
FINANCE COMMITTEE AGENDA – Regular Meeting

A Committee of the Chico City Council: Councilmember Bennett, Mayor Coolidge, and Chair Morgan

Meeting of Wednesday, January 26, 2022 – 8:30 a.m. to 10:30 a.m.

Meeting Location: This meeting is being held virtually via Zoom

PUBLIC PARTICIPATION: Due to the recent universal masking indoors mandate issued by the California Department of Public Health and to protect the health of its citizens, the Finance Committee meeting is being held virtually via Zoom. The public is invited to participate in the meeting using the information below to login into the meeting. If you need guidance on participation via Zoom, please contact the City Clerk's office at 530-896-7250, 24 hours prior to the start of the meeting.

Please click the link below to join the webinar:

<https://us06web.zoom.us/j/84314195398?pwd=WG1uK0FFWEFDRkRkN0FhV05pZz09>

Passcode: Finance

Using your telephone: Dial toll free 877 853 5247 or 888 788 0099 or 833 548 0276 or 833 548 0282

Webinar ID: 843 1419 5398

Passcode: 4290309

REGULAR AGENDA

A. APPOINTMENT OF MEMBERS TO THE AD HOC CITIZEN'S COMMITTEE (CDBG-CAC) FOR THE PURPOSES OF REVIEWING AND RECOMMENDING COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG) PUBLIC SERVICES APPLICATIONS

In October 2021, the Finance Committee forwarded a recommendation to City Council that approved an Administrative Policy and Procedure (AP&P) that formalized the appointment process and responsibilities of the Community Development Block Grant Ad Hoc Citizen's Committee (CDBG-CAC). The CDBG-CAC is responsible for reviewing grant applications and making recommendations to the Finance Committee for the use of CDBG Public Service funding as part of the City's Annual Action Plan process. The CDBG-CAC membership has fallen below five members which requires staff to notice the vacancy and solicit applications. Applications were made available through the month of December 2021 and six applications were received during the recruitment period. *(Report—MaryJo Alonzo, Housing Specialist)*

Recommendation: *The Community Development Department Director recommends that the Finance Committee confirm up to three new appointments to the CDBG-CAC from the applications received, consistent with the recommendations for such appointments further described in the staff report.*

B. CONSIDERATION OF THE SEWER UTILITY RATE ANALYSIS REPORT AND FINDINGS

Costs for ongoing wastewater treatment have increased over the years to address more stringent regulations and operational needs while sewer fees collected by the City have remained largely unchanged. Capital Improvement Projects (CIP) for the collection system have not been realized due to low revenue collection causing infrastructure to age far beyond its normal useful life in many areas. The lack of sufficient long term capital improvement funding for both the Water Pollution Control Plant (WPCP) and collection system have become concerning for staff. In late 2015 staff were alarmed with the annual ending fund balance trends in sewer fund 850 due to its annual payment to the State Revolving Loan (SRL) for the last expansion. At its January 5, 2016 meeting Council adopted the mission, vision, and objectives initiating a broad and full sewer analysis to study all aspects of the sewer utility and make recommendations to confirm long term fiscal solvency.

(Continued on next page)

Multiple technical studies were performed including a full WPCP facility analysis, sewer enterprise valuation analysis, collection system analysis, and a rate study combining all the information to recommend monthly sewer rates to properly manage and operate the full sewer enterprise. **(Report – Erik Gustafson, Director of Public Works O&M)**

Recommendation: *The Public Works Director – Operations and Maintenance recommends the Finance Committee provide review and approval of the Sewer Utility Rate Analysis Report and discuss report findings for proposed rate increases. The Sewer Utility Rate Analysis Report and recommended rate increases should then be forwarded to the Full City Council for consideration and adoption.*

C. MONTHLY FINANCIAL REPORT

The Deputy Director – Finance will present the Monthly Financial Report and Budget Monitoring Reports through December 31, 2021. **(Report – Barbara Martin, Deputy Director – Finance)**

D. **BUSINESS FROM THE FLOOR** - *Members of the public may address the Committee at this time on any matter not already listed on the agenda, with comments being limited to three minutes. The Committee cannot take any action at this meeting on requests made under this section of the agenda.*

E. **ADJOURNMENT** - The meeting will adjourn no later than 10:30 a.m. to the next regular Finance Committee Meeting on February 23, 2022 at 8:30 a.m. in Conference Room 1 at 421 Main St. or via Zoom if the mask mandate is still in place.

SPEAKER ANNOUNCEMENT

NOTE: Citizens and other interested parties are encouraged to participate in the public process and will be invited to address the Committee regarding each item on the agenda using Zoom.

Instructions for using Zoom

- Join the meeting using the link above.
- You must have audio and microphone capabilities on the device you are using to join the meeting.
- When you join the meeting make sure that you join the meeting with audio and follow the prompts to test your speaker & microphone prior to joining the meeting.

To speak on an item using Zoom

- The Chair will call the item and staff will begin the staff report.
- Click on the Raise Hand icon if you would like to speak on the item. The City Clerk will call your name when it's your turn to speak. If you've joined the meeting by phone, press #6 to raise your hand, #9 to lower your hand.
- When your name is called, you will be prompted to unmute yourself.
- When your time is up, you will be muted.
- You will repeat this process for each item you want to speak on.

Distribution available in the office of the City Clerk

Posted: 1/21/22 prior to 5:00 p.m. at 421 Main St. Chico, CA 95928 and www.ci.chico.ca.us

Copies of the agenda packet are available for review at: City Clerk's Office, 411 Main St. Chico, CA.



Please contact the City Clerk at 896-7250 should you require an agenda in an alternative format or if you need to request a disability-related modification or accommodation in order to participate in a meeting. This request should be received at least three working days prior to the meeting in order to accommodate your request.



Finance Committee Agenda Report

Meeting Date: January 26, 2022

TO: Finance Committee

FROM: MaryJo Alonzo, Housing Specialist, 879-6302

RE: Appointment of Members to the Ad Hoc Citizen's Committee (CDBG-CAC) for the Purposes of Reviewing and Recommending Community Development Block Grant (CDBG) Public Services Applications

REPORT IN BRIEF

In October 2021, the Finance Committee forwarded a recommendation to City Council that approved an Administrative Policy and Procedure (AP&P) that formalized the appointment process and responsibilities of the Community Development Block Grant Ad Hoc Citizen's Committee (CDBG-CAC). The CDBG-CAC is responsible for reviewing grant applications and making recommendations to the Finance Committee for the use of CDBG Public Service funding as part of the City's Annual Action Plan process. The CDBG-CAC membership has fallen below five members which requires staff to notice the vacancy and solicit applications. Applications were made available through the month of December 2021 and six applications were received during the recruitment period.

Recommendation: The Community Development Department Director recommends that the Finance Committee confirm up to three new appointments to the CDBG-CAC from the applications received, consistent with the recommendations for such appointments further described in the staff report.

FISCAL IMPACT

There is no fiscal impact to the City's General Fund associated with the CDBG-CAC. Per Council budget policy, funding for the CDBG Public Services Community Organization Funding program comes from 15% of the annual CDBG funds allocated to the City by HUD. Staff time necessary to provide support to the CDBG-CAC is charged to the administrative portion of the CDBG grant.

BACKGROUND

The City of Chico has a long-standing history of providing financial support to non-profit agencies to provide services to the community. The practice began in 1973 with resources from the Federal Revenue Sharing Program funds and continued thereafter utilizing both General Fund and Community Development Block Grant funding. Initially set up on a trial basis during the 2016-2017 program year, the CDBG-CAC appointments have since been forwarded to the Finance Committee for review and approval. An Administrative Policy and Procedure was adopted in fall of 2021 that formalized the appointment process and defined the roles of the CDBG-CAC.

The CDBG-CAC is asked to thoroughly review all Public Service funding request applications, Consolidated Plan priorities, and hold two public review meetings to ask questions of the applicants and present funding recommendations. Staff provides an initial review of applications to ensure that basic eligibility requirements are met and forwards applications to the CDBG-CAC.

The CDBG-CAC members allows the City to:

- Address the federal requirement of public engagement with low income populations by involving low income representatives in funding recommendations;
- Provide an independent third-party body to relieve Finance Committee members and staff of the additional work that comes with the application review and funding recommendation process; and
- Prioritize funding decisions in alignment with the Consolidated Plan for greater efficiency and impact.

DISCUSSION

Staff received six (6) applications for the vacant CDBG-CAC positions. **Attachment A** includes a list of current appointees to the committee as well as the list of applications received. Staff noted on **Attachment A** where there are potential conflicts of interest with the applicants if they are employed by or work with an agency that may apply for CDBG Public Service funding this year. **Attachment B** includes submitted applications with addresses of the applicants redacted for privacy.

The CDBG-CAC can have up to seven members. There are currently four (4) members remaining on the committee who were appointed last February. These members have confirmed they are willing to remain on the committee for this grant year. In order to promote a diverse perspective, address the needs of the low-income community and ensure a balanced consideration of the use of funds, staff recommends the Finance Committee appoint one (1) person from the Representative class (for a total of 4 in this class) and up to two (2) persons from the Citizens class (for a total of 3 in this class) based on the class descriptions below.

Representative Class:

Members who engage in the following activities will be considered a part of the Representative class of appointees:

- Service on advisory bodies within the community focused on the needs of low income citizens, especially those who are experiencing homelessness or are at risk of homelessness;
- Involvement in groups that have experience and knowledge of the social service needs of low income persons in the community, including but not limited to: Butte County Behavioral Health, Community Housing Improvement Program, Caring Choices, Northern Valley Catholic Social Services, Housing Authority of the County of Butte, Chico Interfaith Council, those who have experienced homelessness, or other low-income beneficiaries. This class excludes organizations who routinely or are expected to apply for the Public Service CDBG funds to remove the possibility of potential conflicts of interest.

Citizen Class:

- Members of the community at large who are not currently engaged in the above activities.

It is desired that CDBG-CAC applicants have some knowledge of grants and grant funding processes, but it is not a requirement for placement on the CDBG-CAC.

Per the approved AP&P, the CDBG-CAC shall be made up of up to seven (7) members. If membership drops below five (5) members, Staff will initiate a recruitment and bring forward applicants to the Finance Committee for review and approval next year.

PUBLIC CONTACT

The CDBG-CAC application was made available on December 2, 2021. The link to the application was emailed to interested parties, made available on the City's website, and an advertisement/notice was published in the Chico News and Review. Staff also shared the application with Council members. The deadline to submit applications was January 7, 2022.

Reviewed by:



Brendan Vieg, Director
Community Development

Approved by:



Mark Orme, City Manager

DISTRIBUTION:

City Clerk (3)
CDD-Housing
Applicants (6)

ATTACHMENTS:

Attachment A: List of Committee Members and Applicants
Attachment B: Applications received

FILE: HUD General Administration/Public Services

Attachment A

	Name	Class	Employer/Occupation	Known Conflict	Served in FY 21/22
Current appointees:					
1	Tamra Young	Representative	Butte County Housing Authority/Admin Ops Director	No	Yes
2	Kim Dietz	Citizen	Firmenich, Inc. & Dietz Rental/Business Development Manager	No	Yes
3	Rashell Brobst	Representative	Boys and Girls Club of the North Valley/Chief Exec. Officer	No	Yes
4	Keesha Hills	Representative	Oroville Southside Community Improvement Assoc./Senior Administrator	No	Yes
Applications Received:					
1	Christine Boyle	Citizen	Butte County Assessor's Office/Appraiser	No	No
2	Marin Hambley	Representative	Stonewall Alliance and Safe Space Winter Shelter	Possibly	No
3	Lauren Kennedy	Citizen	NVHT Executive Director/Realtor	Possibly	No
4	Eric Nilsson	Citizen	Retired Educator	No	No
5	Elizabeth Nordhus	Citizen	Retired (Grants Coordinator/Teacher)	No	No
6	Tina Reszler	Representative	State Council on Developmental Disabilities/Community Program Specialist	No	No

Attachment B



Ad Hoc Citizen Advisory Committee (CDBG-CAC) Application

Applicant Information

Name: Christine Boyle

Home Phone: [REDACTED]

Address: [REDACTED]

Cell Phone: [REDACTED]

City/State/Zip: Chico, CA 95928

Email Address: [REDACTED]

Name of Employer: Assesor's Office - County of Butte

Occupation: Real Property Appraiser

Education and/or Experience serving low-income populations:

- Commissioner - Housing Authority County of Butte - 4 years
- Board Chair - North Valley Housing Trust - 2 years
- Board Member - Butte County Behavioral Health - 3 years
- CASA (Court Appointed Special Advocate) - 2 years
- CHIP - Broker of Record - 1.5 years
- CDBG Allocation Committee - City of Chico - 3 years

Have you served on a Board of Directors or on a City Commission or Board in the past year? If so, please identify the organization, commission, board or committee:

None since the Camp Fire.

Previous Boards include: League of Women Voters, Paradise Post Editorial Board, Paradise Citizen's Alliance, Paradise RDA Steering Committee

Disclose potential conflicts of interest which may make you ineligible to serve on the committee based upon the conflict:

None.

I certify the above information is true and correct and if I am selected to participate on the CDBG-CAC, I will adhere to the established guidelines of the committee.

[Handwritten Signature]
Signature

12.3.2021
Date

Please return the application **by January 7, 2022 at 5pm** to the City of Chico's Housing Division in one of the following ways: In person at 411 Main Street, 2nd Floor; by mail to PO Box 3420, Chico, CA 95927; or scan and send via email: cityhousing@chicoca.gov.

Attachment B



Ad Hoc Citizen Advisory Committee (CDBG-CAC) Application

Applicant Information

Name: Marin Hambley

Home Phone: _____

Address: [REDACTED]

Cell Phone: [REDACTED]

City/State/Zip: Chico, CA

Email Address: [REDACTED]

Name of Employer: Stonewall Alliance and Safe Space Winter Shell

Occupation: Advocacy Coordinator and Shell

Education and/or Experience serving low-income populations:

In my role for Stonewall, I travel across Butte, Glenn, Colusa, Plumas, Tehama, Yuba, Shasta, and Sutter Counties to support organizations in creating more gender-inclusive and LGBTQ+ friendly spaces, and support LGBTQ+ community members in accessing resources they need. I also work with Safe Space Winter Shelter as an Shelter Operations Manager, and with Northern Valley Harm Reduction Coalition as Board Chair, and regularly facilitate workshops on crisis de-escalation, trauma-informed care, and applying harm reduction principles in the workplace.

Have you served on a Board of Directors or on a City Commission or Board in the past year? If so, please identify the organization, commission, board or committee:

Yes - Board Chair of Northern Valley Harm Reduction Coalition
and Board Member of Pedal Press

Disclose potential conflicts of interest which may make you ineligible to serve on the committee based upon the conflict:

Involvement with Safe Space

I certify the above information is true and correct and if I am selected to participate on the CDBG-CAC, I will adhere to the established guidelines of the committee.


Signature

12/8/21
Date

Please return the application **by January 7, 2022 at 5pm** to the City of Chico's Housing Division in one of the following ways: In person at 411 Main Street, 2nd Floor; by mail to PO Box 3420, Chico, CA 95927; or scan and send via email: cityhousing@chicoca.gov.

Attachment B



Ad Hoc Citizen Advisory Committee (CDBG-CAC) Application

Applicant Information

Name: Lauren Kennedy

Home Phone: [REDACTED]

Address: [REDACTED]

Cell Phone: [REDACTED]

City/State/Zip: Chico / CA / 95928

Email Address: [REDACTED]

Name of Employer: North Valley Housing Trust / Self

Occupation: Executive Director / Realtor

Education and/or Experience serving low-income populations:

-2004 BA in American Studies focused on intersectional forces of race/gender/class/etc that impact opportunity and discrimination in the United States.

-2016- Present Core volunteer with Safe Space Winter Shelter, a low-barrier shelter service in Butte County

-2017-Present Executive Director of North Valley Housing Trust, a nonprofit to facilitate the development of affordable housing for the lowest-income, highest-need households in our region

-2020 Served on the Housing Locator Subcommittee for Project Roomkey in Butte County

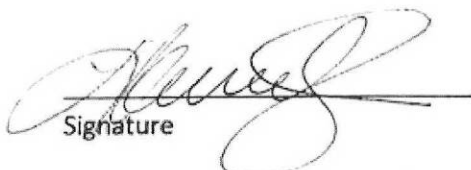
Have you served on a Board of Directors or on a City Commission or Board in the past year? If so, please identify the organization, commission, board or committee:

No

Disclose potential conflicts of interest which may make you ineligible to serve on the committee based upon the conflict:

There is some overlap in the organizations potentially served by the North Valley Housing Trust and organizations that would potentially apply for CDBG funds. At this time, the North Valley Housing Trust is not partnered with any potential applicants

I certify the above information is true and correct and if I am selected to participate on the CDBG-CAC, I will adhere to the established guidelines of the committee.


Signature

1-5-2021

Date

Please return the application **by January 7, 2022 at 5pm** to the City of Chico's Housing Division in one of the following ways: In person at 411 Main Street, 2nd Floor; by mail to PO Box 3420, Chico, CA 95927; or scan and send via email: cityhousing@chicoca.gov.

Attachment B



**Ad Hoc Citizen Advisory Committee (CDBG-CAC)
Application**

Applicant Information

Name: Eric Nilsson _____ Home Phone: n/a _____

Address: [Redacted] _____ Cell Phone: [Redacted] _____

City/State/Zip: Chico, CA 95926 _____

Email Address: [Redacted] _____

Name of Employer: Retired _____

Occupation: Educator _____

Education and/or Experience serving low-income populations:
Worked in public education for 25 years.

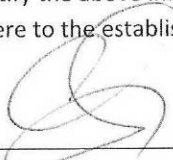
Have you served on a Board of Directors or on a City Commission or Board in the past year? If so, please identify the organization, commission, board or committee:

Currently serving on the Inspire School of Art and Sciences Board of Directors.

Disclose potential conflicts of interest which may make you ineligible to serve on the committee based upon the conflict:

None

I certify the above information is true and correct and if I am selected to participate on the CDBG-CAC, I will adhere to the established guidelines of the committee.



Signature

1/5/2022
Date

Please return the application **by January 7, 2022 at 5pm** to the City of Chico's Housing Division in one of the following ways: In person at 411 Main Street, 2nd Floor; by mail to PO Box 3420, Chico, CA 95927; or scan and send via email: cityhousing@chicoca.gov.

Attachment B



Ad Hoc Citizen Advisory Committee (CDBG-CAC) Application

Applicant Information

Name: Elizabeth Nordhus Home Phone: [REDACTED]

Address: [REDACTED] Cell Phone: same as above

City/State/Zip: Chico, CA 95926

Email Address: [REDACTED]

Name of Employer: Retired (from Chico Unified School District)

Occupation: Grants Coordinator / Teacher

Education and/or Experience serving low-income populations:

EDUCATION: BA and MA in English; elementary and secondary teaching credentials

EXPERIENCE: I am applying as a member of the general public. I have 20+ years experience writing and managing grants, primarily with the Chico Unified School District, and have participated in grant reviews at the local, state and federal levels as a reviewer and facilitator. Concurrently with writing grants I have taught K-12 for 23 years in Chico, Willows and Hamilton City, giving me a basic awareness of the needs of low-income students and families.

Have you served on a Board of Directors or on a City Commission or Board in the past year? If so, please identify the organization, commission, board or committee:

I am a board member of the Museum of Northern California Art (monca)

Disclose potential conflicts of interest which may make you ineligible to serve on the committee based upon the conflict:

None that I am aware of.

I certify the above information is true and correct and if I am selected to participate on the CDBG-CAC, I will adhere to the established guidelines of the committee.


Signature

1/6/2022
Date

Please return the application by January 7, 2022 at 5pm to the City of Chico's Housing Division in one of the following ways: In person at 411 Main Street, 2nd Floor; by mail to PO Box 3420, Chico, CA 95927; or scan and send via email: cityhousing@chicoca.gov.

Attachment B



Ad Hoc Citizen Advisory Committee (CDBG-CAC) Application

Applicant Information

Name: Tina Reszler _____

Home Pho _____

Address _____

Cell Phone _____

City/State/Zip: Chico, CA 95928 _____

Email Address _____

Name of Employer: State Council on Developmental Disabilities _____

Occupation: Community Program Specialist _____

Education and/or Experience serving low-income populations:

Master's degree in Recreation focusing on aged adults and people with disabilities.
Worked for Butte County's Adult Services Division 2013-2021.
Currently working for State Council on Developmental Disabilities.

Have you served on a Board of Directors or on a City Commission or Board in the past year? If so, please identify the organization, commission, board or committee:

No

Disclose potential conflicts of interest which may make you ineligible to serve on the committee based upon the conflict:

N/A

I certify the above information is true and correct and if I am selected to participate on the CDBG-CAC, I will adhere to the established guidelines of the committee.

Tina Reszler
Signature

01/07/2022
Date

Please return the application **by January 7, 2022 at 5pm** to the City of Chico's Housing Division in one of the following ways: In person at 411 Main Street, 2nd Floor; by mail to PO Box 3420, Chico, CA 95927; or scan and send via email: cityhousing@chicoca.gov.



Finance Committee Agenda Report

Meeting Date: 1/26/22

TO: Finance Committee

FROM: Erik Gustafson, Director of Public Works, Operations & Maintenance

RE: CONSIDERATION OF THE SEWER UTILITY RATE ANALYSIS REPORT AND FINDINGS

REPORT IN BRIEF:

Costs for ongoing wastewater treatment have increased over the years to address more stringent regulations and operational needs while sewer fees collected by the City have remained largely unchanged. Capital Improvement Projects (CIP) for the collection system have not been realized due to low revenue collection causing infrastructure to age far beyond its normal useful life in many areas. The lack of sufficient long term capital improvement funding for both the Water Pollution Control Plant (WPCP) and collection system have become concerning for staff. In late 2015 staff were alarmed with the annual ending fund balance trends in sewer fund 850 due to its annual payment to the State Revolving Loan (SRL) for the last expansion. At its January 5, 2016 meeting Council adopted the mission, vision, and objectives initiating a broad and full sewer analysis to study all aspects of the sewer utility and make recommendations to confirm long term fiscal solvency. Multiple technical studies were performed including a full WPCP facility analysis, sewer enterprise valuation analysis, collection system analysis, and a rate study combining all the information to recommend monthly sewer rates to properly manage and operate the full sewer enterprise.

Recommendation: The Public Works Director – Operations and Maintenance recommends the Finance Committee provide review and approval of the Sewer Utility Rate Analysis Report and discuss report findings for proposed rate increases. The Sewer Utility Rate Analysis Report and recommended rate increases should then be forwarded to the Full City Council for consideration and adoption.

FISCAL IMPACT:

The proposed rate structure is premised on generating the revenue associated with the operating, capital, labor, and materials necessary to operate the sewer enterprise system over the next five years with a total look ahead to 2040. Based on the recommended revenue needs monthly sewer rates should increase 50% year one, 45% year two, 30% year three, 15% year four, and 0% for year five.

BACKGROUND:

One of the foundational pieces of infrastructure for a modern city is centered around its wastewater collection, treatment, and disposal systems. Without a well-functioning sewer system, the residents would have water contamination that causes disease and sickness to the population. Due to the nature of the waste, natural environment, biological processes and magnitude of infrastructure, the sewer system requires constant maintenance and replacement to meet the needs of City residents and growth in the community. In addition, the California State Water Resources Control Board (SWRCB) regulates the City on its treatment and discharge of the clean wastewater. State regulations are increasing, and the system must comply to meet the requirements of the operating permit to avoid fines.

Through the sewer utility, the City of Chico provides wastewater collection, treatment, and disposal service for residents and commercial customers within the City's service area. These activities are funded by the monthly sewer fees of \$22.98 per month for residential customers and varying rates for commercial customers depending on their water usage, discharge components, and permit requirements.

Costs for ongoing wastewater treatment have increased over the years to address more stringent regulations and increasing operational needs while sewer fees collected by the City are low and have remained largely unchanged. Capital Improvement Projects (CIP) for the collection system have not been realized due to low revenue collection causing infrastructure to age far beyond its normal useful life in many areas. The lack of sufficient long term capital improvement funding for both the plant and collection system have become extremely concerning for staff. While Chico rate payers have enjoyed some of the lowest sewer rates in the Western United States, we're now at a point where ageing infrastructure has expired its useful life and there's no capital improvement funding collected to make

necessary repairs and replacements.

Along with infrastructure, in 2015 staff became concerned with the long-term solvency of sewer fund 850 after analyzing its ending fund balance annual trends. City funds associated with the sewer utility are the Water Pollution Control Plant (WPCP) Operations and Maintenance Fund (Sewer Fund) 850, Trunk Capacity Fund 320, WPCP Capacity Fund 321, and the WPCP Capital Reserve Fund 851. In 2000 and again in 2008, a State Revolving Fund (SRF) loan was pursued and received to fund plant expansions. At the time, revenue plans were prepared that assumed growth and development would repay most of the State loan for the plant expansion through connection and development impact fees. Growth and development that was projected to make the bulk of the 12 MGD expansion loan payment did not occur as originally projected. The economic downturn starting in 2008 compounded the issue and development plunged from original projections. Within several years it became evident the WPCP Capacity Fund 321 would not be able to make its specified allocated portion of the SRF annual loan payment and Fund 850 has paid over 90% of the annual payments since.

The annual expansion loan payment obligation for Fund 850 along with identified infrastructure needs with no capital reserves started to become an urgent issue for staff managing the sewer enterprise. Therefore, in FY15-16 City staff embarked on a long term and multifaceted project to perform a full sewer enterprise analysis to study all portions including, loan refinancing, staffing needs, plant needs, collection system needs, capacity needs and future regulatory requirements in order to sustainably manage the utility into the future.

The first part of this project was to establish a mission, vision, and objectives with the overarching goal to focus on the long-term stability of the sewer enterprise. At the January 6, 2016 meeting City Council approved the recommended mission, vision, and objectives (Exhibit #1) which provided the foundation for staff beginning the technical studies and analysis of the full sewer system enterprise. The adopted mission goes as follows:

Mission:

The mission of the City of Chico Sanitary Sewer and Treatment System is to provide a reliable, sustainable, and cost-effective Sanitary Sewer and Treatment System efficiently and effectively for the residents of Chico and to work collaboratively with the City's partners at the federal, state, and local level to maintain regulatory compliance and to respond to future water and wastewater needs.

The next step in this broad analysis of the entire sewer utility was to perform a full asset valuation. The City contracted with our long-term consulting engineering firm, Carollo Engineers in 2016 to perform the valuation. Carollo used the Association for the Advancement of Cost Engineering Cost Estimate Classification System (ACE System) Class 4 cost estimate for each asset. The replacement cost represents total replacement for the asset's evaluation using 2016 numbers. Carollo then applied the Replacement Cost New Less Depreciation (RCNLD) approach to determine present day depreciated value for accounting valuation purposes. The RCNLD represents the estimated value of the asset in the current year and the cost to replace the asset in current dollars. Industry standard service lives were used and the number of years of service was included to estimate depreciation, unless the visual condition assessment assigned a different remaining asset life. Land was not considered in the valuation.

The completed valuation determined the following value for the three categories of sewer utility assets:

Part of the system	Summary	Replacement Cost	RCNLD
WPCP	plant, 517 assets	\$114.1 M	\$54.9 M
Collection System (Pipelines)	273.4 miles of pipes	\$419.3 M	\$247.1 M
Lift Stations	13 stations, 113 assets	\$6.7 M	\$4.5 M
Total		\$540.1 M	\$306.5 M

Following the valuation analysis executive staff wanted to look at privatization options to see if there was an alternative that would provide reductions in long term sewer rates for Chico ratepayers along with adding revenue to the General Fund. Understanding Chico's current rates are among the lowest in the Western States, staff continue to look at all options on many fronts to make sure Chico taxpayers and sewer utility ratepayers are paying lowest possible rates while receiving the highest quality of service. Staff recommended and Council approved contracting with NHA Advisors using the Carollo valuation report to determine if there are any viable privatization efforts. The NHA evaluation and Carollo valuation report are included as Exhibit 2.

NHA reviewed twenty-two California cities that have attempted some form of privatization of their water or sewer utilities. During the review of possible privatization, NHA narrowed possibilities down to four different options:

1. Sale lease-back of utility by the City, while maintaining public operation of the utility
2. Sale lease-back of utility by the City, while retaining a private operator
3. No sale lease-back of utility, but retention of a private operator
4. Full privatization of utility, sale of utility to a private owner/operator

In option #1 the sewer utility is sold by the General Fund to the utility understanding the City, through its General Fund, is the legal owner of the utility. The utility would likely issue bonds secured by revenues of the utility to pay the sales price to the General Fund. If the General Fund is compensated entirely upfront by issuing bonds, then the proceeds of the bond issue must be used by the City for public improvements only. If the sales price was paid over time through seller financing, then annual payments can be used unrestricted by the City. The City Council, following the Proposition 218 procedures continues to set rates, however, can now include payments to the City's General Fund as part of the rate case. Under this scenario ratepayers are likely to pay a higher rate in order to include the payment to the City's General Fund.

Option #2 is similar to option #1 with the exception that a private organization is contracted to operate the utility. City Council still sets the rates under the 218 process but enters into a contract with a private firm or Investor Owned Utility (IOU) to operate the facility. Under this scenario ratepayers are likely to pay a higher rate to include annual payments to the City's General Fund.

Option #3 is the City enters into a contract with a private firm to operate the utility with no sale or leaseback options. In this scenario there is no provision to make payments to the General Fund and an outside firm would simply operate the sewer utility. Cities that have used this option have done so because they believe an outside firm can operate the utility at a lower rate. Or the facility has experienced significant issues such as sewer overflows or environmental impacts that have triggered costly fines. In this scenario it's unlikely a private firm or IOU could operate the City's sewer utility considering at a lower rate considering where existing rates are set.

Option #4 is the City completely sells the utility to a private company or IOU and no longer operates the sewer utility nor sets rates under the 218 process. The City would receive a onetime payment for the utility and this type of transaction would likely need approval from the SWRCB and California Public Utilities Commission (CPUC). The CPUC allows annual returns on equity in the 8% to 10% range, much higher than the cost of capital for a municipal utility. These returns earned by the new utility owner would likely result in significant increases in sewer rates. NHA reviewed two cities that have used this option recently; Cities of Felton and Lucerne, both have experienced large rate increases and major push back by ratepayers. In this option, current overhead payments from the sewer utility would also be lost causing significant reductions in departments included in the overhead cost allocation such as Finance, Human Resources, and the City Manager's Office. Note, currently the sewer fund 850 pays approximately \$800,000 in annual overhead payments.

NHA concluded there is no benefit to the City from either a sale, leaseback, or privatization option as impacts to Chico ratepayers would be significant and long term financial benefits to the General Fund would be minimal. The General Fund would also lose the annual overhead payments currently made by sewer fund 850 in several of the options. Staff also oppose any consideration of the four privatization options reviewed by NHA due to adverse impacts to Chico ratepayers and minimal long term financial benefits to the General Fund. Staff continue to recognize and promote the routine analysis and comparison to the private sector in order to confirm competitiveness. This ensures internal staff are able to provide the most value by operating the utility at the lowest possible cost while providing the highest level of service. In this instance staff believe internal City operation of the sewer utility is the most cost-effective option for both short and long term sustainability of the sewer fund and overall sewer enterprise.

Within the privatization discussion it should be noted the City WPCP currently treats an average of 6.4 Million Gallons of water each Day (MGD) and releases it to the Sacramento River. There is value in that discharge, and it's been a long term staff objective to monetize our current effluent. Reuse options for irrigation or groundwater recharge should be considered in the future and could hold a vast amount of value to the City. The City is currently a member of the Vina Groundwater Sustainability Agency which recently submitted the Groundwater Sustainability Plan to the Department of Water Resources to meet Sustainable Groundwater Management Act (SGMA) requirements. It's important to note that water reuse from Chico's WPCP is an identified project in the Groundwater Sustainability Plan and will likely be considered to meet future SGMA requirements. Staff's opinion is it would be unwise to give up control of the effluent water resource at any time for a temporary or one time financial gain(s).

Another important step in the broad sewer utility analysis was to look at the State Revolving Fund Loans (SRL) outstanding from the 2008 WPCP expansion. During the 2008 expansion the City borrowed \$40,624,861 through the

State of California Clean Water Revolving Fund Loan program to fund the needed projects. The loan closed with an interest rate of 2.4% which was competitive at the time, however Finance staff reviewed other options to refinance the remaining balance and take advantage of lower market interest rates. At the September 15, 2020 City Council meeting council approved refinancing our remaining \$23,244,181 balance at 0.83% interest saving \$160,000 in annual interest.

The next and most important step for the sewer utility analysis was to analyze WPCP operations and needed capital projects, the collection system (sewer pipes) annual capital replacement project needs, capacity and condition needs at the WPCP, and future regulatory requirements from the California State Water Resources Control Board (SWRCB) administered by the local Regional Water Quality Control Board (RWQCB). Engineered technical studies and documents developed from analyzing these needs will be used to establish recommended monthly rates at a sufficient level to meet the identified operational and capital replacement needs. In order to adjust monthly rates to meet identified utility needs, the City must conduct a rate study and petition for approval through the Proposition 218 process.

The City of Chico has a long-standing relationship with Carollo Engineering and has relied on their expertise as a third-party engineering partner for over twenty years. Carollo has a vast amount of working knowledge of the WPCP and was the contracted engineering design firm through both expansions. Therefore, staff felt it was most cost effective and advantageous to request approval from Council to sole source Carollo Engineering's services to conduct the facility analysis and needed technical studies to complete the rate study. Council approved a sole source agreement with Carollo Engineering at the January 16, 2018 City Council meeting and created capital improvement project #50367.

Carollo immediately started to work on the facility analysis report which included flows and loads analysis, regulatory requirement needs, plant capacity evaluation, condition assessments of all infrastructure, asset replacement needs, overall facility planning, and staffing needs. City staff has a full Geographic Information System (GIS) inventory of the sewer collection system with a high level of historical accuracy that includes age of pipe, size, and type of pipe installed. It was determined that Engineering staff would complete the collection system analysis internally to be used in the rate study and Carollo would focus on the WPCP full facility analysis.

On November 8, 2018 the Camp took place and devastated the Town of Paradise. The Camp Fire had significant impacts on the sewer analysis effort as City staff were diverted to assist with recovery efforts and the overnight influx of evacuees tremendously changed daily sewer flows to the City's WPCP. Within forty-eight hours City flows increased by one million gallons per day (1-MGD) which is equivalent to a decade or two of normal growth for most communities. Evaluations were paused in order to determine if the load and flow increases would remain long term. The load and flow projections and technical documents had already been completed before the Camp Fire so it would be a tremendous cost to complete them again. After a six month pause staff directed Carollo to continue with the facility analysis using previous load and flow projections as there was not enough data to confirm the change was permanent and it would be too costly to complete the hydraulic load and flow technical studies again. However, it should be noted that post Camp Fire flows to the WPCP have now largely sustained at an added increase of 0.6 MGD when compared to pre-Camp Fire figures.

In February 2021 Carollo submitted the Final WPCP Strategic Planning Report (Exhibit 3) that summarizes the capital and operational needs at the WPCP with a focus on the analysis needed to adjust sewer rates in order to meet the identified needs. It should be noted the report is finalized using pre-Camp Fire flow and load projections. Along with full condition assessments of all equipment and infrastructure at the WPCP, the purpose of the report is to provide the City with information needed to effectively budget for current and future capital and operational expenditures, ensure long term reliability of the WPCP, and evaluate high level options for reuse of treated effluent from the WPCP working towards staff's long term goal of monetizing the treated water. This full WPCP Strategic Planning Report is the basis of information needed for the rate study to determine appropriate rates in order to support WPCP operational and capital needs. The WPCP Strategic Planning Report also performed a detailed analysis for staffing needs using the New England Interstate Water Pollution Control Commission (NEIWPCC) standards along with comparing our current staffing levels against other treatment plants of similar size. The report provides a staffing plan but concluded our staffing levels are quite low and highlighted an immediate need for two additional operators, one new WPCP mechanic, and one laboratory technician.

There is a separate effort outside of the City's sewer utility analysis that's considering a regional pipeline that would connect the Town of Paradise to the City of Chico WPCP. It's important to note the regionalization study is completely separate from this sewer enterprise analysis that's specific to the City of Chico. However, due to our sustained increase of 0.6 MGD post-Camp Fire the added flow is a topic of discussion especially due to the way the WPCP is operated. The City collection system and WPCP serve over 29,000 sewer connections and is licensed by

the RWQCB to treat up to 12-million MGD. The City's WPCP is broken into two separate plants; plant-1 is original and has been at the same footprint for over a century and has a rated capacity of 3.6 MGD. Plant-2 originally built in the 90's and recently expanded in 2008 is rated to treat 8.4 MGD making the total licensed WPCP plant capacity at 12 MGD. However, plant-1 has not been operated since 1998 due to the efficiency and effectiveness of plant-2. Plant-1's infrastructure is old and outdated and would require several million dollars' worth of upgrades to become operational again. Therefore, staff have made the operational decision to only invest in the most efficient plant-2 and abandoned plant-1. This decision was also made because having two separate biological processes within one plant, then combining the effluent flow for discharge leads to significant problems that are difficult to identify origin and can cause severe operational deficiencies.

Plant-2 was designed in a fashion that it can be upgraded to 12-MGD without a significant expansion requirement, however any plant capacity upgrades are costly. Due to the added 0.6 MGD and the decision to only operate plant-2, capacity upgrades will be needed much sooner than originally projected. An amended capital project list accelerates the need for a 100-foot secondary clarifier to 2028 from the original projection of 2032. Staff will continue to closely monitor average flows as current development trends are high and in order to accommodate growth in our community, it's critical we have ready capacity at the WPCP to allow the new development to occur.

In the early Fall of 2021 internal engineering staff completed the sewer collection system analysis (exhibit 4). The report was finalized by previous PW Director of Engineering, Brendan Ottoboni. In total the City has approximately 400 miles of sewer pipes it maintains along with 14 lift stations that pump the sewer in areas where gravity flow does not work. Piping material has changed over the decades and now any new replacement uses PVC pipe that has a 100 year life expectancy. Previous practices were to utilize Vitrified Clay Pipe (VCP), Asbestos Cement Pipe (ACP) or Orangeburg pipe that all have a life expectancy between 60 to 75 years. Existing pipe age ranges from 1906 to 2021 and is broken down in ages per the following:

Pre – 1950= 10.1% of network
1951 – 1980 = 17.8% of network
1981 – 2010 = 52% of network
2011 – 2020 = 20% of network.

For multiple decades there has been no major capital project initiatives to replace existing sewer pipe. Ten percent of our network is well passed its useful life and the remaining seventeen and an eighth percent is close to passing its useful life. The majority of overdue pipe replacement is in the downtown area from 9th Street to W. 6th Avenue. With thirty percent of our network passed its useful life it is critical that we start initiating large capital improvement projects to replace aged sewer pipes.

DISCUSSION:

To take all the information gathered from the technical studies and perform the financial rate analysis, the City contracted with NBS consulting, an experienced firm in developing rates for agencies in compliance with Proposition 218 laws. At the May 26, 2021 Finance Committee meeting, direction was given to staff to have NBS consider an annual inflator, pavement treatment inclusion in pipeline replacement costs, including storm water components affecting the sewer collection and treatment process, and considering a volumetric consumption rate based on residential water usage during winter months.

