000	637,000	637,000	637,000	637,000	637,000	637,000	637,000	637,000	637,000
4	TRIN	Transfers In	-	-	-	-	-	-	-	-	-	-	-
5	Sources - Fund 2	Sources of Funds - Fund 2	-	-	-	-	-	-	-	-	-	-	-
6	INT - Fund 1	Interest Earnings - Fund 1	3,000	44,330	50,850	55,830	60,700	65,620	70,580	75,590	80,650	85,750	90,890
7	INT - Fund 2	Interest Earnings - Fund 2	-	-	-	-	-	-	-	-	-	-	-
Line No.	Code	Description	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
8		Operations											
9													
10	RR1 - BEFORE GROWTH AND RATE	Rate Revenue	\$ 6,300,000	\$ 5,919,908	\$ 5,957,472	\$ 6,281,906	\$ 6,579,562	\$ 6,892,612	\$ 7,221,885	\$ 7,568,250	\$ 7,815,513	\$ 8,030,524	\$ 8,255,157
11	RR1 - Growth	Growth	0.00%	0.63%	0.68%	0.63%	0.62%	0.62%	0.61%	0.61%	0.61%	0.60%	0.60%
12		Revenue Increase	0.00%	0.00%	4.73%	4.09%	4.11%	4.13%	4.16%	2.64%	2.13%	2.18%	2.23%
13		Pct of Year Revenue Increase Effective	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
14	RR1	Total Rate Revenue - After Revenue Increase	\$ 6,300,000	\$ 5,957,472	\$ 6,281,906	\$ 6,579,562	\$ 6,892,612	\$ 7,221,885	\$ 7,568,250	\$ 7,815,513	\$ 8,030,524	\$ 8,255,157	\$ 8,489,915
15	OR	Feasibility Studies	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
16	OR	Lot Splits	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
17	OR	Administrative Fees	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000
18	OR	Buy In Fee	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
19	OR	Inspection Fees	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
20	OR	Local Sewer Connection Fees	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000
21	OR	Sewer Replacement Revenue	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000
22	OR	Storm Drainage Facilities	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
23	OR												
25		<u>Interest Earning Calculation</u>											
26		Average Balance	\$ -	\$ 4,433,000	\$ 5,085,000	\$ 5,583,000	\$ 6,070,000	\$ 6,562,000	\$ 7,058,000	\$ 7,559,000	\$ 8,065,000	\$ 8,575,000	\$ 9,089,000
27		Assumed Interest Earnings Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
28	INT - Fund 1	Projected Interest Earnings	\$ 3,000	\$ 44,330	\$ 50,850	\$ 55,830	\$ 60,700	\$ 65,620	\$ 70,580	\$ 75,590	\$ 80,650	\$ 85,750	\$ 90,890

Town of Apple Valley, CA
Expenses Other than Major Capital Expenses

Line No:		Summary - Operations												
FUND #	Expense Code	Description	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
1	Operating	Operating	\$ 2,982,384	\$ 3,169,507	\$ 3,416,542	\$ 3,584,512	\$ 3,761,221	\$ 3,947,138	\$ 4,142,750	\$ 4,348,575	\$ 4,400,848	\$ 4,454,212	\$ 4,508,700	
2	Non Operating	Non Operating	-	-	-	-	-	-	-	-	-	-	-	
3	Minor Capital	Minor Capital	-	-	-	-	-	-	-	-	-	-	-	
4	Transfers	Transfers	748,400	763,368	778,635	794,208	810,092	826,294	842,820	859,676	876,870	894,407	912,295	
5	Existing Bond Debt Service	Existing Bond Debt Service	-	-	-	-	-	-	-	-	-	-	-	
6	New Bond Debt Service	New Bond Debt Service	-	-	-	-	-	-	-	-	-	-	-	
7	Existing SRF Debt Service	Existing SRF Debt Service	-	-	-	-	-	-	-	-	-	-	-	
8	New SRF Debt Service	New SRF Debt Service	-	-	-	-	-	-	-	-	-	-	-	
9	TOTAL	TOTAL	3,730,784	3,932,875	4,195,177	4,378,720	4,571,313	4,773,432	4,985,570	5,208,251	5,277,718	5,348,619	5,420,995	

