Stantec

City of Manteca

2025 Final Sewer System Capacity Charge Study

January 18, 2025

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Mr. Somporn Boonsalat
Deputy Director
City of Manteca | Engineering Dept.
1001 W. Center St. | Manteca, CA 95337

Subject:
2025 Sewer System Capacity Charge Study –Final Report

Dear Mr. Boonsalat,

Stantec Consulting is pleased to provide you with this Final Report of the findings of the Sewer System Capacity Charge Study that was completed for the City of Manteca. Stantec appreciates the assistance provided by you and all the members of the City staff who participated and contributed to the Study. If you or others at the City have any questions, please do not hesitate to call either point of contact, listed below.

Sincerely,

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Enclosure

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1. INTRODUCTION

Stantec Consulting Services Inc. (Stantec) has conducted a Sewer Capacity Charge (also referred to as Connection Fee) Study (Study) for the City of Manteca's sewer system (hereafter referred to as the "City"). This report presents the results of the comprehensive study, including background information, our understanding of legislative requirements, an explanation of the calculation methodology employed, and the results of the analysis.

1.1 BACKGROUND

The City of Manteca owns and operates a wastewater quality control facility (WQCF), which currently provides wastewater treatment service to approximately 30,100 accounts. Stantec was hired to conduct a Capacity Charge Study to evaluate the current sewer system capacity charge structure and to recommend alternative methodologies that could be used in future capacity charge updates.

1.2 CAPACITY CHARGES/CONNECTION FEES[1]

In publicly owned utilities, rate payers finance the construction, renewal, and replacement of system assets through user fees and other fees or charges. When new connections are added to the utility system, they receive services through infrastructure funded by existing customers. It is common for utilities to impose capacity charges on new connections to finance capital improvements that will serve the growth of both existing and new customers.

Capacity charges in the City of Manteca are one-time fees charged to new development to pay for the proportional share of sewer service facilities attributable to new developments. In other words, capacity charges are assessed to new customers or expansions of existing customers, as a mechanism by which growth can "pay its own way." This minimizes the extent to which existing customers must bear the cost of facilities that will be used to serve new customers. Utilities apply capacity charges to fund the expansion of capital projects related to the collection and treatment of wastewater including costs associated with acquisition, financing, and construction of improvements or extensions to wastewater systems.

1 California Government Code Section 66013 makes a distinction that "Connection Fees" denote the physical connection of a building to a water or sewer system whereas Capacity Charges are intended to help recover the cost of existing or new facilities to be constructed that will benefit new development. However, while the City of Manteca has historically referred to Capacity Charges as Connection Fees, the term Capacity Charges will be used throughout the remainder of this is report in lieu of the term connection fee for consistency with Government Code.

1.3 UNDERSTANDING OF CALIFORNIA GOVERNMENT CODE PERTAINING TO CAPACITY CHARGES[2]

It is our understanding that utilities have the authority to assess capacity charges to new developments to help fund their proportional share of new or existing facilities and assets that are necessary to provide utility service. This section of the report has been prepared to describe the procedural and substantive requirements for imposing capacity charges, as established by the broader Mitigation Fee Act (AB1600) which was codified in California Government Code Section 66000 *et seq.* Although capacity charges for sewer are only subject to limited provisions of California Government Sections 66000 *et seq*, [3] this section provides the information required under Government Code section 66001 for the adoption of impact fees. This information is not required for the adoption or increase of capacity fees but is being provided to increase transparency regarding the proposed charge update. The Mitigation Fee Act requires that a "reasonable" relationship, or "nexus", exists between the amount of the capacity charge and the cost of the public facility or portion of the public facility attributable to the development on which the fee is imposed.

- Identify the purpose of the sewer system capacity charge:

  The sewer system capacity charge provides funding for existing and future public facilities that are of proportional benefit to the persons or properties that will pay the capacity fee.

- Identify how the sewer system capacity charge is to be used:

  The sewer system capacity charge will fund the costs associated with providing sewer facilities that serve new growth.

- Demonstrate how a reasonable relationship exists between the sewer system capacity charge's use and the type of development project on which the capacity charge is imposed:

  There is a reasonable relationship between the sewer system capacity charge's use and the projects on which it is imposed because the sewer system capacity fee revenues will be used to fund facilities that are of proportional benefit to the development projects being charged.