NBS finalized their first draft report in November 2021 (exhibit 5) presenting a comprehensive rate study that not only considers operational and capital needs of the WPCP, but also focuses on several key issues including funding significant collection system replacement costs, examines how Equivalent Dwelling Units (EDU) are calculated, considers volumetric charges, and confirms it is appropriate to fund some stormwater program costs through sewer fees under proposition 218 regulations.

NBS immediately recognized the City currently has low rates when compared to other agencies and has fallen significantly behind in its repair and replacement of infrastructure per the technical studies. NBS's early financial assumption found without rate increases, the City would find it difficult to pay for needed capital improvements, upcoming regulatory requirements, and limit the ability to build capital reserves consistent with industry recommendations. NBS continued their comprehensive review and focused on the outlined key issues:

- Funding significant collection system replacement costs to address deteriorating sewer pipes that are 50 – 70 years old and, in some cases older than 100 years.
- Funding capital improvement program needs at the WPCP per the facility analysis.
- Examining customer classes and the equity of the rates, particularly how Equivalent Dwelling Units (EDUs)

are calculated and applied to commercial and multi-family accounts.

- Provided residential volumetric charges based on average winter water use that would improve equity among residential customers.
- Evaluated and confirmed appropriateness to fund some stormwater program costs through sewer rates under proposition 218 regulations.

As part of the rate study, NBS projected revenues and expenditures on a cash flow basis for the next twenty years, although the proposed rates are for a five-year period (FY22-23 – FY26-27). Staff provided NBS with recommended staffing levels from the technical studies for WPCP operations, collection system CIP delivery, and stormwater programs. Many staffing positions specifically in the Engineering side of Public Works do not charge one function of the sewer enterprise full time (2080 hours annually). They may work 50% of their time on sewer items and 50% of their time on non-sewer items. Those appropriate staffing allocations were factored in the rate analysis.

NBS completed the rate study and established a financial plan for the sewer utility. It's important for municipal utilities to collect fee revenue to fund operating costs, meet capital improvement needs and build both operating and capital replacement reserves. Maintaining reserve fund balances provides a basis for the sewer utility to cope with emergencies such as asset failures, natural disasters, and revenue shortfalls. Establishing an overall financial plan provides guidelines for sound and sustainable financial management of the utility. NBS concluded that the city has not increased rates in many years and therefore needs significant rate increases to fund critical capital improvements and establish reserve fund balances. With no reserve fund balances the City will be forced to borrow costly capital in the future to deliver needed improvement projects and meet overall utility needs. Even more significant rate increases will be needed long term if current rates are not increased per the financial plan. The burden that higher rates places on the customer is significant, however it is crucial to maintain a high functioning sewer system.

Figure #1 below shows the summary of revenue requirements per the financial plan and percentage of rate increases over the next five years using a ramp up increase:

Figure 1

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budgeted	5-Year Rate Adoption Period				
	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Sources of Sewer Funds						
Rate Revenue Under Current Rates - Sewer	\$ 11,850,520	\$ 11,992,726	\$ 12,136,639	\$ 12,282,279	\$ 12,429,666	\$ 12,578,822
Non-Rate Revenues	145,800	145,800	145,800	145,800	145,800	145,800
Interest Earnings	200,000	200,000	200,000	200,000	200,000	200,000
Total Sources of Funds	\$ 12,196,320	\$ 12,338,526	\$ 12,482,439	\$ 12,628,079	\$ 12,775,466	\$ 12,924,622
Uses of Sewer Funds						
Operating Expenses	\$ 8,824,281	\$ 8,824,281	\$ 8,824,281	\$ 8,824,281	\$ 8,824,281	\$ 8,824,281
Existing Debt Service	5,294,679	5,297,054	5,295,179	5,293,929	5,293,054	5,297,179
New Debt Service	-	-	-	-	-	-
Rate Funded Capital Expenses	-	-	864,143	-	4,742,733	2,415,279
Total Use of Funds	\$ 14,118,961	\$ 14,121,336	\$ 14,983,604	\$ 14,118,211	\$ 18,860,068	\$ 16,536,739
Surplus (Deficiency) before Rate Increase	\$ (1,922,641)	\$ (1,782,809)	\$ (2,501,165)	\$ (1,490,132)	\$ (6,084,602)	\$ (3,612,118)
Additional Revenue from Rate Increases ¹	-	5,996,363	14,260,551	22,445,864	27,986,947	28,322,790
Surplus (Deficiency) after Rate Increase	\$ (1,922,641)	\$ 4,213,554	\$ 11,759,386	\$ 20,955,732	\$ 21,902,344	\$ 24,710,672
Increase in Rate Revenue Needed to Avoid Deficit	0.00%	50.00%	45.00%	30.00%	15.00%	0.00%
Cumulative Increases	0.00%	50.00%	117.50%	182.75%	225.16%	225.16%
Net Revenue Requirement²	\$ 13,773,161	\$ 13,775,536	\$ 14,637,804	\$ 13,772,411	\$ 18,514,268	\$ 16,190,939

1. Assumes new rates are implemented July 1, 2022.

2. Total Uses of Sewer Funds less non-rate revenues and interest earnings. This is the annual amount needed from rates.

Figure #2 shows current vs. proposed rates. The proposed rates were developed with the goal of developing a new rate structure that consists of both a fixed and variable rate component (50% fixed base and 50% variable) based on EDUs, number of accounts, and water consumption during the winter months for all customer classes. The percentage of fixed costs will cover certain fixed expenses and the variable portion is based on water consumption. Figure #2 compares the current and proposed rates for FY22-23 through FY26-27 by customer class and includes adjustments on July 1 each year. The volumetric rate is calculated at \$1.99 per Hundred Cubic Feet (HCF) (1 HCF = 748 gallons) and increases gradually over the five year period. The average residential consumption of water is 9.4 HCF per month during the winter months when no landscaping is irrigated.

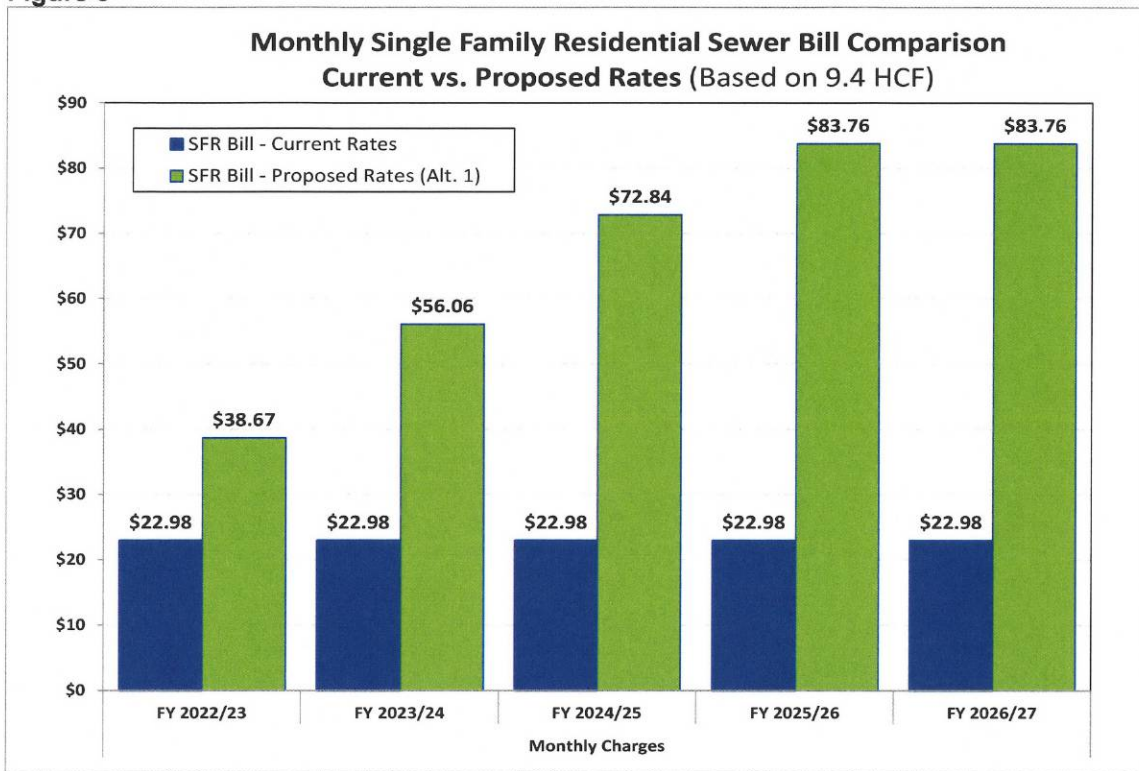
Figure 2

Sewer Rate Schedule	Current Rates (within City)	Current Rates (Outside City)	Proposed Sewer Rates				
			FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
FIXED MONTHLY CHARGES							
Residential (\$/Unit/mo.)							
House	\$22.98	\$23.67	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Multi-Family	\$22.98	\$23.67	\$12.63	\$18.31	\$23.80	\$27.37	\$27.37
Duplex - 2 Meters	\$22.98	\$23.67	\$5.98	\$8.66	\$11.26	\$12.95	\$12.95
Duplex - 1 Meter	\$22.98	\$23.67	\$14.08	\$20.41	\$26.53	\$30.51	\$30.51
Commercial (\$/EDU/mo.)							
Bars without Dining	<i>n.a.</i>	<i>n.a.</i>	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Brewery	\$22.98	\$23.67	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Car Wash	\$22.98	\$23.67	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Dorms	<i>n.a.</i>	<i>n.a.</i>	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Hospital & Convalescent	<i>n.a.</i>	<i>n.a.</i>	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Hotels w/o Dining	<i>n.a.</i>	<i>n.a.</i>	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Hotels with Dining	<i>n.a.</i>	<i>n.a.</i>	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Industrial Laundry	<i>n.a.</i>	<i>n.a.</i>	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Laundromat	<i>n.a.</i>	<i>n.a.</i>	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Markets/Bakeries	\$22.98	\$23.67	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Mortuary	<i>n.a.</i>	<i>n.a.</i>	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Restaurants	\$22.98	\$23.67	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
School	<i>n.a.</i>	<i>n.a.</i>	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
All Other	\$22.98	\$23.67	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
VOLUMETRIC CHARGES PER HCF¹							
Residential							
House	<i>n.a.</i>	<i>n.a.</i>	\$1.99	\$2.88	\$3.74	\$4.30	\$4.30
Multi-Family	<i>n.a.</i>	<i>n.a.</i>	\$1.99	\$2.88	\$3.74	\$4.30	\$4.30
Duplex - 2 Meters	<i>n.a.</i>	<i>n.a.</i>	\$1.99	\$2.88	\$3.74	\$4.30	\$4.30
Duplex - 1 Meter	<i>n.a.</i>	<i>n.a.</i>	\$1.99	\$2.88	\$3.74	\$4.30	\$4.30
Commercial							
Bars without Dining	<i>n.a.</i>	<i>n.a.</i>	\$1.99	\$2.88	\$3.74	\$4.30	\$4.30
Brewery	<i>n.a.</i>	\$8.72	\$5.16	\$7.48	\$9.72	\$11.18	\$11.18
Car Wash	\$2.94	\$2.94	\$1.41	\$2.05	\$2.67	\$3.07	\$3.07
Dorms	<i>n.a.</i>	<i>n.a.</i>	\$1.84	\$2.67	\$3.47	\$3.99	\$3.99
Hospital & Convalescent	<i>n.a.</i>	<i>n.a.</i>	\$1.81	\$2.63	\$3.42	\$3.93	\$3.93
Hotels w/o Dining	<i>n.a.</i>	<i>n.a.</i>	\$2.01	\$2.92	\$3.80	\$4.37	\$4.37
Hotels with Dining	<i>n.a.</i>	<i>n.a.</i>	\$3.76	\$5.46	\$7.10	\$8.17	\$8.17
Industrial Laundry	<i>n.a.</i>	<i>n.a.</i>	\$4.37	\$6.34	\$8.24	\$9.48	\$9.48
Laundromat	<i>n.a.</i>	<i>n.a.</i>	\$1.62	\$2.34	\$3.04	\$3.50	\$3.50
Markets/Bakeries	\$5.87	\$5.87	\$5.02	\$7.28	\$9.46	\$10.88	\$10.88
Mortuary	<i>n.a.</i>	<i>n.a.</i>	\$5.15	\$7.46	\$9.70	\$11.16	\$11.16
Restaurants	\$5.87	\$5.87	\$4.97	\$7.21	\$9.37	\$10.78	\$10.78
School	<i>n.a.</i>	<i>n.a.</i>	\$1.54	\$2.23	\$2.90	\$3.34	\$3.34
All Other	\$2.71	\$2.71	\$1.90	\$2.76	\$3.59	\$4.13	\$4.13

1. HCF = hundred cubic feet, equal to 748 gallons of water based on average winter consumption.

Figure #3 shows a monthly bill comparison for a residential connection based on an average usage of 9.4 HCF of water with a five year ramp up to revenue needed to complete all capital improvement projects. It's important to note that not all Chico residential connections use 9.4 HCF each month during the winter months, however Cal Water data shows this is the average usage for residential household connections.

Figure 3



Staff are concerned with the projected monthly rate increases, however, recognize that Chico rate payers have enjoyed extremely low sewer rates for many decades and now significant catch up needs to take place in order to properly manage the sewer utility. The volumetric rate is a new approach for residential customers that improves fairness and equity, however many ratepayers enjoy the predictability of a fixed rate. Staff asked NBS to establish a fixed rate in comparison to the volumetric rate for consideration. Figure #4 illustrates current rates, the volumetric rate, and a proposed fixed rate with no ramp up to full needed revenue as an alternative.

Figure 4

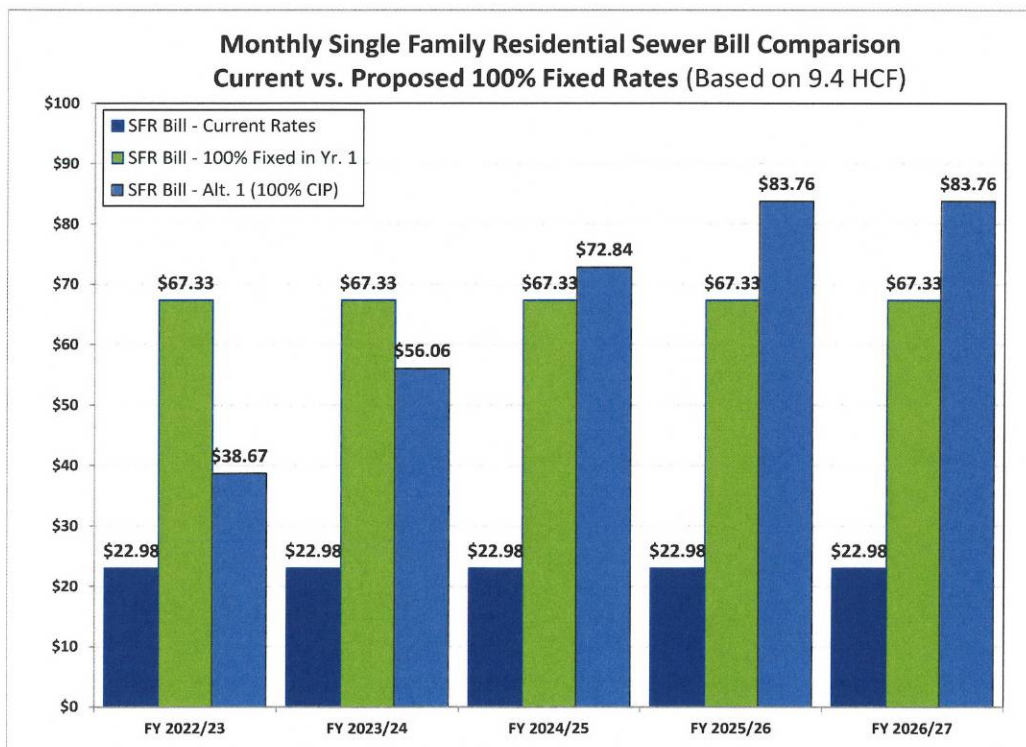


Figure #5 shows residential multi-family customers that use 6.3 HCF per month. Multi-family customers will see their bill increase from \$22.98 to \$25.23 the first year using the volumetric approach but end of less than a single family residential connection due to lower water usage. Figure #5 shows a customer bill example for the typical multi-family unit.

Figure 5

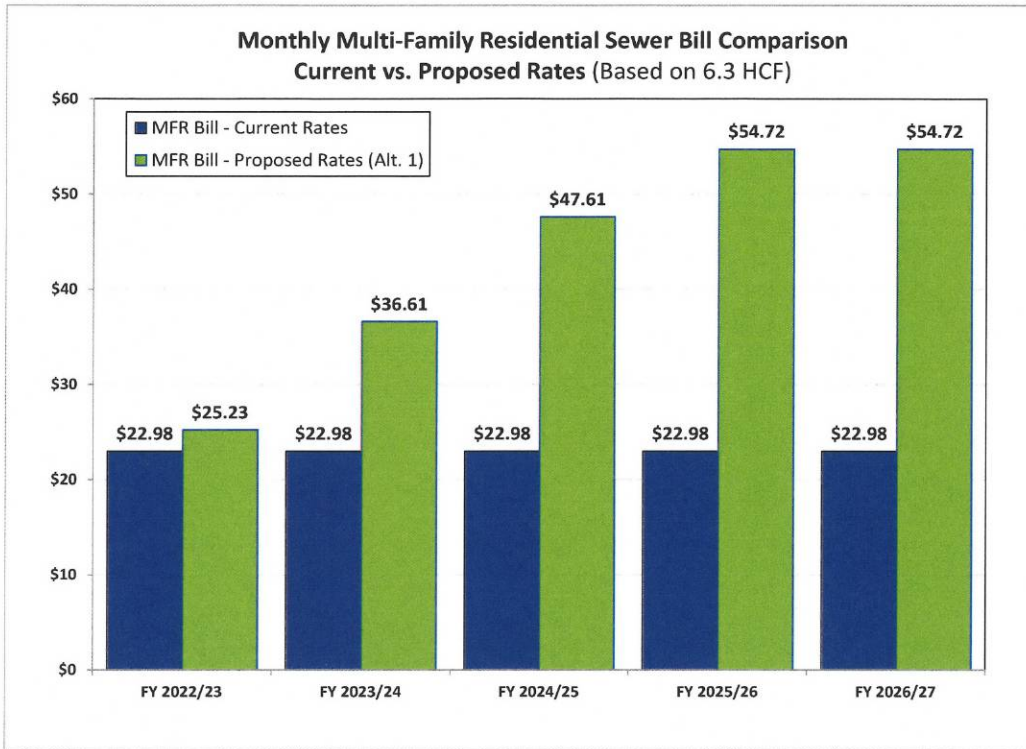
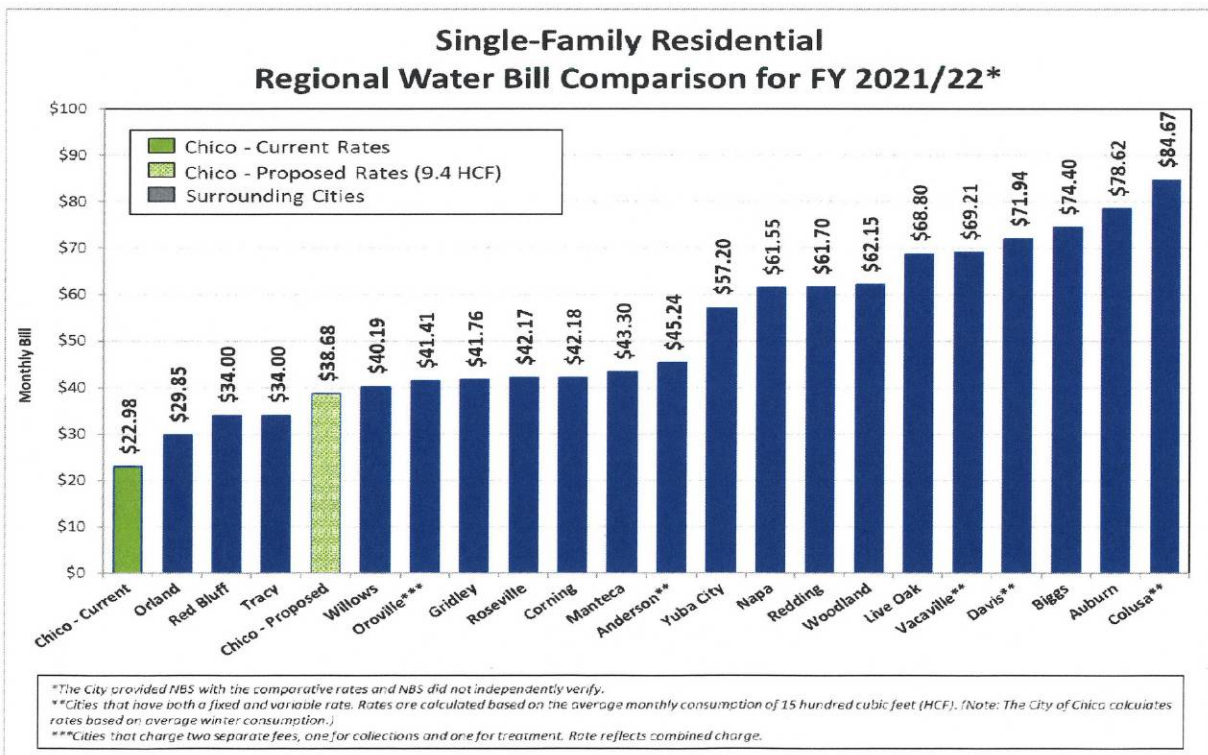


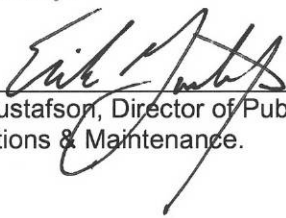
Figure #6 shows residential comparisons to neighboring agencies. Chico currently has one of the lowest rates in the region and figure #6 also shows where Chico would land during the first year of rate implementation using the proposed rates from Figure #3.

Figure 6



Staff are concerned with the projected monthly rate increases of 50% year one, 45% year two, 30% year three, 15% year four, and 0% for year five. These are significant increases but illustrate the sewer utility has not collected enough revenue over the last several decades to properly prepare for upcoming capital replacement needs. Increasing operational costs, regulatory requirements, staffing needs are all contributing factors for needed revenue to properly manage the sewer utility long term. Close to 30% of the sewer collection system is reaching its useful life so capital replacement projects must be funded. Otherwise, costly sewer overflows, regulatory fines, and emergency projects will plague the sewer utility. Staff are communicating the circumstances and ask that the Finance Committee consider recommendations.

Prepared by:



Erik Gustafson, Director of Public Works
Operations & Maintenance.

Reviewed and Approved by:



Mark Orme, City Manager

DISTRIBUTION:

City Clerk (3)

ATTACHMENTS:

- Exhibit 1: Mission Vision Objectives
- Exhibit 2: NHA Evaluation/Carollo Valuation Report
- Exhibit 3: WPCP Strategic Planning Report
- Exhibit 4: Sewer Collection System Analysis
- Exhibit 5: NBS Final Draft Rate Analysis Report

EXHIBIT 1

Sanitary Sewer and Treatment System

Mission

The mission of the City of Chico Sanitary Sewer and Treatment System is to efficiently and effectively provide a reliable, sustainable and cost-effective Sanitary Sewer and Treatment System for the residents of Chico and to work collaboratively with the City's partners at the federal, state and local level to maintain regulatory compliance and to respond to future water and wastewater needs.

Vision

At all times, the City of Chico Sanitary Sewer and Treatment System should be guided by the following core values:

- High level of public health and safety with an emphasis on facility operations, infrastructure quality and neighborhood well-being;
- Operational excellence, customer service and education; and
- Environmental stewardship with an emphasis on quality treated effluent, zero controllable spills, low levels of unanticipated incidents and reuse of system byproducts.

Objectives

- To provide a reliable, sustainable and cost-effective Sanitary Sewer and Treatment System.
- To work collaboratively with partners at the federal, state and local level to ensure regulatory compliance and to proactively respond to future water and wastewater needs.

Key Elements of Objectives

RELIABLE

- Sustaining operations and infrastructure with low probability of failure;
- Ensuring operations and infrastructure maintain compliance with current and future changes to laws and regulations; and
- Minimizes risk of unnecessary exposure to health/safety violations, litigation and unanticipated failures.

SUSTAINABLE

- Operations and infrastructure that maximizes system capacity;
- Maximizing the environmental benefits of bio-solids, recycled water, and use of effluent while dealing with regional water issues; and
- Ensuring that the benefits of sewage collection and treatment are provided to the entire Urban Area.

COST-EFFECTIVE

- Minimizing long-term risk associated with rate variations by focusing on rate stabilization policies to maintain rates in a systematic, gradual and consistent manner;
- Minimizing ongoing operational cost;
- Minimizing impact of system on other City operations and funds; and
- Encouraging economic development and more efficient land use activity.

COLLABORATION

- Ensuring Sanitary Sewer and Treatment System compliance with federal and state laws and regulations;
- Commitment to cross departmental involvement in long-term strategic development and operational implementation to ensure fully vetted recommendations are forwarded to Council;
- Leveraging partnerships to maximize rate payer value in the system; and
- Providing effective education supporting the system's mission, values, and objectives.

MEMORANDUM

May 16, 2019

To: Chris Constantin, Assistant City Manager, City of Chico

From: Mark Northcross

RE: Summary of options for privatizing the City's sewer utility

Background. NHA Advisors has reviewed the available information on 22 California cities that have attempted either full or partial privatizations of their water or sewer utilities. Our goal was to determine the financial impact of these efforts on both the actual utility, the utility's ratepayers, and on the City's General Fund. While we do not have complete financial information on each of the 22 different efforts, we have obtained sufficient information to draw conclusions. The purpose of this memo is to present the analysis, our conclusions, and to offer recommendations. In particular, the goal of this analysis is to determine what the potential is for reductions in long term sewer rates for Chico sewer ratepayers through any form of privatization. Please note that a complete summary of our research findings on all 22 California cities is contained in Exhibit A to this memo. For this exercise, we reviewed all publicly available information in each City's CAFR's, as well as on their websites.

We also did a preliminary estimate of what a private sector investor might pay for the City's wastewater enterprise. This analysis is shown in Exhibit B to this memo. Our analysis relies on a "cap rate" methodology used by the State Board of Equalization. This approach indicates a potential market value for the wastewater enterprise of about \$64 million.

Options for privatizing the City's sewer utility. There are four basic options that have been utilized by the 22 cities we examined:

- 1) Sale lease-back of utility by the city, while maintaining public operation of the utility
- 2) Sale lease-back of utility by the city, while retaining a private operator
- 3) No sale lease-back of utility, but retention of a private operator
- 4) Full privatization of utility, sale of utility to a private owner/operator

Each of these options is discussed in more detail below:

Option 1: Sale lease-back of utility by the City, while maintaining public operation of the utility.

In this option, the utility is "sold" by the City's General Fund to the utility. The City can do this because the City, through its General Fund, is the legal owner of the utility. Consequently, when California cities have actually sold a utility to the private sector, the sale proceeds go the City's General Fund.

For Option 1, The utility issues bonds secured by net revenues of the utility to pay the “sales” price. The General Fund receives an upfront cash payment from the utility. Alternatively, the City can do “seller financing”, where the City's General Fund owns a note payable by the utility over time for the purchase price of the sale. In either the scenario, the utility is generating income for the General Fund, over and above what can normally be done under Proposition 218.

If the “sales” price is paid entirely upfront, and if the publicly offered bonds used to finance the sale were sold on a tax exempt basis, then the proceeds of the sale/bond issue must be used by the City for public improvements. If the “sales” price is paid over time through “seller” financing, then the annual payments can be used by the City for any lawful purpose.

In all other respects, there is no change in the operation of the utility. City employees continue to operate the utility. The City Council, following the procedures of Proposition 218, continues to set rates for the ratepayers. The difference is that future Proposition 218 cost of service studies for the utility can legally include the payments to the City's General Fund for the sale lease-back. However, this means that any benefit to the City's General Fund would result from the increase in sewer rates to pay the “sales” price, not a decrease.

It is important to note that the City's General Fund currently gets about \$750,000 per year in reimbursements for costs paid initially out of the General Fund, such as billing through the City's Finance Department. Under the sale-lease back option, this reimbursement cash flow would not be impacted.

Option 2: Sale lease-back of utility by the city, while retaining a private operator. This option is the same as Option 1 with the exception that a private company is retained to operate the utility. The sale lease-back structure is used. The City Council still sets rates following the procedures of Proposition 218. However, the City enters into a contract with a private company to actually operate the utility. City employees no longer operate the utility. If the utility has tax exempt debt outstanding, the term of the operating contract is limited to 20 years. There are other restrictions on the type of compensation structure used to pay the private operator. In this case, any reduction of sewer rates would come from the ability of a private operator to operate the sewer utility at a lower cost than the City. We are not qualified to address whether this is a realistic possibility. Again, the sale lease-back option will not result in any reduction in sewer rates, and is more likely to result in an increase in sewer rates because of the need to pay the “sales price” to the City's General Fund.

The reimbursement cash flow from the Sewer fund to the General Fund would not be impacted by use of a private operator unless the private operator took over functions that are now provided by General Fund staff.

Option 3: No sale lease-back of utility, but retention of a private operator. Option 3 is the same as Option 2, with one major exception. There is no sale lease-back with the City's General Fund. Consequently, there is no provision to include payments to the General Fund for a sale leaseback in future cost of service studies under Proposition 218. The City simply enters into a contract with a private company to operate the utility, subject to the same restrictions described above if there are tax exempt bonds outstanding. Cities that have used this option have done so because they believe that private operation can reduce operating expenses. As noted above, this option may result in a reduction in operational costs, thereby potentially reducing sewer rates. However, we are not qualified to address the

likelihood that the City's sewer utility reducing operating costs would decline as result of retention of a private operator.

As noted above, the reimbursement cash flow from the wastewater fund to the General Fund would not be impacted by use of a private operator unless the private operator took over functions that are now provided by General Fund staff.

Option 4: Full privatization of utility, sale of utility to a private owner/operator. Option 4 is unlike any of the other options, the City actually sells the utility to a private company. As a result, the City's General Fund receives a one-time cash payment from the private company. The utility is no longer operated by public employees. The City Council no longer sets utility rates under Proposition 218. The private owner of the plant must get utility rates approved by the California Public Utilities Commission ("CPUC"). There have been two privatizations of public utilities in California within the last 10 years, in the communities of Lucerne and Felton. Both have resulted in significant increase in rates.

As noted earlier, we used a "cap rate" approach to estimating what a private sector investor would pay for the City's wastewater enterprise. Capitalization rate analysis is used in the private sector to value businesses and real estate investments. The California Board of Equalization uses this approach to set the taxable assessed value for private utility properties in California. We used the cap rate that the Board of Equalization uses for the property owned by the Golden State Water Company, the largest private water company in California. The estimated value of \$64 million under this cap rate approach is less than the Net Position of the wastewater enterprise in the City's June 30, 2018 CAFR. As noted in Exhibit B, a private owner would need to pay both property taxes and corporate income taxes on the operation of the enterprise. These costs are likely to cause the private owner to seek rate increases from the CPUC. In addition, the CPUC currently authorizes annual returns on equity in the 8% to 10% range, much higher than the cost of capital for a municipal utility. These significantly higher returns are also likely to result in higher utility rates. Consequently, the sales price received by the City's General Fund from sale of the utility would ultimately be paid for by the City's former ratepayers. The experience of both Lucerne and Felton confirm this. Based on this history, we believe that full privatization of the City's sewer utility would result in a significant increase in sewer rates.

Under Option 4, the City's General Fund would also lose the \$750,000 in annual reimbursements from the wastewater fund.

Potential benefits of Options 1 and 2 to the City. The foregoing analysis shows that while the sale lease-back options can generate significant benefit to the City's General Fund, this is only done as a result of increasing the charges to sewer ratepayers. The private operator aspect of Option 2 is discussed below:

Potential benefit of Option 3 to the City. This option only delivers a benefit to the City if a contract for private operation of the utility, or the wastewater treatment plant, results in lower operating costs for the utility. As noted before, we are not qualified to address this question.

Potential benefit of Option 4 to the City. With respect to Option 4, full sale of the utility to a private company, the two California communities that have done that in the last few years, Felton and Lucerne, have both experienced huge rate increases, and major pushback by ratepayers. Consequently, we do not believe that this option provides long term benefit for the City. While the cash received by the City's

General Fund is estimated in Exhibit B at \$64 million, the actual experience of such privatizations shows that utility rates are very likely to substantially increase. Chico residents are likely to be adversely impacted by such a sale. In addition, "overhead" payments now received by the City's General Fund from the wastewater enterprise would be lost.

Conclusion and Recommendation. In Options 1 and 2 the cash flow benefits to the General Fund are directly paid by utility ratepayers. Consequently, there is no net benefit to the City from either sale and lease back option, if the ratepayer impact is taken into consideration. Option 3 only provides a net benefit to the City if private operation under public ownership actually results in a long term reduction of operating expenses. As noted above, we are not qualified to evaluate this latter possibility. Option 4 results in a short term benefit to the City, but is very likely to result in unacceptable long term costs to Chico residents through significantly higher wastewater utility rates.

Consequently, the General Fund benefit of three out of the four options discussed above only occurs at the expense of the City's wastewater utility ratepayers. For Option 3, if there is a long term financial benefit, the benefit would accrue to the City's ratepayers through lower utility rates, but not to the City's General Fund.

Accordingly, we believe that the City's current model of public ownership with no "backdoor" surcharge on ratepayers, as in Options 1 and 2, is the best model. We strongly recommend against Option 4. If the City has an interest in Option 3, we recommend that it retain the services of a qualified civil engineering firm to determine whether a services contract with private operator would likely result in any long term reduction in operating costs.

NHA Advisors, LLC is registered as a Municipal Advisor with the SEC and Municipal Securities Rulemaking Board ("MSRB"). As such, NHA Advisors, LLC has a Fiduciary duty to the public agency and must provide both a Duty of Care and a Duty of Loyalty that entails the following.

Duty of Care

- a) exercise due care in performing its municipal advisory activities;
- b) possess the degree of knowledge and expertise needed to provide the public agency with informed advice;
- c) make a reasonable inquiry as to the facts that are relevant to the public agency's determination as to whether to proceed with a course of action or that form the basis for any advice provided to the public agency; and
- d) undertake a reasonable investigation to determine that NHA Advisors, LLC is not forming any recommendation on materially inaccurate or incomplete information; NHA Advisors, LLC must have a reasonable basis for:
 - i. any advice provided to or on behalf of the public agency;
 - ii. any representations made in a certificate that it signs that will be reasonably foreseeably relied upon by the public agency, any other party involved in the municipal securities transaction or municipal financial product, or investors in the public agency securities; and
 - iii. any information provided to the public agency or other parties involved in the municipal securities transaction in connection with the preparation of an official statement.

Duty of Loyalty

NHA Advisors, LLC must deal honestly and with the utmost good faith with the public agency and act in the public agency's best interests without regard to the financial or other interests of NHA Advisors, LLC. NHA Advisors, LLC will eliminate or provide full and fair disclosure (included herein) to Issuer about each material conflict of interest (as applicable). NHA Advisors, LLC will not engage in municipal advisory activities with the public agency as a municipal entity, if it cannot manage or mitigate its conflicts in a manner that will permit it to act in the public agency's best interests.

Exhibit A – Summary of Research on Utility Privatizations by California Cities

Table 1

City	Adelanto	Banning	Beaumont	Burlingame	Coachella
System	Water and wastewater	Water and wastewater	Wastewater	Wastewater	Water
Type of structure	Sale leaseback with JPA through Adelanto Public Utility Authority	55 year leases	O&M contract	O&M contract	55-year Sale leaseback with JPA
Private owner	No	No	No	No	No
Private operator	PERC Water	No	Utility Partners, LLC	Veolia	No
Still subject to 218?	Yes	Yes	Yes	Yes	Yes
General Fund Payment upfront?	Maybe	\$17 million upfront			
Annual payments to General Fund?	\$1.3 million in FY 2014 from water and \$125,000 in FY 2014 from wastewater	Yes. In 2017: WW: \$181,000 Water: \$488,000		Yes, ~ \$1 million. Probably a reimbursement for billing expense and overhead.	Yes, ~ \$600,000
UUT on City Utilities?	No	No	Maybe	No	Maybe
Notes			Operating Agreement runs through 2/2019, with two 1-year extensions available. City preparing to terminate Agreement when 2018 WW project is completed around 3/2020	40+ year history with Veolia	Lease agreement since July 1, 2003. Concurrently in management agreement with Water Authority. Amounts in Water Fund after all required transfers are eligible to be used for lease payments

Table 2

City	Colton	Corona	El Monte	Felton	Gonzales	Indio
System	Water or wastewater, not clear from CAFR	Water	Water	Water	Water or wastewater, not clear from CAFR	Water
Type of structure	Leaseback	Leaseback	Leaseback	Sale	0	Sale leaseback with JPA
Private owner	No	No	No	California American Water	No	No
Private operator	No	No	No	California American Water	No	No
Still subject to 218?	Yes	Yes	Yes	CPUC	Yes	Yes
General Fund Payment upfront?				Yes		?
Annual payments to General Fund?						?
UUT on City Utilities?	Maybe	No	Maybe	No	Maybe	Maybe
Notes				Major push back from ratepayers. System eventually resold back to San Lorenzo Valley Water District		Lease agreement since July 1, 2003. Concurrently in management agreement with Water Authority. Amounts in Water Fund after all required transfers are eligible to be used for lease payments

Table 3

City	La Habra	Lucerne	Lynwood	Needles	Pico Rivera
System	Water or wastewater, not clear from CAFR	Water	Water or wastewater, not clear from CAFR	Water, Wastewater, and Electric	Water
Type of structure	Sale leaseback with JPA	Sale	Leaseback	Sale leaseback with JPA	Lease agreement
Private owner	No	Cal Water	No	No	No
Private operator	No	Cal Water	No	No	No
Still subject to 218?	Yes	CPUC	Yes	Yes	Yes
General Fund Payment upfront?				\$17.9 million upfront down payment from \$21 million bond issuance to fund \$65 million purchase of Utility Enterprise by NPUA. Remaining balance financed by City and repaid with annual purchase payment through 2066	\$21 million upfront from LRB proceeds; total rental of \$209 million
Annual payments to General Fund?				\$685,000 per year in lease payment, fixed, plus O&M reimbursement	
UUT on City Utilities?	No	No	Maybe	Up to 2.5%	Maybe
Notes		Pay twice national average in water rates	Get 2014A Sewer Revenue Bonds Final OS	City acts as manager & operator of NPUA under a mgmt. agreement. The agreement is extended for one year on 7/1 of each year, unless not extended. City receives mgmt. fee = actual costs + direct overhead incurred with mgmt./operation of utility enterprises. City also collects an annual franchise fee (subordinate to DS) in exchange for rights of access to real property owned by the City and necessary for the NPUA to operate the enterprises. Franchise fee = 5% of gross revenues. UUT of up to 2.5%. Revenues from the NPUA made up 54% of all City revenues in 2017 and 60% in 2016. The City is funding a train station rehabilitation project through federal/state grants with a 20% local match being met by using contributions from the NPUA	Water Authority is leasing water enterprise from City pursuant to 1999 agreement. After upfront payment, the Authority will make semiannual Lease Payments from "surplus revenues"

Table 4

City	Rialto	Richmond	Santa Paula	Sierra Madre	South Gate	Whittier
System	Water and wastewater	Wastewater	Wastewater	Water or wastewater, not clear from CAFR	Water	Water or wastewater, not clear from CAFR
Type of structure	30 year Concession Agreement. Assets owned by City and leased to Rialto Utility Authority	O&M contract	30 year concession agreement	Lease back	55 year lease	Lease back
Private owner	Table Rock Capital		Alinda Capital Partners	No	No	No
Private operator	Veolia	Veolia	PERC Water	No	No	No
Still subject to 218?	Yes	Yes	Yes	Yes	Yes	Yes
General Fund Payment upfront?	\$35 million upfront				\$21.985 million	
Annual payments to General Fund?	\$4.6 million per year in combined water and wastewater through UUT				Yes	
UUT on City Utilities?	Yes	Maybe	No	Maybe	No	Maybe
Notes			City bought back plant. 30 year concession terminated			

Exhibit B – Potential Valuations for Chico Wastewater Enterprise

There are many ways of valuing a utility enterprise. The best indicator of value is what a private sector utility company would pay for a public utility. The primary indicator of value to a private sector operator is the long term expectation for profit from operation of the utility. The most direct indicator of profit are the net operating revenues of a utility. Of course, there are many other factors that would impact the purchase price offered by a private sector operator, such as deferred maintenance, future regulatory liabilities, and the perceived willingness of the California Public Utilities Commission (CPUC) to grant rate increases in the future. Nevertheless, we believe that the best place to start in a valuation exercise is to look at historic net revenues. Table 5 below shows the operating pro forma for the Chico wastewater enterprise based on the City's CAFR's for FY 2014 through 2018:

Table 5 - Historic Pro Forma for Chico Wastewater Enterprise	Fy Ending				
Revenues	2014	2015	2016	2017	2018
Charges for services	14,871,384	16,296,261	14,297,690	14,676,859	13,747,819
Rental charges	67,787	54,456	53,281	59,743	35,701
Interest income		-	63,231	135,808	288,380
Miscellaneous	3,190	-	(17,720)	-	18,810
Total Pledged Revenues	14,944,375	16,352,732	14,398,498	14,874,427	14,090,710
Expenses					
Salaries and benefits	2,334,515	2,269,656	1,886,926	1,920,585	2,477,032
Materials and Supplies	1,200,143	570,238	704,367	749,433	821,760
Purchased services	557,619	671,957	575,547	850,111	607,446
Other expenses	2,279,979	2,259,895	2,179,517	2,368,674	2,655,178
Total operating expenses	4,414,696	5,771,746	5,346,357	5,888,803	6,561,416
Net Revenues before debt service	10,529,679	10,580,986	9,052,141	8,985,624	7,529,294
Annual Debt Service	5,109,187	5,109,187	5,109,186	5,109,187	5,109,188
Debt Coverage Ratio	2.06	2.07	1.77	1.76	1.47
Net revenues after debt service	5,420,492	5,471,799	3,942,955	3,876,437	2,420,106

This historic pro forma shows that the wastewater utility has been generating substantial net revenues before debt service. However, these revenues have been declining through the five year period. Net

revenues after debt service remain adequate, and on review of the CAFR's appear to be more than adequate to address normal capital replacement and repair expenses.