Detail																
FUND #	Cost Allocation Code	Cost Escalation Factor Code	Expense Code	Annual Expense Escalation Factor	EXPENSES	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Operations																
Personnel Services																
13	Sewer - Admin	Personnel	Operating	3.0%	Salaries & Wages - Permanent	385,248	396,805	408,709	420,970	433,599	446,607	460,005	473,805	488,019	502,860	517,740
14	Sewer - Admin	Personnel	Operating	3.0%	Salaries & Wages - Overtime	15,000	15,450	15,914	16,391	16,883	17,389	17,911	18,448	19,001	19,571	20,158
15	Sewer - Admin	Personnel	Operating	3.0%	Califeria Benefits	68,375	70,426	72,539	74,715	76,956	79,265	81,643	84,092	86,615	89,213	91,889
16	Sewer - Admin	Personnel	Operating	3.0%	Deferred Comp	3,336	3,436	3,539	3,645	3,754	3,867	3,983	4,102	4,225	4,352	4,483
17	Sewer - Admin	Personnel	Operating	3.0%	RHS	1,861	1,917	1,975	2,034	2,095	2,158	2,223	2,290	2,359	2,430	2,503
18	Sewer - Admin	Personnel	Operating	3.0%	Medicare	5,586	5,754	5,927	6,105	6,289	6,477	6,671	6,871	7,077	7,289	7,508
19	Sewer - Admin	Personnel	Operating	3.0%	PERS	90,303	93,012	95,802	98,676	101,636	104,685	107,826	111,061	114,393	117,825	121,360
Operations & Maintenance																
20																
21	Sewer - Coll	Operating	Operating	2.0%	Uniforms	4,000	4,080	4,162	4,245	4,330	4,417	4,505	4,595	4,687	4,781	4,877
22	Sewer - Coll	Operating	Operating	2.0%	Banking Fees - Check 21	1,100	1,122	1,144	1,167	1,190	1,214	1,238	1,263	1,288	1,314	1,340
23	Sewer - Coll	Operating	Operating	2.0%	Disposal	1,800	1,836	1,873	1,910	1,948	1,987	2,027	2,068	2,109	2,151	2,194
24	Sewer - Coll	Operating	Operating	2.0%	Education & Training	3,700	3,774	3,849	3,926	4,005	4,085	4,167	4,250	4,335	4,422	4,510
25	Sewer - Coll	Operating	Operating	2.0%	Meetings & Conferences	175	179	183	187	191	195	199	203	207	211	215
26	Sewer - Coll	Operating	Operating	2.0%	Memberships & Dues	2,050	2,091	2,133	2,176	2,220	2,264	2,309	2,355	2,402	2,450	2,499
27	Sewer - Coll	Operating	Operating	2.0%	Mileage	100	102	104	106	108	110	112	114	116	118	120
28	Sewer - Coll	Operating	Operating	2.0%	Miscellaneous	500	510	520	530	541	552	563	574	585	597	609
29	Sewer - Coll	Operating	Operating	2.0%	Office Supplies	300	306	312	318	324	330	337	344	351	358	365
30	Sewer - Coll	Operating	Operating	2.0%	Printing	2,100	2,142	2,185	2,229	2,274	2,319	2,365	2,412	2,460	2,509	2,559
31	Sewer - Coll	Operating	Operating	2.0%	0109 Utilities phones/ cell phones	7,000	7,140	7,283	7,429	7,578	7,730	7,885	8,043	8,204	8,368	8,535
32	Sewer - Coll	Operating	Operating	6.0%	0847 Utilities Electricity usage	62,000	65,720	69,663	73,843	78,274	82,970	87,948	93,225	98,819	104,748	111,033
33	Sewer - Coll	Operating	Operating	6.0%	0848 Utilities Natural gas usage	1,000	1,060	1,124	1,191	1,262	1,338	1,418	1,503	1,593	1,689	1,790