- Determine how a reasonable relationship exists between the need for the public facility and the type of development project on which the sewer system capacity charge is imposed:

2 Stantec is a professional services consulting firm and as such, does not practice law or provide legal advice. Information presented in this report is intended to provide a general review of the apparent state and institutional constraints on setting capacity charges, sometimes also known as Connection Fees as they are in the City of Manteca. The City of Manteca should seek the advice of legal counsel for clarification and/or review of the specific statutory requirements for Capacity Charges.

3 See CA Gov. Code § 66013 (h), fees and charges subject to 66013 are not subject to the provisions of Chapter 5 (commencing with Section 66000), but are subject to the provisions of Sections 66016, 66022 and 66023.

Each new development or property with increased capacity needs will benefit from the existing wastewater facilities and capacity provided by the City. The sewer system capacity charge will be used to fund projects that will maintain this level of service and availability of capacity.

- Demonstrate a reasonable relationship between the amount of the sewer system capacity charge and the cost of the public facility or portion of the public facility attributable to the development on which the capacity charge is imposed:

  The sewer system capacity charge to be collected for wastewater facilities connected to a new development or an existing development with increased use is calculated based on the connection's proportionate share of the wastewater infrastructure costs that provides sufficient capacity within the wastewater system. The demand of new or upsized connections are measured in Equivalent Dwelling Units (EDUs), which are based on the average wastewater contribution of a residential household in the City's service area. The sewer system capacity charges are calculated based on the costs of future facilities that will provide sewer system capacity to new development. Residential sewer system capacity charges are based on estimates of sewer flow and loadings per residential unit. The projected wastewater use of larger connections is approximated based on the size of the water meter being installed, its corresponding flow potential and expected wastewater strength. Sewer flow is typically not metered so the use of a water meter size equivalent schedule is a reasonable approach to allow for proportionate allocation of costs to new connections based on the relative benefit received by each new connection.

1.4 GENERAL METHODOLOGY

There are three primary approaches to the calculation of capacity charges. Each of the approaches is discussed below.

1.Buy-In Method

This approach determines the capacity charges solely on the existing sewer system assets. The replacement cost of the sewer system's major functional components serves as the cost basis for the capacity charge calculation. This approach is most appropriate for a system with ample excess capacity, such that most new connections to the system will be served by that existing excess capacity and the customers are effectively "buying-in" to the existing system.

2. Incremental Cost Method

The second approach utilizes the portion of the sewer system's multi-year capital improvement program (CIP) associated with the provision of additional system capacity by functional system component as the cost basis for the capacity charge calculation. This approach is most appropriate where 1) the existing system has limited or no excess capacity to accommodate growth, and 2) the CIP contains a significant number of projects that provide additional system capacity.

3.Hybrid Cost Method

The third approach is a combination of the two previously described approaches. This hybrid cost approach is most appropriate when 1) there is excess capacity in the current system that will accommodate some growth, but additional capacity is needed in the near-term and 2) the CIP includes a significant number of projects that will provide additional system capacity.

Table 1-1 summarizes each of the three methodologies, their typical application, and restriction of how the revenues can be utilized for each.

Table 1-1 Description of Methodologies & Restriction to Proceeds

Approach:	Description:	Often Used by Systems With:
Buy-In Cost Method	New development shares in capital costs previously incurred to provide existing capacity still available to new development.	Limited additional growth in demand; Sufficient excess current capacity exists to accommodate anticipated growth.
Incremental Cost Method	New development share in capital costs to be incurred in the future which will provide capacity for new development.	Significant projected development or growth in demand. Limited or no excess current capacity.
Hybrid Cost Method	Combination of Buy-In and Incremental Cost methods.	Some available current capacity but not enough to serve all anticipated near-term growth.

After discussions with city staff, it was determined that the Incremental Cost Method is the most appropriate approach for calculating the capacity charges for the city's sewer system. The primary reason is that the treatment plant is facing challenges in meeting new NPDES permit requirements, leaving no excess capacity to accommodate growth beyond the permitted limits. Therefore, the Incremental Cost Method is best suited to ensure that growth-related costs are equitably allocated and accurately reflect the city's current cost of capacity.

2. BASIS OF ANALYSIS

Using the Incremental Cost approach requires identifying the system value associated with the future capacity required to serve projected new development. The following outlines the process to determine the net system value (cost basis) for the sewer system under the Incremental Cost approach.