Table 6 shows an analysis of four different approaches to valuing the City's wastewater utility. The first method ("Method 1") is very simple – just use the Net Position of the wastewater enterprise as reported in the June 30, 2018 CAFR. That figure, which does reflect a standard depreciation of the enterprise's physical assets, is \$95 million. However, as noted above, a private sector buyer would rely primarily on net operating income for determining value. This is also true for a public sector buyer. While it is very unlikely that a public sector buyer for the City's wastewater enterprise could be found, the exercise of determining a sales value remains helpful.

Method 2 for valuation is the estimated replacement cost of all facilities, including pipelines, of the wastewater enterprise, less depreciation, as prepared by Carollo Engineers. Replacement cost is based on the cost of new facilities. This figure is approximately \$300 million. The study by Carollo Engineers is attached as Exhibit C.

In our opinion, a public sector buyer would base the value primarily on what the net bonding capacity of the enterprise, based on net revenues, is. For this purpose, the value estimated in Method 3 in Table 6 takes the 5 year average of net revenues for the City's wastewater enterprise as the base, and then determines maximum annual debt service on a bond issue to buy the enterprise using a 1.25 times coverage ratio. This coverage ratio could be lower, increasing bonding capacity, and by implication, the value of the enterprise. However, we believe that a public sector buyer would want to retain sufficient revenues after debt service to fully fund standard repairs and replacement costs for facilities, as well as any deferred maintenance. Accordingly, we believe the slightly higher coverage ratio is appropriate. The indicated value of the City's wastewater enterprise using this approach is approximately \$68 million.

Method 4 in Table 6 below shows what we believe a private sector investor would pay for the wastewater enterprise. The key concept in this analysis is the "cap rate". A cap rate is a percentage figure that is divided into the net operating income of a business or commercial real estate investment to determine its market value. The lower the cap rate, the higher the value. In effect, it is a short hand way of valuing the likely return on equity for an investor assuming normal equity/debt ratios and yields for the particular asset class being evaluated.

Cap rates used in commercial real estate valuations now vary from about 4.5% (high quality apartments) to as much as 10% (marginal retail). The California Board of Equalization uses a cap rate approach in determining the assessed value of utilities for the purposes of levying property taxes. The Board of Equalization uses a cap rate of 7.14% for the Golden State Water Company, the primary private utility that is valued by the Board of Equalization.

Cap rates are applied to net income, after the payment of property taxes, but before the payment of corporate income taxes. Consequently Table 6 subtracts estimated property taxes of \$650,000 per year from the 5 year average of net revenues for the wastewater enterprise, but makes no allowance for payment of corporate income taxes by the private sector purchaser. The indicated value after subtracting outstanding debt of the enterprise is approximately \$64 million.

Table 6 - Potential Values of Wastewater Enterprise

Method 1 - GASB Value		Notes
June 30, 2018 Net Position for Wastewater Utility:	95,249,698	Source: 2018 CAFR
Method 2 - Carollo Engineers		
Replacement Cost New Less Depreciation Value	301,600,000	Source: Technical Memorandu,, Asset Valuation and Revenue Sufficiency Analysis, Final Draft, May 2016, Carollo Engineers
Method 3 - 100% Tax Exempt Financing for Public Sector Buying		
5 Year Average of Net Revenues	7,779,621	Source: CAFR's from 2014 through 2018
June 30, 2018 Total SRF Debt	35,899,607	Source: June 30, 2018 CAFR
Maximum Annual Debt Service at 1.25 times coverage	6,223,697	
Net proceeds from tax exempt bond issue at 4%	103,587,456	30 year financing term
Indicated Value of Wastewater Enterprise	67,687,849	Subtracts outstanding debt of wastewater enterprise
Method 4 - Cap Rate on Cash Flows		
5 year average of Net Revenues	7,779,621	Source: see Method 2 notes
5 year average of Net Revenues after estimated property taxes	7,129,621	Assumes \$650,000 per year in property taxes on wastewater enterprise if privately owned
Cap Rate for utility investments	7.14%	This cap rate was developed by the State Board of Equalization for the Golden State Water Company. Source: 2018 Capitalization Rate Study, California State Board of Equalization
Indicated Value of Wastewater Enterprise	63,955,024	Subtracts outstanding debt of wastewater enterprise

Conclusions. We believe that the cap rate approach in Method 4 is the best overall approach for valuing the utility, short of doing a formal appraisal, or actually seeking bids from interested operators. The fact that a cap rate for valuing a utility is significantly higher than that for valuing high quality multi-family projects is a cause for concern regarding accuracy. However, we discussed this issue with commercial real estate professionals. We were told that the perception in the private sector that (1) the Regional Water Board could mandate expensive improvements on the utility and (2) the CPUC may not grant the rate increases sought by the operator comprise very significant risks compared to owning apartments. Consequently, the higher cap rate takes into considerations that risks of owning a utility.

Accordingly, we believe that the City's wastewater enterprise has a value in the mid \$60 to \$70 million range.

It is important to note that the likely values of the wastewater system to either a public sector buyer (\$68 million) or a private sector buyer (\$64 million) are substantially less than either the GASB value (\$95 million) or the replacement cost less depreciation value (\$301.6 million). We believe that these differences show that the total investment Chico residents have put into their wastewater system is much greater than the potential "profit" from the system would otherwise indicate. This is typical for public sector utilities. They are run to provide a high quality of service to their customers at the lowest long term cost.

Exhibit C – Carollo Engineers Study



NHA ADVISORS

WASTEWATER UTILITY VALUATION SERVICES

**TECHNICAL MEMORANDUM
ASSET VALUATION AND REVENUE SUFFICIENCY
ANALYSIS**

FINAL DRAFT
May 2016

NHA Advisors
Wastewater Utility Valuation Services

TECHNICAL MEMORANDUM

Asset Valuation and Revenue Sufficiency Analysis

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APPENDIX A – LIST OF ASSETS

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ASSET VALUATION AND REVENUE SUFFICIENCY ANALYSIS

1.0 INTRODUCTION AND BACKGROUND

NHA Advisors (NHA) engaged Carollo Engineers, Inc. (Carollo) to perform an asset valuation and revenue-sufficiency analysis for the City of Chico's (City) wastewater treatment plant and sanitary sewer system.

The Scope of Services provided by Carollo consists of tasks necessary to develop the financial analyses requested by NHA, including a condition assessment of the sewer system assets, a preliminary valuation of the assets, capital improvement program development, and a revenue sufficiency analysis. Specifically, Carollo's tasks for this project were:

1. Information Review and Asset Identification
2. Field Visits and Preliminary Condition Assessment
3. Asset Preliminary Valuation (including an Excel-based asset inventory model)
4. Capital Program Preliminary Assessment
5. Revenue Sufficiency Analysis

This memorandum summarizes the overall approach and findings of the asset valuation and revenue sufficiency analysis.

1.1 Information Gathering

Through NHA, Carollo requested information from the City to conduct the analysis. The information request included:

- GIS layers of the City's sanitary sewer system pipelines
- Water Pollution Control Plant (WPCP) and lift station asset lists and as-built drawings
- Maintenance or work order data for WPCP equipment repairs and replacements
- Sanitary sewer system maintenance and condition information, including CCTV scores
- WPCP SCADA tags
- Sanitary sewer system master plan
- 2015-16 City Adopted Budget
- 2015 Comprehensive Annual Financial Report

Information was also gathered during meetings with City staff on December 10th and 11th, 2015. The meetings included a tour of the WPCP (December 10th) and visits to nine of the thirteen lift stations (December 11th). During the facility visits, Carollo staff conducted on-site investigations and preliminary asset condition assessments for all readily-accessible sanitary system assets. This effort involved visually inspecting the condition of the above-ground treatment plant and sanitary sewer system infrastructure to initially assess the degree to which the system components have been historically maintained. Photos of equipment and structures were taken during the site visits. In addition, City staff provided anecdotal assessments of facility construction, operations, and historical equipment performance.

The City provided portions of the information requested. However, detailed asset listings and maintenance records were not available. To supplement the lack of information, Carollo used information from the most recent Sanitary Sewer System Master Plan Update (June 2013), the WPCP 12 MGD expansion project (2007), and the accompanying "12-MGD Expansion Operations and Maintenance Manual" (June 2011).

The analysis performed by Carollo was prepared based on this available information. Where information was unavailable, assumptions were made based on our experience from similar projects of this nature.

In response to the draft technical memorandum submitted to the City in February 2016, the City requested to review the list of assets created by Carollo for this analysis. On May 5, 2016, City staff provided updated information for specific assets of the WPCP and lift stations. The updated information focused on incorrect asset installation years and assets that have been replaced or rebuilt since the site visits. Carollo reviewed and incorporated the changes into the appropriate models and produced a revised analysis. In the case of rebuilt assets, the installation year remained the same and a condition was assigned to the asset to augment the replacement projection. The City's comments were added to the models in order to show where modifications were made and comments were identified as coming from the City. In some instances, the City noted some assets as "out of service" or not in operation. The replacement of these assets was included in the analysis in order to account for the funds necessary to pay for these replacements. The results of the revised analysis are represented in this technical memorandum.

2.0 ASSET VALUATION

Using information gathered during Task 1 (Information Review and Asset Identification) and Task 2 (Field Visits and Preliminary Condition Assessment), Carollo prepared a preliminary valuation of the sanitary sewer system and Water Pollution Control Plant (WPCP).

As part of Task 1, a Microsoft Excel-based asset inventory model was prepared that identifies the above-ground and below-ground assets for the WPCP and collection system. The inventory was based on two main sources of asset records: sewer pipelines from GIS and equipment listing from the 12-MGD Expansion Operations and Maintenance Manual. Where possible, additional assets were added to the model based on information and observations gathered during the field visits. The final inventory of assets contained in the model is considered to be as complete as possible given the available information.

The following section describes the methodology used to create the asset inventory, determine the remaining useful life, estimate a preliminary replacement value, and calculate the "Replacement Cost New, Less Accumulated Depreciation" of each asset.

2.1 Methodology

Carollo's approach to determining the value of all sewer system assets utilized the Association for the Advancement of Cost Engineering Cost Estimate Classification System (AAACE System) Class 4 cost estimate for each asset. Carollo then applied the Replacement Cost New Less Depreciation (RCNLD) approach to determine present day asset valuation. The RCNLD represents the estimated value of the asset in the current year and the cost to replace the asset in current dollars. Industry standard service lives were used and the number of years of service was used to estimate depreciation, unless the visual condition assessment assigned a different remaining asset life. Land was not considered in this evaluation.

To determine each asset's replacement cost, an AAACE System Class 4 cost estimate was assigned using available asset information. The expected accuracy range of this estimate is within +30 percent or -15 percent. AAACE System Class 4 estimates are typically prepared based on limited design information, flow diagrams for main process systems, plant schematic layouts, and preliminary equipment lists. Costs were developed using either equipment factors, parametric models, engineering judgment, or analogy (past projects). At Carollo, this is considered to be a master planning level estimate and is suited for determining project feasibility. Some equipment costs were found in the from the AAACE System Class 2 estimate that was part of the 2007 WPCP expansion design. These costs were escalated into current dollars and a factor for contingency was added.

The process to prepare the asset inventory involved a combination of data sources and manual asset entry for three parts of the sewer system: WPCP, Sanitary Sewer Pipelines, and Lift Stations.

2.1.1 WPCP

The equipment listing provided in the City's 12-MGD Expansion Operations and Maintenance Manual was the main source of WPCP equipment and sizes. This listing focused on the 2007 plant expansion that included a new digester, secondary clarifier, headworks, and other plant modifications. This source did not include every major piece of

equipment and did not have much information on the assets of Plant 1 (the original 3 MGD plant constructed in the 1970s). As-built drawings from previous phases of plant construction were not available for use to fill in gaps associated with these assets. The major structures (digesters, clarifiers, aeration basins, etc.) were added to the list of equipment to create the inventory of WPCP assets.

The developed WPCP asset inventory included 517 major assets. These assets were categorized as structural, mechanical, electrical, and instrumentation. Dates of installation were assigned based on the available drawings and input from City staff. Sizes of structures were extracted from the Operations and Maintenance Manual or drawings were used for quantity takeoffs. Equipment characteristics used to determine the replacement cost were extracted from the Operations and Maintenance Manual based on the type of asset. The complete listing of WPCP assets is included in Appendix A of this memorandum.

2.1.2 Sewer Pipelines

The sewer pipeline inventory was created by extracting pipeline information from a GIS shapefile provided by the City. The original file contained 6,346 asset records of pipeline segments, but not all of them were active or constructed. Pipelines were removed if they were designated as "abandoned" or "private." Pipelines designated as "tentative," "under construction," or "approved," were included in the inventory and assumed to be installed in the coming year (2017) if no installation data was listed. The majority of pipelines were designated as "public." Pipelines identified as forcemains were also removed from the sewer pipelines inventory and were added to the lift station inventory. The resulting inventory includes 5,766 records that are equal to 273.4 miles of sewer pipeline. A map of the sewer pipelines in the inventory is included in Appendix A of this memorandum.

In general, the majority of pipeline data included in the inventory was available in the GIS dataset. However, some of the data needed to be assumed in order to complete the inventory. The following bullets summarize the data gaps and the assumptions made to correct them.

- **Installation Year** - Pipelines were installed between 1903 and 2015. 18 percent of pipelines did not have a valid installation year in the GIS. The installation year from the upstream segment and downstream segment (based on manhole ID) were first used to assign missing years. Next, pipelines with a similar project document number (DOCNO) were looked at. Finally, a default year of 1950 was used for the remaining 134 pipeline segments.
- **Diameter** - Pipeline diameters ranged from 3 inches to 39 inches. Less than 4 percent of pipeline segments had invalid diameters. The missing diameters were assigned using the diameter of the upstream and downstream segments (based on manhole ID).

- **Material** - Materials listed in GIS include concrete (CONC), ductile iron (DI), polyvinyl chloride (PVC), reinforced concrete pipeline (RCP), and vitrified clay (VCP). 14 percent of segments did not have a valid material or were marked as other (OTH) or unknown (UNK). The missing materials were assigned by extracting the material from the label field, if listed. These materials included high density polyethylene (HDPE), stainless steel (SS), cast iron (CI), and asbestos cement (AC). Next, materials were assigned using the the upstream and downstream segments (based on manhole ID). Finally, a default material of VCP was assigned to 309 pipeline segments.

2.1.3 Lift Stations

No records were available that contained a listing of the equipment and structures at each lift station. A list of stations and basic characteristics was extracted from the Sanitary Sewer Master Plan Update. The Master Plan used parts of as-built drawings to determine the number of pumps and length of forcemain for each station. This information was used along with the available as-builts to prepare an asset inventory for each of the thirteen lift station. Other information was gathered from site visits to nine of the lift stations.

The developed lift station asset inventory included 113 assets categorized as structural, mechanical, electrical, and instrumentation. Asset installation dates were assumed to be the same as the date on the as-builts, unless supplemental information was provided by City staff. The two submersible pumps at each station were not visually inspected or removed from the wetwell. City staff provided input as to the condition of the pumps at each station. Replacement costs for the assets were developed with the help of contractor bids for three of the lift stations. Costs were escalated to current year dollars and a factor for contingency was added. The complete listing of Lift Station assets is included in Appendix A of this memorandum.

2.1.4 Useful Life and Depreciation

Each asset was assigned a typical design life based on general industry standards for a wastewater system. The WPCP assets were each assigned to one of 59 different asset types, lift station assets were grouped into thirteen different asset types, and the sanitary sewer system pipelines were separated into ten different material-based pipeline types.

The different types of structures included in the inventory were estimated to last between 25 and 75 years, mechanical equipment life ranged from 20 to 50 years, electrical equipment ranged from 20 to 25 years, and instrumentation ranged from 20 to 30 years. Sewer pipelines ranged in life from 50 to 100 years, depending on the material, and VCP pipelines greater than 6-inch diameter were assigned a rehabilitation (such as CIPP or sliplining) that would extend the life of the pipeline to 125 years.

Using the installation year assigned to each asset in the inventory, the approximate timing for replacement was calculated based on the useful life estimate. The remaining life for each asset was determined by subtracting installation year from the current year model (2017), to give the asset's age, and subtracting the result from the useful life. For assets that were observed during the visual condition assessment, the remaining life was determined by assigning a condition score from 1 to 5, where a score of 1 represents a new asset and a 5 represents an asset in need to replacement. The higher the condition score, the less life the asset has remaining. Table 1 shows the relationship between each condition score and the asset's remaining life. This method was only used for lift station and WPCP assets. No condition information was available for the sewer pipelines, which typically exist in the form of PACP (Pipeline Assessment & Certification Program) scores from CCTV inspections.

Table 1 Condition Scores and Remaining Life Wastewater Utility Valuation Services NHA Advisors	
Condition Score	Percentage of Life Remaining
1	100%
2	75%
3	40%
4	20%
5	0%

The current value of each asset was depreciated using straight line depreciation over the asset lifetime. The percentage of remaining life is equivalent to the percentage of the replacement value each asset is worth. For example, a 50-year old asset that costs \$1 million to replace and is expected to last for 100 years would have depreciated 50 percent and would be worth half the replacement cost, or \$500,000.

The following analysis was produced using the asset inventories described above for each part of the wastewater system.

2.2 Asset Valuation Analysis

Using the available information and the methodology described above, a preliminary estimate of the value and replacement cost new less depreciation (RCNLD) of all above-ground and below-ground sewer system assets was calculated. Summaries of the asset inventories for each aspect of the sewer system are included in this section.

2.2.1 Sewer Pipelines

The sewer pipelines represent the largest inventory by count of assets and by replacement cost. Table 2 summarizes the data for the sewer pipelines. The useful life for each material is included in the table. The median installation year is based on the number of pipeline segments and is not weighted by length or value.

Table 2 Sewer Pipeline Inventory Summary Wastewater Utility Valuation Services NHA Advisors					
Pipeline Material	Length (miles)	Useful Life	Median Install Year	Replacement Cost⁽¹⁾	RCNLD
AC	2.64	60	1983	\$4,578,391	\$2,009,328
CI	0.08	75	1973	\$109,106	\$34,605
CONC	10.64	75	1950	\$19,774,162	\$722,411
DIP	1.23	50	1981	\$2,497,079	\$851,667
HDPE	0.03	100	1994	\$33,608	\$26,214
PVC	119.60	100	2002	\$168,157,679	\$141,112,977
RCP	21.74	75	1982	\$56,068,717	\$29,238,149
SS	1.00	70	2000	\$1,341,942	\$755,268
VCP ⁽²⁾	116.49	100	1963	\$166,769,082	\$72,384,950
Total	273.44			\$419,329,766	\$247,135,568

Notes:
(1) Replacement cost is inclusive of design, overhead, and contingencies costs and associated manhole and sewer lateral replacements. Value is shown in 2016 dollars.
(2) VCP larger than 6-inches in diameter given a useful life of 125 years based on the assumption that it would be rehabilitated 75 years after installation.

The RCNLD for sewer pipelines is estimated at approximately 59 percent of the total replacement cost. This indicates that the pipelines, as a whole, have not reached the midpoint of their useful life. However, concrete pipelines are almost entirely depreciated. VCP, the second largest pipeline category, is more than half depreciated. Nearly all of the oldest pipelines in the system (installed in 1903 and 1929) are constructed of VCP.

Figure 1 shows the installation profile of the sewer pipelines. The numbers above the bars indicate the percentage of the total system installed in that single year. The figure illustrates the large amount of the system that was installed in the years 1903 and 1929, totaling 15 percent of the entire system length.

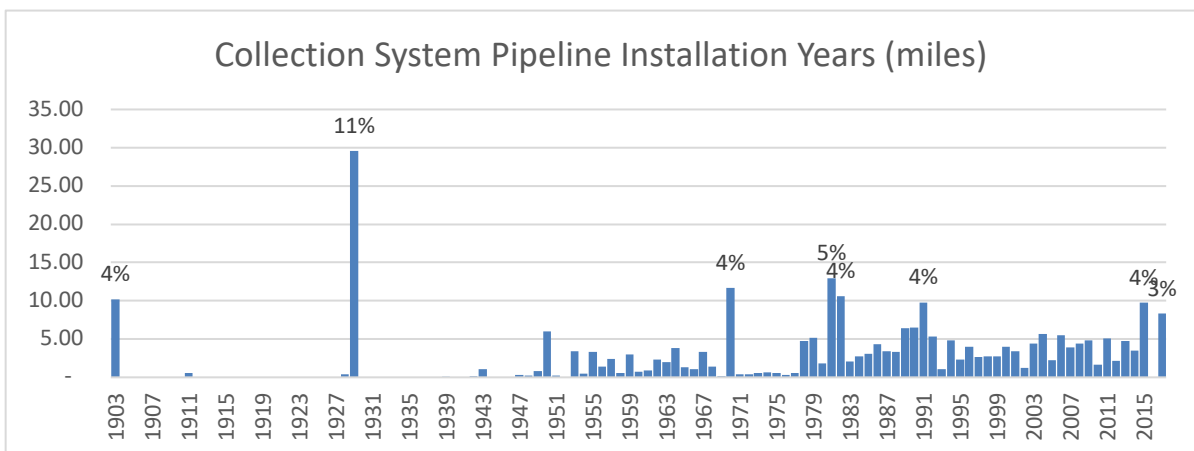


Figure 1 Length of Sewer Pipeline Installation by Year

The current replacement cost for each pipeline segment was determined using the costs per liner foot for the diameters shown in Table 3. It was assumed that the replacement costs would be the same, regardless of pipeline material. The unit costs listed in the 2013 Sanitary Sewer Master Plan Update were used as the basis for this analysis.

Table 3 Sewer Pipeline Replacement Cost Wastewater Utility Valuation Services NHA Advisors			
Nominal Diameter (inches)	Replacement Cost Per Linear Foot⁽¹⁾	Nominal Diameter (inches)	Replacement Cost Per Linear Foot⁽¹⁾
3	\$253	18	\$366
4	\$253	20	\$391
5	\$253	21	\$413
6	\$253	24	\$459
8	\$253	27	\$503
10	\$275	30	\$550
12	\$297	33	\$597
14	\$317	36	\$641
15	\$333	39	\$688
16	\$351		

Notes:
 (1) Replacement cost is inclusive of design, overhead, and contingencies costs and associated manhole and sewer lateral replacements. Unit costs equal to 2013 Sanitary Sewer Master Plan Update.

2.2.2 WPCP

The second largest asset inventory and replacement cost is the WPCP. Table 4 summarizes the assets included in the plant inventory separated by the plant processes. Appendix A contains a list of all the WPCP assets used in this analysis. The installation year for each process is based on the majority of assets in that process. While some processes are almost entirely installed in a single year, other processes have received upgrades or additions during multiple plant upgrades. The replacement costs were determined on a per asset basis and primarily incorporated information from the 2007 engineer's estimate as the basis for the values.

Table 4 WPCP Inventory Summary Wastewater Utility Valuation Services NHA Advisors				
Process Area	Asset Count	Install Year⁽¹⁾	Replacement Cost⁽²⁾	RCLD
Headworks	55	2009	\$8,090,559	\$6,227,369
Primary Treatment	54	1997	\$10,902,535	\$3,671,278
Aeration	48	2009	\$9,607,835	\$6,068,047
Secondary Treatment	26	1997	\$8,735,113	\$5,101,528
Blower Building No. 2	29	2009	\$4,135,301	\$2,681,186
Disinfection	41	1997	\$6,265,256	\$3,502,440
Chemical Building	37	2009	\$1,960,180	\$1,130,503
Solids Thickening	36	1997	\$3,711,795	\$1,190,716
Solids Digestion	58	2009	\$15,734,049	\$8,666,047
Solids Dewatering	45	1997	\$7,734,327	\$4,768,259
Plant Power Systems	15	1997	\$14,351,201	\$7,573,504
Other Plant Systems	20	1997	\$6,103,112	\$1,616,185
Plant 1	53	1972	\$16,721,509	\$2,736,447
Total	517		\$114,052,772	\$54,933,507
Notes:				
(1) Install year is based on the majority of asset in the process and is not indicative of all assets in the process.				
(2) Replacement cost is inclusive of design, overhead, and contingencies costs. Value is shown in 2016 dollars.				

The RCNLD for the WPCP is 48 percent of the total replacement cost. This indicates that the plant assets, as a collective group, are approximately halfway through their useful life. However, this is largely influenced by the assets of Plant 1, which are not currently in use. In order for the plant to reach full rated capacity (12 MGD), these assets would have to be restored back to working condition. At the moment, this capacity is not needed at the plant and it is not anticipated to be needed for the foreseeable future.

2.2.3 Lift Stations

The smallest asset inventory and replacement cost is the lift stations. Table 5 summarizes the assets by lift station. Appendix A contains a list of all the lift station assets used in this analysis. Also included in the inventory are three vehicles in the collection system fleet. The two vactor trucks and one CCTV truck used by the City to clean and inspect the sewer pipelines are included under "Collection System Fleet." The install year for each station represent when the station was originally installed and is not representative of all the assets at the station.

Table 5 Lift Station Inventory Summary Wastewater Utility Valuation Services NHA Advisors				
Station	Asset Count	Install Year⁽¹⁾	Replacement Cost⁽²⁾	RCNLD
Chico Muni Airport	10	1994	\$394,600	\$242,084
Creekside Landing	9	2007	\$450,997	\$358,153
Cussick Avenue	9	2006	\$315,597	\$243,843
Henshaw-Guynn	7	1994	\$250,030	\$152,096
Frontier Circle	7	2008	\$253,297	\$217,404
Henshaw	7	1996	\$177,160	\$118,113
Holly Gardens	9	1989	\$248,110	\$131,312
Lassen Avenue	7	2000	\$554,250	\$369,772
McKinney Ranch	7	2006	\$419,050	\$337,320
NW Lift Station	13	1993	\$1,809,116	\$1,437,028
Oates Business Park	9	1990	\$505,040	\$242,218
Salvation Army	9	2008	\$254,100	\$214,677
Tom Polk	7	2008	\$162,375	\$139,208
Collection System Fleet ⁽³⁾	3	2004 ⁽³⁾	\$950,000	\$288,000
Total	113		\$6,743,722	\$4,491,228
Notes:				
(1) Install year of the original station.				
(2) Replacement cost is inclusive of design, overhead, and contingencies costs. Value is shown in 2016 dollars.				
(3) Fleet assets include two vactor trucks and one CCTV truck. Install year is assumed based on City staff input.				

The RCNLD for the lift stations is 67 percent of the total replacement cost. This indicates that the lift stations are roughly a third of the way through their useful lives. This is mostly attributed to the long life and high value of each stations wet well and no additional buildings or above-ground structures at the sites. A typical lift station can be rehabilitated at least once, possibly multiple times, and still use the same wet well. The cost to replace the pumps and controls is only a fraction of the cost of a brand new station.

Long-term, the possibility exists that the City may need to relocate some stations that are installed adjacent to or on private property. However, this was not considered in this analysis due to the complexity of these scenarios.

2.3 Wastewater System Valuation Summary

The current valuation of the wastewater system is based on the inventories described in the previous sections. The system is comprised of one water pollution control plant (WPCP),

rated for 12 MGD, 273.4 miles of sewer pipelines and manholes, ranging in diameter from 3 inches to 39 inches, and thirteen sewer lift stations.

The assets of each part of the system were included in an inventory and valuation model. The current value of the system is represented by the RCNLD, which was calculated for each asset in the model based on a design life and remaining life (based on installation year or visual condition assessment). The total replacement cost of the wastewater system and associated RCNLD is shown in Table 6.

Table 6 Wastewater System Valuation Wastewater Utility Valuation Services NHA Advisors			
Part of System	Summary	Replacement Cost⁽¹⁾	RCNLD⁽²⁾
WPCP	1 plant, 517 assets	\$114.1 M	\$54.9 M
Sewer Pipelines	273.4 miles of pipelines	\$419.3 M	\$247.1 M
Lift Stations	13 stations, 113 assets	\$6.7 M	\$4.5 M
Total		\$540.1 M	\$306.5 M
<u>Notes:</u>			
(1) Replacement cost is inclusive of design, overhead, and contingencies costs. For sewer pipelines this includes associated manhole and sewer lateral replacements.			
(2) Replacement Cost New Less Depreciation. Calculated using straight line depreciation based on each asset's expected life and remaining life.			

The majority of the system replacement cost and current value is in the sewer system pipelines. The pipelines represent approximately 78 and 81 percent of the total value and current value of the sewer system, respectively. The RCNLD is 57 percent of the total sewer system replacement cost.

3.0 CAPITAL PROJECTION

Building off of the information collected and the asset inventories, Carollo conducted a preliminary assessment of the City's sewer system Capital Improvement Program (CIP). The CIP is used to determine the amount at which the system's assets should be funded for replacement on an annual basis in order for the utility to achieve its long-term service goals. For this preliminary exercise, Carollo relied on information obtained in Task 1, augmented by the field findings under Task 2. The projected annual CIP is incorporated into the revenue sufficiency analysis (Task 5) of this project.

Where possible, information from the Sanitary Sewer System Master Plan Update was considered in this capital improvement plan. However, the focus of the Master Plan was system capacity considerations and preparing for the system system's ultimate build-out conditions. The Master Plan did not consider the pipeline age when developing the CIP.

3.1 Methodology

Using information gathered during Task 1 and Task 2, the inventory models were used to estimate the timing of asset replacements for the next 50 years. The CIP models use the same useful life estimates and installation years described in section 2.1.

Unless condition information was available, the model assumes each asset will be replaced at the end of its useful life. The replacement cost for each asset was calculated in current year dollars and remain in current year dollars in the CIP projection. Escalation of costs into future dollars has been applied in the revenue sufficiency analysis described in the next chapter. To illustrate this point, consider an asset installed in 1950 that costs \$1 million to replace and is expected to last for 100 years. The projected CIP for this asset would be \$1 million in year 2050.

For assets where condition information was gathered, the remaining life of each asset is modified based on Table 1. The remaining life is added to year 2017 to determine the asset's replacement year. To illustrate, consider the example in the previous paragraph. If the same asset was assigned a condition score of 2 (which equates to 75 percent remaining life in Table 1), then the asset's replacement year would change from 2050 to 2092 (75 years from 2017).

The first year of the analytical model is 2017 and any overdue asset replacements are included in this year. The assets of the WPCP Plant 1 process (original plant constructed in the 1970s) were not modeled for future replacement. Due to the age of the assets and their current condition, the model would predict all these assets for replacement in the first year. Given the current capacity at the plant and recent flows, this portion of the plant is not needed. The timing of when the plant capacity might necessitate rehabilitation of these assets is beyond the scope of this project and no assumptions were made to arbitrarily predict when these assets may require replacement. For these reasons, these assets were excluded from the CIP projection.

3.2 Capital Program Analysis

The results of the Capital Improvement Program (CIP) projection model are shown in Figure 2 on the following page. The figure shows the annual investment requirements for the sewer pipelines, WPCP, and lift station assets in separate colors.

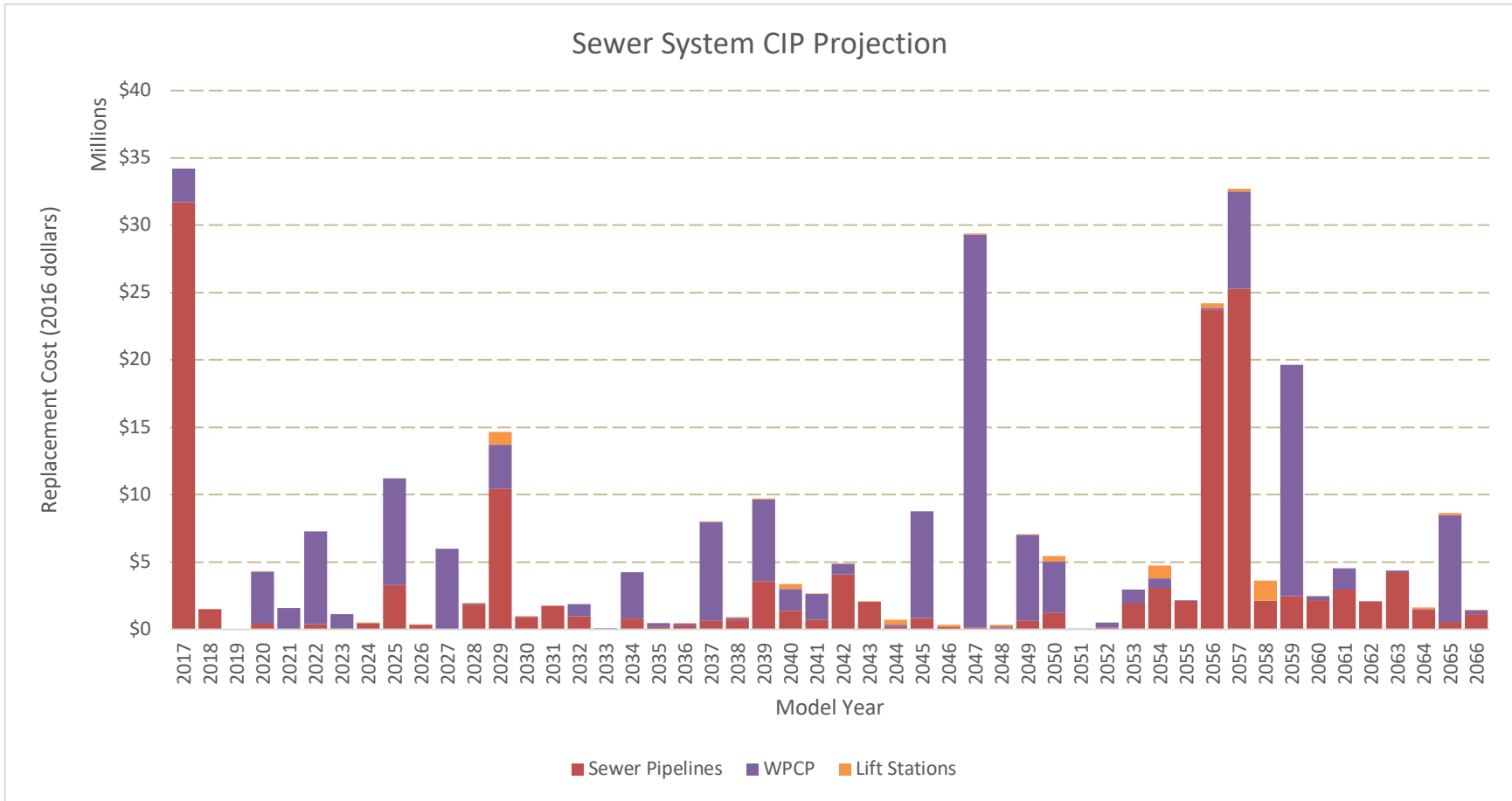


Figure 2 Projected Sewer System CIP

The \$34 million spike in the first year of the model is largely due to sewer pipeline replacements and rehabilitations that are past due according to the simplified useful life estimate calculations used in this analysis. More than ten miles of VCP pipelines installed in 1903 are over 110 years old. City staff noted that these pipelines are a cause for concern due to cracks and offset joints. An additional 23 miles of VCP installed in 1929 is more than 85 years old and overdue for rehabilitation. Vendors estimate that VCP lining can extend the pipeline life by 50 years. However, if these pipelines are not addressed, then they can be expected to need replacement over the next 20 years. Additionally, roughly 6 miles of concrete pipeline was also installed in 1929 and has exceeded its useful life.

The \$29 million spike in 2047 is primarily due to the end of useful service life for many of the WPCP assets. This year signifies the 50 year anniversary of the 1997 WPCP expansion project, and thus the end of the useful life of the WPCP facilities. The cost shown is primarily to replace the clarifiers, aeration basins, digesters, and chlorine contact tanks at the plant.

The projected CIP totals for the entire system are shown in Table 7. The sewer pipelines are the major contributor to the CIP over the 10, 20, and 50 year model periods.

Table 7 Wastewater System CIP Projection Wastewater Utility Valuation Services NHA Advisors				
Projection Period	Sewer Pipelines	WPCP	Lift Stations	Total
10 Years	\$38.2 M	\$23.8 M	\$0.1 M	\$62.1 M
20 Years	\$55.4 M	\$38.0 M	\$1.2 M	\$94.6 M
50 Years	\$147.4 M	\$140.4 M	\$6.3 M	\$294.2 M
<u>Notes:</u> (1) Costs are shown in current year dollars (2016)				

The average annual cost of replacements over the next 50 years is \$5.9 million. However, over the first 20 years the average annual cost is \$6.2 million. The next section evaluates the impact that these projected costs have on the sufficiency of the City's revenues.