34	Sewer - Coll	Operating	Operating	2.0%	0849 Utilities Water usage	5,000	5,100	5,202	5,306	5,412	5,520	5,630	5,743	5,858	5,975	6,095
35	Sewer - Coll	Operating	Operating	2.0%	Bad Debt	23,800	24,276	24,762	25,257	25,762	26,277	26,803	27,339	27,886	28,444	29,013
36	Sewer - Coll	Operating	Operating	2.0%	Safety & Security	350	357	364	371	378	386	394	402	410	418	426
37	Sewer - Coll	Operating	Operating	2.0%	Building Maintenance	5,000	5,100	5,202	5,306	5,412	5,520	5,630	5,743	5,858	5,975	6,095
38	Sewer - Coll	Operating	Operating	2.0%	Grounds Maintenance	600	612	624	636	649	662	675	689	703	717	731
39	Sewer - Coll	Operating	Operating	2.0%	System Maintenance	75,000	76,500	78,030	79,591	81,183	82,807	84,463	86,152	87,875	89,633	91,426
40	Sewer - Coll	Operating	Operating	2.0%	Sewage Treatment	2,100,000	2,261,258	2,481,588	2,621,986	2,770,219	2,926,721	3,091,948	3,266,380	3,286,215	3,306,050	3,325,885
41	Sewer - Coll	Operating	Operating	2.0%	Small Tools	750	765	780	796	812	828	845	862	879	897	915
42	Sewer - Coll	Operating	Operating	2.0%	ACS	50,000	51,000	52,020	53,060	54,121	55,203	56,307	57,432	58,582	59,754	60,949
43	Sewer - Coll	Operating	Operating	2.0%	Contracted Services	20,000	20,400	20,808	21,224	21,648	22,081	22,523	22,973	23,432	23,901	24,379
44	Sewer - Coll	Operating	Operating	2.0%	Engineering Contractor	6,000	6,120	6,242	6,367	6,494	6,624	6,756	6,891	7,029	7,170	7,313
45	Sewer - Coll	Operating	Operating	2.0%	Communication Equipment	1,000	1,020	1,040	1,061	1,082	1,104	1,126	1,149	1,172	1,195	1,219
46	Sewer - Coll	Operating	Operating	2.0%	Equipment Maintenance	2,500	2,550	2,601	2,653	2,706	2,760	2,815	2,871	2,928	2,987	3,047
47	Sewer - Coll	Operating	Operating	2.0%	Gasoline, Diesel & oil	27,000	27,540	28,091	28,653	29,226	29,811	30,407	31,015	31,635	32,268	32,913
48	Sewer - Coll	Operating	Operating	2.0%	Leased Equipment	350	357	364	371	378	386	394	402	410	418	426
49	Sewer - Coll	Operating	Operating	2.0%	Safety Equipment	500	510	520	530	541	552	563	574	585	597	609
50	Sewer - Coll	Operating	Operating	2.0%	Vehicle Maintenance	9,000	9,180	9,364	9,551	9,742	9,937	10,136	10,339	10,546	10,757	10,972
51	Sewer - Existing DS	Existing Bond Debt Service	Existing Bond Debt Service	0.0%	Existing Debt Service - Revenue Bonds	-	-	-	-	-	-	-	-	-	-	-
52	Sewer - Existing SRF DS	Existing SRF Debt Service	Existing SRF Debt Service	0.0%	Existing SRF Debt Service	-	-	-	-	-	-	-	-	-	-	-
53	Sewer - Transfers	Transfers	Transfers	2.0%	Interfund Transfer	748,400	763,368	778,635	794,208	810,092	826,294	842,820	859,676	876,870	894,407	912,295
54	Sewer - Admin	Transfers	Transfers	0.0%	Transfer to Repair and Replacement Fund	-	-	-	-	-	-	-	-	-	-	-
55	Sewer - Transfers	Transfers	Transfers	0.0%	Loan to PIF Fund	-	-	-	-	-	-	-	-	-	-	-