1) The infrastructure needed to expand the wastewater treatment facilities to serve new development was identified in the City of Manteca's recently adopted Wastewater Master Plan.
2) Future projects under the Public Facilities Implementation Plan (PFIP) are excluded from the calculations, as they will be funded through PFIP funds.
3) Spending on growth-related capital projects over the next 10 years as identified in the City's official Capital Improvement Plan (CIP) are incorporated. This includes projects designated to add new capacity to the sewer system, whether partially or entirely. While a 20-year Master Plan has been identified, the capacity charge calculation focuses on a 10-year time frame.

The following section outlines the details of the analysis completed during the Study to calculate the sewer capacity charges.

2.1 SYSTEM VALUE

As previously stated, the Incremental Cost Method was selected for the evaluation of the city's capacity charges and includes the system's cost for the additional capacity associated with the capital spending planned to expand the sewer systems capacity.

2.1.1 Incremental Cost System Value

The city provided a 10-year, $485.5 million Capital Improvement Plan (CIP) that is part of the 20-year Master Plan, which included the project description, total spending, and an indication of whether the project was designated for expansion or rehabilitation. To calculate the total Incremental Cost value component for the capacity charges, all expansion-related projects that would increase capacity and support growth were identified. It is important to include all project costs, and all the capacity related to these projects to result in an overall total cost of the expansion of the system. The expansion projects total approximately $231.5 million, representing 48% of the total projects within the CIP.

The majority of the total expansion costs, $151.3 million, relate to the WQCF Phase IV Stage 1 Expansion project. The remaining costs are associated with additional projects including the North and South Plant Aeration Basins Improvements and Sidestream Treatment System. Stantec engineers, who worked on the 2024 Wastewater Master plan, provided guidance on the allocations of existing assets and CIP projects to functional components of sewer treatment and the constituents associated with wastewater treatment including Flow, TSS, BOD and Nitrogen. Table 2-1 summarizes the project costs by flow and strength. The full sewer system capital improvement plan is provided in the Appendix to the report.

Table 2-1 Expansion Related Capital Projects for the Sewer System

Component	Total CIP Costs	Component %
Flow	$71,223,122	30.8%
TSS	$54,368,966	23.5%
BOD	$54,368,966	23.5%
Nitrogen	$51,516,937	22.2%
Total	**$231,477,991**	**100.0%**

2.2 INCREMENTAL SEWER SYSTEM CAPACITY

The next step is to express the incremental system's capacity in terms of EDUs. The city's sewer system consists of the WQCF and a collection system with gravity mains, force mains, and pump stations. To evaluate the capacity of the system, Stantec looked at the design capacity of the treatment system with regards to flow and loading capacity, current and future, as well as the observed average daily flows.

2.2.1 Defining Incremental Capacity Added

The city's WQCF is certified to treat an average daily flow of 6.36 million gallons per day (MGD)[4]. The expansion projects included in the CIP will increase the total treatment capacity of the WQCF to 12.89 MGD, an increase of 6.52 MGD. The sewer system provides collection services, or 'flow,' as well as sewer treatment. The target average influent flow and loading concentration for BOD, TSS and Nitrogen associated with the incremental CIP projects needed to serve new development are shown in Table 2-4 below.

Table 2-4 Incremental Capacity

Function	Unit	Current Capacity[4]	Capacity with Phase IV, Stage 1[5]	Incremental Capacity
Flow	MGD	6.36	12.89	**6.53**
TSS	lb/day	16,591	33,601	**17,010**
BOD	lb/day	22,121	44,800	**22,679**
Nitrogen	lb/day	3,568	7,226	**3,658**

2.2.2 Defining EDU Demand Factors

To establish system capacity in terms of EDUs, it is necessary to define the demand factors for an EDU. This is typically based on the demand characteristics of an average single-family residential customer. The

4 Table ES-9, page ES.43 in the City of Manteca Wastewater Master Plan

5 Table ES-8, page 10.27 in the City of Manteca Wastewater Master Plan

city's Wastewater Master Plan identifies the current level of service for the flow component of sewer service for a single-family customer or 1 EDU as 195 gpd.[6] To determine reasonable residential loading factors, the level of service of 195 gpd is applied to the assumed single family average daily concentration for each wastewater parameter. Using this data, Stantec estimated the concentrations of single-family household flows, and the resulting daily lbs/day are shown in Table 2-5.[7]

Table 2-5 EDU Daily Loadings

Function	Assumed Concentration (mg/L)	Coefficient (lb*L/mg*MG)	Daily Loading (lbs/day)
TSS	310	8.34	**0.5041**
BOD	325	8.34	**0.5285**
Nitrogen	43	8.34	**0.0699**