4.0 REVENUE SUFFICIENCY STUDY

Carollo conducted a revenue sufficiency study to determine the ability of the City's existing sewer revenues to support the operation, maintenance, repair, and replacement obligations of the sewer system.

4.1 Methodology

Carollo utilized the City's adopted 2015-16 annual budget as the base year for forecasting expenditures and revenues. A financial model was developed to forecast the revenue requirements of the utility under 5, 10, and 20-year planning horizons. Additionally, the analysis was used to identify funding gaps under current operating conditions, as well as under any capital funding projections outlined in Section 3.

The City's sewer operations are comprised of six funds¹. Each fund has separately identified revenues, expenditures, and available fund balances. Base year operating expenditures were escalated by 3 percent annually to account for assumed inflation. Principal and interest payments from existing debt were assumed constant and come to term in 2029 (per the existing debt agreements). These expenditures are required for the continued operation of the sewer system.

Three capital funding scenarios were developed from the identified capital program analysis in Section 3. Identified capital needs have been escalated to year of construction based on the historical average ENR-CCI of 3 percent annually.

The following scenarios were developed for the revenue sufficiency analysis:

- **Scenario #1 - Full CIP as Identified:** Under this scenario, capital costs are incurred as identified in Section 3. The costs and timing of the projects are reflective of original install years and estimated useful lives and do not reflect ability to pay. Additionally, the timing of these projects does not reflect the specific condition of the assets, criticality, or efficient grouping of projects.
- **Scenario #2 - Smoothing of Short Term Spikes:** As detailed in Section 3, there are significant sanitary sewer system replacement and rehabilitation needs identified in 2017 due to a large number of pipelines that are beyond their average useful service life. To reflect a more reasonable plan for rehabilitating this significant length of pipeline, the 2017 sanitary sewer system pipeline were spread over 20 years. Given the age of these pipelines, the City may wish to prioritize the pipelines based on a more detailed asset management analysis of sewer pipeline condition, criticality, and risk.

¹ Funds are comprised of: Fund 320 – Sewer – Trunk Line Capacity, Fund 321 – Sewer – WPCP Capacity, Fund 322 – Sewer – Main Installation, Fund 323 – Sewer – Lift Stations, Fund 850 – Sewer, and Fund 851 – WPCP Capital Reserve

- Scenario #3 - Consistent Funding:** This scenario assumes an annual capital funding requirement of \$4.5 million escalated each year by historical ENR-CCI. While this doesn't correspond directly to the identified needs, it may better reflect the City's ability to fund and implement necessary capital improvements.

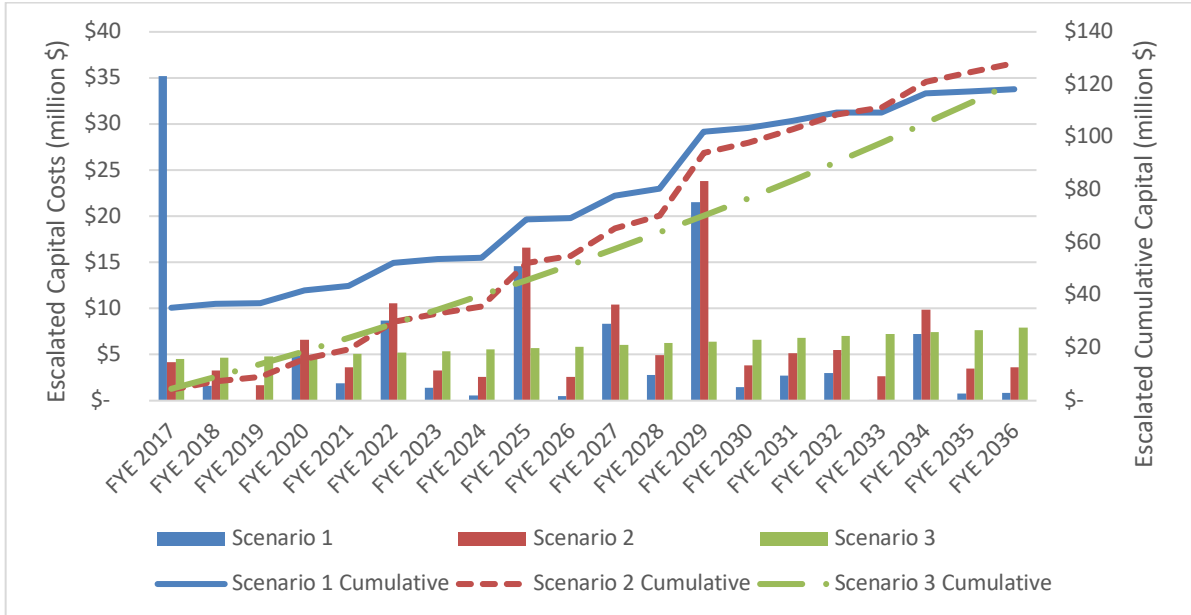


Figure 3 presents the forecasted annual capital expenditures of each scenario over the next 20 years.

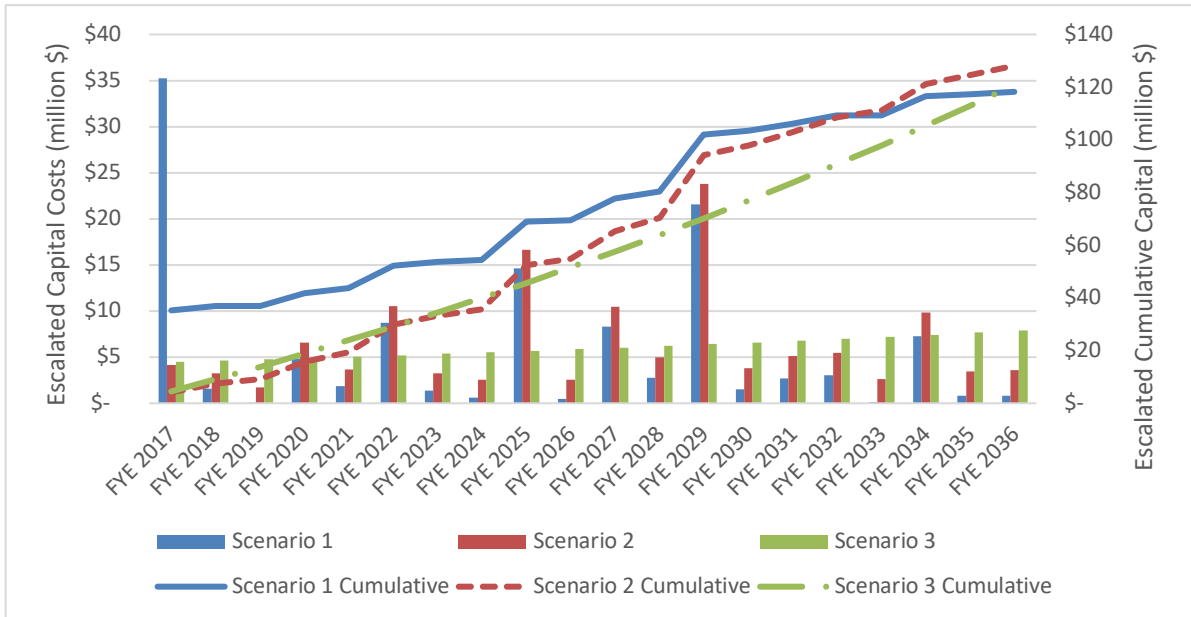


Figure 3 Annual Capital Cost Scenarios

4.2 Revenue Sufficiency Analysis

Existing revenues and expenditures were analyzed prior to the addition of proposed capital projects. This tests the ability of existing revenues to support continued sewer operations. Over the next 5 years (FY 2017 – 2021), currently forecasted revenues exceed operating expenditures by approximately \$21.81 million. However, \$43.59 million is necessary over the same period in order to fund Scenario #1. Table 8 shows the forecasted cumulative cash flows and necessary capital costs over the next 5, 10, and 20 year periods.

Table 8 Funding Alternatives (in millions of dollars) Wastewater Utility Valuation Services NHA Advisors				
	Forecasted Cash Flow	Scenario #1 Costs	Scenario #2 Costs	Scenario #3 Costs
5 Year	\$16.43	\$43.59	\$19.35	\$23.89
10 Year	27.97	69.37	54.89	51.59
20 Year	68.12	118.23	128.17	120.92
Surplus/(Shortfall) at Existing Revenues				
5 Year		\$(27.16)	\$(2.92)	\$(7.46)
10 Year		(41.40)	(26.92)	(23.62)
20 Year		(50.11)	(60.05)	(52.80)

Based on this analysis, existing revenues are insufficient to fund the full CIP as identified in Section 3 (Scenario 1) and would need to be increased to eliminate the identified funding shortfall. In addition, existing revenues do not provide sufficient funding of the additional outlined capital scenarios at each time horizon.

4.2.1 Necessary Revenue Adjustments

Because existing revenues are not sufficient to cover the capital program, Carollo updated the cash flow analysis assuming annual 3 percent revenue increases (to offset inflation). Under this assumption, the City is forecasted to have sufficient cash flow to fund the identified CIP (Scenario 1) over the 20 year period. However, in the 5 and 10-year time horizons, funding shortfalls remain. As discussed previously, the funding shortfall is mostly a product of identified projects that are beyond their identified useful lives.

The high-level assessment outlined replacement of these assets in year 1. Instead, should the City be able to replace these assets gradually over the next 20 years (as identified in Scenario #2), the assumed 3 percent annual inflationary increases to revenues are sufficient to fund the proposed capital needs over the 5 and 20 year planning horizons. A \$10.09 million shortfall is forecasted at the 10-year horizon.

Under Scenario 3, a slight shortfall would occur over the 5 and 10-year planning horizons when increasing revenues at 3 percent annually. At the 20-year planning horizon, the City is projected to see a surplus and will be able to fully fund its capital program.

Table 9 Funding Alternatives (in millions of dollars) Wastewater Utility Valuation Services NHA Advisors				
	Forecasted Cash Flow	Scenario #1 Costs	Scenario #2 Costs	Scenario #3 Costs
5 Year	\$19.98	\$43.59	\$19.35	\$23.89
10 Year	44.80	69.37	54.89	51.59
20 Year	147.11	118.23	128.17	120.92
Surplus/(Shortfall) With 3% Annual Revenue Increases				
5 Year		\$(23.61)	\$0.63	\$(3.91)
10 Year		(24.57)	(10.09)	(6.79)
20 Year		28.88	18.94	26.20
<u>Notes:</u>				
(1) 3% annual adjustments to existing revenues				

4.3 Summary

Based on the identified capital needs (Scenario #1), fully funding the capital program in the near term (5 to 10 years) is unsustainable at both the current and inflated revenue levels. However, if year 2017 sanitary sewer system costs can be replaced gradually over 20 years, then Scenario #2 works in the 5 and 20 year planning horizon. Scenario #2's funding alternative provides the best financial position for the City as it provides adequate funding over the 5 and 20-year planning horizons. It is recommended that the City prioritize the identified capital projects to determine if these assets can be replaced over the next 20-year or whether the assets would need to be replaced on an accelerated timetable.

APPENDIX A – LIST OF ASSETS

WPCP Asset Inventory Table

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
HEADWORKS	Influent Screening		Headworks Building	Structural	Building
HEADWORKS	Influent Screening		Headworks Building Crane	Mechanical	Crane
HEADWORKS	Influent Screening		Headworks Wet Well	Structural	Buried Concrete
HEADWORKS	Influent Screening	SLG-H01	Barscreen No. 1 Channel Inlet Gate	Mechanical	Gate
HEADWORKS	Influent Screening	MBS-H01	Mechanical Bar Screen No. 1	Mechanical	Bar Screen
HEADWORKS	Influent Screening	SLG-H02	Barscreen No. 2 Channel Inlet Gate	Mechanical	Gate
HEADWORKS	Influent Screening	MBS-H02	Mechanical Bar Screen No. 2	Mechanical	Bar Screen
HEADWORKS	Influent Screening	SLG-H03	Manual Barscreen Channel Inlet Gate	Mechanical	Gate
HEADWORKS	Influent Screening	HBS-H03	Manual Bar Rack	Mechanical	Bar Screen
HEADWORKS	Influent Screening	SLG-Y02	Slide Gate Y02	Mechanical	Gate
HEADWORKS	Influent Screening	GCF-H01	Grit Cyclone Separator and Classifier No. 1	Mechanical	Grit Classifier
HEADWORKS	Influent Screening	GCF-H02	Grit Cyclone Separator and Classifier No. 2	Mechanical	Grit Classifier
HEADWORKS	Influent Screening	SCV-H01	Shaftless Screw Conveyor No. 1	Mechanical	Conveyor
HEADWORKS	Influent Screening	SLG-H08	Conveyor No. 1 Slide Gate	Mechanical	Gate
HEADWORKS	Influent Screening	WCP-H01	Screenings Washer/Compactor No. 1	Mechanical	Grit Washer
HEADWORKS	Influent Screening	WCP-H02	Screenings Washer/Compactor No. 2	Mechanical	Grit Washer
HEADWORKS	Influent Screening	ASP-Y01	Automatic Sampler	Instrumentation	Sampler
HEADWORKS	Headworks Electrical Building		Headworks MCC Building	Structural	Building
HEADWORKS	Headworks Electrical Building	MCC-P14	Motor Control Center P14	Electrical	MCC
HEADWORKS	Headworks Electrical Building	PLC-HH	PLC Input-Output Panel	Electrical	PLC
HEADWORKS	Parshall Flumes	FIT-1019, FIT-1041	Parshall Flume Flow Transmitter	Instrumentation	Sensor
HEADWORKS	Parshall Flumes	SLG-H06	Parshall Flume No. 1 Inlet Gates	Mechanical	Gate
HEADWORKS	Parshall Flumes	SLG-H07	Parshall Flume No. 1 Inlet Gates	Mechanical	Gate
HEADWORKS	Parshall Flumes	PSF-H01	Parshall Flume No. 1	Structural	Buried Concrete
HEADWORKS	Parshall Flumes	PSF-H02	Parshall Flume No. 2	Structural	Buried Concrete
HEADWORKS	Parshall Flumes	Y-AE/AIT-1005	PH/Temp Analyzer	Instrumentation	Analyzer
HEADWORKS	Grit and Biofilters	SLG-H04	Vortex Grit Chamber Slide Gate No. 1	Mechanical	Gate

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
HEADWORKS	Grit and Biofilters	SLG-H05	Vortex Grit Chamber Slide Gate No. 2	Mechanical	Gate
HEADWORKS	Grit and Biofilters		Grit Chamber 1	Structural	Buried Concrete
HEADWORKS	Grit and Biofilters		Grit Chamber 2	Structural	Buried Concrete
HEADWORKS	Grit and Biofilters	VGC-H01	Vortex Grit Chamber Drive No. 1	Mechanical	Mixer
HEADWORKS	Grit and Biofilters	VGC-H02	Vortex Grit Chamber Drive No. 2	Mechanical	Mixer
HEADWORKS	Grit and Biofilters	GRP-H01	Grit Pump No. 1	Mechanical	Pump, Grit
HEADWORKS	Grit and Biofilters	GRP-H02	Grit Pump No. 2	Mechanical	Pump, Grit
HEADWORKS	Grit and Biofilters	GRP-H03	Grit Pump No. 3	Mechanical	Pump, Grit
HEADWORKS	Grit and Biofilters	GRP-H04	Grit Pump No. 4	Mechanical	Pump, Grit
HEADWORKS	Grit and Biofilters	HSF-H01	Grit Basement Supply Fan	Mechanical	Fan
HEADWORKS	Grit and Biofilters	HEF-H01	Grit Basement Exhaust Fan	Mechanical	Fan
HEADWORKS	Grit and Biofilters	SPP-H01	Grit Basement Sump Pump No. 1	Mechanical	Pump, Sump
HEADWORKS	Grit and Biofilters	SPP-H02	Grit Basement Sump Pump No. 2	Mechanical	Pump, Sump
HEADWORKS	Grit and Biofilters	BFF-H01	Biofilter Fan No. 1	Mechanical	Fan
HEADWORKS	Grit and Biofilters	BFF-H02	Biofilter Fan No. 2	Mechanical	Fan
HEADWORKS	Grit and Biofilters		Biofilter Structures	Structural	Above-ground concrete
HEADWORKS	Chemical Dosing		Ferric Chloride Containment	Structural	Buried Concrete
HEADWORKS	Chemical Dosing	FTK-H01	Ferric Chloride Storage Tank	Structural	Tank, Chemical
HEADWORKS	Chemical Dosing	FMP-H01	Ferric Chloride Feed Pump No. 1	Mechanical	Pump, Chemical
HEADWORKS	Chemical Dosing	FMP-H02	Ferric Chloride Feed Pump No. 2	Mechanical	Pump, Chemical
HEADWORKS	Chemical Dosing	SPP-H03	Ferric Facility Sump Pump No. 3	Mechanical	Pump, Sump
HEADWORKS	Chemical Dosing	PP-H04	Ferric Facility Sump Pump No. 4	Mechanical	Pump, Sump
HEADWORKS	Chemical Dosing	SPP-H05	Ferric Facility Sump Pump No. 5	Mechanical	Pump, Sump
HEADWORKS	Chemical Dosing	FIT-1114	Ferric Chloride Flow Meter	Instrumentation	Flow Meter
HEADWORKS	Plant Drain 1	DRP-H01	Headworks Drain Pump No. 1	Mechanical	Pump, Submersible
HEADWORKS	Plant Drain 1	DRP-H02	Headworks Drain Pump No. 2	Mechanical	Pump, Submersible
HEADWORKS	Plant Drain 1		Headworks Drain Wet Well	Structural	Buried Concrete
HEADWORKS	Plant Drain 1		Headworks Drain Flow Meter	Instrumentation	Flow Meter

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
PRIMARY TREATMENT	Clarifier 1		Primary Clarifier 1	Structural	Clarifier
PRIMARY TREATMENT	Clarifier 1		Primary Clarifier 1 Motor and Chains	Mechanical	Motor
PRIMARY TREATMENT	Clarifier 1	SCD-P01	Primary Clarifier Sludge Collector Drive 1	Mechanical	Drive
PRIMARY TREATMENT	Clarifier 1	SCO-P01	Primary Scum Trough 1 (w/ Rotork Actuator)	Mechanical	Trough
PRIMARY TREATMENT	Clarifier 1	SCO-P02	Primary Scum Trough 2 (w/ Rotork Actuator)	Mechanical	Trough
PRIMARY TREATMENT	Clarifier 1		Gate 1	Mechanical	Gate
PRIMARY TREATMENT	Clarifier 1		Gate 2	Mechanical	Gate
PRIMARY TREATMENT	Clarifier 2		Primary Clarifier 2	Structural	Clarifier
PRIMARY TREATMENT	Clarifier 2		Primary Clarifier 2 Motor and Chains	Mechanical	Motor
PRIMARY TREATMENT	Clarifier 2	SCD-P02	Primary Clarifier Sludge Collector Drive 2	Mechanical	Drive
PRIMARY TREATMENT	Clarifier 2	SCO-P03	Primary Scum Trough 3 (w/ Rotork Actuator)	Mechanical	Trough
PRIMARY TREATMENT	Clarifier 2	SCO-P04	Primary Scum Trough 4 (w/ Rotork Actuator)	Mechanical	Trough
PRIMARY TREATMENT	Clarifier 2		Gate 3	Mechanical	Gate
PRIMARY TREATMENT	Clarifier 2		Gate 4	Mechanical	Gate
PRIMARY TREATMENT	Clarifier 3		Primary Clarifier 3	Structural	Clarifier
PRIMARY TREATMENT	Clarifier 3		Primary Clarifier 3 Motor and Chains	Mechanical	Motor
PRIMARY TREATMENT	Clarifier 3	SCD-P03	Primary Clarifier Sludge Collector Drive 3	Mechanical	Drive
PRIMARY TREATMENT	Clarifier 3	SCO-P05	Primary Scum Trough 5 (w/ Rotork Actuator)	Mechanical	Trough
PRIMARY TREATMENT	Clarifier 3	SCO-P06	Primary Scum Trough 6 (w/ Rotork Actuator)	Mechanical	Trough
PRIMARY TREATMENT	Clarifier 3		Gate 5	Mechanical	Gate
PRIMARY TREATMENT	Clarifier 3		Gate 6	Mechanical	Gate
PRIMARY TREATMENT	Clarifier 3		Gate 7	Mechanical	Gate
PRIMARY TREATMENT	Clarifier 3 Pump Gallery	PSP-P04	Primary Sludge Pump 4	Mechanical	Pump, Sludge
PRIMARY TREATMENT	Clarifier 3 Pump Gallery	PSP-P05	Primary Sludge Pump 5	Mechanical	Pump, Sludge
PRIMARY TREATMENT	Clarifier 3 Pump Gallery	SPF-P01	Supply Fan	Mechanical	Fan
PRIMARY TREATMENT	Clarifier 3 Pump Gallery	EXF-P01	Exhaust Fan	Mechanical	Fan
PRIMARY TREATMENT	Clarifier 3 Pump Gallery	SPP-P01	Duplex Sump Pump 1	Mechanical	Pump, Sump

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
PRIMARY TREATMENT	Clarifier 3 Pump Gallery	SPP-P02	Duplex Sump Pump 2	Mechanical	Pump, Sump
PRIMARY TREATMENT	Clarifier 3 Pump Gallery	FIT-41	Primary Clarifier No. 3 Primary Sludge Flow Meter	Instrumentation	Flow Meter
PRIMARY TREATMENT	Waste Sludge PS	PSP-W01	Primary Sludge Pump 1	Mechanical	Pump, Sludge
PRIMARY TREATMENT	Waste Sludge PS	PSP-W02	Primary Sludge Pump 2	Mechanical	Pump, Sludge
PRIMARY TREATMENT	Waste Sludge PS	PSP-W03	Primary Scum Pump	Mechanical	Pump, Scum
PRIMARY TREATMENT	Waste Sludge PS	EXF-W01	Exhaust Fan	Mechanical	Fan
PRIMARY TREATMENT	Electrical Room	ACU-H01	Electrical Room Air Conditioning Unit	Mechanical	AC Unit
PRIMARY TREATMENT	Electrical Room	MCC-P13	Motor Control Center P13	Electrical	MCC
PRIMARY TREATMENT	Electrical Room	PLC-H1-I/O	PLC Input-Output Panel	Electrical	PLC
PRIMARY TREATMENT	Electrical Room		Primary Treatment Electrical Building	Structural	Building
PRIMARY TREATMENT	Electrical Room		Effluent Pump 1 VFD	Electrical	VFD
PRIMARY TREATMENT	Electrical Room		Effluent Pump 2 VFD	Electrical	VFD
PRIMARY TREATMENT	Electrical Room		Effluent Pump 3 VFD	Electrical	VFD
PRIMARY TREATMENT	Electrical Room		Effluent Pump 4 VFD	Electrical	VFD
PRIMARY TREATMENT		LE-31	Scum Well Level Sensor	Instrumentation	Sensor
PRIMARY TREATMENT		AIT-712	Combustible Gas Detector	Instrumentation	Sensor
PRIMARY TREATMENT			Composite Sampler	Instrumentation	Sampler
PRIMARY TREATMENT	Primary Effluent Lift Station	PCP-P01	Primary Effluent Pump Unit 1	Mechanical	Pump, Vertical Turbine
PRIMARY TREATMENT	Primary Effluent Lift Station		Primary Effluent Motor 1	Mechanical	Motor
PRIMARY TREATMENT	Primary Effluent Lift Station	PCP-P02	Primary Effluent Pump Unit 2	Mechanical	Pump, Vertical Turbine
PRIMARY TREATMENT	Primary Effluent Lift Station		Primary Effluent Motor 2	Mechanical	Motor
PRIMARY TREATMENT	Primary Effluent Lift Station	PCP-P03	Primary Effluent Pump Unit 3	Mechanical	Pump, Vertical Turbine
PRIMARY TREATMENT	Primary Effluent Lift Station		Primary Effluent Motor 3	Mechanical	Motor
PRIMARY TREATMENT	Primary Effluent Lift Station	PCP-P04	Primary Effluent Pump Unit 4	Mechanical	Pump, Vertical Turbine
PRIMARY TREATMENT	Primary Effluent Lift Station		Primary Effluent Motor 4	Mechanical	Motor
PRIMARY TREATMENT	Primary Effluent Lift Station	LIT-42	Level Transmitter	Instrumentation	Sensor

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
PRIMARY TREATMENT	Primary Effluent Lift Station	FIT-48	Flowmeter	Instrumentation	Flow Meter
AERATION			Aeration Basin 3	Structural	Aeration Basin
AERATION			Aeration Basin 3 Air Diffusers	Mechanical	Air Diffusers
AERATION		FIT-174	Aeration Tank Nos. 3 Aeration Air Flowmeters	Instrumentation	Flow Meter
AERATION		FIT-176	Aeration Tank Nos. 3 Aeration Air Flowmeters	Instrumentation	Flow Meter
AERATION			Tank 3 Inlet Hydro Gate	Mechanical	Gate
AERATION			Tank 3 Inlet Hydro Gate	Mechanical	Gate
AERATION			Tank 3 Outlet Gate	Mechanical	Gate
AERATION			Aeration Basin 4	Structural	Aeration Basin
AERATION			Aeration Basin 4 Air Diffusers	Mechanical	Air Diffusers
AERATION		FIT-177	Aeration Tank Nos. 4 Aeration Air Flowmeters	Instrumentation	Flow Meter
AERATION			Tank 4 Inlet Hydro Gate	Mechanical	Gate
AERATION			Tank 4 Inlet Hydro Gate	Mechanical	Gate
AERATION			Tank 4 Outlet Gate	Mechanical	Gate
AERATION		FCV-V03	Aeration Air Tank Inlet Valve 3	Mechanical	Valve
AERATION		FCV-V04	Aeration Air Tank Inlet Valve 4	Mechanical	Valve
AERATION			Aeration Basin 5	Structural	Aeration Basin
AERATION			Aeration Basin 5 Air Diffusers	Mechanical	Air Diffusers
AERATION		FIT-191	Aeration Tank Nos. 5 Aeration Air Flowmeters	Instrumentation	Flow Meter
AERATION			Tank 5 Inlet Hydro Gate	Mechanical	Gate
AERATION			Tank 5 Inlet Hydro Gate	Mechanical	Gate
AERATION			Tank 5 Outlet Gate	Mechanical	Gate
AERATION			Aeration Basin 6	Structural	Aeration Basin
AERATION			Aeration Basin 6 Air Diffusers	Mechanical	Air Diffusers
AERATION		FIT-192	Aeration Tank Nos. 6 Aeration Air Flowmeters	Instrumentation	Flow Meter
AERATION			Tank 6 Inlet Hydro Gate	Mechanical	Gate
AERATION			Tank 6 Inlet Hydro Gate	Mechanical	Gate

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
AERATION			Tank 6 Outlet Gate	Mechanical	Gate
AERATION		FCV-V05	Aeration Air Tank Inlet Valve 5	Mechanical	Valve
AERATION		FCV-V06	Aeration Air Tank Inlet Valve 6	Mechanical	Valve
AERATION		FIT-172	Nos. 3, 4, 5, and 6 Channel Air Flowmeter	Instrumentation	Flow Meter
AERATION		AIT-187	Aeration Tank Nos. 3 and 4 Dissolved Oxygen Meters 1	Instrumentation	Sensor
AERATION		AIT-188	Aeration Tank Nos. 3 and 4 Dissolved Oxygen Meters 2	Instrumentation	Sensor
AERATION		AIT-185	Aeration Tank Nos. 3 and 4 Dissolved Oxygen Meters 3	Instrumentation	Sensor
AERATION		AIT-186	Aeration Tank Nos. 3 and 4 Dissolved Oxygen Meters 4	Instrumentation	Sensor
AERATION		AIT-195A	Aeration Tank Nos. 5 and 6 Dissolved Oxygen Meters 5	Instrumentation	Sensor
AERATION		AIT-195B	Aeration Tank Nos. 5 and 6 Dissolved Oxygen Meters 5	Instrumentation	Sensor
AERATION		AIT-196A	Aeration Tank Nos. 5 and 6 Dissolved Oxygen Meters 5	Instrumentation	Sensor
AERATION		AIT-196B	Aeration Tank Nos. 5 and 6 Dissolved Oxygen Meters 5	Instrumentation	Sensor
AERATION		AIT-189	Aeration Tank Nos. 3, 4, 5, and 6 Suspended Solids Analyzers	Instrumentation	Analyzer
AERATION		AIT-190	Aeration Tank Nos. 3, 4, 5, and 6 Suspended Solids Analyzers	Instrumentation	Analyzer
AERATION		AIT-197	Aeration Tank Nos. 3, 4, 5, and 6 Suspended Solids Analyzers	Instrumentation	Analyzer
AERATION		AIT-198	Aeration Tank Nos. 3, 4, 5, and 6 Suspended Solids Analyzers	Instrumentation	Analyzer
AERATION		FCV-V01	Channel Air Tank Inlet Valve 1	Mechanical	Valve
AERATION		FCV-V02	Channel Air Tank Inlet Valve 2	Mechanical	Valve
AERATION		FCV-V07	Spray Water Solenoid Valve 7	Mechanical	Valve
AERATION		FCV-V08	Spray Water Solenoid Valve 8	Mechanical	Valve
AERATION		FCV-V09	Spray Water Solenoid Valve 9	Mechanical	Valve
AERATION		FCV-V10	Spray Water Solenoid Valve 10	Mechanical	Valve

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
BLOWER BUILDING NO. 2	Blower Building No. 2	BLR-U05	Blower Building No. 2	Structural	Building
BLOWER BUILDING NO. 2	Blower Building No. 2	BLR-U05	Aeration Blower 5	Mechanical	Blower
BLOWER BUILDING NO. 2	Blower Building No. 2		Aeration Blower 5 Motor	Mechanical	Motor
BLOWER BUILDING NO. 2	Blower Building No. 2	BOV-U05	Aeration Blower Blowoff Valve 5	Mechanical	Valve
BLOWER BUILDING NO. 2	Blower Building No. 2	BFV-U05	Aeration Blower 5 Inlet Valve	Mechanical	Valve
BLOWER BUILDING NO. 2	Blower Building No. 2	BLR-U06	Aeration Blower 6	Mechanical	Blower
BLOWER BUILDING NO. 2	Blower Building No. 2		Aeration Blower 6 Motor	Mechanical	Motor
BLOWER BUILDING NO. 2	Blower Building No. 2	BFV-U06	Aeration Blower 6 Inlet Valve	Mechanical	Valve
BLOWER BUILDING NO. 2	Blower Building No. 2	BOV-U06	Aeration Blower Blowoff Valve 6	Mechanical	Valve
BLOWER BUILDING NO. 2	Blower Building No. 2	BLR-U07	Aeration Blower 7	Mechanical	Blower
BLOWER BUILDING NO. 2	Blower Building No. 2		Aeration Blower 7 Motor	Mechanical	Motor
BLOWER BUILDING NO. 2	Blower Building No. 2	BFV-U07	Aeration Blower 7 Inlet Valve	Mechanical	Valve
BLOWER BUILDING NO. 2	Blower Building No. 2	BOV-U07	Aeration Blower Blowoff Valve 7	Mechanical	Valve
BLOWER BUILDING NO. 2	Blower Building No. 2	BLR-U08	Aeration Blower 8	Mechanical	Blower
BLOWER BUILDING NO. 2	Blower Building No. 2		Aeration Blower 8 Motor	Mechanical	Motor
BLOWER BUILDING NO. 2	Blower Building No. 2	BFV-U08	Aeration Blower 8 Inlet Valve	Mechanical	Valve
BLOWER BUILDING NO. 2	Blower Building No. 2	BOV-U08	Aeration Blower Blowoff Valve 8	Mechanical	Valve
BLOWER BUILDING NO. 2	Blower Building No. 2	SPF-U01	Blower Building Supply Fan 1	Mechanical	Fan
BLOWER BUILDING NO. 2	Blower Building No. 2	SPF-U02	Blower Building Supply Fan 2	Mechanical	Fan
BLOWER BUILDING NO. 2	Blower Building No. 2	SPF-U03	Blower Building Supply Fan 3	Mechanical	Fan
BLOWER BUILDING NO. 2	Blower Building No. 2	SPF-U04	Blower Building Supply Fan 4	Mechanical	Fan
BLOWER BUILDING NO. 2	Blower Building No. 2	SPF-U05	Blower Building Supply Fan 5	Mechanical	Fan
BLOWER BUILDING NO. 2	Blower Building No. 2	EXF-U01	Blower Building Exhaust Fan 1	Mechanical	Fan
BLOWER BUILDING NO. 2	Blower Building No. 2	EXF-U02	Blower Building Exhaust Fan 2	Mechanical	Fan
BLOWER BUILDING NO. 2	Blower Building No. 2	EXF-U03	Blower Building Exhaust Fan 3	Mechanical	Fan
BLOWER BUILDING NO. 2	Electrical Room	HPU-U01	Blower Building No. 2 Elect. Room Heat Pump	Mechanical	AC Unit
BLOWER BUILDING NO. 2	Electrical Room	MCC-P8	Motor Control Center P8	Electrical	MCC
BLOWER BUILDING NO. 2	Electrical Room	PLC-B	PLC Panel B	Electrical	PLC

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
BLOWER BUILDING NO. 2	Electrical Room	PLC-BB	PLC Panel BB	Electrical	PLC
SECONDARY TREATMENT			Secondary Clarifier 3	Structural	Clarifier
SECONDARY TREATMENT		SCD-X03	Secondary Clarifier Sludge Collector 3	Mechanical	Collector
SECONDARY TREATMENT			Secondary Clarifier 4	Structural	Clarifier
SECONDARY TREATMENT		SCD-X04	Secondary Clarifier Sludge Collector 4	Mechanical	Collector
SECONDARY TREATMENT			Secondary Clarifier 5	Structural	Clarifier
SECONDARY TREATMENT		SCD-X05	Secondary Clarifier Sludge Collector 5	Mechanical	Collector
SECONDARY TREATMENT		SCP-X03	Secondary Scum Pump 3	Mechanical	Pump, Scum
SECONDARY TREATMENT		SCP-X04	Secondary Scum Pump 4	Mechanical	Pump, Scum
SECONDARY TREATMENT		SCP-X05	Secondary Scum Pump 5	Mechanical	Pump, Scum
SECONDARY TREATMENT	RAS Pumping	RSP-O06	Return Activated Sludge Pump 6	Mechanical	Pump, Sludge
SECONDARY TREATMENT	RAS Pumping	RSP-O07	Return Activated Sludge Pump 7	Mechanical	Pump, Sludge
SECONDARY TREATMENT	RAS Pumping	RSP-O08	Return Activated Sludge Pump 8	Mechanical	Pump, Sludge
SECONDARY TREATMENT	RAS Pumping	RSP-O09	Return Activated Sludge Pump 9	Mechanical	Pump, Sludge
SECONDARY TREATMENT	RAS Pumping	FIT-225	RAS Flowmeter 1	Instrumentation	Flow Meter
SECONDARY TREATMENT	RAS Pumping	FIT-226	RAS Flowmeter 2	Instrumentation	Flow Meter
SECONDARY TREATMENT	RAS Pumping	FIT-239	RAS Flowmeter 3	Instrumentation	Flow Meter
SECONDARY TREATMENT	WAS Pumping	WAP-O03	Waste Activated Sludge Pump 3	Mechanical	Pump, Sludge
SECONDARY TREATMENT	WAS Pumping	WAP-O04	Waste Activated Sludge Pump 4	Mechanical	Pump, Sludge
SECONDARY TREATMENT	WAS Pumping	FIT-230	WAS Flowmeter	Instrumentation	Flow Meter
SECONDARY TREATMENT	RAS Electrical Room		RAS Electrical Building	Structural	Building
SECONDARY TREATMENT	RAS Electrical Room	HPU-O01	RAS Pump Station Heat Pump	Mechanical	AC Unit
SECONDARY TREATMENT	RAS Electrical Room	MCC-P11	Motor Control Center P11	Electrical	MCC
SECONDARY TREATMENT	RAS Electrical Room	MCC-P11A	Motor Control Center P11-A	Electrical	MCC
SECONDARY TREATMENT	RAS Electrical Room	PLC-R	PLC Panel R	Electrical	PLC
SECONDARY TREATMENT	RAS Electrical Room	PLC-RR	PLC Panel RR	Electrical	PLC
SECONDARY TREATMENT		ATS-V01	Mixed Liquor Automatic Sampler	Instrumentation	Sampler

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
SOLIDS THICKENING	DAFT		DAFT No. 1	Structural	Clarifier
SOLIDS THICKENING	DAFT	SCD-F01	DAFT No. 1 Collector Drive	Mechanical	Grinder
SOLIDS THICKENING	DAFT	RCP-F01	Recycle Pressurization Pumps Nos. 1	Mechanical	Pump
SOLIDS THICKENING	DAFT	RCP-F02	Recycle Pressurization Pumps Nos. 2	Mechanical	Pump
SOLIDS THICKENING	DAFT	TSP-P01	Thickened Sludge Pump 1	Mechanical	Pump, Sludge
SOLIDS THICKENING	DAFT	TSP-P02	Thickened Sludge Pump 2	Mechanical	Pump, Sludge
SOLIDS THICKENING	DAFT	POP-F01	Polymer Feed System	Mechanical	Pump, Chemical
SOLIDS THICKENING	DAFT		DAFT No. 2	Structural	Clarifier
SOLIDS THICKENING	DAFT	SCD-F02	DAFT No. 2 Collector Drive	Mechanical	Collector
SOLIDS THICKENING	DAFT	RCP-F03	Recycle Pressurization Pumps Nos. 3	Mechanical	Pump
SOLIDS THICKENING	DAFT	RCP-F04	Recycle Pressurization Pumps Nos. 4	Mechanical	Pump
SOLIDS THICKENING	DAFT	SLP-F03	Thickened Sludge Pumps Nos. 3 (TWAS Pumps)	Mechanical	Pump, Sludge
SOLIDS THICKENING	DAFT	SLP-F04	Thickened Sludge Pumps Nos. 4 (TWAS Pumps)	Mechanical	Pump, Sludge
SOLIDS THICKENING	DAFT	POP-F02	Polymer Feed System	Mechanical	Pump, Chemical
SOLIDS THICKENING	DAFT	SPP-F01	Duplex Sump Pump 1	Mechanical	Pump, Sump
SOLIDS THICKENING	DAFT	SPP-F02	Duplex Sump Pump 2	Mechanical	Pump, Sump
SOLIDS THICKENING	DAFT		DAFT No. 1 Air Retention Tank Level Controller	Instrumentation	Controller
SOLIDS THICKENING	DAFT	LSH-427	DAFT No. 1 Float Box Level Switch 1	Electrical	Switch
SOLIDS THICKENING	DAFT	LSHH-427	DAFT No. 1 Float Box Level Switch 2	Electrical	Switch
SOLIDS THICKENING	DAFT	LSL-427	DAFT No. 1 Float Box Level Switch 3	Electrical	Switch
SOLIDS THICKENING	DAFT	LSLL-427	DAFT No. 1 Float Box Level Switch 4	Electrical	Switch
SOLIDS THICKENING	DAFT Control Building		DAFT Control Building	Structural	Building
SOLIDS THICKENING	DAFT Control Building	ACP-P01	DAFT Air Compressor No. 1	Mechanical	Compressor
SOLIDS THICKENING	DAFT Control Building	ACP-F02	DAFT Air Compressor No. 2	Mechanical	Compressor
SOLIDS THICKENING	DAFT Control Building	HET-F01	Unit Electric Heater	Mechanical	Heater
SOLIDS THICKENING	DAFT Control Building	HET-F02	Unit Electric Heater	Mechanical	Heater
SOLIDS THICKENING	DAFT Control Building	MCC-EP5	Motor Control Center EP5	Electrical	MCC