Town of Apple Valley, CA
CIP (Inflated)

Line No:	Service	Description	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
1		Capital Projects											
2	Sewer	Ramona Avenue Sewer Repair and Laterals	\$30,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	Sewer	Sewer Main Replacement, Various Locations	100,000	-	-	-	-	-	-	-	-	-	-
4	Sewer	Sewer Manhole Rehabilitation, Various Locations	100,000	100,000	102,560	105,186	107,878	110,640	113,472	-	-	-	-
5	Sewer	Depreciation	1,787,182	1,840,797	1,944,560	2,054,170	2,169,960	2,292,276	2,421,487	2,557,982	2,702,170	2,854,486	3,015,388
		Total	\$ 2,017,182	\$ 1,940,797	\$ 2,047,120	\$ 2,159,356	\$ 2,277,838	\$ 2,402,916	\$ 2,534,960	\$ 2,557,982	\$ 2,702,170	\$ 2,854,486	\$ 3,015,388

Current Day Dollars		Description	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
		Capital Projects											
		Ramona Avenue Sewer Repair and Laterals	\$30,000										
		Sewer Main Replacement, Various Locations	100,000										
		Sewer Manhole Rehabilitation, Various Locations	100,000	100,000	100,000	100,000	100,000	100,000	100,000				
		Depreciation	1,787,182	1,840,797	1,896,021	1,952,902	2,011,489	2,071,834	2,133,989	2,198,008	2,263,949	2,331,867	2,401,823
		Total	\$ 2,017,182	\$ 1,940,797	\$ 1,996,021	\$ 2,052,902	\$ 2,111,489	\$ 2,171,834	\$ 2,233,989	\$ 2,198,008	\$ 2,263,949	\$ 2,331,867	\$ 2,401,823

APPENDIX C

Town of Apple Valley, CA
Calculation of Fixed Charge Rates/ Revenue - Sewer

Line No:			
1	Total Sewer Revenue Target - FY 2017-18	\$	5,957,472
2	Percent from Fixed Charge		100%
3	Total Fixed Charge Revenue Requirement - Sewer	\$	5,957,472
4	Total Equivalent Meters		188,352
5	Monthly Sewer Fixed Charge per EDU	\$	31.63

Class -->		SFR	MFR	COM	IND	Total	Calculation of Equivalent Units			
Meter Size	Billing Basis-->	Bills	Bills	Bills	Bills	Total	Bills	Equiv. Factor	Inside / Outside Factor	Equivalent Meters
EDUs		109,332		79,020		188,352	188,352	1.00	1.00	188,352
Total						188,352	188,352			188,352

Rate Design

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Annual Cost	\$5,873,673	\$6,242,296	\$6,538,076	\$6,849,151	\$7,176,348	\$7,520,529	\$7,766,233	\$7,979,888	\$8,203,105
Annual EDUs	188,352	189,637	190,825	192,012	193,200	194,388	195,575	196,763	197,951
Rate per EDU	31.18	32.92	34.26	35.67	37.14	38.69	39.71	40.56	41.44

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Rate per EDU ⁽¹⁾	\$31.43	\$32.92	\$34.26	\$35.67	\$37.14	\$38.69	\$39.71	\$40.56	\$41.44
Change from Prior Year - \$		1.49	1.35	1.41	1.47	1.54	1.02	0.85	0.88
Change from Prior Year - %		4.73%	4.09%	4.11%	4.13%	4.16%	2.64%	2.13%	2.18%

(1) FY 2018 reflects the current sewer rate



27368 Via Industria, Suite 200
Temecula, California 92590-4856
800.755.6864 | 951.587.3500 | Fax: 951.587.3510
www.willdan.com