2.2.3 Calculating Incremental Demand in Terms of EDUs

System capacity was calculated independently for each of the influent characteristics including flow, TSS, BOD and Nitrogen. The total available incremental capacity, in terms of millions of gallons per day (MGD) and pounds per day (lbs/day), is divided by the estimated contributions from a single-family residential customer to determine the total number of equivalent dwelling units (EDUs) that the incremental capacity can potentially serve. Table 2-6 provides a summary of the calculation and defines the incremental capacity. As shown in Table 2-6 below, flow is the limiting constituent factor (lowest EDUs), so the effective incremental system capacity is 33,487 EDUs. Flow is typically the limiting factor when designing a new biological treatment system because flow is the only variable that is controllable. TSS, BOD, and Nitrogen varies depending on what user discharge and the amount of Nitrogen removal required is depended on the NPDES permit issued by the State, which is subject to change. The existing wastewater treatment plant was designed as a conventional activated sludge plant and has had may changes/upgrades throughout the years and was not optimized for BOD and Nitrogen removal. The new plant expansion will incorporate Membrane Bio-Reactor technology that will be optimized for BOD and Nitrogen removal, therefore flow will be the limiting factor of the technology.

[6] Level of Service defined on page ED.68 of the City of Manteca Wastewater Master Plan

[7] An engineering coefficient factor of 8.34 was applied to convert mg/L to lbs/day.

Table 2-6 Calculation of Incremental Capacity in Terms of EDUs

Functional Component	Flow	TSS	BOD	Nitrogen
Incremental Capacity (MGD or lbs) (1)	6.53	17,010	22,679	3,685
Estimated Level of Service Per EDU (gpd or lbs/day) (2)	195	0.5041	0.5285	0.0699
Calculate System Capacity (EDUs) (3) = (1) / (2) * 1,000,000 (for Flow only)	**33,487**	**33,743**	**42,912**	**52,718**
Effective System Capacity (EDUs)	**33,487**	**33,487**	**33,487**	**33,487**

2.3 UNIT COST OF CAPACITY

The unit cost of capacity is calculated by dividing the expanded system value for each functional component by the limiting incremental capacity of the system in terms of EDUs, which is flow. The incremental cost approach takes the value of the future expanded system and divides it by the future limiting capacity and system loadings, assuming the per EDU flow and constituent treatment loadings shown in Table 2-7.

Table 2-7 Incremental Method Calculation of System Capacity Charge per EDU

Functional Component	Flow	TSS	BOD	Nitrogen
Expansion Capital Costs (1)	$71,223,122	$54,368,966	$54,368,966	$51,516,937
System Capacity (EDUs) (2)	33,487	33,487	33,487	33,487
EDU Cost of Capacity* (3) = (1)/(2)	$2,127	$1,623	$1,623	$1,538
Estimated Level of Service Per EDU (gpd or lbs/day)	195	0.5041	0.5285	0.0699
Unit Cost of Capacity per gallons or pound*	$10.91	$3,220.40	$3,071.77	$21,998.97

*Rounding of the underlying values in the table above accounts for slight differences in system capacity calculations compared to hand calculations.

The aggregate sewer system capacity charges for customers with one single family dwelling unit, representing 1 EDU, is determined by taking the sum of the functional component charge elements, which totals $6,911 per EDU. The flow assumption for all customers with one single family dwelling unit is 195 gpd and the loading factors are summarized in the previous Table 2-6. Table 2-8 expands the schedule of residential fees by including multi-family and mobile homes, which are assumed to have the same loadings but different gallon per day per dwelling unit usage assumptions, given wastewater flows are typically not individually metered. Thus, the per unit fee scales by the usage assumption.

Table 2-8: Single Family and Equivalent Sewer Fee Schedule

Residential Type	Fee Application	GPD	Calculated Fee Schedule
Single Family	Per Unit	195	$6,911
Multi Family	Per Unit	137	$4,856
Mobile Home	Per Unit	121	$4,289

In addition to residential connections, the City has three classifications for commercial users based on differences in wastewater contribution strength: low, medium, and high. Table 2-9 displays the relevant assumptions for commercial users from a strength perspective including TSS, BOD, and N loadings. Single family assumptions are also shown in Table 2-9 as a point of comparison since the unit cost of capacity is based on the single family EDU and scales accordingly. Although flow is the limiting capacity component, non-residential uses typically vary by the strength of loading factors whereas residential units are assumed to be consistent in terms of relative strength loading factors (e.g., TSS, BOD and Nitrogen). Hence the commercial fee schedule in Tables 2-11, 2-13, 2-15 are a combination of the assumed loading units of service in tables 2-10, 2-12, and 2-14 as well as the unit cost of capacity shown in the tables.