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
SOLIDS THICKENING	DAFT Control Building	MCC-P3	Motor Control Center MCC-P3	Electrical	MCC
SOLIDS THICKENING	DAFT Control Building	PLC-B-I/O2	PLC Input-Output Panel	Electrical	Control Panel
SOLIDS THICKENING	DAFT Control Building	PLC-H-I/O	PLC Input-Output Panel	Electrical	Control Panel
SOLIDS THICKENING	Gravity Thickener		Gravity Thickener	Structural	Clarifier
SOLIDS THICKENING	Gravity Thickener	GRT-G01	Thickener Mechanism	Mechanical	Collector
SOLIDS THICKENING	Gravity Thickener	SLP-F01	Thickened Sludge Pumps Nos. 1 (TWAS Pumps)	Mechanical	Pump, Sludge
SOLIDS THICKENING	Gravity Thickener	TSG-P01	Thickened Sludge Grinder 1	Mechanical	Grinder
SOLIDS THICKENING	Gravity Thickener	SLP-F02	Thickened Sludge Pumps Nos. 2 (TWAS Pumps)	Mechanical	Pump, Sludge
SOLIDS THICKENING	Gravity Thickener	TSG-P02	Thickened Sludge Grinder 2	Mechanical	Grinder
SOLIDS DIGESTION			Anaerobic Digester 1	Structural	Digester
SOLIDS DIGESTION			Anaerobic Digester 2	Structural	Digester
SOLIDS DIGESTION			Anaerobic Digester 4	Structural	Digester
SOLIDS DIGESTION		DMP-D01	Sludge Mixing Pump 1	Mechanical	Pump, Mixing
SOLIDS DIGESTION		DMP-D02	Sludge Mixing Pump 2	Mechanical	Pump, Mixing
SOLIDS DIGESTION		DMP-D03	Sludge Mixing Pump 3	Mechanical	Pump, Mixing
SOLIDS DIGESTION		DMP-D04	Sludge Mixing Pump 4	Mechanical	Pump, Mixing
SOLIDS DIGESTION		DRP-D01	Digester Recirculation Pump 1	Mechanical	Pump, Recirc
SOLIDS DIGESTION		DRP-D02	Digester Recirculation Pump 2	Mechanical	Pump, Recirc
SOLIDS DIGESTION		DRP-D03	Digester Recirculation Pump 3	Mechanical	Pump, Recirc
SOLIDS DIGESTION		DTP-D01	Digester Transfer Pump 1	Mechanical	Pump, Recirc
SOLIDS DIGESTION		DTP-D02	Digester Transfer Pump 2	Mechanical	Pump, Recirc
SOLIDS DIGESTION		SLP-D06	Digester Transfer/ Recirculation Pumps 6	Mechanical	Pump, Recirc
SOLIDS DIGESTION		SLP-D07	Digester Transfer/ Recirculation Pumps 7	Mechanical	Pump, Recirc
SOLIDS DIGESTION		SLP-D09	Digester Transfer/ Recirculation Pumps 9	Mechanical	Pump, Recirc
SOLIDS DIGESTION		SPP-D01	Digester Pump Pit Sump Pump 1	Mechanical	Pump, Sump
SOLIDS DIGESTION		SPP-D02	Digester Pump Pit Sump Pump 2	Mechanical	Pump, Sump
SOLIDS DIGESTION		SPP-D03	Digester Pump Pit Sump Pump 3	Mechanical	Pump, Sump

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
SOLIDS DIGESTION		SPP-D04	Digester Pump Pit Sump Pump 4	Mechanical	Pump, Sump
SOLIDS DIGESTION		FCV-D01	Digester Inlet Feed Valve 1	Mechanical	Valve
SOLIDS DIGESTION		FCV-D02	Digester Inlet Feed Valve 2	Mechanical	Valve
SOLIDS DIGESTION		FCV-D04	Digester Inlet Feed Valve 4	Mechanical	Valve
SOLIDS DIGESTION			Anaerobic Digester 3 (with Floating Cover)	Structural	Digester
SOLIDS DIGESTION		GMC-D01	Gas Mixing Compressor 1	Mechanical	Compressor
SOLIDS DIGESTION		FIT-501	Digester Sludge Feed Flow Meter 1	Instrumentation	Flow Meter
SOLIDS DIGESTION		FIT-521	Digester TWAS Feed Flow Meter 1	Instrumentation	Flow Meter
SOLIDS DIGESTION		FIT-513	Digester Gas Flow Meter 513	Instrumentation	Flow Meter
SOLIDS DIGESTION		FIT-514	Digester Gas Flow Meter 514	Instrumentation	Flow Meter
SOLIDS DIGESTION		FIT-545	Digester Gas Flow Meter 545	Instrumentation	Flow Meter
SOLIDS DIGESTION		FIT-33-2	Digester Gas Flow Meter 33	Instrumentation	Flow Meter
SOLIDS DIGESTION		FIT-34	Digester Gas Flow Meter 34	Instrumentation	Flow Meter
SOLIDS DIGESTION		LIT-601	Digester 3 Level Sensor 1	Instrumentation	Sensor
SOLIDS DIGESTION		HWP-D04	Hot Water Loop Pump 1	Mechanical	Pump, Water
SOLIDS DIGESTION		HWP-D05	Hot Water Loop Pump 2	Mechanical	Pump, Water
SOLIDS DIGESTION		HWP-D06	Hot Water Loop Pump 3	Mechanical	Pump, Water
SOLIDS DIGESTION		HWV-D04	Three-way blending valve 1	Mechanical	Valve
SOLIDS DIGESTION		HWV-D05	Three-way blending valve 2	Mechanical	Valve
SOLIDS DIGESTION		HWV-D06	Three-way blending valve 3	Mechanical	Valve
SOLIDS DIGESTION	Digester Control Building		Digester Control Building	Structural	Building
SOLIDS DIGESTION	Digester Control Building	EXF-D02	Exhaust Fan 2	Mechanical	Fan
SOLIDS DIGESTION	Digester Control Building	EXF-D03	Exhaust Fan 3	Mechanical	Fan
SOLIDS DIGESTION	Digester Control Building	SH-D01	Sludge Heater 1 (Digester Control Building)	Mechanical	Boiler/Heat Exchanger
SOLIDS DIGESTION	Digester Control Building	SH-D02	Sludge Heater 2 (Digester Control Building)	Mechanical	Boiler/Heat Exchanger
SOLIDS DIGESTION	Boiler Buildings		Boiler Building No. 2	Structural	Building
SOLIDS DIGESTION	Boiler Buildings	SHB-D01	Sludge Heater 1 (Boiler Building No. 1)	Mechanical	Boiler/Heat Exchanger

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
SOLIDS DIGESTION	Boiler Buildings	SHB-D04	Sludge Heater 3 (Boiler Building No. 2)	Mechanical	Boiler/Heat Exchanger
SOLIDS DIGESTION	Boiler Buildings	SPF-D01	Supply Fan 1	Mechanical	Fan
SOLIDS DIGESTION	Boiler Buildings	SPF-D02	Supply Fan 2	Mechanical	Fan
SOLIDS DIGESTION	Boiler Buildings	EXF-D01	Exhaust Fan 1	Mechanical	Fan
SOLIDS DIGESTION	Boiler Buildings	EXF-D04	Exhaust Fan 4	Mechanical	Fan
SOLIDS DIGESTION	Boiler Buildings	HPU-D01	Electrical Room Heat Pump 1	Mechanical	AC Unit
SOLIDS DIGESTION	Boiler Buildings	ACU-D04	Electrical Room Heat Pump 4	Mechanical	AC Unit
SOLIDS DIGESTION	Boiler Buildings	HET-D01	Unit Heater 1	Mechanical	Heater
SOLIDS DIGESTION	Boiler Buildings	HET-D02	Unit Heater 2	Mechanical	Heater
SOLIDS DIGESTION	Boiler Buildings	MCC-P9	Motor Control Center P9	Electrical	MCC
SOLIDS DIGESTION	Boiler Buildings	MCC-P15	Motor Control Center P15	Electrical	MCC
SOLIDS DIGESTION	Boiler Buildings	PLC-D	PLC Input-Output Panel 1	Electrical	PLC
SOLIDS DIGESTION	Boiler Buildings	PLC-DD	PLC Input-Output Panel 2	Electrical	PLC
SOLIDS DEWATERING	Centrifuge Building		Centrifuge Building	Structural	Building
SOLIDS DEWATERING	Centrifuge Building	BCR-N01	Bridge Crane 1	Mechanical	Crane
SOLIDS DEWATERING	Centrifuge Building	CNG-N01	Centrifuge 1	Mechanical	Centrifuge
SOLIDS DEWATERING	Centrifuge Building	CFP-N01	Centrifuge Feed Pump 1	Mechanical	Pump, Sludge
SOLIDS DEWATERING	Centrifuge Building	FIT-608	Centrifuge Feed Flowmeter 1	Instrumentation	Flow Meter
SOLIDS DEWATERING	Centrifuge Building	CNG-N02	Centrifuge 2	Mechanical	Centrifuge
SOLIDS DEWATERING	Centrifuge Building	CFP-N02	Centrifuge Feed Pump 2	Mechanical	Pump, Sludge
SOLIDS DEWATERING	Centrifuge Building	FIT-631	Centrifuge Feed Flowmeter 2	Instrumentation	Flow Meter
SOLIDS DEWATERING	Centrifuge Building	GRN-N01	Grinder	Mechanical	Grinder
SOLIDS DEWATERING	Centrifuge Building	KFG-N01	Knife Gate	Mechanical	Gate
SOLIDS DEWATERING	Centrifuge Building	SCV-N01	Screw Conveyor 1	Mechanical	Conveyor
SOLIDS DEWATERING	Centrifuge Building	SCV-N02	Screw Conveyor 2	Mechanical	Conveyor
SOLIDS DEWATERING	Centrifuge Building	SCV-N03	Screw Conveyor 3	Mechanical	Conveyor
SOLIDS DEWATERING	Centrifuge Building	PMP-N01	Polymer Mixing Pump 1	Mechanical	Pump, Chemical

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
SOLIDS DEWATERING	Centrifuge Building	PMP-N02	Polymer Mixing Pump 2	Mechanical	Pump, Chemical
SOLIDS DEWATERING	Centrifuge Building	POB-N01	Polymer Blending Unit 1	Mechanical	Pump, Chemical
SOLIDS DEWATERING	Centrifuge Building	POB-N02	Polymer Blending Unit 2	Mechanical	Pump, Chemical
SOLIDS DEWATERING	Centrifuge Building	PTK-N01	Polymer Storage Tank 1	Structural	Tank, Chemical
SOLIDS DEWATERING	Centrifuge Building	PTK-N02	Polymer Storage Tank 2	Structural	Tank, Chemical
SOLIDS DEWATERING	Centrifuge Building	FCP-N01	Fan Control Panel	Electrical	Control Panel
SOLIDS DEWATERING	Centrifuge Building	FIT-607	Polymer Flowmeter	Instrumentation	Flow Meter
SOLIDS DEWATERING	Centrifuge Building	FIT-619	2W Flowmeter	Instrumentation	Flow Meter
SOLIDS DEWATERING	Centrifuge Building	SPF-N01	Supply Fan 1	Mechanical	Fan
SOLIDS DEWATERING	Centrifuge Building	SPF-N02	Supply Fan 2	Mechanical	Fan
SOLIDS DEWATERING	Centrifuge Building	SPF-N03	Supply Fan 3	Mechanical	Fan
SOLIDS DEWATERING	Centrifuge Building	SPF-N04	Supply Fan 4	Mechanical	Fan
SOLIDS DEWATERING	Centrifuge Building	SPF-N05	Supply Fan 5	Mechanical	Fan
SOLIDS DEWATERING	Centrifuge Building	SPF-N06	Supply Fan 6	Mechanical	Fan
SOLIDS DEWATERING	Centrifuge Building	SPF-N07	Supply Fan 7	Mechanical	Fan
SOLIDS DEWATERING	Centrifuge Building	EXF-N01	Exhaust Fan 1	Mechanical	Fan
SOLIDS DEWATERING	Centrifuge Building	EXF-N02	Exhaust Fan 2	Mechanical	Fan
SOLIDS DEWATERING	Centrifuge Building	EXF-N03	Exhaust Fan 3	Mechanical	Fan
SOLIDS DEWATERING	Centrifuge Building	HET-N01	Unit Heater 1	Mechanical	Heater
SOLIDS DEWATERING	Centrifuge Building	HET-N02	Unit Heater 2	Mechanical	Heater
SOLIDS DEWATERING	Centrifuge Building	HET-N03	Unit Heater 3	Mechanical	Heater
SOLIDS DEWATERING	Centrifuge Building	HET-N04	Unit Heater 4	Mechanical	Heater
SOLIDS DEWATERING	Centrifuge Building	ACP-N01	Air Compressor	Mechanical	Compressor
SOLIDS DEWATERING	Centrifuge Electrical	MCC-P10	Motor Control Center P10	Electrical	MCC
SOLIDS DEWATERING	Centrifuge Electrical	ACU-N01	Electrical Room Heat Pump	Mechanical	AC Unit
SOLIDS DEWATERING	Centrifuge Electrical	LCP-DWP	Dewatering Control Panel	Electrical	Control Panel
SOLIDS DEWATERING	Centrifuge Electrical	LCP-CCP-1	Centrifuge No. 1 Control and Starter Panel	Electrical	Control Panel
SOLIDS DEWATERING	Centrifuge Electrical	CSP-CNG-N02	Centrifuge No. 2 Starter Panel	Electrical	Control Panel

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
SOLIDS DEWATERING	Centrifuge Electrical	LCP-CCP2	Centrifuge No. 2 Control Panel	Electrical	Control Panel
SOLIDS DEWATERING	Centrifuge Electrical	PLC-B2-I/O	PLC Input-Output Panel	Electrical	Control Panel
SOLIDS DEWATERING	Sludge Drying Beds		Sludge Drying Beds	Structural	Slab on grade
DISINFECTION	Chlorine Contact Basins		Chlorine Contact Basin 3	Structural	Contact Basin
DISINFECTION	Chlorine Contact Basins		Chlorine Contact Basin 4	Structural	Contact Basin
DISINFECTION	Chlorine Contact Basins	MXR-Z03	Chlorine contact basin 3 SHS Chemical Induction Mixer	Mechanical	Mixer
DISINFECTION	Chlorine Contact Basins	MXR-Z04	Chlorine contact basin 4 SHS Chemical Induction Mixer	Mechanical	Mixer
DISINFECTION	Chlorine Contact Basins	CSP-Z01	Chlorine contact basin 3 Sample Pump	Instrumentation	Sampler
DISINFECTION	Chlorine Contact Basins	CSP-Z02	Chlorine contact basin 4 Sample Pump	Instrumentation	Sampler
DISINFECTION	Chlorine Contact Basins	SV-Z03	Solenoid Valves	Mechanical	Valve
DISINFECTION	Chlorine Contact Basins	SV-Z04	Solenoid Valves	Mechanical	Valve
DISINFECTION	Chlorine Contact Basins	AIT-395	Residual Chlorine Analyzers	Instrumentation	Analyzer
DISINFECTION	Chlorine Contact Basins	AIT-396	Residual Chlorine Analyzers	Instrumentation	Analyzer
DISINFECTION	Chlorine Contact Basins	AIT-374	Residual Chlorine Analyzers	Instrumentation	Analyzer
DISINFECTION	Chlorine Contact Basins	AIT-380	Residual Chlorine Analyzers	Instrumentation	Analyzer
DISINFECTION	Chlorine Contact Basins	FIT-372	CCB Flow Meters 3	Instrumentation	Flow Meter
DISINFECTION	Chlorine Contact Basins	FIT-373	CCB Flow Meters 4	Instrumentation	Flow Meter
DISINFECTION	Chlorine Contact Basins	FIT-381	CCB Flow Meters 1	Instrumentation	Flow Meter
DISINFECTION	Chlorine Contact Basins	FIT-382	CCB Flow Meters 2	Instrumentation	Flow Meter
DISINFECTION	Chlorine Contact Basins	PLC-R	PLC Input-Output Panel	Electrical	PLC
DISINFECTION	Chlorine Contact Basins	SLG-Z01	Motorized Sluice Gates	Mechanical	Gate
DISINFECTION	Chlorine Contact Basins	SLG-Z02	Motorized Sluice Gate	Mechanical	Gate
DISINFECTION	Chlorine Contact Basins	SLG-Z03	Motorized Sluice Gate	Mechanical	Gate
DISINFECTION	Chlorine Contact Basins	SDG-Z01	Slide Gate	Mechanical	Gate
DISINFECTION	Chlorine Contact Basins	SDG-Z02	Slide Gate	Mechanical	Gate
DISINFECTION	Chlorine Contact Basins	LIT-376	Ultrasonic Flowmeter	Instrumentation	Flow Meter

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
DISINFECTION	Chlorine Contact Basins	LIT-384	Ultrasonic Flowmeter	Instrumentation	Flow Meter
DISINFECTION	Effluent Disposal		Outfall	Structural	Above-ground concrete
DISINFECTION	Effluent Disposal	PEP-C01	Plant Effluent Pumps	Mechanical	Pump, Vertical Turbine
DISINFECTION	Effluent Disposal	PEP-C02	Plant Effluent Pumps	Mechanical	Pump, Vertical Turbine
DISINFECTION	Effluent Disposal	PEP-C03	Plant Effluent Pumps	Mechanical	Pump, Vertical Turbine
DISINFECTION	Effluent Disposal	MXR-Z02	Mixer	Mechanical	Mixer
DISINFECTION	Effluent Disposal	SLG-Y01	Sluice Gate	Mechanical	Gate
DISINFECTION	Effluent Disposal	SLG-Z04	Sluice Gates	Mechanical	Gate
DISINFECTION	Effluent Disposal	SLG-Z05	Sluice Gates	Mechanical	Gate
DISINFECTION	Effluent Disposal	AIT-385	Chlorine Analyzer	Instrumentation	Analyzer
DISINFECTION	Effluent Disposal	AIT-386	Dechlorination Analyzer	Instrumentation	Analyzer
DISINFECTION	Effluent Disposal	ATS-Z01	Composite Sampler	Instrumentation	Sampler
DISINFECTION	Effluent Disposal	CSP-Z03	Sample Pumps	Instrumentation	Sampler
DISINFECTION	Effluent Disposal	CSP-Z04	Sample Pumps	Instrumentation	Sampler
DISINFECTION	Effluent Disposal	FIT-382	Magnetic Flowmeter	Instrumentation	Flow Meter
DISINFECTION	Effluent Disposal	FIT-397	Propeller Flowmeter	Instrumentation	Flow Meter
DISINFECTION	Effluent Disposal	LIT-151	Level Indicator	Instrumentation	Sensor
DISINFECTION	Effluent Disposal	HPU-Z01	Hydraulic Power Unit	Mechanical	Hydraulic Unit
CHEMICAL BUILDING			Chemical Building	Structural	Building
CHEMICAL BUILDING			Chemical Tank Storage Area	Structural	Buried Concrete
CHEMICAL BUILDING	Sodium Hypochlorite	HTK-K01	SHS Tank 1	Structural	Tank, Chemical
CHEMICAL BUILDING	Sodium Hypochlorite	HTK-K02	SHS Tank 2	Structural	Tank, Chemical
CHEMICAL BUILDING	Sodium Hypochlorite	HMP-K02	SHS Pump 2	Mechanical	Pump, Chemical
CHEMICAL BUILDING	Sodium Hypochlorite	HMP-K03	SHS Pump 3	Mechanical	Pump, Chemical
CHEMICAL BUILDING	Sodium Hypochlorite	HMP-K01	SHS Pump 1	Mechanical	Pump, Chemical

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
CHEMICAL BUILDING	Sodium Hypochlorite	HMP-K04	SHS Pump 4	Mechanical	Pump, Chemical
CHEMICAL BUILDING	Sodium Hypochlorite	PV-K01	HMP-K02 Flow Control Valve 1	Mechanical	Valve
CHEMICAL BUILDING	Sodium Hypochlorite	PV-K02	HMP-K02 Flow Control Valve 2	Mechanical	Valve
CHEMICAL BUILDING	Sodium Hypochlorite	FIT-310	SHS Flow Meter 310	Instrumentation	Flow Meter
CHEMICAL BUILDING	Sodium Hypochlorite	FIT-319	SHS Flow Meter 319	Instrumentation	Flow Meter
CHEMICAL BUILDING	Sodium Bisulfite	BTK-K01	SBS Tank 1	Structural	Tank, Chemical
CHEMICAL BUILDING	Sodium Bisulfite	BTK-K02	SBS Tank 2	Structural	Tank, Chemical
CHEMICAL BUILDING	Sodium Bisulfite	BMP-K01	SBS Pump 1	Mechanical	Pump, Chemical
CHEMICAL BUILDING	Sodium Bisulfite	BMP-K02	SBS Pump 2	Mechanical	Pump, Chemical
CHEMICAL BUILDING	Sodium Bisulfite	BRP-K01	SBS Recirculation Pump 1	Mechanical	Pump, Chemical
CHEMICAL BUILDING	Sodium Bisulfite	BRP-K02	SBS Recirculation Pump 2	Mechanical	Pump, Chemical
CHEMICAL BUILDING	Cuastic Soda	CTK-K01	CSS Tank 1	Structural	Tank, Chemical
CHEMICAL BUILDING	Cuastic Soda	CTK-K02	CSS Tank 2	Structural	Tank, Chemical
CHEMICAL BUILDING	Cuastic Soda	CMP-H01	CSS Pump 1	Mechanical	Pump, Chemical
CHEMICAL BUILDING	Cuastic Soda	CMP-H02	CSS Pump 2	Mechanical	Pump, Chemical
CHEMICAL BUILDING		HET-K01	Unit Heater 1	Mechanical	Heater
CHEMICAL BUILDING		HET-K02	Unit Heater 2	Mechanical	Heater
CHEMICAL BUILDING		HET-K03	Unit Heater 3	Mechanical	Heater
CHEMICAL BUILDING		HET-K04	Unit Heater 4	Mechanical	Heater
CHEMICAL BUILDING		EXF-K01	Exhaust Fan	Mechanical	Fan
CHEMICAL BUILDING	Electrical Room	HPU-K01	Electrical Room Heat Pump	Mechanical	AC Unit
CHEMICAL BUILDING	Electrical Room	MCC-P12	Motor Control Center P12	Electrical	MCC
CHEMICAL BUILDING	Electrical Room	PLC-C	PLC Panel C	Electrical	PLC
CHEMICAL BUILDING		LIT-301	Tank Level Sensors	Instrumentation	Sensor
CHEMICAL BUILDING		LIT-302	Tank Level Sensors	Instrumentation	Sensor
CHEMICAL BUILDING		LIT-321	Tank Level Sensors	Instrumentation	Sensor
CHEMICAL BUILDING		LIT-322	Tank Level Sensors	Instrumentation	Sensor
CHEMICAL BUILDING		LIT-341	Tank Level Sensors	Instrumentation	Sensor

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
CHEMICAL BUILDING		LIT-342	Tank Level Sensors	Instrumentation	Sensor
CHEMICAL BUILDING			Portable Emergency Generator	Mechanical	Generator
PLANT POWER SYSTEMS			Solar Power System	Electrical	Solar
PLANT POWER SYSTEMS		GEN-02	Standby Generator No. 2	Mechanical	Generator
PLANT POWER SYSTEMS		LCP-GEN2	Standby Generator No. 2 Control Panel	Electrical	Control Panel
PLANT POWER SYSTEMS		GEN-03	Standby Generator No. 3	Mechanical	Generator
PLANT POWER SYSTEMS		LCP-GEN3	Standby Generator No. 3 Control Panel	Electrical	Control Panel
PLANT POWER SYSTEMS		LCP-SYNC-2&3	Synchronizer Panel for Generators No. 2 & 3	Mechanical	Generator
PLANT POWER SYSTEMS		GEN-04	Standby Generator No. 4	Mechanical	Generator
PLANT POWER SYSTEMS		LCP-GEN4	Standby Generator No. 4 Control Panel	Electrical	Control Panel
PLANT POWER SYSTEMS		ATS-04	Automatic Transfer Switch	Electrical	Switch
PLANT POWER SYSTEMS		CGN-D02	Cogeneration Unit	Mechanical	Cogeneration
PLANT POWER SYSTEMS		HWP-D03	Cogeneration Hot Water Loop Pump	Mechanical	Pump, Water
PLANT POWER SYSTEMS		SUB-1	Substation, No. 1 (12kV Switchgear)	Electrical	Switchgear
PLANT POWER SYSTEMS		TRF-T1	Transformer No. 1	Electrical	Transformer
PLANT POWER SYSTEMS		TRF-T2	Transformer	Electrical	Transformer
PLANT POWER SYSTEMS		SWB-P2	Switchboard P2	Electrical	Switchgear
OTHER PLANT SYSTEMS			Admin Building	Structural	Building
OTHER PLANT SYSTEMS		DWP-Y01	Deep Well Pump No. 1	Mechanical	Pump, Vertical Turbine
OTHER PLANT SYSTEMS		DWP-Y02	Deep Well Pump No. 2	Mechanical	Pump, Vertical Turbine
OTHER PLANT SYSTEMS		CSS-Y01	Centrifugal Sand Separator No. 1	Mechanical	Centrifuge
OTHER PLANT SYSTEMS		CSS-Y02	Centrifugal Sand Separator No. 2	Mechanical	Centrifuge
OTHER PLANT SYSTEMS		HYT-Y01	Hydropneumatic Tank No. 1	Mechanical	Tank, Hydroneumatic Tank

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
OTHER PLANT SYSTEMS		HYT-Y02	Hydropneumatic Tank No. 2	Mechanical	Tank, Hydroneumatic Tank
OTHER PLANT SYSTEMS		CMP-Y01	Hydropneumatic Tank No. 1 Air Compressor	Mechanical	Compressor
OTHER PLANT SYSTEMS		RWP-E01	3W Pumps Nos. 1	Mechanical	Pump, End Suction
OTHER PLANT SYSTEMS		RWP-E02	3W Pumps Nos. 2,	Mechanical	Pump, End Suction
OTHER PLANT SYSTEMS		RWP-E03	3W Pumps Nos. 3	Mechanical	Pump, End Suction
OTHER PLANT SYSTEMS		RWP-E04	3W Pumps Nos. 4	Mechanical	Pump, End Suction
OTHER PLANT SYSTEMS		RWP-E05	3W Pumps Nos. 5	Mechanical	Pump, End Suction
OTHER PLANT SYSTEMS		PIT-404	3W Pressure Transmitter	Instrumentation	Sensor
OTHER PLANT SYSTEMS		HWV-D03	Three-way blending valves	Mechanical	Valve
OTHER PLANT SYSTEMS		HWP-D01	Main Loop Hot Water Pumps	Mechanical	Pump, Water
OTHER PLANT SYSTEMS		HWP-D02	Main Loop Hot Water Pumps	Mechanical	Pump, Water
OTHER PLANT SYSTEMS	Effluent Disposal	STP-D01	Storm water Pumps	Mechanical	Pump, End Suction
OTHER PLANT SYSTEMS	Effluent Disposal	STP-D02	Storm water Pumps	Mechanical	Pump, End Suction
OTHER PLANT SYSTEMS	Effluent Disposal	STP-D03	Storm water Pumps	Mechanical	Pump, End Suction
PLANT 1	Aeration		Aeration Basin 1	Structural	Aeration Basin
PLANT 1	Aeration		Aeration Basin 2	Structural	Aeration Basin
PLANT 1	Aeration	FIT-088	Aeration Tank Nos. 1 Flowmeters	Instrumentation	Flow Meter
PLANT 1	Aeration	FIT-089	Aeration Tank Nos. 2 Flowmeters	Instrumentation	Flow Meter
PLANT 1	Aeration	AIT-087	Aeration Tank Nos. 1 Dissolved Oxygen Meters	Instrumentation	Flow Meter
PLANT 1	Aeration	AIT-086	Aeration Tank Nos. 2 Dissolved Oxygen Meters	Instrumentation	Flow Meter
PLANT 1	Blower Building		Blower Building No. 1	Structural	Building
PLANT 1	Blower Building	BLR-B01	Aeration Blower 1	Mechanical	Blower
PLANT 1	Blower Building	BLR-B02	Aeration Blower 2	Mechanical	Blower
PLANT 1	Blower Building	BLR-B03	Aeration Blower 3	Mechanical	Blower
PLANT 1	Blower Building	BLR-B04	Aeration Blower 4	Mechanical	Blower

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
PLANT 1	Blower Building	FCV-B01	Inlet Valve	Mechanical	Valve
PLANT 1	Secondary Treatment		Secondary Clarifier 1	Structural	Clarifier
PLANT 1	Secondary Treatment		Secondary Clarifier 2	Structural	Clarifier
PLANT 1	Secondary Treatment	SCD-S01	Secondary Clarifier No. 1 Sludge Collector	Mechanical	Collector
PLANT 1	Secondary Treatment	SCD-S02	Secondary Clarifier No. 2 Sludge Collector	Mechanical	Collector
PLANT 1	Secondary Treatment	SCO-S01	Secondary Clarifier No. 1 Scum Collector	Mechanical	Collector
PLANT 1	Secondary Treatment	RSP-R01	RAS Pump 1	Mechanical	Pump
PLANT 1	Secondary Treatment	RSP-R02	RAS Pump 2	Mechanical	Pump
PLANT 1	Secondary Treatment	RSP-R03	RAS Pump 3	Mechanical	Pump
PLANT 1	Secondary Treatment	RSP-R04	RAS Pump 4 (Standby)	Mechanical	Pump
PLANT 1	Secondary Treatment	EXF-R01	RAS Pump Sta. Exhaust Fan No. 1	Mechanical	Fan
PLANT 1	Secondary Treatment	EXF-R02	RAS Pump Sta. Exhaust Fan No. 2	Mechanical	Fan
PLANT 1	Secondary Treatment	SPP-R01	RAS PS Sump Pump 1	Mechanical	Pump, Sump
PLANT 1	Secondary Treatment	SPP-R02	RAS PS Sump Pump 2	Mechanical	Pump, Sump
PLANT 1	Secondary Treatment	ATS-A01	Mixed Liquor Automatic Sampler	Instrumentation	Sampler
PLANT 1	Secondary Treatment	ATS-A02	RAS Automatic Sampler	Instrumentation	Sampler
PLANT 1	Secondary Treatment	WAP-W01	WAS Pump 1	Mechanical	Pump
PLANT 1	Secondary Treatment	WAP-W02	WAS Pump 2 (Standby)	Mechanical	Pump
PLANT 1	Secondary Treatment	MCC-P1	Motor Control Center P1	Electrical	MCC
PLANT 1	Secondary Treatment	MCC-EP1	Motor Control Center EP1	Electrical	MCC
PLANT 1	Secondary Treatment	MCC-EP6	Motor Control Center EP6	Electrical	MCC
PLANT 1	Secondary Treatment	MCC-EP3	Motor Control Center EP3	Electrical	MCC
PLANT 1	Secondary Treatment	LCP-B	PLC Input-Output Panel	Electrical	PLC
PLANT 1	Secondary Treatment	LCP-H	PLC Input-Output Panel	Electrical	PLC
PLANT 1	Secondary Treatment	LCP-R	PLC Input-Output Panel	Electrical	PLC
PLANT 1	Secondary Treatment	FIT-204	RAS Flowmeters	Instrumentation	Flow Meter
PLANT 1	Secondary Treatment	FIT-205	RAS Flowmeters	Instrumentation	Flow Meter
PLANT 1	Secondary Treatment	FIT-423	WAS Flowmeter	Instrumentation	Flow Meter

PROCESS NAME	SUB PROCESS	ASSET ID	COMPONENT NAME	DISCIPLINE	ASSET TYPE
PLANT 1	Chlorine Contact Basins		Chlorine Contact Basin 1	Structural	Contact Basin
PLANT 1	Chlorine Contact Basins		Chlorine Contact Basin 2	Structural	Contact Basin
PLANT 1	Chlorine Contact Basins	MXR-C01	Chlorine contact basin 1&2 SHS Flash Mixer	Mechanical	Mixer
PLANT 1	Chlorine Contact Basins	CSP-C01	Chlorine contact basin Sample Pump 1	Mechanical	Pump
PLANT 1	Chlorine Contact Basins	CSP-C02	Chlorine contact basin Sample Pump 2	Mechanical	Pump
PLANT 1	Chlorine Contact Basins	SLG-C01	Gate	Mechanical	Gate
PLANT 1	Chlorine Contact Basins	SLG-C02	Gate	Mechanical	Gate
PLANT 1	Chlorine Contact Basins	SLG-C03	Gate	Mechanical	Gate
PLANT 1	Chlorine Contact Basins	SLG-C04	Gate	Mechanical	Gate
PLANT 1	Chlorine Contact Basins	SLG-C05	Gate	Mechanical	Gate
PLANT 1	Chlorine Contact Basins	SLG-C06	Gate	Mechanical	Gate
PLANT 1	Chlorine Contact Basins	SLG-C07	Gate	Mechanical	Gate
PLANT 1	Chlorine Contact Basins	SLG-C08	Gate	Mechanical	Gate
PLANT 1	Chlorine Contact Basins	SLG-C09	Gate	Mechanical	Gate

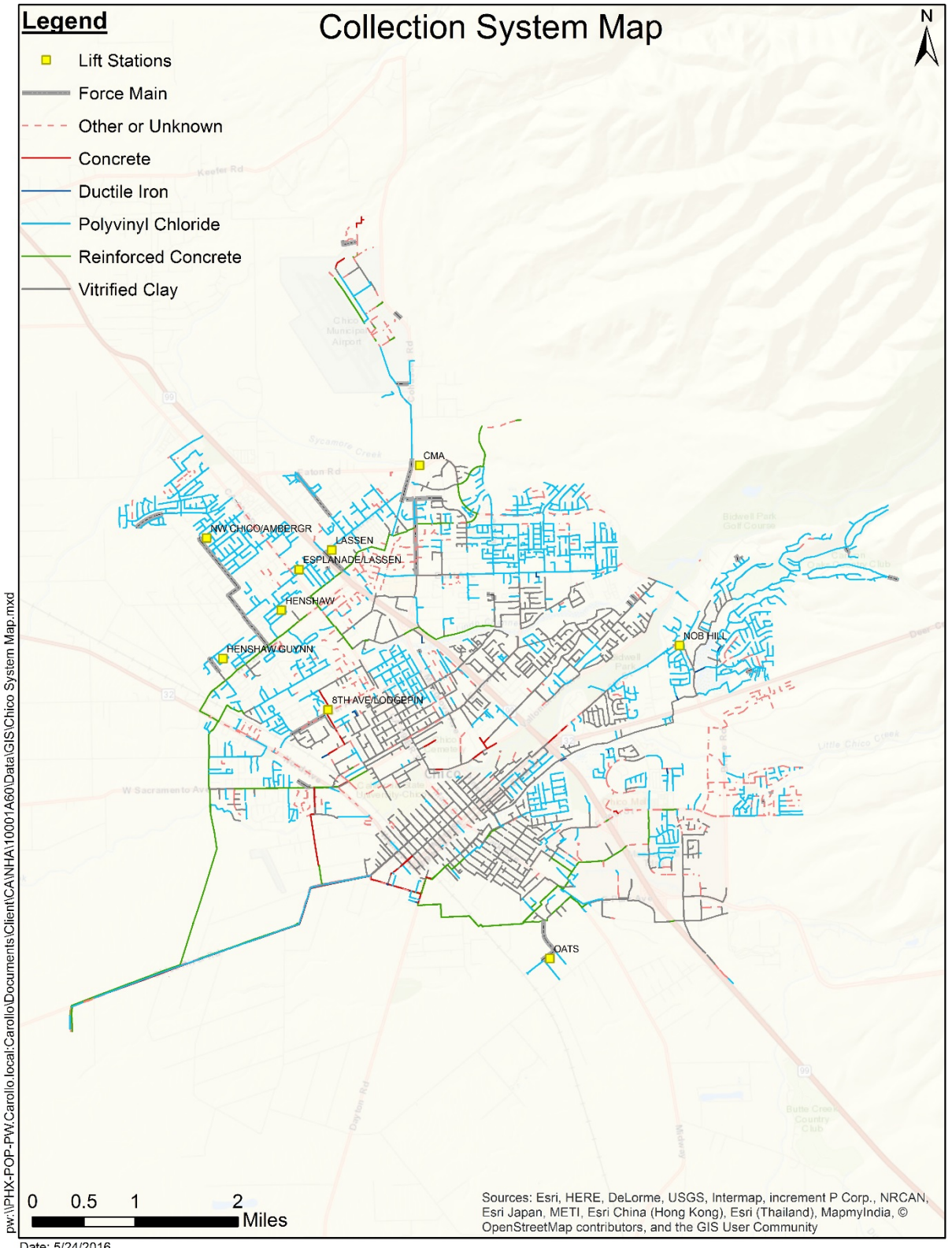
Lift Station Asset Inventory Table

FACILITY NAME	COMPONENT NAME	DISCIPLINE	ASSET TYPE
CHICO MUNI AIRPORT	Submersible Pump 1	Mechanical	Pump, Submersible
CHICO MUNI AIRPORT	Submersible Pump 2	Mechanical	Pump, Submersible
CHICO MUNI AIRPORT	Electrical Boxes	Electrical	Control Panel
CHICO MUNI AIRPORT	Antenna	Electrical	Antenna
CHICO MUNI AIRPORT	Electrical Covering	Structural	Covering
CHICO MUNI AIRPORT	Wet Well (6' DIA, 14.4 Depth)	Structural	Wet Well
CHICO MUNI AIRPORT	Valve Box	Structural	Buried Concrete
CHICO MUNI AIRPORT	Fencing and Gate	Mechanical	Fencing
CHICO MUNI AIRPORT	Valves and Piping (6" outlet)	Mechanical	Piping
CHICO MUNI AIRPORT	Forecemain	Mechanical	Forecemain
CREEKSIDE LANDING	Submersible Pump 1	Mechanical	Pump, Submersible
CREEKSIDE LANDING	Submersible Pump 2	Mechanical	Pump, Submersible
CREEKSIDE LANDING	Electrical Box	Electrical	Control Panel
CREEKSIDE LANDING	Wet Well	Structural	Wet Well
CREEKSIDE LANDING	Valve Box	Structural	Buried Concrete
CREEKSIDE LANDING	Fencing	Mechanical	Fencing
CREEKSIDE LANDING	Generator, Natural Gas	Mechanical	Generator
CREEKSIDE LANDING	Valves and Piping (6")	Mechanical	Piping
CREEKSIDE LANDING	Forecemain	Mechanical	Forecemain
CUSSICK AVENUE	Submersible Pump 1	Mechanical	Pump, Submersible
CUSSICK AVENUE	Submersible Pump 2	Mechanical	Pump, Submersible
CUSSICK AVENUE	Electrical Boxes and DiaLog Scout	Electrical	Control Panel
CUSSICK AVENUE	Wet Well	Structural	Wet Well
CUSSICK AVENUE	Valve Box	Structural	Buried Concrete
CUSSICK AVENUE	Fencing	Mechanical	Fencing
CUSSICK AVENUE	Generator	Mechanical	Generator
CUSSICK AVENUE	Valves and Piping	Mechanical	Piping
CUSSICK AVENUE	Forecemain	Mechanical	Forecemain
HENSHAW-GUYNN	Submersible Pump 1	Mechanical	Pump, Submersible
HENSHAW-GUYNN	Submersible Pump 2	Mechanical	Pump, Submersible
HENSHAW-GUYNN	Electrical Boxes	Electrical	Control Panel
HENSHAW-GUYNN	Wet Well (8' DIA, 18' Depth)	Structural	Wet Well
HENSHAW-GUYNN	Valve Box	Structural	Buried Concrete
HENSHAW-GUYNN	Valves and Piping (4" outlet)	Mechanical	Piping
HENSHAW-GUYNN	Forecemain	Mechanical	Forecemain
FRONTIER CIRCLE	Submersible Pump 1	Mechanical	Pump, Submersible
FRONTIER CIRCLE	Submersible Pump 2	Mechanical	Pump, Submersible
FRONTIER CIRCLE	Electrical Box	Electrical	Control Panel