Table 2-9: Single Family and Commercial Loading Assumptions

Connection Type	Fee Application	TSS (mg/l)	BOD (mg/l)	N (mg/l)
Single Family	Per Unit	310	325	43
Low Commercial	Meter Size	135	164	24
Medium Commercial	Meter Size	215	256	23
High Commercial	Meter Size	624	970	49

Table 2-10: Low Strength Commercial Units of Service

Meter Size	GPD	TSS (lb)	BOD (lb)	Nitrogen (lb)
5/8" x 3/4"	195	0.22	0.27	0.04
1"	325	0.36	0.44	0.07
1.5"	650	0.73	0.89	0.13
2"	1,040	1.17	1.42	0.21
3"	2,275	2.55	3.10	0.46
4"	4,095	4.60	5.59	0.83
6"	10,400	11.67	14.19	2.11
8"	18,200	20.43	24.82	3.68

Table 2-11: Low Strength Commercial Fees

Meter Size	GPD	TSS (lb)	BOD (lb)	Nitrogen (lb)	Total*
Unit Cost	**$10.91**	**$3,220.40**	**$3,071.77**	**$21,998.97**	
5/8" x 3/4"	$2,126.88	$704.81	$817.02	$868.32	**$4,517**
1"	$3,544.80	$1,174.68	$1,361.71	$1,447.20	**$7,528**
1.5"	$7,089.59	$2,349.36	$2,723.41	$2,894.40	**$15,057**
2"	$11,343.35	$3,758.97	$4,357.46	$4,631.04	**$24,091**
3"	$24,813.57	$8,222.75	$9,531.94	$10,130.41	**$52,699**
4"	$44,664.42	$14,800.95	$17,157.50	$18,234.74	**$94,858**
6"	$113,433.46	$37,589.72	$43,574.59	$46,310.45	**$240,908**
8"	$198,508.55	$65,782.01	$76,255.54	$81,043.28	**$421,589**

*Rounding of the underlying values in the table above accounts for slight differences in system capacity calculations compared to hand calculations.

Table 2-12: Medium Strength Commercial Units of Service

Meter Size	GPD	TSS (lb)	BOD (lb)	Nitrogen (lb)
5/8" x 3/4"	195	0.35	0.42	0.04
1"	325	0.58	0.69	0.06
1.5"	650	1.16	1.39	0.13
2"	1,040	1.86	2.22	0.20
3"	2,275	4.08	4.86	0.44
4"	4,095	7.34	8.74	0.80
6"	10,400	18.64	22.20	2.02
8"	18,200	32.61	38.85	3.54

Table 2-13: Medium Strength Commercial Fees

Meter Size	GPD	TSS (lb)	BOD (lb)	Nitrogen (lb)	Total*
Unit Cost	**$10.91**	**$3,220.40**	**$3,071.77**	**$21,998.97**	
5/8" x 3/4"	$2,126.88	$1,125.30	$1,278.71	$834.23	**$5,365**
1"	$3,544.80	$1,875.50	$2,131.19	$1,390.39	**$8,942**
1.5"	$7,089.59	$3,751.00	$4,262.38	$2,780.78	**$17,884**
2"	$11,343.35	$6,001.61	$6,819.80	$4,449.25	**$28,614**
3"	$24,813.57	$13,128.51	$14,918.32	$9,732.73	**$62,593**
4"	$44,664.42	$23,631.32	$26,852.98	$17,518.91	**$112,668**
6"	$113,433.46	$60,016.06	$68,198.05	$44,492.46	**$286,140**
8"	$198,508.55	$105,028.11	$119,346.58	$77,861.81	**$500,745**

*Rounding of the underlying values in the table above accounts for slight differences in system capacity calculations compared to hand calculations.

Table 2-14: High Strength Commercial Units of Service

Meter Size	GPD	TSS (lb)	BOD (lb)	Nitrogen (lb)
5/8" x 3/4"	195	1.01	1.58	0.08
1"	325	1.69	2.63	0.13
1.5"	650	3.38	5.26	0.27
2"	1,040	5.41	8.41	0.43
3"	2,275	11.83	18.40	0.93
4"	4,095	21.29	33.12	1.68
6"	10,400	54.08	84.11	4.26
8"	18,200	94.64	147.20	7.45

Table 2-15: High Strength Commercial Fees

Meter Size	GPD	TSS (lb)	BOD (lb)	Nitrogen (lb)	Total*
Unit Cost	**$10.91**	**$3,220.40**	**$3,071.77**	**$21,998.97**	
5/8" x 3/4"	$2,126.88	$3,265.64	$4,844.49	$1,755.17	**$11,992**
1"	$3,544.80	$5,442.73	$8,074.15	$2,925.29	**$19,987**
1.5"	$7,089.59	$10,885.45	$16,148.30	$5,850.58	**$39,974**
2"	$11,343.35	$17,416.72	$25,837.28	$9,360.93	**$63,958**
3"	$24,813.57	$38,099.08	$56,519.04	$20,477.03	**$139,909**
4"	$44,664.42	$68,578.35	$101,734.27	$36,858.65	**$251,836**
6"	$113,433.46	$174,167.24	$258,372.76	$93,609.27	**$639,583**
8"	$198,508.55	$304,792.68	$452,152.32	$163,816.23	**$1,119,270**

*Rounding of the underlying values in the table above accounts for slight differences in system capacity calculations compared to hand calculations.

Non-standard commercial or industrial uses may contribute higher flow or strength concentrations of influents (TSS, BOD or Nitrogen) to the sewer system than those assumed in the standard calculations included in this report. The city retains the right to give special consideration to such uses and to calculate capacity charges on a case-by-case basis, using an engineering assessment of flow or strength for a specific use and applying the equivalent per gallon per day flow and per pound per day strength calculations as used in the unit cost calculations, shown in Table 2.16 below.

Table 2-16 Equivalent Calculation of Incremental Capacity Charge Components

Functional Component	Flow	TSS	BOD	Nitrogen
Cost per EDU (1)	$2,127	$1,623	$1,623	$1,538
Gallons or Pounds per EDU (2)	195 gallons per day	0.5041 pound per day	0.5285 pound per day	0.0699 pound per day
Unit Cost of Capacity per gallons or pound* (3) = (1)/(2)	$10.91	$3,220.40	$3,071.77	$21,998.97

*Rounding of the underlying values in the table above accounts for slight differences in system capacity calculations compared to hand calculations.

3. CONCLUSIONS & RECOMMENDATIONS

The proposed update to the City of Manteca Sewer System Capacity Charges results in a modest increase to the city's current fees[8]. While this study did not include a detailed analysis of the basis of the existing capacity charges, the system and the drivers for capital investment have likely changed in a few meaningful ways since the completion of the last capacity charge study. Based on the study, Stantec has developed the following recommendations regarding the city's capacity charges:

1. Stantec recommends the City increase the current capacity charge (previously known as a 'connection fee') per Equivalent Dwelling Unit (EDU) from $5,964 to $6,911.
2. We recommend that the City charge multi-family and mobile home per unit $4,856 and $4,289, respectively. Commercial customers should be charged according to Tables 2-11, 2-13, and 2-15 by meter size and strength category, respectively.
3. We recommend that the City review its capacity charges at least every five years to ensure that they remain fair and equitable and continue to reflect the current cost of capacity. Future changes in technology, demands, development patterns, or other factors may necessitate additional adjustments to the capacity charges.
4. We recommend the City apply an annual inflation rate adjustment to the charges based on an inflation cost index such as the Engineering News Record Construction Cost Index (ENR CCI).
5. We recommend that as part of any system capacity charge update, the City also evaluates the most appropriate accepted methodology for calculating its system unit cost of capacity as system capacity may change over time.
6. The City should perform a legal review prior to the adoption of the charges identified herein to ensure all legal requirements have been met to the city's satisfaction. Stantec is not able to provide assurances or guarantees that the fees calculated herein will meet all legal requirements.
7. The City intends to establish an interim residential new connection (IRNC) fee for the rare occasions where sewer service connection is needed for health and safety purposes. The City has elected not to impose Capacity Fees on IRNC customers, but will charge a $500 administration fee as well as all other fees needed to physically make the sewer line connection. IRNC customers must meet each of the following criteria specified below:
    a) Must be an existing single-family home built prior to March 2024.
    b) Must be within city limits.
    c) Must not have had a prior sewer connection.