FACILITY NAME	COMPONENT NAME	DISCIPLINE	ASSET TYPE
FRONTIER CIRCLE	Wet Well	Structural	Wet Well
FRONTIER CIRCLE	Valve Box	Structural	Buried Concrete
FRONTIER CIRCLE	Valves and Piping (4")	Mechanical	Piping
FRONTIER CIRCLE	Forecemain	Mechanical	Forecemain
HENSHAW	Submersible Pump 1	Mechanical	Pump, Submersible
HENSHAW	Submersible Pump 2	Mechanical	Pump, Submersible
HENSHAW	Electrical Boxes	Electrical	Control Panel
HENSHAW	Wet Well (8' DIA, 5' Depth)	Structural	Wet Well
HENSHAW	Valve Box	Structural	Buried Concrete
HENSHAW	Valves and Piping (4" outlet)	Mechanical	Piping
HENSHAW	Forecemain	Mechanical	Forecemain
HOLLY GARDENS	Submersible Pump 1	Mechanical	Pump, Submersible
HOLLY GARDENS	Submersible Pump 2	Mechanical	Pump, Submersible
HOLLY GARDENS	Electrical Box	Electrical	Control Panel
HOLLY GARDENS	Wet Well (6' DIA, 4.7 Depth)	Structural	Wet Well
HOLLY GARDENS	Antenna	Electrical	Antenna
HOLLY GARDENS	Bubbler Unit and Compressor	Mechanical	Compressor
HOLLY GARDENS	Valve Box	Structural	Buried Concrete
HOLLY GARDENS	Valves and Piping (4" outlet)	Mechanical	Piping
HOLLY GARDENS	Forecemain	Mechanical	Forecemain
LASSEN AVENUE	Submersible Pump 1	Mechanical	Pump, Submersible
LASSEN AVENUE	Submersible Pump 2	Mechanical	Pump, Submersible
LASSEN AVENUE	Electrical Boxes	Electrical	Control Panel
LASSEN AVENUE	Wet Well (6' DIA, 6.9' Depth)	Structural	Wet Well
LASSEN AVENUE	Valve Boxes	Structural	Buried Concrete
LASSEN AVENUE	Valves and Piping (10 " outlet)	Mechanical	Piping
LASSEN AVENUE	Forecemain	Mechanical	Forecemain
MCKINNEY RANCH	Submersible Pump 1	Mechanical	Pump, Submersible
MCKINNEY RANCH	Submersible Pump 2	Mechanical	Pump, Submersible
MCKINNEY RANCH	Electrical Box	Electrical	Control Panel
MCKINNEY RANCH	Wet Well (8' DIA, 24' Depth)	Structural	Wet Well
MCKINNEY RANCH	Valve Box	Structural	Buried Concrete
MCKINNEY RANCH	Valves and Piping (6" outlet)	Mechanical	Piping
MCKINNEY RANCH	Forecemain	Mechanical	Forecemain
NW LIFT STATION	Submersible Pump 1	Mechanical	Pump, Submersible
NW LIFT STATION	Submersible Pump 2	Mechanical	Pump, Submersible
NW LIFT STATION	Electrical Boxes	Electrical	Control Panel
NW LIFT STATION	Original Wet Well	Structural	Wet Well

FACILITY NAME	COMPONENT NAME	DISCIPLINE	ASSET TYPE
NW LIFT STATION	Wet Well (10' DIA Square Base)	Structural	Wet Well
NW LIFT STATION	Valve Box	Structural	Buried Concrete
NW LIFT STATION	Meter Box	Structural	Buried Concrete
NW LIFT STATION	Flow Meter (12")	Instrumentation	Flow Meter
NW LIFT STATION	Fencing and Gate	Mechanical	Fencing
NW LIFT STATION	Electrical Covering	Structural	Covering
NW LIFT STATION	Generator, Gasoline	Mechanical	Generator
NW LIFT STATION	Valves and Piping (4" outlet)	Mechanical	Piping
NW LIFT STATION	Forecmain	Mechanical	Forecmain
OATES BUSINESS PARK	Submersible Pump 1	Mechanical	Pump, Submersible
OATES BUSINESS PARK	Submersible Pump 2	Mechanical	Pump, Submersible
OATES BUSINESS PARK	Electrical Boxes	Electrical	Control Panel
OATES BUSINESS PARK	Wet Well (6' DIA, 5' Depth)	Structural	Wet Well
OATES BUSINESS PARK	Valve Box	Structural	Buried Concrete
OATES BUSINESS PARK	Bubbler Unit and Compressor	Mechanical	Compressor
OATES BUSINESS PARK	Fencing and Gate	Mechanical	Fencing
OATES BUSINESS PARK	Valves and Piping (4" outlet)	Mechanical	Piping
OATES BUSINESS PARK	Forecmain	Mechanical	Forecmain
SALVATION ARMY	Submersible Pump 1	Mechanical	Pump, Submersible
SALVATION ARMY	Submersible Pump 2	Mechanical	Pump, Submersible
SALVATION ARMY	Electrical Boxes	Electrical	Control Panel
SALVATION ARMY	Wet Well	Structural	Wet Well
SALVATION ARMY	Valve Box 1	Structural	Buried Concrete
SALVATION ARMY	Valve Box 2 (tee box)	Structural	Buried Concrete
SALVATION ARMY	Generator, Natural Gas	Mechanical	Generator
SALVATION ARMY	Valves and Piping (4")	Mechanical	Piping
SALVATION ARMY	Forecmain	Mechanical	Forecmain
TOM POLK	Submersible Pump 1	Mechanical	Pump, Submersible
TOM POLK	Submersible Pump 2	Mechanical	Pump, Submersible
TOM POLK	Wet Well	Structural	Wet Well
TOM POLK	Electrical Boxes	Electrical	Control Panel
TOM POLK	Valve Box	Structural	Buried Concrete
TOM POLK	Valves and Piping (1.25" HDPE)	Mechanical	Piping
TOM POLK	Forecmain	Mechanical	Forecmain
COLLECTION SYSTEM	Vactor Truck 1	Mechanical	Truck
COLLECTION SYSTEM	Vactor Truck 2	Mechanical	Truck
COLLECTION SYSTEM	CCTV Truck	Mechanical	Truck

Collection System Map





City of Chico
Strategic Planning and Facility Rate Review
Support

WPCP Strategic Planning Report

FINAL | February 2021



EXHIBIT 3



City of Chico

Strategic Planning and Facility Rate Review Support

WPCP Strategic Planning Report

FINAL | February 2021



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Abbreviations

AA	average annual
AB	Assembly Bill
AACE	Association for the Advancement of Cost Engineering
AAF	Average Annual Flow
AAFPF	AAF Peaking Factor
ADW	average dry weather
ADWF	average dry weather flow
AFY	acre-feet per year
AQMD	Air Quality Management District
ASCE	American Society of Civil Engineers
AWWA	American Water Works Association
BAF	biologically active filtration
Basin Plan	Water Quality Control Plan for the Central Valley Region for the Sacramento River and San Joaquin River Basins
BAT	best available treatment
Bay-Delta PPD	Pollutant Policy Document for the San Francisco/Sacramento-San Joaquin Delta Estuary
BCT	best control technology
BOD	biochemical oxygen demand
BOD ₅	biochemical oxygen demand
CA	calcium
CalRecycle	California Department of Resources Recycling and Recover
CARB	California Air Resources Board
Carollo	Carollo Engineers, Inc.
CCBs	chlorine contact basins
CCR	California Code of Regulations
CDBM	Chlorodibromomethane
CEC	contaminant of emerging concern
CFR	Code of Federal Regulations
CIP	capital improvement plan or project
CIP	clean-in-place
City	City of Chico
CIWMB	California Integrated Waste Management Board
COF	consequence of failure
CSS	caustic soda solution
CSU	California State University

CTR	California Toxics Rule
CVCWA	Central Valley Clean Water Agency
CWA	Clean Water Act
DAFT	dissolved air flotation thickener
DBP	disinfection byproducts
DCBM	Dichlorobromomethane
DDT	Dichlorodiphenyltrichloroethane
DDW	Division of Drinking Water
DEHP	Di-2-ethylhexyl phthalate
DOC	dissolved organic carbon
DPR	direct potable reuse
ELAP	Environmental Laboratory Accreditation Program
ENR-CCI	Engineering News Report's Construction Cost Index
EPA	Environmental Protection Agency
f/L	fibers per liter
FAT	full advanced treatment
FRP	fiberglass reinforced plastic
FTE	full time equivalents
GAC	granular activated carbon
gpcd	gallons per capita day
gpd/ft ²	gallons per day per square foot
gph	gallons per hour
gpm	gallons per minute
gpm/sf	gallons per minute per square foot
hp	horsepower
HVAC	heating, ventilation, and air condition
IIMM	International Infrastructure Management Manual
lb/day	pounds per day
I/O	input/output
IPR	indirect potable reuse
JPCP	jointed plain concrete pavement
kV	kilovolt
LABOS	City of Los Angeles Bureau of Sanitation
LOX	liquid oxygen
MC	maintenance chemical cleaning
MCCs	motor control centers

MCL	maximum contaminant level
MES	mass emission strategy
µg/L	micrograms per liter
MF	microfiltration
MG	million gallons
mgd	million gallons per day
mg/L	milligrams per liter
mg-min/L	milligrams-minutes per liter
mL	milliliter
MLE	Modified-Ludzack Ettinger
mL/g	milliliters per gram
MLR	mixed liquor recycle
MLSS	mixed liquor suspended solids
MM	maximum monthly
MMF	maximum month flow
MMFPF	maximum month flow peaking factor
MPN	most probable number
NaOCl	sodium hypochlorite
ND	non-detect
NEIWPCC	New England Interstate Water Pollution Control Commission
NELAC	National Environmental Laboratory Accreditation Conference
NH ₃	ammonia
NO ₃	nitrate
NOEC	no observed effect concentration
NPDES	National Pollutant Discharge Elimination System
NTR	National Toxics Rule
NTU	Nephelometric turbidity units
O ₂	oxygen
O&M	operations and maintenance
OSHA	Occupational Safety and Health Administration
OUL	original useful life
PAA	paracetic acid
PAH	polynuclear aromatic hydrocarbons
PCB	polychlorinated biphenyls
PF	peak flow
PFPF	peak flow peaking factor
PG&E	Pacific Gas and Electric

PHWWF	peak hour wet weather flow
PLCs	programmable logic controllers
POF	probability of failure
POTW	publically owned treatment works
ppd	pounds per day
psig	pounds per square inch gauge
PSRP	Process to Significantly Reduce Pathogens
PVC	polyvinyl chloride
PVDF	polyvinylidene difluoride
RAS	return activated sludge
Regional San Report	Regional Sanitary District Strategic Planning and Sewer Rate Review Support Report
RO	reverse osmosis
ROWD	Report of Waste Discharge
RPA	reasonable potential analysis
RUL	remaining useful life
RUL _{calc}	calculated Remaining Useful Life
RUL _{eval}	evaluated RUL
RWC	recycled water contribution
RWQCB	Regional Water Quality Control Board
SAT	soil aquifer treatment
SB	Senate Bill
SBS	sodium bisulfite solution
SCADA	supervisory control and data acquisition
scfm	standard cubic feet per minute
sf	square feet
SHS	sodium hypochlorite solution
SIP	State Implementation Policy
SIU	significant industrial user
SOI	sphere of influence
SRT	solids retention time
SVI	sludge volume index
SWA	surface water augmentation
SWRCB	State Water Resources Control Board
THM	trihalomethanes
TM	technical memorandum
TMDL	total maximum daily loads

TOC	total organic carbon
TSO	time schedule order
TSS	total suspended solids
TWAS	thickened waste activated sludge
UF	ultrafiltration
UV	ultraviolet
UVAOP	ultraviolet light advanced oxidation process
UVT	ultraviolet transmittance
VFDs	variable frequency drives
WAS	waste activated sludge
WASAC	Waste Activated Sludge Anaerobic Contact
WDR	waste discharge requirement
WEF	Water Environment Federation
WPCP	Water Pollution Control Plant
WQBEL	water quality-based effluent limitations
WQO	water quality objective
WWTP	wastewater treatment plant
ZLD	zero liquid discharge

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Chapter 1

EXECUTIVE SUMMARY

1.1 Background

The City of Chico (City) provides wastewater collection, treatment, and disposal service for residents within the City's service area. City officials have put great efforts into continued maintenance/upgrade of the collection and treatment facilities as necessary to maintain compliance with regulatory requirements associated with the facilities. These operations and maintenance (O&M) activities are funded by fees collected for sewer service, which are also used to pay down debt associated with previous capital improvement projects that provided treatment enhancements mandated by more stringent regulation and capital replacement needs. Costs for ongoing O&M activities have increased over the years to address more stringent regulations, while the sewer fees collected by the City have remained largely unchanged, resulting in a net annual loss in reserves available for future O&M activities and capital replacement improvements. This situation must be remedied not only so that the City can continue to provide proactive and quality service to its customers, but also because capital replacement projects will be needed within the short and long-term horizons.

To raise rates to a level sufficient for current and projected operational and capital replacement needs, the City must conduct a rate study and gain approval from the City Council following the Proposition 218 process. This process requires technical documentation supporting capital improvement plans (CIPs) for the collection system and the Water Pollution Control Plant (WPCP).

1.2 Purpose

The City maintains a list of ongoing capital replacement projects for the collection system, based primarily on asset age and operational issues. This list of needs is prioritized for implementation based on project criticality and provides a normalized spending pattern over the planning horizon. This Strategic Planning and Sewer Rate Review Support Report (Report) summarizes capital and operational needs at the WPCP for use (along with City-projected needs related to the collection system) in a rate study focused on sewer fee increases meant to support these needs.

The purpose of this strategic planning effort is to provide the City with the information needed to:

- Effectively budget for current and future capital and operational expenditures directly related to the City's WPCP.
- Ensure long-term reliability of the WPCP.
- Evaluate high-level options for reuse of treated effluent from the WPCP.

This report summarizes the condition assessment of the existing facilities at the City's WPCP, the evaluation of options for improvement or replacement of inoperable and aging facilities, and

projects facility upgrade needs related to system capacity and the changing regulatory climate over the planning horizon (through the year 2040).

1.3 Summary of Findings – Capital Needs

The WPCP is in relatively good condition with exception of Plant 1 facilities, which have not been regularly maintained since the startup of the original Plant 2 facilities in 1998 (refer to Chapter 5 for full description of facilities). Although Plant 2 has been well maintained, some elements are nearing the end of their useful lives, and will require attention.

An assessment of the hydraulic and treatment capacity of existing facilities at the WPCP indicates that modest improvements will be required to accommodate projected increases in wastewater flow and loading over the planning horizon. These improvements assume the continued use of only Plant 2 facilities, thus Plant 1 condition-driven project needs are not carried through the projected CIP for the planning horizon.

An evaluation of long-term system needs to accommodate upcoming regulatory changes resulted in the identification of the following likely facility upgrades:

- Denitrification upgrades in existing Plant 2 aeration tanks (section 8.4.2).
- Lining of the WPCP Northeast pond (section 8.4.2).
- Addition of tertiary filtration (disc filtration is recommended herein following an evaluation of filtration options available to the City) (section 8.4.3).
- Alternative disinfection facilities (ultraviolet [UV] disinfection is recommended herein following an evaluation of alternate disinfection options) (section 8.4.5).

Additionally, studies are recommended for identified constituents of concern that may be reduced/removed by the facilities recommended above (di-2-ethylhexyl phthalate [DEHP], lead, and zinc).

Options for reuse of treated effluent from the WPCP are evaluated herein, and implementation strategies and costs are provided for the City's review. Because the City is situated in a relatively water rich area, the implementation of a reuse application would require the identification of nearby (likely agricultural) customers, an identified need for water security, or a significant incentive from Cal Water. As such, additional study is recommended herein to evaluate the cost feasibility of reusing the treated effluent from the WPCP. Estimated project costs for water reuse options are not included in CIP projections.

Table 1.1 includes a summary of recommended projects based on facility condition, required capacity upgrades, and projected regulatory needs over the 20 year planning horizon. Costs are presented in February 2021 dollars. The City should work with their rate consultant to incorporate a provision for recurring sewer rate adjustments based on actual escalation of cost overtime.

Table 1.1 Summary of Recommended Project and Project Costs

Projected Timeline for Implementation	Project Description	Project Driver	Estimated Project Cost ⁽¹⁾
2021	Aeration and Primary Treatment System Condition-Driven Upgrades Recommended by 2023	Condition	\$1,735,000
2022	Disinfection, Chemical Building, Solids Thickening and Dewatering, Plant Power Systems, and Other Plant Systems Condition-Driven Upgrades Recommended by 2023	Condition	\$2,501,000
2023	Solids Digestion Condition-Driven Upgrades Recommended by 2023	Condition	\$2,224,000
2023	DEHP, Lead, and Zinc Treatment Evaluation	Regulatory	\$300,000
2024	Modified MLE process upgrades	Regulatory	\$4,090,000
2025	Primary Treatment Condition-Driven Upgrades Recommended by 2025	Condition	\$3,451,000
2025	Recycled Water Feasibility Study	Strategic	\$500,000
2026	Pond Lining Project	Regulatory	\$11,456,000
2027	Condition Driven Upgrades Recommended in 2027	Condition	\$7,164,000
2028	Condition Driven Upgrades Recommended in 2028	Condition	\$3,041,000
2028	Chlorine Testing	Regulatory	\$100,000
2029	Condition Driven Upgrades Recommended in 2029	Condition	\$5,056,000
2031	Tertiary Filtration Upgrades	Regulatory	\$13,712,000
2032	100-ft Secondary Clarifier	Capacity	\$9,900,000
2033	Condition Driven Upgrades Recommended in 2033	Condition	\$3,301,000
2036	Alternate Disinfection	Regulatory	\$25,000,000
2039	Condition Driven Upgrades Recommended in 2039	Condition	\$9,806,000
2040	Anaerobic Digester 3	Condition	3,562,000
Total Required Capital Investment			\$106.9M⁽²⁾

Notes:

(1) Costs are based on February 2021 dollars, cost estimating assumptions and limitations as discussed herein.

(2) Does not include project costs associated with water reuse projects.

1.4 Summary of Findings – Staffing Needs

The staffing approach at the WPCP was evaluated from an operational standpoint, considering current facility plant flows and in-place treatment processes (Staffing Needs Technical Memorandum, included herein as Appendix A). This analysis involved a detailed review of the actual work conducted by plant operational staff, maintenance personnel, laboratory staff, industrial pretreatment staff, and administrative and supervisory staff.

A comparison of the City's current staffing levels against others of similar size and treatment processes (along with a theoretical analysis of staffing needs based on actual facility flow and treatment processes in service) revealed that the WPCP will require two additional WPCP operators, one new WPCP mechanic, and one additional laboratory technician in the near-term (analysis completed in June 2019 with immediate need identified for 2019-2020). These additional full time equivalent (FTE) positions are still needed at the WPCP.

Future FTE positions were evaluated through the addition of future treatment processes projected for the facility (as summarized herein), in accordance with assumed implementation dates. Staffing projections were calculated using the New England Interstate Water Pollution Control Commission (NEIWPCC) staffing spreadsheet for five-year increments starting in 2021 and ending in 2036.

At the time of the analysis, the largest gap in FTEs existed in the mechanical maintenance section. The analysis indicates that there is a shortfall of five mechanical maintenance positions. The findings included herein recommend that one mechanic position be added in the near-term (2019-2020), with additional mechanic positions phased in as future plant process improvements are implemented. The near-term mechanic position identified for implementation in 2019-2020 is still needed at the WPCP.

City policy requires two WPCP operator's on shift at all times. Existing shift coverage shortages, complex plant improvements, and new lift stations added to the City's collection system justify two additional operator positions in the near-term (analysis completed in June 2019 with immediate need identified for 2019-2020). As with the WPCP mechanic positions, additional operator positions will be phased through 2036 with implementation of new plant processes. The near-term operator positions identified for implementation in 2019-2020 are still needed at the WPCP.

Table 1.2 summarizes recommended WPCP staffing levels in thru 2040. Time has passed since the analysis was completed, but the need for staffing position additions still remains.

Table 1.2 Summary of Recommended Staffing Levels through 2040

Year	Process	Addition of Staff	Total FTEs ⁽¹⁾⁽²⁾
2019-2020 ⁽³⁾	Current Maintenance Level With TNI ⁽⁴⁾ Implementation	Add 0.5 FTE Administrative Assistant (equals 1 FTE), add two (2) Treatment Plant, add one (1) Laboratory Technician and one (1) Treatment Plant Mechanic	18
2024 ⁽⁵⁾	Denitrification upgrades in Plant 2	None	18
2026	Design/Construction Phase for Tertiary Treatment Upgrades	Add one (1) Treatment Mechanic I/II	19
2031	Start-Up of Tertiary Treatment	One (1) Treatment Plant Mechanic	20
2032 ⁽⁵⁾	Addition of Secondary Clarifier	None	20
2036	Alternative Disinfection	WPCP Treatment Plant Operator III or WPCP Apprentice	21

Notes:

- (1) FTE = full-time equivalents.
- (2) Assumes all vacant positions are filled.
- (3) Implementation year modified per updates presented in Section 8.4.1.
- (4) TNI = Environmental Laboratory Accreditation Program (ELAP) certified by The National Environmental Laboratory Accreditation Conference (NELAC) Institute.
- (5) Additional FTE positions identified for implementation in 2019-2020 are still needed as of February 2021.

1.5 Study Limitations

The capacity of the existing WPCP facilities was evaluated against expected flows and loads projected over the planning horizon (through 2040), as calculated with an expected growth rate of 1.2 percent per year (Chapter 2) over the base population for the City at the time of the evaluation (September 2018). The growth rate value used was consistent with long-term observations for population growth within the City’s sphere of influence at the time of the evaluation, but may prove inadequate long-term due to the surge of new residents that have settled within City limits due to forced displacement following the destructive Camp Fire in Paradise, California (November 2018).

Within the first few months following the fire, the City observed a significant increase in population over its existing base, which caused a direct (and measurable) increase in flows received at the WPCP. Short-term flow increases of 1.0 million gallons per day (mgd) that occurred over the first few months following the fire, have tapered to a more consistent increase of 0.6 mgd over the existing average dry weather flow (ADWF) at the WPCP longer-term.

Under direction of the City, projections in this planning document were calculated exclusively considering the base population and WPCP flows that were documented prior to the fire.

A separate analysis (using a long-term increase in base flow of 0.6 mgd over the pre-fire ADWF values), has concluded that projected capacity upgrades will be needed sooner than originally predicted, with an updated projected need for a new 100-foot secondary clarifier by the year 2032.

The findings of this evaluation are further limited by the unknown impact of additional service connections added to the collection system due to recent rezoning efforts. Additionally,

Projected time lines for all project are based on outdated information and that the City may have to delay/accelerate projects as further analysis is completed. It is recommended that the City revisit the findings of this planning evaluation within the next 3 to 5 years to best prepare for future facility needs related to hydraulic and process capacity, and update related cost and schedule predictions.

Chapter 2

FLOWS AND LOADS ANALYSIS

This Chapter presents an evaluation of historical wastewater flow and biochemical oxygen demand (BOD), total suspended solids (TSS), and ammonia loads entering the City of Chico's WPCP, and projections of future flow and load demands. Historical flow and loads are used to establish flow and load projections that form the basis for strategic facility planning and design of alternatives presented in subsequent chapters.

2.1 Basis of Evaluation

The flow and load projections developed herein are based on an analysis of historical data reported during the period from May 2009 through June 2018. Historical flow and load data were compiled from WPCP operational observations and laboratory measurements (Appendix B). Other sources of data and information are cited throughout the chapter.

These data were analyzed to develop ADWF and average annual (AA) load per-capita values as well as flow and load peaking factors. ADWF and AA load were projected by applying these per-capita values to the projected population. Other flow and load parameters are projected herein by applying the peaking factors to the projected ADWF/AA load values.

2.2 Background

2.2.1 Previous WPCP Facility Planning

The City's WPCP Facility Plan was last updated in 2005¹. That plan's flow and load projections are included in this chapter's summary for comparison to the updated projections developed for this effort. The 2005 Facility Plan Update analyzed historical data between 1996 and 2001 and projected AA flows of 9 mgd in 2009, 12 mgd in 2015 and 15 mgd at buildout. These projections were made with the context of assumed strong population growth (refer to Table 4), significant industrial loading from Sierra Nevada Brewing Company (refer to Section 2.3.3.1), and 100 percent connection of approximately 7,800 residences identified in the Nitrate Action Plan².

2.2.2 WPCP Service Area

As described in the Chico General Plan³, the City's planning efforts should address all land within the incorporated City limits, land within the City's designated sphere of influence (SOI), and other unincorporated land within Butte County (Figure 2.1).

The WPCP is located approximately four miles southwest of downtown Chico and provides wastewater treatment and disposal services for most of the residences within the incorporated City of Chico and other residences in unincorporated areas of Butte County (Figure 2.2).

¹ (Carollo Engineers, Inc. 2005)

² (Butte County and City of Chico 1994)

³ (City of Chico; PMC 2017)

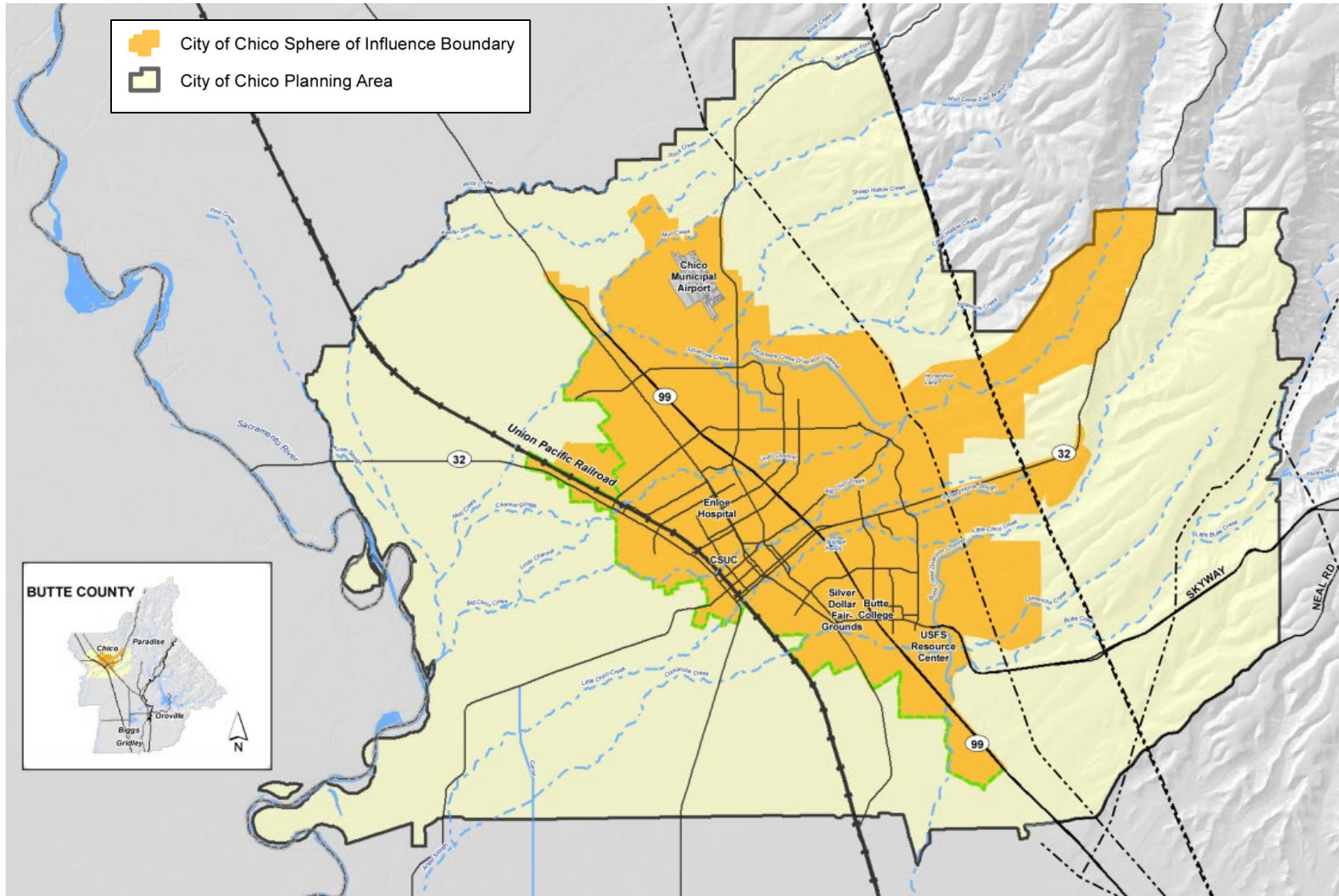


Figure 2.1 City of Chico Sphere of Influence & Planning Area

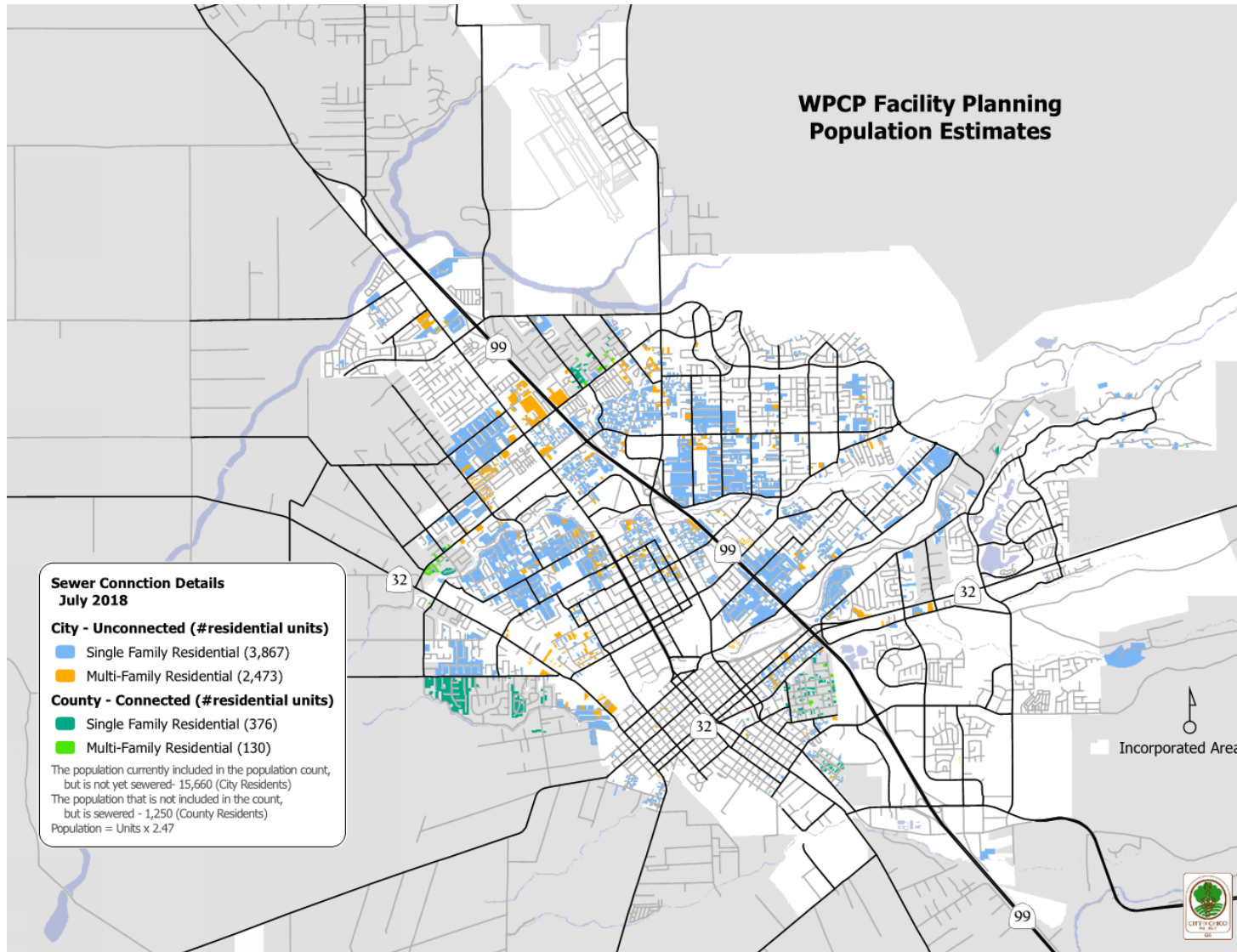


Figure 2.2 WPCP Service Area Population Details

2.3 Historical Population, Flows, and Loads

Historical population, flow and load data were analyzed to develop ADWF and AA load per-capita values, as well as flow and load peaking factors.

2.3.1 Historical Population

Estimation of current per-capita wastewater flows (i.e., the volume of flow per person contributing to the total flow to the WPCP) is important because it provides a benchmark for future flow projections. It can also be compared to typical per capita flows to identify any collection system issues that may exist (e.g., flow due to infiltration and inflow).

To avoid over (or under) sizing future WPCP facilities, accurate per-capita values are needed. For true per-capita estimation, only the population connected to the WPCP collection system should be counted. Because the City population and the connected population are not equivalent, the connected population was estimated as follows:

$$Population_{total\ connected} = Population_{City} + Population_{County\ connected} - Population_{City\ unconnected}$$

$$2018\ Population_{total\ connected} = 92,348 + 1,250 - 15,660 = 77,938$$

The estimated 2018 connected population represents about 84 percent of the estimated 2018 City population. This percentage was applied to historical City population estimates to develop historical connected population estimates (Table 2.1).

Table 2.1 Historical Population Estimates

Year	Estimated City Population ⁽¹⁾	Estimated Connected Population
2000	60,516	51,073
2001	64,810	54,697
2002	66,481	56,107
2003	67,862	57,273
2004	70,322	59,349
2005	72,459	61,152
2006	77,348	65,279
2007	82,784	69,866
2008	85,034	71,765
2009	85,739	72,360
2010	86,136	72,695
2011	86,847	73,295
2012	87,587	73,920
2013	88,109	74,360
2014	88,867	75,000
2015	89,752	75,747
2016	90,203	76,128
2017	91,398	77,136
2018	92,348	77,938

Notes:

(1) (State of California Department of Finance 2018).

2.3.1.1 Estimation of Full-Time Residents

The estimation of full-time residents is another key factor in the per-capita analysis for the City, especially since a significant number of the connected population are college students (some of which are not full-time residents). Most of the students that live within the City's SOI are enrolled at the Chico campuses of California State University (CSU) (also known as CSU Chico or Chico State) or Butte College. The following enrollment data is available for these colleges:

- CSU Chico:
 - Total number of students.
 - Number of students that list Butte County as their residence.
- Butte College:
 - Total number of students.
 - Percentage of students that list the City of Chico as their residence.

The connected population when school is in session (which represents the maximum population during the calendar year) was estimated using these assumptions:

- CSU Chico:
 - 100 percent of the students that listed Butte County as their residence remain in the service area during school breaks.
 - 100 percent of students that did not list Butte County as their residence leave the service area during school breaks.
- Butte College:
 - 100 percent of the students that listed the City of Chico as their residence remain in the service area during school breaks.
 - 100 percent of students that did not list the City of Chico as their residence leave the service area during school breaks.

In the case of Butte College, more enrolled students live in Chico than attend classes at the Chico campus (i.e., the connected population does not decrease when school is in-session). A slight decrease in flow may occur when these students are attending classes; however, most of their contribution to the collection system (from clothes washing, showers, dishwashers, etc.) is unaffected. A decrease in flow was not discernable from the data; therefore, the effect of Butte College breaks was presumed to be insignificant.

Accordingly, the connected population when school is on-break (which represents the minimum population during the calendar year) was estimated as follows:

$$Population_{On\ Break} = Population_{Total\ Connected} - Population_{CSU\ Chico\ non\ County}$$

2.3.2 Historical Flows

Flow is defined as the volumetric rate at which raw influent wastewater enters the WPCP from the collection system, usually expressed in terms of mgd. The WPCP's flow is screened and flows to one or both grit basins, each with its own discharge channel and Parshall flume, before recombining upstream of the primary clarifiers and any plant recycle streams.

Daily minimum, maximum, and average flow data were compiled from monthly operational reports (May 2009 through June 2018) and analyzed to develop the flow parameters for each year as defined below:

- ADWF:
 - The ADWF is the average of daily average flows for the three-month dry weather period (July through September).
 - ADWF per capita is the ADWF divided by the connected population, expressed in units of gallons per capita day (gpcd).
 - The diurnal flow peak factor is the daily maximum flow divided by the daily average flow for the dry-weather period.
- Average Annual Flow (AAF):
 - The AAF is the average of average daily flows for the entire calendar year.
 - The AAF Peaking Factor (AAF PF) is AAF divided by the ADWF.
- Maximum Month Flow (MMF):
 - The MMF is the maximum 30-day running average of average daily flow data.
 - The MMF Peaking Factor (MMF PF) for each year is MMF divided by the ADWF.
- Peak Flow (PF): The PF for each year is the maximum instantaneous flow measured by supervisory control and data acquisition (SCADA).⁴
- Peak Flow Peaking Factor (PF PF): The PF PF for each year is PF divided by the ADWF.
- Diurnal Peaking Factor: The AAF PF for each year is AAF divided by the ADWF.

Prior to developing these flow parameters, known erroneous data points and other statistical outliers (e.g., a PF on a dry summer day) were identified and removed (Appendix B).

2.3.2.1 Historical ADWF and ADWF per Capita

ADWF was calculated as described above, and an ADWF per capita range was calculated using the maximum and minimum connected population estimates from Table 2.2 (Figure 2.3).

⁴ Maximum influent flow reported on the monthly operational data sheets represents the maximum instantaneous flow, whose interval is subject to the PLC/SCADA programming. Hourly data prior to 2016 is not available due to a SCADA upgrade. Previous planning efforts expressed wet weather flow criteria in terms of peak hour wet weather flow (PHWWF).