8 Current Fees of $5,964 are based on Medium Density connections to the system.

DISCLAIMER

This document was produced by Stantec Consulting Services, Inc. ("Stantec") for the City of Manteca ("City") and is based on a specific scope agreed upon by both parties. Stantec's scope of work and services do not include serving as a "municipal advisor" for purposes of the registration requirements of the Dodd-Frank Wall Street Reform and Consumer Protection Act (2010) or the municipal advisor registration rules issued by the Securities and Exchange Commission. Stantec is not advising the City, or any municipal entity or other person or entity, regarding municipal financial products or the issuance of municipal securities, including advice with respect to the structure, terms, or other similar matters concerning such products or issuances.

In preparing this report, Stantec utilized information and data obtained from the City or public and/or industry sources. Stantec has relied on the information and data without independent verification, except only to the extent such verification is expressly described in this document. Any projections of future conditions presented in the document are not intended as predictions, as there may be differences between forecasted and actual results, and those differences may be material.

Additionally, the purpose of this document is to summarize Stantec's analysis and findings related to this project, and it is not intended to address all aspects that may surround the subject area. Therefore, this document may have limitations, assumptions, or reliance on data that are not readily apparent on the face of it. Moreover, the reader should understand that Stantec was called on to provide judgments on a variety of critical factors which are incapable of precise measurement. As such, the use of this document and its findings by the City should only occur after consultation with Stantec, and any use of this document and findings by any other person is done so entirely at their own risk.

APPENDIX: SUPPORTING SCHEDULES

Schedule 1: Capital Improvement Program Listing and Allocations

Project Name	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	Cost	Sewer Allocation	Flow Allocation	TSS Allocation	BOD Allocation	Nitrogen Allocation	% Growth	Growth Related CIP Cost
North and South Plant WAS Pump Replacement Project (1)	1,000,000	1,576,000	0	0	0	0	0	0	0	0	0	$ 2,576,000	100%	0%	50%	50%	0%	50%	$ 1,288,000
South Plant RAS Pump Replacement Project (1)	500,000	1,005,000	0	0	0	0	0	0	0	0	0	$ 1,505,000	100%	0%	50%	50%	0%	50%	$ 752,500
North and South Plant Aeration Basins Improvements	1,000,000	4,328,000	5,328,000	0	0	0	0	0	0	0	0	$ 10,656,000	100%	15%	35%	35%	15%	100%	$ 10,656,000
Sidestream Treatment System	0	9,100,000	14,000,000	0	0	0	0	0	0	0	0	$ 23,100,000	100%	0%	0%	0%	100%	100%	$ 23,100,000
Add Centrifuge No. 3	300,000	3,000,000	0	0	0	0	0	0	0	0	0	$ 3,300,000	100%	0%	50%	50%	0%	100%	$ 3,300,000
Add DAFT No. 3	200,000	6,383,491	5,000,000	0	0	0	0	0	0	0	0	$ 11,583,491	100%	0%	50%	50%	0%	100%	$ 11,583,491
I&E Core Supervisory Control and Data Acquisition (SCADA) System	0	0	0	1,127,000	0	0	0	0	0	0	0	$ 1,127,000	100%	31%	23%	23%	22%	50%	$ 563,500
I&E Remote Site Process Logic Controller (PLC) Upgrades	0	0	0	1,727,000	0	0	0	0	0	0	0	$ 1,727,000	100%	31%	23%	23%	22%	50%	$ 863,500
I&E PLC and Operator Interfaced Terminal (OIT) Replacement (1)	0	0	0	0	0	0	1,374,000	0	0	0	0	$ 1,374,000	100%	31%	23%	23%	22%	50%	$ 687,000
I&E Switchgear PLC Upgrades	0	0	0	0	127,000	0	0	0	0	0	0	$ 127,000	100%	31%	23%	23%	22%	50%	$ 63,500
Add Influent Pump No. 5	0	0	1,048,000	0	0	0	0	0	0	0	0	$ 1,048,000	100%	100%	0%	0%	0%	100%	$ 1,048,000
Lightweight Covers for Process Basins	0	0	0	0	0	0	5,792,000	0	0	0	0	$ 5,792,000	100%	31%	23%	23%	22%	0%	$ -
Headworks, IPS and Biofilter Improvements	0	0	185,000	947,500	947,500	0	0	0	0	0	0	$ 2,080,000	100%	31%	23%	23%	22%	0%	$ -
UV Disinfection System Upgrade	0	9,790,000	8,250,000	0	0	0	0	0	0	0	0	$ 18,040,000	100%	100%	0%	0%	0%	50%	$ 9,020,000
Plant Water System Piping Modifications	0	318,000	0	0	0	0	0	0	0	0	0	$ 318,000	100%	31%	23%	23%	22%	0%	$ -
Replace Secondary Effluent Equalization Pond Liner	0	0	2,101,000	0	0	0	0	0	0	0	0	$ 2,101,000	100%	31%	23%	23%	22%	0%	$ -
Headworks Screen No. 3	0	0	0	0	900,000	0	0	0	0	0	0	$ 900,000	100%	100%	0%	0%	0%	100%	$ 900,000
FOG Receiving Station Screening System	0	0	0	0	0	200,000	0	0	0	0	0	$ 200,000	100%	31%	23%	23%	22%	50%	$ 100,000
Bulk Ferric Chloride Solution Tanks	0	0	351,000	0	0	0	0	0	0	0	0	$ 351,000	100%	31%	23%	23%	22%	0%	$ -
Digesters No. 1 and 2 Overflow Boxes	0	0	706,000	0	0	0	0	0	0	0	0	$ 706,000	100%	31%	23%	23%	22%	50%	$ 353,000
Digester Pressure Relief Valves Platform & Handrailing	0	0	205,000	0	0	0	0	0	0	0	0	$ 205,000	100%	31%	23%	23%	22%	0%	$ -
Install New Waste Heat Radiator	0	0	198,000	0	0	0	0	0	0	0	0	$ 198,000	100%	31%	23%	23%	22%	0%	$ -
WQCF Phase IV Stage 1 Expansion Project	0	0	5,000,000	13,005,000	33,325,250	33,325,250	33,325,250	33,325,250	0	0	0	$ 151,306,000	100%	35%	25%	25%	15%	100%	$ 151,306,000
UPRR Right of Way and Ally Between Center Street and Yosemite	0	0	489,000	0	0	0	0	0	0	0	0	$ 489,000	100%	31%	23%	23%	22%	0%	$ -
Moffat Boulevard and Main Street	0	0	1,022,000	0	0	0	0	0	0	0	0	$ 1,022,000	100%	31%	23%	23%	22%	0%	$ -
Oak Street from Main Street to Willow Avenue	0	0	98,000	0	0	0	0	0	0	0	0	$ 98,000	100%	31%	23%	23%	22%	0%	$ -
Sequoia Avenue from Oregon Street to Alley north of Nevada Street	0	0	53,000	0	0	0	0	0	0	0	0	$ 53,000	100%	31%	23%	23%	22%	0%	$ -
Tidewater Bike Path from Sandalwood Lane to Louis Avenue	0	0	348,000	0	0	0	0	0	0	0	0	$ 348,000	100%	31%	23%	23%	22%	0%	$ -
Walnut Avenue from the alley north of Nevada Street to the UPRR	0	0	279,000	0	0	0	0	0	0	0	0	$ 279,000	100%	31%	23%	23%	22%	0%	$ -
St. Dominic's Drive from north of Yosemite Avenue to Golf Course	0	0	29,000	0	0	0	0	0	0	0	0	$ 29,000	100%	31%	23%	23%	22%	100%	$ 29,000
Unspecified CIP	0	0	0	0	0	0	0	0	5,000,000	5,000,000	5,000,000	$ 15,000,000	100%	31%	23%	23%	22%	100%	$ 15,000,000
Collection System Pretreatment (Nanno Bubble)	45,000	550,000	220,000	0	0	0	0	0	0	0	0	$ 815,000	100%	31%	23%	23%	22%	100%	$ 815,000
WQCF Breakroom & Operator Control Room Remodel	100,000	2,500,000	0	0	0	0	0	0	0	0	0	$ 2,600,000	100%	31%	23%	23%	22%	0%	$ -
Engineering Building Expansion	0	0	150,000	0	0	0	0	0	0	0	0	$ 150,000	100%	31%	23%	23%	22%	33%	$ 49,500
Central Sewer CIPP Liner	0	2,500,000	7,000,000	7,000,000	0	0	0	0	0	0	0	$ 16,500,000	100%	31%	23%	23%	22%	0%	$ -
	$ 3,145,000	$ 41,050,491	$ 52,060,000	$ 23,806,500	$ 35,299,750	$ 33,525,250	$ 40,491,250	$ 33,325,250	$ 5,000,000	$ 5,000,000	$ 5,000,000	$ 277,703,491							$ 231,477,991

(1) Replacement project cost are only allocated based on the portion of the project related to upsizing existing assets and thus adding capacity to the system. The upsizing allocation factor is show in the "% Growth Column".