Table 2.2 Historical College Student Total and Connected Population Estimates

Year	CSU Chico Student Population ⁽¹⁾				Butte College Student Population			Estimated Connected Population	
	Total (Fall)	County	County %	non-County	Total (Fall) ⁽²⁾	City Residents ⁽³⁾	Chico Campus (Fall)	On-Break (Min) ⁽⁴⁾	In-Session ⁽⁵⁾
2000	15,912	4,418	27.8%	11,494	11,542	4,848	3,195	39,579	51,073
2001	16,704	4,573	27.4%	12,131	12,669	5,321	3,507	42,566	54,697
2002	16,246	4,534	27.9%	11,712	13,296	5,584	3,680	44,395	56,107
2003	15,516	4,371	28.2%	11,145	12,244	5,142	3,389	46,128	57,273
2004	15,734	4,343	27.6%	11,391	12,745	5,353	3,528	47,958	59,349
2005	15,919	4,161	26.1%	11,758	13,453	5,650	3,724	49,394	61,152
2006	16,250	4,016	24.7%	12,234	12,284	5,159	3,400	53,045	65,279
2007	17,034	3,933	23.1%	13,101	12,228	5,136	3,385	56,765	69,866
2008	17,132	3,811	22.2%	13,321	12,458	5,232	3,448	58,444	71,765
2009	16,934	3,729	22.0%	13,205	13,147	5,522	3,806	59,155	72,360
2010	15,989	3,419	21.4%	12,570	13,293	5,583	3,591	60,125	72,695
2011	15,920	3,381	21.2%	12,539	12,923	5,428	3,587	60,756	73,295
2012	16,470	3,326	20.2%	13,144	12,290	5,162	3,365	60,776	73,920
2013	16,356	3,202	19.6%	13,154	12,163	5,108	3,320	61,206	74,360
2014	17,287	3,226	18.7%	14,061	12,161	5,108	3,366	60,939	75,000
2015	17,220	3,080	17.9%	14,140	11,669	4,901	3,230	61,607	75,747
2016	17,557	3,081	17.5%	14,476	11,300	4,746	3,128	61,652	76,128
2017	17,875	3,001	16.8%	14,874	11,386	4,782	3,152	62,262	77,136

Notes:

- (1) (The California State University 2018).
- (2) (National Center for Education Statistics 2018).
- (3) (Butte College 2016).
- (4) Calculated using equation described in Section 0.
- (5) From Table 2.1.

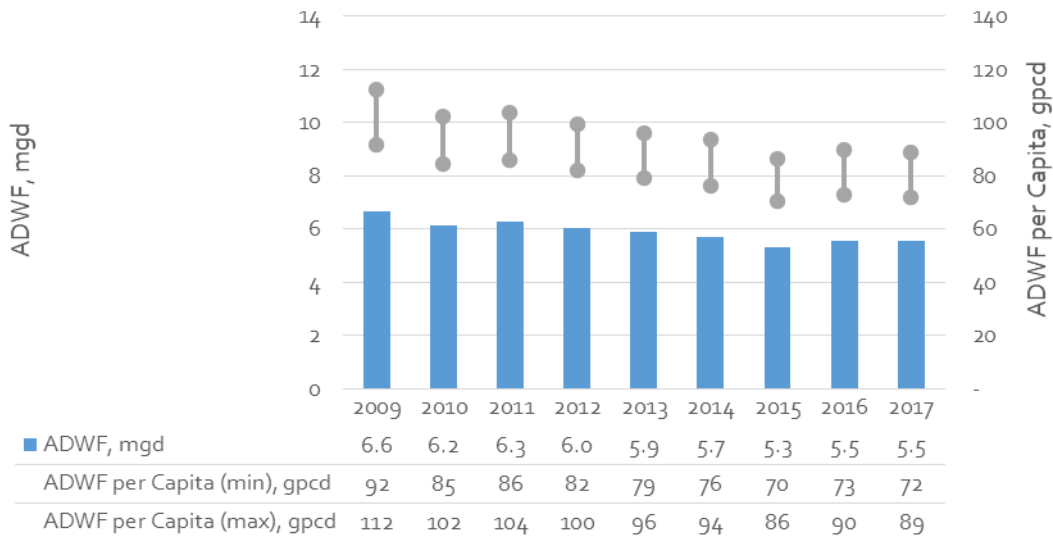


Figure 2.3 Historical ADWF and ADWF Per Capita Range

The upper bound of the ADWF per capita value represents the minimum year-round connected population estimate (100 percent of the non-local college students remain in the service area during school breaks, as described in Section 2.2). The lower bound ADWF per capita value represents the maximum year-round connected population estimate (100 percent of the non-local college students leave the service area during school breaks).

The calculation below was applied to each year (Figure 2.4).

To better estimate the ADWF per capita value, flow data were compared with respect to the four major college breaks: spring break, summer break, Thanksgiving break, and winter break (Figure 2.5). Assuming students and non-students produce the same volume of wastewater when they are living in the service area, the ADWF per capita can be estimated algebraically:

$$\frac{n_{breaks}}{n_{total}} \cdot ADWF_{breaks} \cdot ADWF \text{ per capita} + \frac{n_{non\ breaks}}{n_{total}} \cdot (Population_{total}) \cdot ADWF \text{ per capita} = ADWF_{total}$$

Where n is the number of days (either during a break or not) for the ADWF period each year; for 2009:

$$\frac{55}{92} \cdot 6.37 \text{ mgd} \cdot ADWF \text{ per capita} + \frac{37}{92} \cdot (72,360) \cdot ADWF \text{ per capita} = 6.65 \text{ mgd}$$

$$ADWF \text{ per capita} = 98 \text{ gpcd}$$

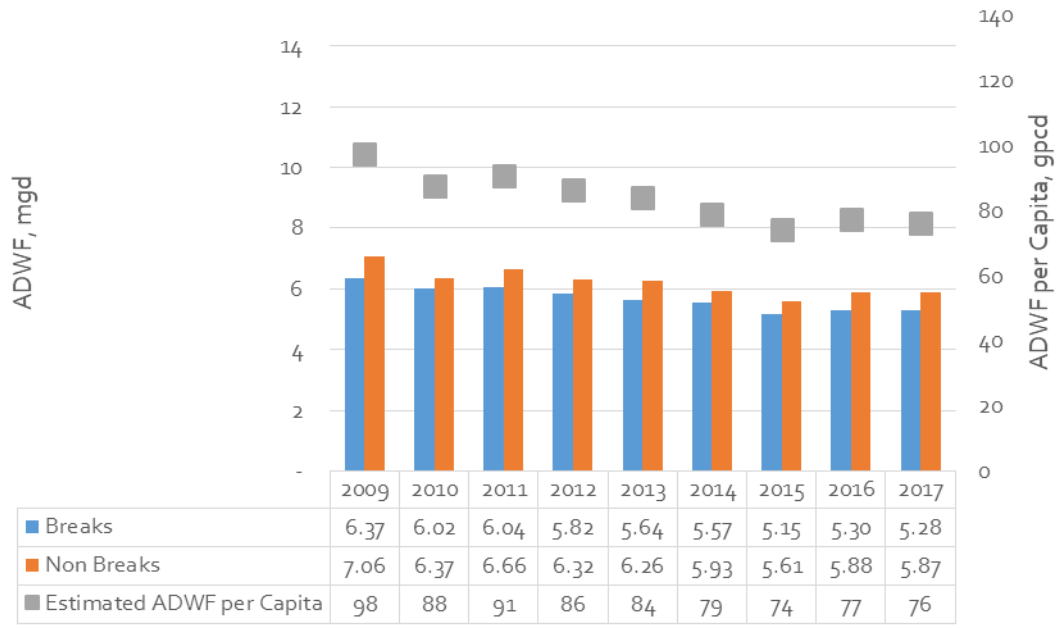


Figure 2.4 Historical ADWF vs. College Breaks and Estimated ADWF per Capita

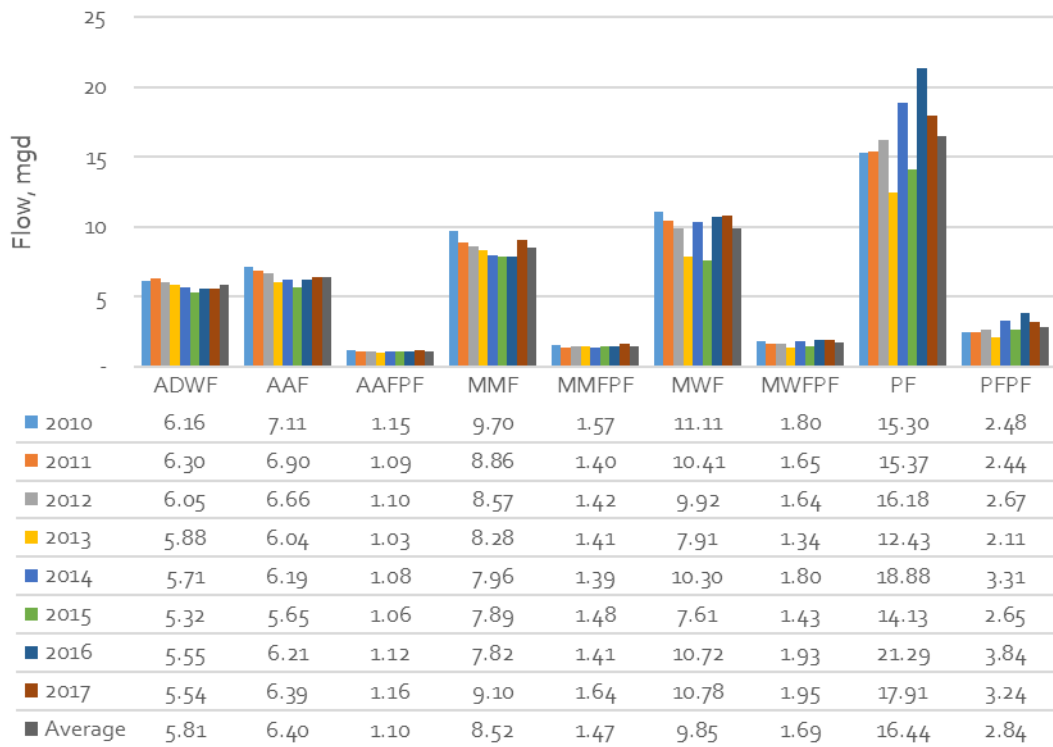


Figure 2.5 Historical Flow Parameters and Peaking Factors

From this ADWF per capita estimate, the population of students that leave during break can be more accurately estimated as follows:

$$(Population_{total} - Population_{students\ that\ leave}) \cdot ADWF\ per\ capita = ADWF_{breaks}$$

From this, the connected populations developed in Table 2.2 were updated (Table 2.3).

Table 2.3 Estimated Connected Population vs College Breaks

Year	Connected Population, On-Break (Minimum) ⁽¹⁾	Connected Population, On-Break (Estimated)	Connected Population, In-Session (Maximum) ⁽¹⁾
2009	59,155	65,240	72,360
2010	60,125	68,698	72,695
2011	60,756	66,402	73,295
2012	60,776	67,334	73,920
2013	61,206	67,071	74,360
2014	60,939	70,460	75,000
2015	61,607	69,613	75,747
2016	61,652	68,704	76,128
2017	62,262	69,392	77,136

Notes:

(1) From Table 2.2.

On average for this time period, approximately 54 percent of the non-resident students (nonCity BC and nonCounty CSU Chico) left the service area over breaks.

2.3.2.2 Other Historical Flows and Peaking Factors

Historical flow parameters (described in Section 2.3.2) are important for various planning, design, and operational purposes, a few of which are listed below⁵:

- AA flows: Estimating pumping and chemical costs; can be used as a benchmark for comparison to similar plants for staffing purposes.
- Maximum monthly (MM) flows: Used to identify the required number and/or size of unit processes with large hydraulic retention; prevents overly conservative design.
- PFs: Used for hydraulic design and sizing of more critical unit processes.

For each flow parameter, a historical flow peaking factor was developed that represents the ratio of that flow to the ADWF.

For the 2010-2017 time period, the historical flows and peaking factors are presented in Figure 2.5.

The flow peaking factors will be applied to the ADWF projections in the development of projections for the other flow parameters used for facility design (MMF and PF).

Because the historical PFs for this data set represent peak instantaneous flows, the PF peaking factors exceed the previously published peaking factor for the WPCP^{6,7} of 2.5. This past value reflect peak hour flow, which reflects a more realistic basis for capacity-related planning; the hydraulic design of the WPCP allows for some dampening of instantaneous flow impacts. Therefore, a flow peaking factor of 2.5 matching historical practices was chosen for this planning effort.

⁵ (Tchobanoglous 2014)

⁶ (Carollo Engineers, Inc. 2005)

⁷ (Carollo Engineers, Inc. 2013)

2.3.3 Historical Wastewater Loads

Wastewater loads are defined as the quantities of pollutants carried by the wastewater as it enters a treatment facility, usually expressed in terms of pounds per day (lb/day). Important loading criteria (related to facility design) include:

- Annual average loads: these are the average daily loads treated at a facility for the calendar year, based on measured loading values.
- Daily loads: these are daily loads calculated using the measured average daily flow and the measured daily concentration for each pollutant.

Loading values were calculated for the WPCP, based on historical data discussed herein. Once calculated, statistical outliers were removed from each pollutant's dataset to account for possibly erroneous concentration measurements⁸.

2.3.3.1 Sierra Nevada Brewery Loads

The largest significant industrial user (SIU) in the WPCP's service area is the Sierra Nevada Brewery. Untreated brewery wastewater is typically high-strength, affecting municipal wastewater treatment plant (WWTP) operation considerably if not pretreated. The WPCP's last facility plan⁹ was preceded by a significant uptick in the flow and loads from the brewery to the WPCP collection system. This affected load projections included in the facility planning completed in 2005.

Sierra Nevada has since installed pre-treatment systems, which have significantly reduced related loading to the WPCP. As such, the brewery's flow and loads were revisited for this planning effort (Figure 2.6).

⁸ Outliers were removed from calculated loads rather than from measured concentrations. This is because a low concentration may appear to be a statistical outlier without flow context (i.e., rainfall can dilute a pollutant's concentration), but when taken in context with the associated high flow, the load is not a statistical outlier.

⁹ (Carollo Engineers, Inc. 2005)

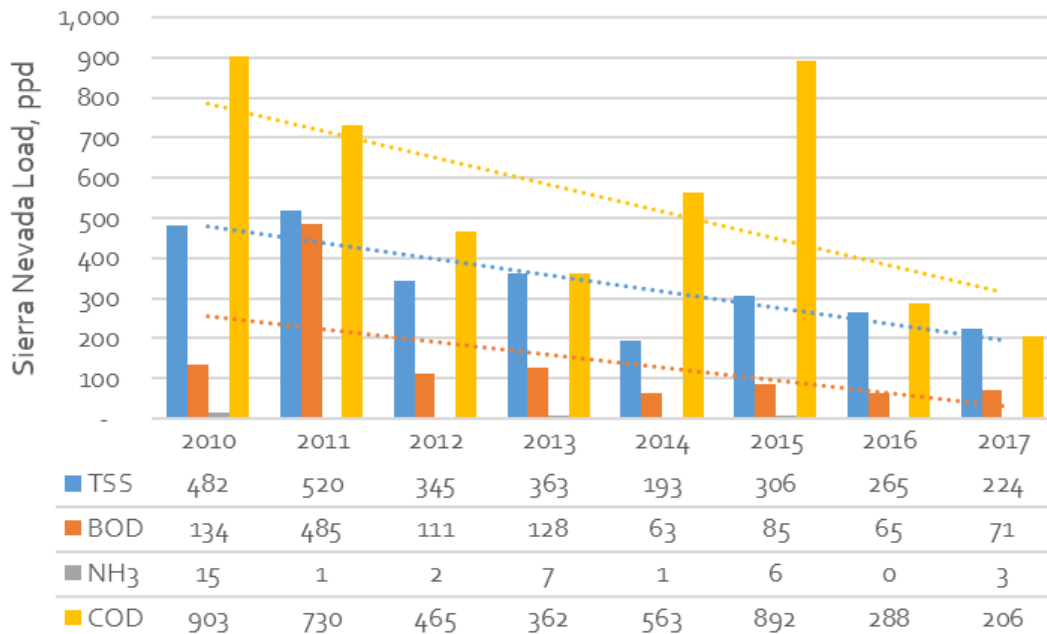


Figure 2.6 Historical Sierra Nevada Brewery Loads

While the full dataset since the brewery’s treatment systems were installed is not available, the brewery’s effluent wastewater (load to the WPCP) has improved in quality over the time period analyzed. To develop accurate per capita load values for the WPCP, the load associated with the brewery is differentiated from the rest of the total load measured at the plant (non-Sierra Nevada loads) in this evaluation.

2.3.3.2 Non-Sierra Nevada Loads and per Capita Values

Using the same methodology to capture college break and in-session population differences with a single per-capita value used for ADWF, AA load per capita values were calculated for TSS, BOD, and ammonia (NH₃) (Figure 2.7, Figure 2.8, and Figure 2.9).

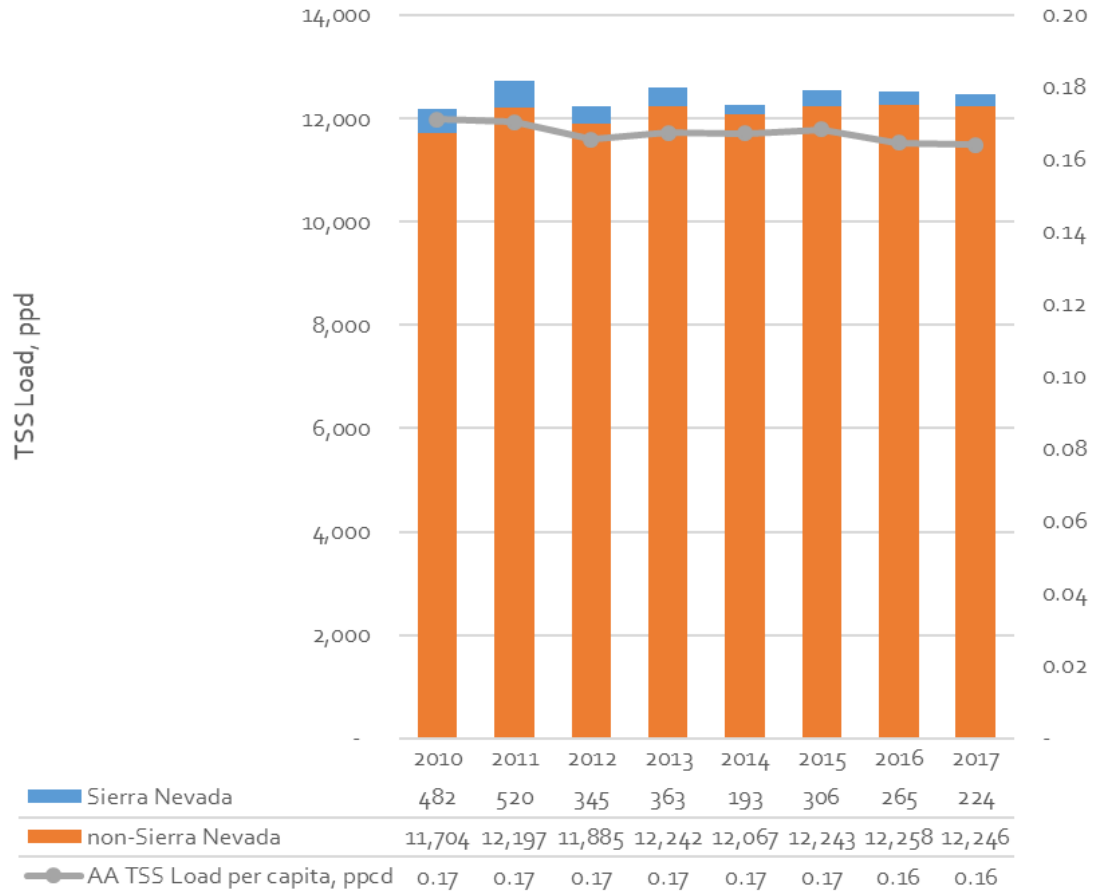


Figure 2.7 Historical TSS Loads

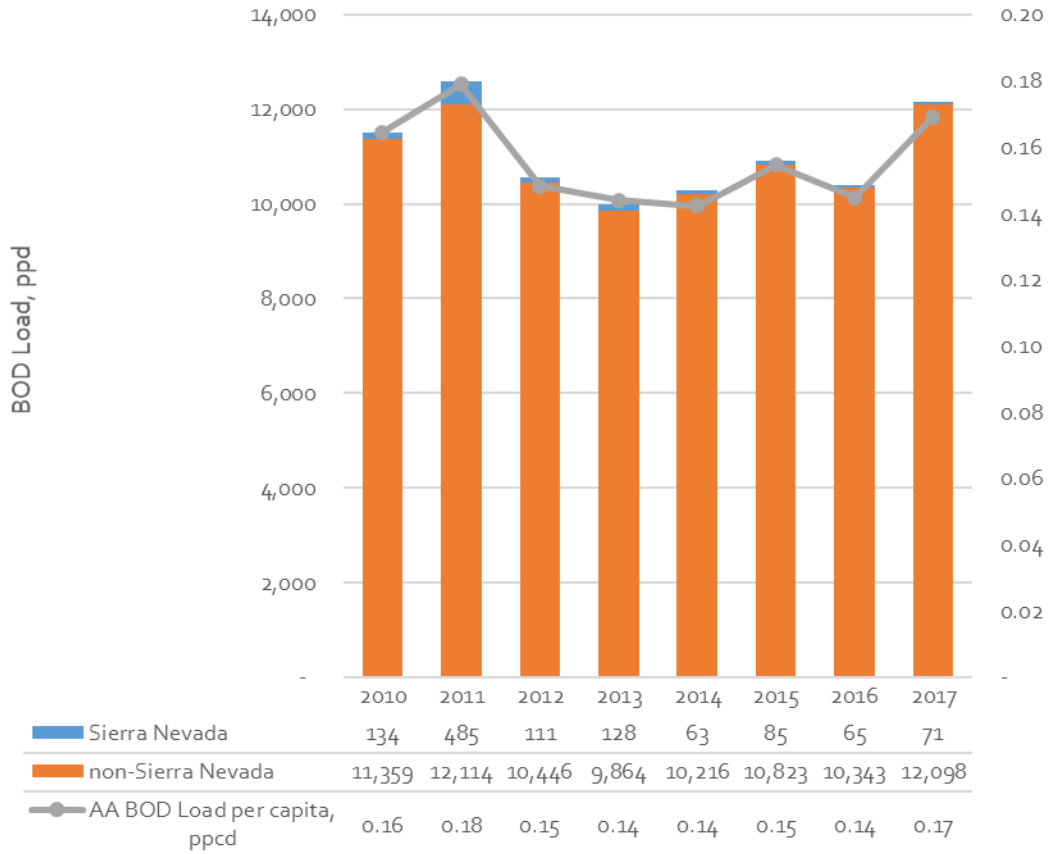


Figure 2.8 Historical BOD Loads

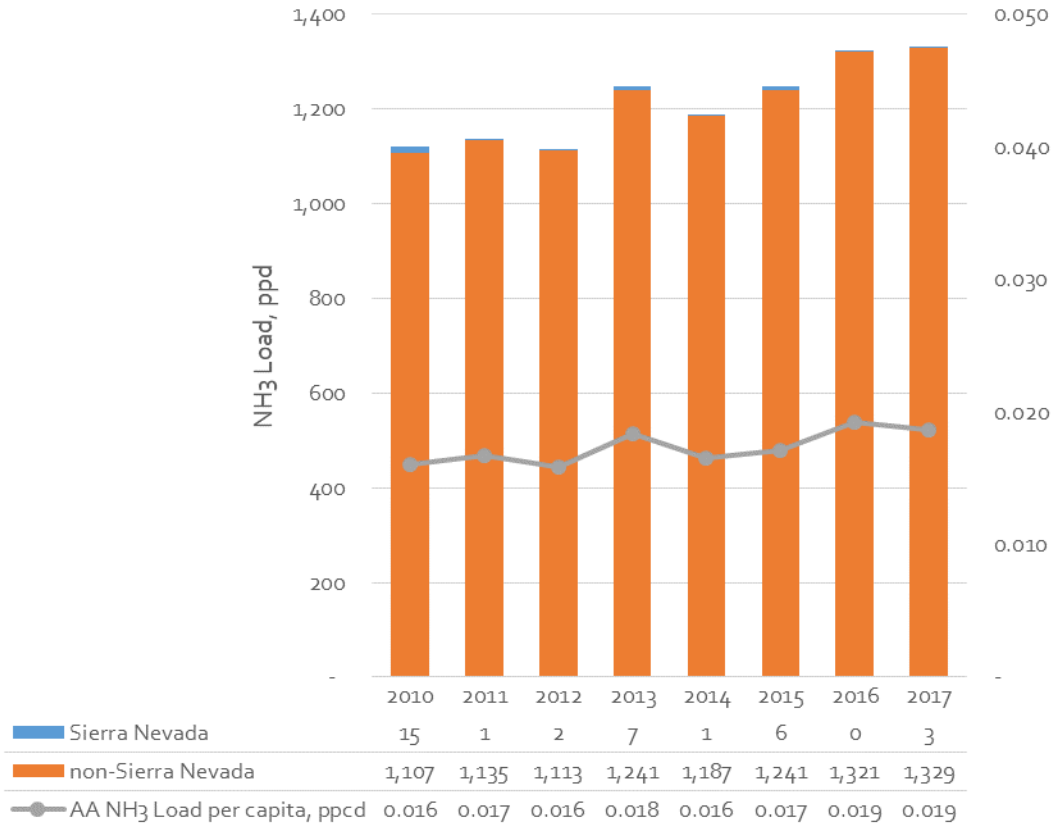


Figure 2.9 Historical NH₃ Loads

These per-capita values reflect the non-Sierra Nevada load only; Sierra Nevada load is shown for comparison purposes. Average annual loads per capita loads for both TSS and BOD have remained relatively flat over this time period. Average annual and per capita NH₃ loads, however, have increased slightly in the most recent year of data available.

Without a similar change in TSS or BOD, the NH₃ increase could indicate a change in the influent wastewater or sampling methodology. Since NH₃ loads can significantly affect process capacity, it is recommended that the City further investigate the possible causes of these increased loads.

Historical maximum month values were calculated for non-Sierra Nevada loads (Figure 2.10) and peaking factors were calculated by divided these loads by the average annual loads (Figure 2.11).

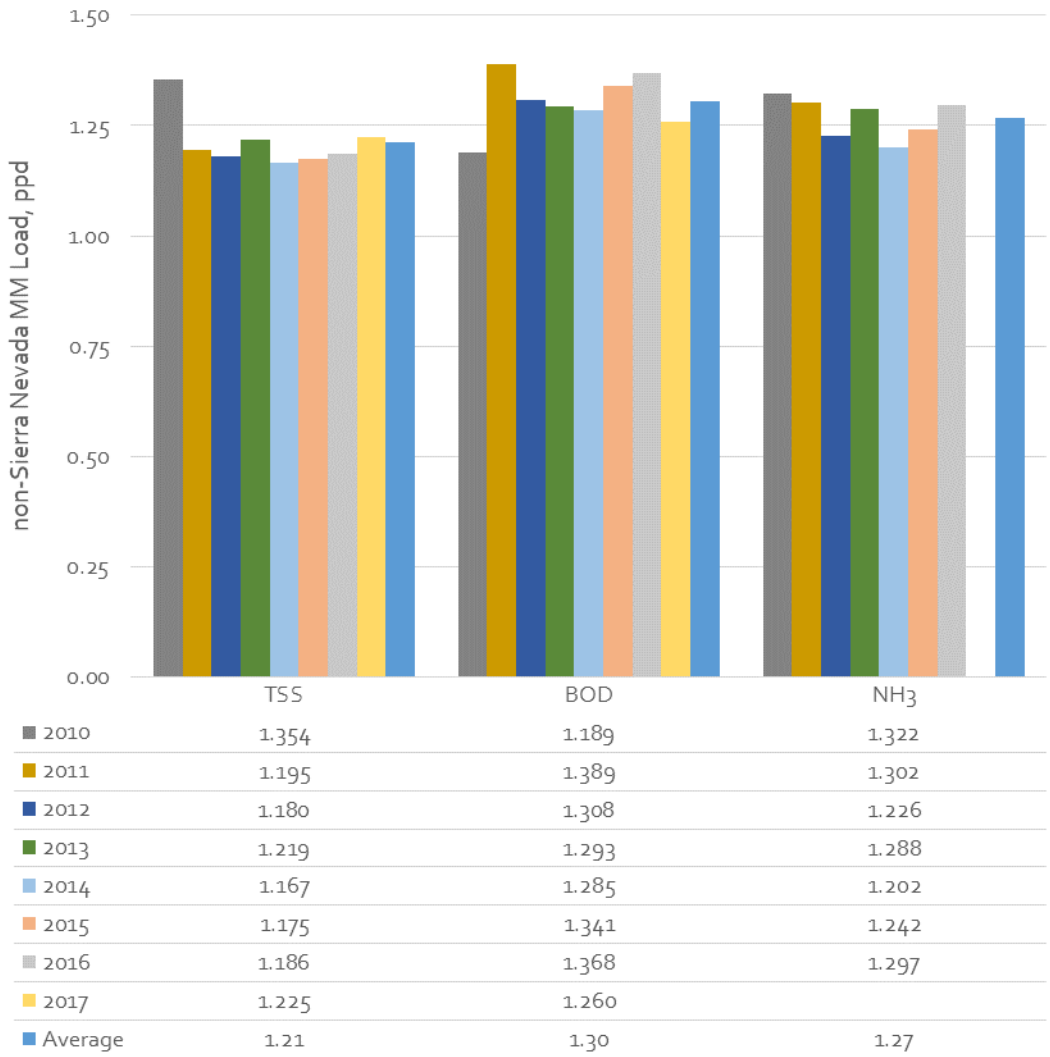


Figure 2.10 Historical Max Month Loads

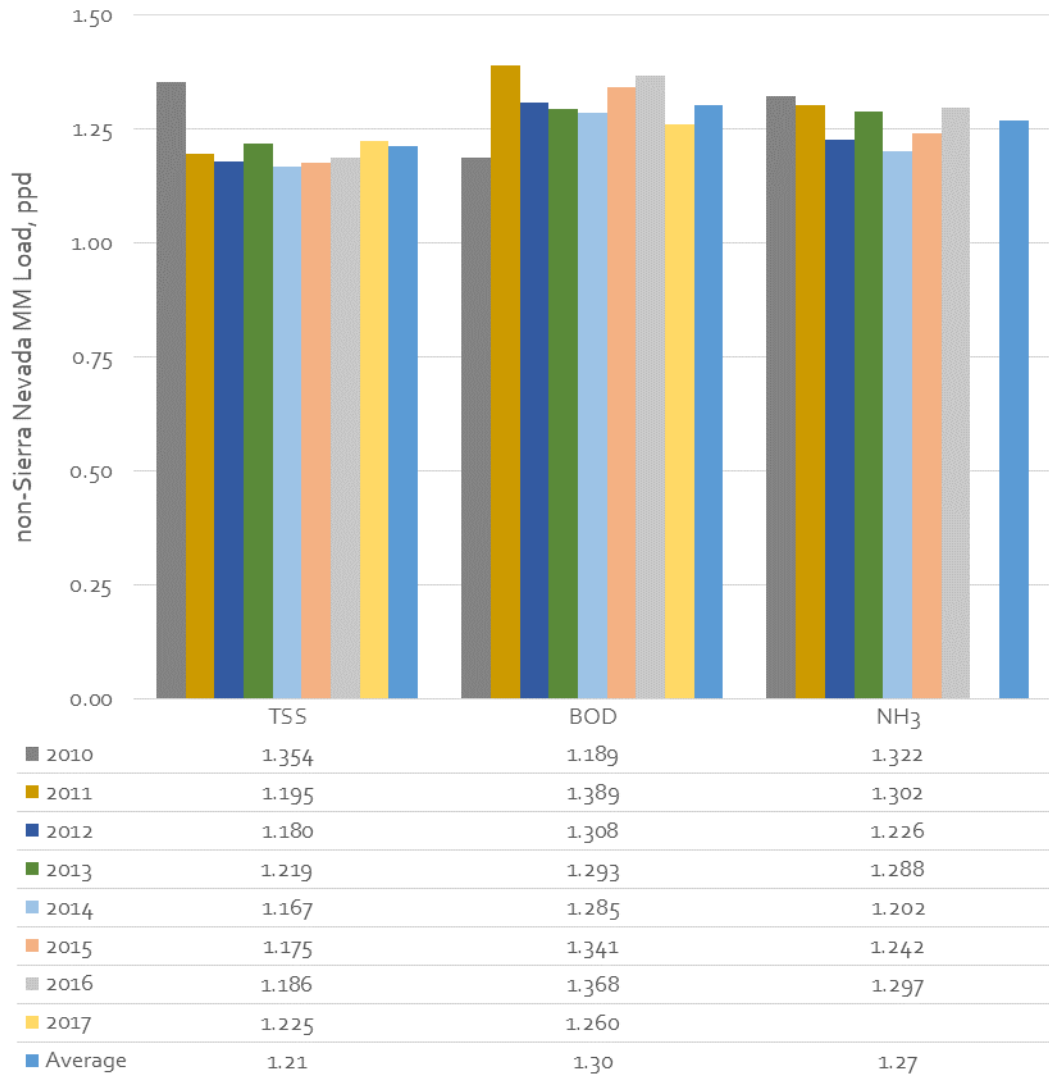


Figure 2.11 Historical Max Month Load Peaking Factors

2.4 Projected Population, Flows, and Loads

Population was projected using historical trends and input from City staff. ADWF and AA load were projected by applying the developed per-capita values to the projected population. Other flow and load parameters were projected by applying the peaking factors to the projected ADWF or AA load.

2.4.1 Projected Population

Since the start of the Great Recession of 2008/2009, the City’s population growth has slowed significantly (Figure 2.12).

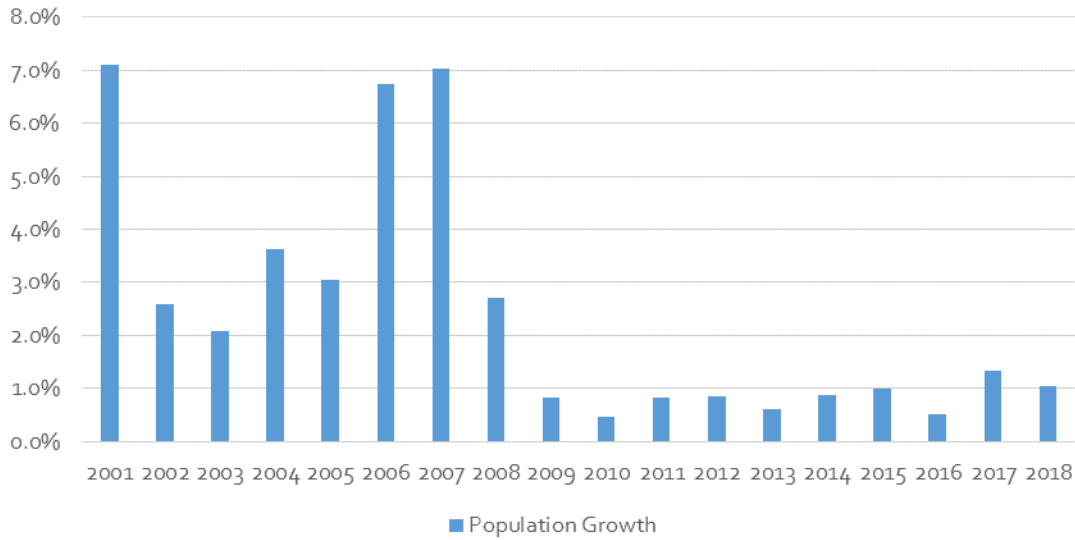


Figure 2.12 Historical Population Growth

Much of the growth before 2009 were annexations related to the Nitrate Action Plan and other efforts undertaken by the City to consolidate its incorporated limits. Other current and historical planning efforts have assumed population growth rates that are higher than recently observed (Table 2.4).

Table 2.4 Summary of Annual Growth Rate Projections

Source	Year(s)	City	County
Facilities Plan	1996	2.9%	-
General Plan Update	1998	2.9%	2.5%
Facilities Plan Update	2005	2.5%	-
BCAG	2014	1.2-1.6%	1.2-1.6%
CA DOF	2015	-	0.53%
General Plan Update	2017	1.7%	1.6%
Observed Historical	2009-2018	0.83%	0.44%

After discussing past projections and observed trends with City staff, a growth rate of 1.2 percent was assumed for the analysis in this planning effort. An alternate assumption of 1.4 percent annual growth is shown throughout for informational purposes (Table 2.5).

Table 2.5 Connected Population Growth Projections

Year	1.2% Annual Growth		1.4% Annual Growth	
	On-Break ⁽¹⁾	In-Session	On-Break ⁽¹⁾	In-Session
2018	70,826	77,938 ⁽²⁾	70,812	77,938 ⁽²⁾
2019	71,676	78,873	71,803	79,029
2020	72,536	79,820	72,808	80,136
2021	73,494	80,778	73,930	81,257
2022	74,376	81,747	74,965	82,395
2023	75,357	82,728	76,119	83,549
2024	76,261	83,721	77,185	84,718
2025	77,266	84,725	78,371	85,904
2026	78,193	85,742	79,468	87,107
2027	79,222	86,771	80,687	88,326
2028	80,172	87,812	81,817	89,563
2029	81,226	88,866	83,071	90,817
2030	82,201	89,932	84,234	92,088
2031	83,280	91,011	85,523	93,378
2032	84,279	92,104	86,720	94,685
2033	85,385	93,209	88,046	96,010
2034	86,409	94,327	89,279	97,355
2035	87,541	95,459	90,642	98,718
2036	88,592	96,605	91,911	100,100
2037	89,751	97,764	93,312	101,501
2038	90,828	98,937	94,618	102,922
2039	92,015	100,124	96,059	104,363
2040	93,125	101,326	97,423	105,824

Notes:

(1) Projected from Table 2.3 assuming college enrollment grows at the same rate as the non-student connected population.

(2) From Table 2.1.

The 2040 connected population projection of 101,326 residents represents a 30 percent increase from 2018, as associated with the 1.2 percent annual growth rate assumption. Annexations of unincorporated areas of Butte County are included in this projection because these annexations have been captured in the historical data and because the rate of annexations is not expected to significantly change.

2.4.1.1 Population Growth due to Connection of Unconnected City Residents

The number of currently unconnected City residents is a more significant portion of the overall population than the county annexations, and the historical rate of adding unconnected City residents is expected to be higher in the future as the implementation of the Nitrate Compliance Plan continues.

For this planning effort, it was assumed that 100 percent of the estimated 15,660 unconnected City residents will be connected by 2040; the number of residents connected annually is assumed to increase at the same rate as that of the currently connected population (Table 2.6).

Table 2.6 Total Connected Population Projection

Year	1.2% Annual Growth			1.4% Annual Growth		
	Un-connected City Added	Connected Population, On-Break	Connected Population, In-Session	Un-connected City Added	Connected Population, On-Break	Connected Population, In-Session
2018	-	70,826	77,938	-	70,812	77,938
2019	626	72,302	79,499	612	72,415	79,641
2020	634	73,795	81,079	621	74,041	81,368
2021	641	75,394	82,678	629	75,792	83,119
2022	649	76,925	84,296	638	77,465	84,895
2023	657	78,563	85,934	647	79,266	86,695
2024	664	80,131	87,591	656	80,988	88,521
2025	672	81,809	89,268	665	82,839	90,372
2026	681	83,416	90,965	675	84,611	92,250
2027	689	85,134	92,683	684	86,514	94,153
2028	697	86,781	94,421	694	88,337	96,083
2029	705	88,540	96,180	703	90,294	98,041
2030	714	90,229	97,960	713	92,171	100,025
2031	722	92,031	99,762	723	94,183	102,037
2032	731	93,761	101,585	733	96,113	104,078
2033	740	95,606	103,430	744	98,183	106,147
2034	749	97,379	105,297	754	100,169	108,245
2035	758	99,269	107,187	764	102,297	110,373
2036	767	101,086	109,099	775	104,341	112,530
2037	776	103,021	111,034	786	106,528	114,717
2038	785	104,883	112,993	797	108,632	116,935
2039	795	106,865	114,975	808	110,881	119,184
2040	810	108,780	116,986	838	113,064	121,484

The total connected population projection of 116,986 represents a 50 percent increase from the 2018 connected population estimate.

2.4.2 Projected Flows

In the dry weather months from which the ADWF per-capita value was derived, approximately 60 percent of the days are on-break days and 40 percent are in-session days. ADWF was projected by applying the average ADWF per-capita value (83.7 gpcd) proportionally to the break and in-session population projections as follows:

$$ADWF = 60\% \cdot ADWF \text{ per capita} \cdot Population_{on-break} + 40\% \cdot ADWF \text{ per capita} \cdot Population_{in-session}$$

Other flow parameters were projected by applying the flow peaking factors to the projected ADWF (Figure 2.13).

2.4.3 Projected Loads

Average annual loads were projected by applying the average annual per-capita values to the projected population. Because of the small and decreasing portion of Sierra Nevada's load to the overall influent load, the average loads for the time period analyzed were held constant for projected loads (Figure 2.14).

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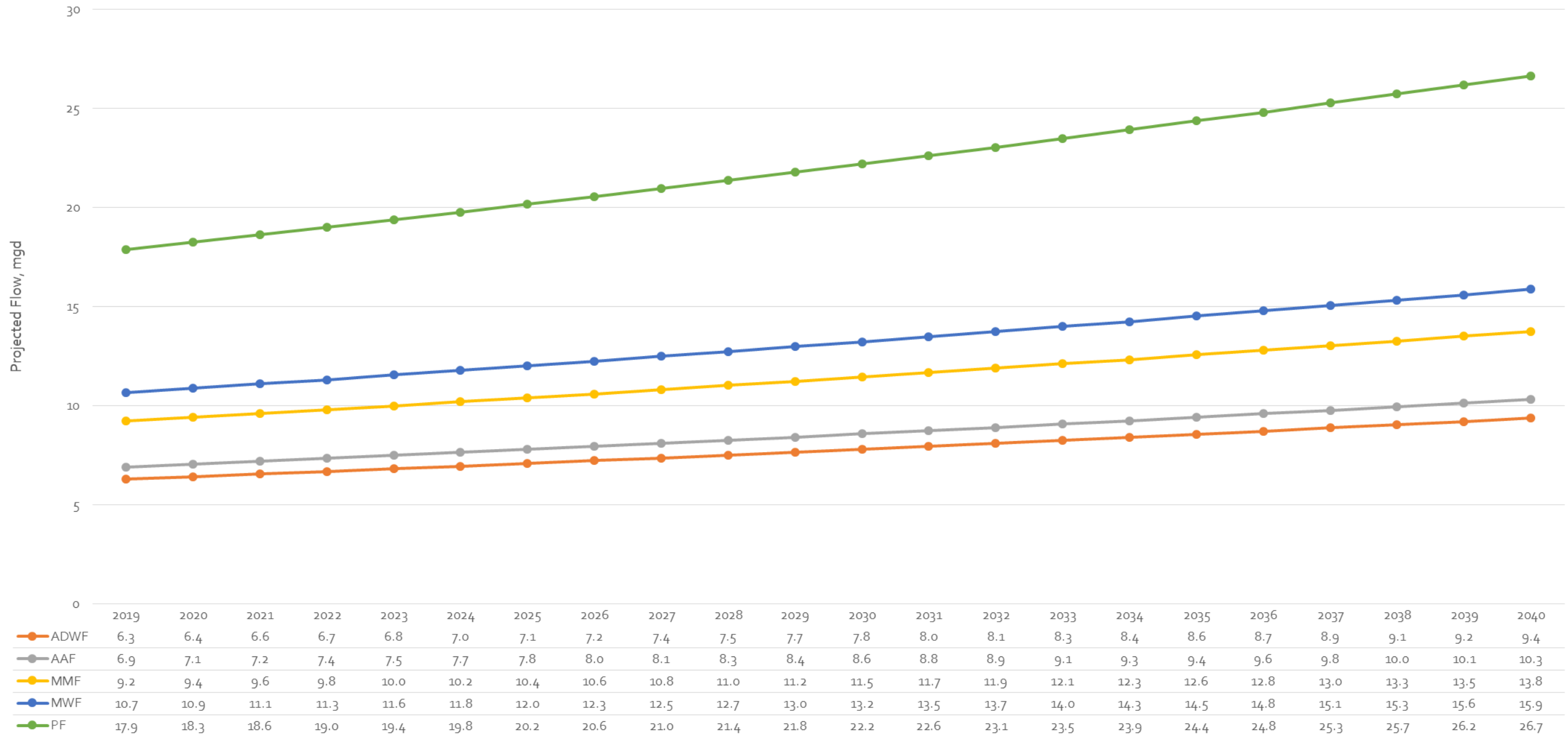


Figure 2.13 Projected Flows

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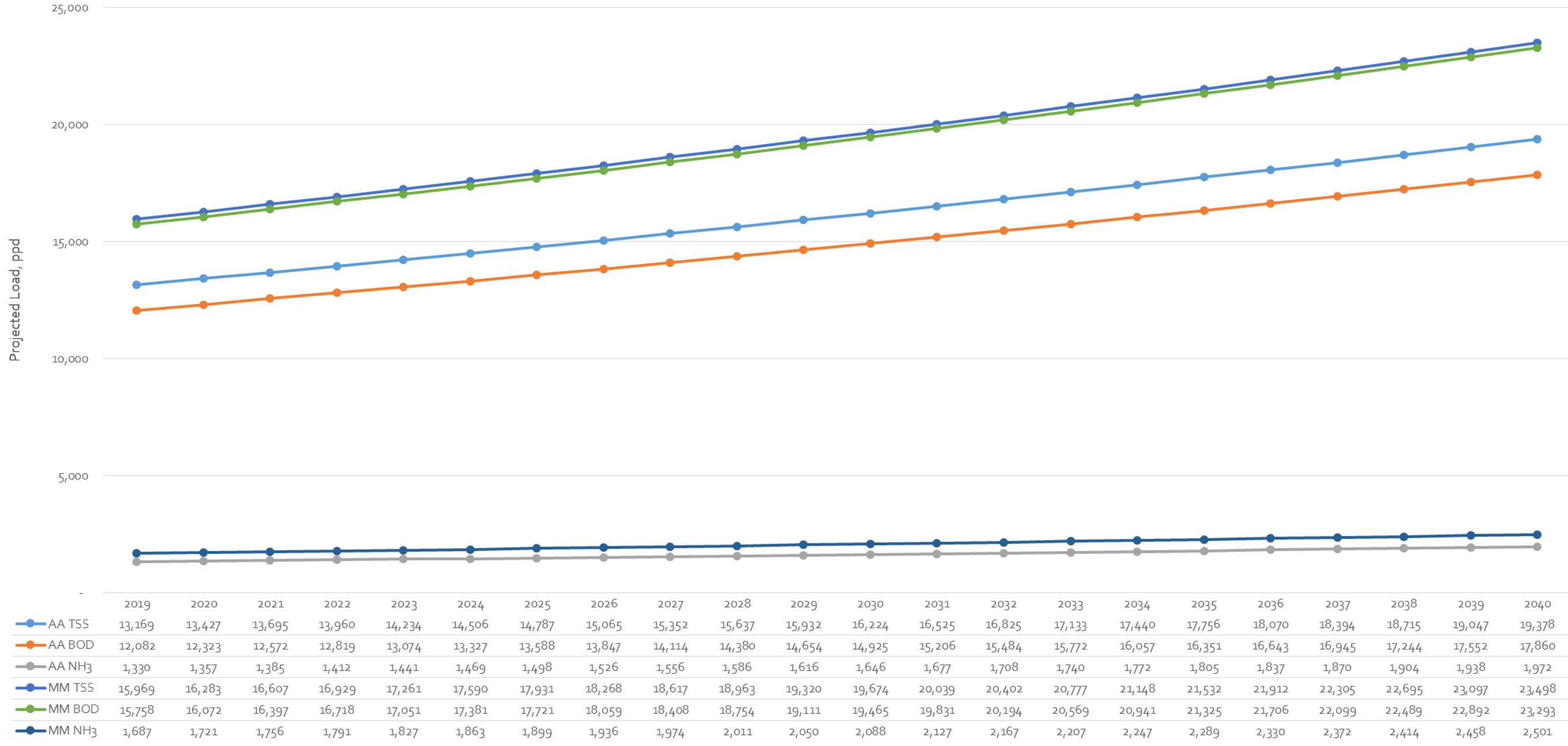


Figure 2.14 Projected Loads

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2.5 Summary of Projections

The flow and load projections summarized in Table 2.7 are highlighted below:

- The population connected to the WPCP collection system is projected to increase 50 percent by 2040, from 77,938 to 116,986.
- The ADWF for the WPCP is projected to increase 60 percent by 2040, from 5.9 mgd to 9.4 mgd.
- Projected flows and loads are lower than previous projections:
 - Projected average annual (AA) and maximum monthly (MM) flows are 31 percent and 30 percent lower than the previous facility plan's projections¹, respectively.
 - Projected AA and MM TSS loads are 35 percent and 28 percent lower than the previous facility plan's projections.
 - Projected AA and MM BOD loads are 29 percent and 24 percent lower than the previous facility plan's projections.

Table 2.7 Summary of Historical and Projected Population, Flows, and Loads

Planning Parameter	Baseline ⁽¹⁾	Current Peaking Factor	Projected Peaking Factor	Current Projection ⁽²⁾⁽³⁾	2005 Facility Plan Projection ⁽³⁾	2013 SSMPU Projection ⁽³⁾
Population⁽⁴⁾						
Maximum	77,938	-	-	116,986	-	-
Minimum	70,826	-	-	108,780	-	-
ADW (average dry weather)						
Flow, mgd	5.91	-	-	9.38	-	13.91
Diurnal PF, mgd	8.20	1.39	1.39	13.03	20.30	-
AWDF per capita, gpcd	84	-	-	84	-	-
AA						
Flow, mgd	6.40	1.10	1.10	10.32	15.00	-
TSS, ppd	12,443	-	-	19,378	30,000	-
TSS per capita, ppcd	0.17	-	-	0.17	-	-
BOD, ppd	11,051	-	-	17,860	25,000	-
BOD per capita, ppcd	0.16	-	-	0.16	-	-
NH ₃ , ppd	1,214	-	-	1,972	-	-
NH ₃ per capita, ppcd	0.02	-	-	0.02	-	-

Table 2.7 Summary of Historical and Projected Population, Flows, and Loads (continued)

Planning Parameter	Baseline ⁽¹⁾	Current Peaking Factor	Projected Peaking Factor	Current Projection ⁽²⁾⁽³⁾	2005 Facility Plan Projection ⁽³⁾	2013 SSMPU Projection ⁽³⁾
MM						
Flow, mgd	8.52	1.47	1.47	13.76	19.50	
TSS, ppd	14,672	1.21	1.21	23,498	32,500	
BOD, ppd	14,224	1.30	1.30	23,293	30,000	
NH ₃ , ppd	1,512	1.27	1.27	2,501	-	
Peak						
Flow, mgd	16.44	2.84	2.50	23.45	37.50	35.30

Notes:

- (1) For population, 2018; for ADW, 2009-2017 average; for all others, 2010-2017 average.
- (2) Flow and load projections adjusted for school breaks using maximum and minimum population projections.
- (3) Previous projections were based on complete buildout of the City's Planning Area. Current projection is based on the planning period which extends through 2040.
- (4) Connected population (maximum: in-session; minimum: on-break).
- (5) Abbreviations - ppd = pounds per day.

Subsequent chapters will discuss these projections with respect to the WPCP's existing hydraulic and process capacity (Chapter 4) and identify alternatives required to meet these projected flow and load demands (Chapter 8) in the context of possible regulatory changes (Chapter 3).

Chapter 3

REGULATORY REQUIREMENTS

Waste discharge requirements (WDRs) issued for the City WPCP are a reflection of both state and federal laws, regulations, and policies related to water quality pollution. The purpose of this chapter is to identify the current and proposed federal and state requirements that will impact the WDRs issued for the City's WPCP in the future so that facility planning can reflect this need.

3.1 Existing Discharge Requirements

The WPCP is designed to provide secondary level wastewater treatment for the City and some unincorporated areas within the county. The communities served by the WPCP consist primarily of residential and commercial customers, with input from five SIUs. The effluent discharge requirements for the WPCP are issued by the Regional Water Quality Control Board (RWQCB), Central Valley Region in California. The RWQCB is the regional authority of the State Water Resources Control Board (SWRCB). In addition to the state laws and regulations, the effluent discharge requirements also incorporate federal laws and regulations. This is because the federal Environmental Protection Agency (EPA) has delegated the authority for issuing federal National Pollutant Discharge Elimination System (NPDES) permits to the SWRCB.

The current WDRs for the WPCP are established in Order No. R5-2016-0023 (NPDES No. CA0079081). Order No. R5-2016-0023 is scheduled to expire on May 31, 2021. The Order includes effluent limitations for discharge to the Sacramento River and future discharge requirements for land discharge of treated effluent (discharges to the facility's ponds).

Current effluent limitations for effluent discharge to the Sacramento River are summarized in Table 3.1.

Table 3.1 Current Effluent Limitations for Effluent Discharge to the Sacramento River

Parameter	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand (BOD ₅) (5-day @ 20 degrees Celsius)	mg/L	30	45	90	-	-
	lbs/day ⁽¹⁾	3,002	4,504	9,007	-	-
TSS	mg/L	30	45	90	-	-
	lbs/day ⁽¹⁾	3,002	4,504	9,007	-	-
pH	standard units	-	-	-	6.0	8.5
Ammonia Nitrogen, Total (as N)	mg/L	8.2	17.6	-	-	-
	lbs/day ⁽¹⁾	821	1,761	-	-	-
Copper, Total Recoverable	µg/L	15	-	20	-	-
Chlorodibromomethane	µg/L	17.2	-	34	-	-
Dichlorobromomethane	µg/L	25.2	-	43	-	-
Nitrate Plus Nitrite (as N)	mg/L	60	104	-	-	-

Notes:

(1) Based on design dry weather flow of 12 mgd.

(2) Abbreviations - mg/L = milligrams per liter.

Order No. R5-2016-0023 also includes the following effluent discharge requirements for discharges to the Sacramento River:

- *BOD and TSS*: average monthly percent removal shall be no less than 85 percent for each.
- *Toxicity*: survival of aquatic organisms in 96-hour acute whole effluent toxicity bioassays shall be no less than 70 percent (minimum for any one bioassay) and 90 percent (median for any three consecutive bioassays). The Order also includes a numeric toxicity monitoring trigger for chronic whole effluent toxicity of > 10 TUc (where TUc = 100/NOEC [no observed effect concentration]).
- *Total residual chlorine*: shall not exceed 0.011 mg/L (4-day average) and 0.019 mg/L (1-hour average).
- *Total coliform organisms*: shall not exceed 23 most probable number (MPN) per 100 milliliter (mL) (7-day median) and 240 MPN/100 mL (more than once in any 30-day period).
- *Combined chlorpyrifos and diazinon concentration*: calculation.

Future limitations for effluent discharge to the facility’s ponds (Land Discharge Specifications) are summarized in Table 3.2. These effluent limitations are scheduled to take effect on May 30, 2021.

Table 3.2 Future Effluent Limitations for Land Discharge

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum
BOD ₅ (5-day @ 20 deg. Celsius)	mg/L	30	45	-
	lbs/day ⁽¹⁾	626	939	-
TSS	mg/L	30	45	-
	lbs/day ⁽¹⁾	626	938	-
Total Coliform Organisms	MPN/100 mL	-	23 ⁽²⁾	240 ⁽³⁾

Notes:

(1) Based upon an average monthly flow of 2.5 mgd.

(2) Based upon a 7-day median concentration.

(3) Shall not be exceeded more than once in any 30-day period.

Percent removal requirements for land discharge will match those for the surface water discharge to the Sacramento River (minimum 85 percent for BOD and TSS). The average monthly discharge flow will be limited to 2.5 mgd.

3.2 State and Federal Regulatory Requirements

Table 3.3 presents a summary of the federal and state regulations, laws and policies that are applicable to the operation of the WPCP. These regulatory requirements primarily govern the discharge of liquid (treated effluent), biosolids (treatment plant sludge residuals), and process air emissions from the WPCP. This section provides a brief discussion of each regulatory plan or policy listed in Table 3.3.

Table 3.3 Summary of Applicable Regulations, Laws, and Policies

Title	Federal/State/Local	Regulating Element
Bay-Delta Pollutant Policy Document	State	Effluent
Water Quality Assessment	Federal and State	Effluent
National Toxics Rule (NTR)	Federal	Effluent
California Toxics Rule (CTR)	State	Effluent
Basin Plan - 1989	State	Effluent
State Implementation Policy (SIP)	State	Effluent
Antidegradation Policy	Federal and State	Effluent
Compliance Schedule Policy	State	Effluent
Title 22 Reclamation Criteria	State	Recycled Water
Industrial Storm Water Program	State	Stormwater
Biosolids Regulations	Federal and State	Biosolids
Air Quality Regulations	Federal, State, and Local	Air

3.2.1 Bay-Delta Pollutant Policy Document

The Pollutant Policy Document for the San Francisco/Sacramento-San Joaquin Delta Estuary (Bay-Delta PPD) has been in effect since June 1990. The Bay-Delta PPD is a product of the State's Bay-Delta hearings, which were primarily focused on the development of salinity standards for the Delta, and the effect of water exports on the attainment of those standards. However, the Bay-Delta PPD sets forth basic policies for the control of toxic pollutants in the Bay-Delta estuary, identifying the following constituents as "pollutants of concern": arsenic, cadmium, chromium, copper, hydrocarbons, lead, mercury, nickel, organochlorines, selenium, silver, tributyltin, and zinc.

The Bay-Delta PPD includes a mass emission strategy (MES) component, which is aimed at controlling the accumulation of toxic pollutants in sediments and aquatic tissues. The premise of this policy is that some pollutants can accumulate to harmful levels in sediments and aquatic tissues even though the discharges containing these pollutants are in compliance with other water quality objectives and criteria. The document requires the San Francisco Bay and Central Valley RWQCBs to develop a MES for limiting loads of heavy metals (arsenic, cadmium, copper, mercury, and silver), polynuclear aromatic hydrocarbons (PAHs), and selenium entering the Delta. It also requires that specific actions be taken to eliminate the discharge of chlorinated dibenzodioxins and dibenzofurans to the Delta.

The current Water Quality Control Plan for the Central Valley Region for the Sacramento River and San Joaquin River Basins (Basin Plan), 5th edition, revised May 2018)) includes trace element water quality objectives for the Bay-Delta PPD heavy metals (arsenic, cadmium, chromium, copper, lead, nickel, silver, and zinc), and for organochlorines and tributyltin. The plan also includes fish tissue objectives for methylmercury. To date, the Central Valley RWQCB has not developed the MES as a part of their Basin Plan.

3.2.2 Water Quality Assessment

Section 304(L) of the Water Quality Act of 1987 requires each state to establish various lists of waterbodies and the extent that they are impacted by pollutants from point sources, nonpoint

sources, surface waters, and groundwater. These lists, described in Table 3.4, are contained in the 1996 Water Quality Assessment document issued by the SWRCB.

Table 3.4 Lists Established in the 1990 Water Quality Assessment

Clean Water Act (CWA) or Federal Regulation Section	Current Water Quality Description and Source of Possible Impairments
40 CFR 131.11	Segments that may be affected by toxic pollutants, or segments with concentrations of toxic pollutants that warrant concern.
CWA 303(d)	List of Water Quality Limited Segments where numeric or narrative water quality objectives are not being maintained and/or where beneficial uses are not fully protected after application of Best Available Treatment/Best Control Technology (BAT/BCT).
CWA 304(M)	So-called "mini-list" of waters not meeting State adopted numeric water quality objectives due to toxic sources after implementation of BAT/BCT.
CWA 304(S)	So-called "short list" of waters not achieving water quality standards due to point source discharges of toxic pollutants after implementation of BAT/BCT.
CWA 304(L)	So-called "long list" of water designated as impaired because narrative or numeric objectives are violated or beneficial uses are impaired similar to CWA Section 303(d).
CWA 314	A list of lake priorities for restoration.
CWA 319	A list of impaired surface water bodies from nonpoint source problems due to both toxic and nontoxic pollutants.

The lists are used by state and federal regulating authorities for the identification of high priority waterbodies for corrective or preventive actions. The reach of the Sacramento River between Red Bluff and the Delta has been included on the 40 CFR 131.11 list and the Section 303(d), 304(L), and the 319 lists established in the federal CWA. Problems that were identified include toxic bioassay reports, degraded fisheries habitat, low flows and warm water.

The Chico WPCP outfall sits within the Sacramento River stretch between Red Bluff and Knights Landing. The following constituents are currently included on the 303(d) list for this stretch of the river:

- Unknown toxicity: estimated total maximum daily loads (TMDL) completion in 2021.

The following constituents have been identified for 303(d) listing for this stretch of the river:

- Dichlorodiphenyltrichloroethane (DDT): estimated TMDL completion in 2021.
- Dieldrin: estimated TMDL completion in 2021.
- Mercury: estimated TMDL completion in 2021.
- Polychlorinated biphenyls (PCBs): estimated TMDL completion in 2021.

3.2.3 National Toxics Rule

Section 303(c)(2)(B) of the Water Quality Act of 1987 (Clean Water Act Amendment) required the establishment of chemical-specific numeric criteria for priority toxic pollutants. These criteria were established by the EPA with the issuing of 40 Code of Federal Regulations (CFR) Part 131

(Water Quality Standards: Establishment of Numeric Criteria for Priority Pollutants or NTR as a final rule, which became effective in February 1993.

The CTR and the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries (California State Implementation Policy, SIP) are the implementing measures for these requirements.

3.2.4 California Toxics Rule

As a result of the court-ordered revocation of California's statewide water quality control plan in September 1994, EPA Region IX initiated efforts to promulgate additional Federal water quality standards for California. On May 18, 2000, EPA published the final CTR in the Federal Register. The CTR establishes water quality standards for toxic pollutants (trace metals, pesticides, PCBs, and other trace organics) for California that were not already addressed under the NTR.

Some key elements of the CTR include:

- Amended the numeric standards for 30 toxic pollutants and added new criteria for 8 toxic pollutants to protect aquatic life and human health uses.
- Dissolved-based standards for most trace metals and endorsement of the use of translator mechanisms for determination of local metals objectives.
- Provisions for compliance schedules (3-10 years) to provide time for permittees to meet new standards.
- Provisions for mixing zones when calculating toxic constituent effluent limitations.
- Use of interim limits to provide time for dischargers to take actions to meet final limits.

The impact of both the NTR and the CTR on NPDES permit requirements are dependent on the implementation of the NTR/CTR criteria by California's regulatory agencies. The implementation of these criteria under the SIP and the RWQCB permitting processes are described later in this chapter.

The requirements of the CTR water quality objectives related to the protection of freshwater aquatic life are summarized in Table 3.5, along with related WPCP effluent test results from 2010 through 2017.

The requirements of the CTR water quality objectives related to the protection of human health are summarized in Table 3.6, along with related WPCP effluent test results from 2010 through 2017.

Table 3.5 CTR Water Quality Objective (WQO) for Protection of Freshwater Aquatic Life and Effluent Concentrations

Constituent	Units	4-Day Average (Chronic)	1-Hour Average (Acute)	SIP Method Limit	Number of Samples ⁽¹⁾	Minimum Measured Effluent Concentration	Maximum Measured Effluent Concentration
Aldrin	µg/L	-	3	0.005	7	ND ⁽²⁾	ND
Aluminum ⁽⁴⁾	µg/L	87	750	-	13	12	77
Arsenic	µg/L	150 ⁽³⁾	340 ⁽³⁾	1	49	ND	2
Cadmium	µg/L	1.7 ⁽³⁾	2.6 ⁽³⁾	0.25	48	ND	0.25
Chlordane	µg/L	0.0043	2.4	0.1	7	ND	ND
Chlorpyrifos ⁽⁴⁾	µg/L	0.014	0.083	-	7	ND	ND
Chromium (III)	µg/L	200 ⁽³⁾⁽⁵⁾	1700 ⁽³⁾⁽⁵⁾	0.5	4 ⁽⁶⁾	ND	0.8688
Chromium (VI)	µg/L	11	16	5	7	ND	0.142
Copper	µg/L	6.2 ^{3,5}	8.9 ⁽³⁾⁽⁵⁾	0.5	49 ⁽⁷⁾	2.7	10
Cyanide	µg/L	5.2	22	5.2	14 ⁽⁷⁾	ND	0.02
4,4 – DDT	µg/L	0.001	1.1	0.01	7	ND	ND
Diazinon	µg/L	0.17	0.17	-	7 ⁽⁸⁾	ND	ND
Dieldrin	µg/L	0.056	0.24	0.01	6 ⁽⁸⁾	ND	ND
Endosufan (alpha and beta)	µg/L	0.056	0.22	0.01	4 ⁽⁶⁾	ND	ND
Endrin	µg/L	0.036	0.086	0.01	7	ND	ND
Gamma – BHC	µg/L	-	0.95	0.02	6	ND	ND
Heptachlor	µg/L	0.0038	0.52	0.01	6	ND	ND
Heptachlor Epoxide	µg/L	0.0038	0.52	0.01	6	ND	ND
Lead	µg/L	1.7 ⁽³⁾⁽⁵⁾	44 ⁽³⁾⁽⁵⁾	0.5	48	0.12	1.84

Table 3.5 CTR Water Quality Objective (WQO) for Protection of Freshwater Aquatic Life and Effluent Concentrations (continued)

Constituent	Units	4-Day Average (Chronic)	1-Hour Average (Acute)	SIP Method Limit	Number of Samples ⁽¹⁾	Minimum Measured Effluent Concentration	Maximum Measured Effluent Concentration
Mercury ⁽⁴⁾	µg/L	0.77	1.4	0.2	47	ND	0.006
Nickel	µg/L	34.8 ⁽³⁾⁽⁵⁾	313 ⁽³⁾⁽⁵⁾	1	48	ND	10
PCBs	µg/L	0.014	-	0.5	3	ND	ND
Pentachlorophenol	µg/L	15 ⁽⁹⁾	19 ⁽⁹⁾	1	10	ND	ND
Selenium	µg/L	5.0	-	1	48	ND	2.1
Silver	µg/L	-	1.8 ⁽³⁾⁽⁵⁾	0.25	48	7ND	0.74
Toxaphene	µg/L	0.0002	0.730	0.5	6	ND	ND
Zinc	µg/L	80 ⁽³⁾⁽⁵⁾	80 ⁽³⁾⁽⁵⁾	1	56 ⁽⁷⁾	25	86.8

Notes:

- (1) Sample results from 2010 through 2017 unless otherwise noted.
- (2) Abbreviations - ND = non-detect.
- (3) Limit based on dissolved measurements.
- (4) No CTR criteria exists. Value shown is NTR criteria.
- (5) Site-specific criteria, calculated with ambient hardness value of 62 mg/L.
- (6) Data from samples collected between 2014 and 2017.
- (7) Data is from samples collected between 2013 and 2017.
- (8) Data from samples collected between 2011 and 2017.
- (9) Variable based on effluent pH, 7.8 assumed.

Table 3.6 CTR Water Quality Objective (WQO) for Protection of Human Health and Effluent Concentrations

Constituent	Units	Water and Organisms	Organisms Only	SIP ML	Number of Samples ⁽¹⁾	Minimum Measured Effluent Concentration	Maximum Measured Effluent Concentration
Acenaphthene	µg/L	1,200	2,700	0.5	7	ND ⁽²⁾	ND
Acenaphthylene	µg/L	-	-	0.2	7	ND	ND
Acrolein	µg/L	320	780	20	41	ND	ND
Acrylonitrile	µg/L	0.059	0.66	2	41	ND	ND
Aldrin	µg/L	0.00013	0.00014	0.005	7	ND	ND
Anthracene	µg/L	9,600	110,000	-	7	ND	ND
Antimony ⁽³⁾	µg/L	5.6	640	0.5	47	ND	5.1
Asbestos ⁽³⁾	µg/L	7x10 ⁽⁴⁾	-	-	5 ⁽⁵⁾	ND	ND
Barium ⁽³⁾	µg/L	1,000	-	-	7	12	18
Benzene	µg/L	1.2	71	0.5	44	ND	ND
Benzdine	µg/L	0.00012	0.00054	5	7	ND	ND
Benzo(a)Anthracene	µg/L	0.0044	0.049	5	7	ND	ND
Benzo(a)Pyrene	µg/L	0.0044	0.049	2	7	ND	ND
Benzo(b)Fluoranthene	µg/L	0.0044	0.049	10	7	ND	ND
Benzo(ghi)Perylene	µg/L	-	-	0.1	7	ND	ND
Benzo(k)Fluoranthene	µg/L	0.0044	0.049	2	7	ND	ND
Beryllium	µg/L	-	-	0.5	48	ND	0.99
Bis(2-Chloroethoxy)methane	µg/L	-	-	5	7	ND	ND
Bis(2-chloroethyl)ether	µg/L	0.031	1.4	1	7	ND	ND
Bis(2-Chloroisopropyl)ether	µg/L	1,400	170,000	2	7	ND	ND
Bis(2-ethylhexyl)phtalate	µg/L	1.8	5.9	5	7	ND	33
Bromoform	µg/L	4.3	360	0.5	44	ND	ND
4-Bromophenyl Phenyl Ether	µg/L	-	-	5	7	ND	ND

Table 3.6 CTR Water Quality Objective (WQO) for Protection of Human Health and Effluent Concentrations (continued)

Constituent	Units	Water and Organisms	Organisms Only	SIP ML	Number of Samples ⁽¹⁾	Minimum Measured Effluent Concentration	Maximum Measured Effluent Concentration
Butylbenzyl Phthalate	µg/L	3,000	5,200	10	7	ND	ND
Carbon Tetrachloride	µg/L	0.25	4.4	0.5	44	ND	ND
Chlordane	µg/L	0.00057	0.00059	0.1	7	ND	ND
Chlorobenzene	µg/L	680	21,000	0.5	44	ND	ND
Chlorodibromomethane	µg/L	0.41	34	0.5	44	ND	2.8
Chloroethane	µg/L	-	-	0.5	44	ND	ND
2-Chloroethylvinyl Ether	µg/L	-	-	1	42	ND	ND
Chloroform	µg/L	-	-	0.5	44	ND	97
2-Chloronaphthalene	µg/L	1,700	4,300	10	7	ND	ND
2-Chlorophenol	µg/L	120	400	2	7	ND	ND
4-Chlorophenyl Phenyl Ether	µg/L	-	-	5	7	ND	ND
3-methyl-4-Chlorophenol	µg/L	-	-	1	7	ND	ND
Chrysene	µg/L	0.0044	0.049	5	7	ND	ND
Copper	µg/L	1,300	-	0.5	49	2.7	10
Cyanide	µg/L	700	220,000	5	14	ND	0.02
Dibenzo(a,h)Anthracene	µg/L	0.0044	0.049	0.1	7	ND	ND
4,4-DDD	µg/L	0.00083	0.00084	0.05	7	ND	ND
4,4-DDE	µg/L	0.00059	0.00059	0.05	7	ND	ND
4,4-DDT	µg/L	0.00059	0.00059	0.01	7	ND	ND
1,2-dichlorobenzene	µg/L	2,700	17,000	2	44	ND	ND
1,3-dichlorobenzene	µg/L	400	2,600	1	44	ND	ND
1,4-dichlorobenzene	µg/L	400	2,600	1	44	ND	ND
3,3-dichlorobenzidine	µg/L	0.04	0.077	5	7	ND	ND

Table 3.6 CTR Water Quality Objective (WQO) for Protection of Human Health and Effluent Concentrations (continued)

Constituent	Units	Water and Organisms	Organisms Only	SIP ML	Number of Samples ⁽¹⁾	Minimum Measured Effluent Concentration	Maximum Measured Effluent Concentration
Dichlorobromomethane	µg/L	0.56	46	0.5	56	ND	21.4
1,1-dichloroethane	µg/L	-	-	0.5	4 ⁶	ND	ND
1,2-dichloroethane	µg/L	0.39	99	0.5	46	ND	ND
1,1-dichloroethene	µg/L	0.057	3.2	0.5	2 ⁷	ND	ND
2,4-dichlorophenol	µg/L	93	790	1	7	ND	ND
1,2-dichloropropane	µg/L	0.52	39	0.5	13	ND	ND
1,3-dichloropropene	µg/L	10	1,700	0.5	9 ⁽⁸⁾	ND	ND
Dieldrin	µg/L	0.00014	0.00014	0.01	6 ⁽⁹⁾	ND	ND
Diethyl Phthalate	µg/L	23,000	120,000	2	7 ⁽⁹⁾	ND	ND
2,4-dimethylphenol	µg/L	540	2,300	1	7	ND	ND
Dimethyl Phthalate	µg/L	313,000	2,900,000	2	7	ND	ND
Di-n-Butyl Phthalate	µg/L	2,700	12,000	10	7	ND	ND
4,6-dinitro-2-methylphenol	µg/L	13.4	765	5	3 ⁽¹⁰⁾	ND	ND
2,4-dinitrophenol	µg/L	70	14,000	5	7	ND	ND
2,4-dinitrotoluene	µg/L	0.11	9.1	5	7	ND	ND
2,6-dinitrotoluene	µg/L	-	-	5	7	ND	ND
Di-n-octyl-Phthalate	µg/L	-	-	10	7	ND	ND
1,2-diphenylhydrazine	µg/L	0.040	0.54	1	7	ND	ND
Endosulfan (alpha and beta)	µg/L	110	240	0.01	4 ⁽⁶⁾	ND	ND
Endosulfan sulfate	µg/L	110	240	0.05	4 ⁽⁶⁾	ND	ND
Endrin	µg/L	0.76	0.81	0.01	7	ND	ND
Endrin Aldehyde	µg/L	0.76	0.81	0.01	7	ND	ND
Ethylbenzene	µg/L	3,100	29,000	0.5	44	ND	ND

Table 3.6 CTR Water Quality Objective (WQO) for Protection of Human Health and Effluent Concentrations (continued)

Constituent	Units	Water and Organisms	Organisms Only	SIP ML	Number of Samples ⁽¹⁾	Minimum Measured Effluent Concentration	Maximum Measured Effluent Concentration
Fluoranthene	µg/L	300	370	0.05	7	ND	ND
Fluorene	µg/L	1,300	14,000	0.1	7	ND	ND
Heptachlor	µg/L	0.00021	0.00021	0.01	6	ND	ND
Heptachlor Epoxide	µg/L	0.0001	0.00011	0.01	6	ND	ND
Hexachlorobenzene	µg/L	0.00075	0.00077	1	7	ND	ND
Hexachlorobutadiene	µg/L	0.44	50	1	40	ND	ND
Hexachlorocyclohexane Alpha	µg/L	0.0039	0.013	0.01	-	-	-
Hexachlorocyclohexane Beta	µg/L	0.014	0.046	0.005	-	-	-
Hexachlorocyclohexane Gamma	µg/L	0.019	0.063	0.02	-	-	-
Hexachlorocyclohexane Delta	µg/L	-	-	0.005	-	-	-
Hexachlorocyclopentadiene	µg/L	240	17,000	5	7	ND	ND
Hexachloroethane	µg/L	1.9	8.9	1	7	ND	ND
Indeno(1,2,3-cd) Pyrene	µg/L	0.0044	0.049	0.05	4 ⁽⁶⁾	ND	ND
Isophorone	µg/L	8.4	600	1	7	ND	ND
Manganese ⁽³⁾	µg/L	50	100	-	7	5.2	18
Mercury	µg/L	0.05	0.051	0.2	47	ND	0.0058
Methyl Bromide	µg/L	48	4,000	1	40	ND	16
Methyl Chloride	µg/L	-	-	0.5	40	ND	ND
Methylene Chloride	µg/L	47	1,600	0.5	44	ND	ND
Naphthalene	µg/L	-	-	0.2	9	ND	ND
Nickel	µg/L	610	4,600	1	48	ND	10
Nitrate ⁽³⁾	µg/L	-	10,000	-	7	14,000	30,000

Table 3.6 CTR Water Quality Objective (WQO) for Protection of Human Health and Effluent Concentrations (continued)

Constituent	Units	Water and Organisms	Organisms Only	SIP ML	Number of Samples ⁽¹⁾	Minimum Measured Effluent Concentration	Maximum Measured Effluent Concentration
Nitrite ⁽³⁾	µg/L	-	10,000	-	7	ND	12
Nitrobenzene	µg/L	17	1,900	1	7	ND	ND
2-Nitrophenol	µg/L	-	-	10	7	ND	ND
4-Nitrophenol	µg/L	-	-	5	7	ND	ND
N-nitrosodimethylamine	µg/L	0.00069	8.1	5	9	ND	ND
N-Nitrosodi-n-Propylamine	µg/L	0.005	1.4	5	8	ND	ND
N-nitrosodiphenylamine	µg/L	5.0	16	1	5	ND	ND
PCBs	µg/L	0.00017	0.00017	0.5	3 ⁽⁶⁾	ND	ND
Pentachlorophenol	µg/L	0.28	8.2	1	10	ND	ND
Phenanthrene	µg/L	-	-	0.05	7	ND	ND
Phenol	µg/L	21,000	4,600,000	1	2 ⁽¹¹⁾	ND	ND
Pyrene	µg/L	960	11,000	0.05	7	ND	ND
2,3,7,8 TCDD (Dioxin)	µg/L	1.3x10 ⁽⁸⁾	1.4x10 ⁽⁸⁾	-	7	ND	0.000108
1,1,2,2-tetrachloroethane	µg/L	0.17	11	0.5	4 ⁽⁶⁾	ND	ND
Tetrachloroethene	µg/L	0.8	8.85	0.5	44	ND	ND
Thallium	µg/L	1.7	6.3	1	48	ND	2.2
Toluene	µg/L	6,800	200,000	0.5	20	ND	ND
Toxaphene	µg/L	0.00073	0.00075	0.5	6	ND	ND
1,2-Trans-Dichloroethylene	µg/L	700	140,000	0.5	-	-	-
1,2,4-Trichlorobenzene	µg/L	-	-	1	40	ND	ND
1,1,1-Trichloroethane	µg/L	-	-	0.5	4 ⁽⁶⁾	ND	ND
1,1,2-trichloroethane	µg/L	0.6	42	0.5	4 ⁽⁶⁾	ND	ND
Trichloroethene	µg/L	2.7	81	0.5	4 ⁽⁶⁾	ND	ND

Table 3.6 CTR Water Quality Objective (WQO) for Protection of Human Health and Effluent Concentrations (continued)

Constituent	Units	Water and Organisms	Organisms Only	SIP ML	Number of Samples ⁽¹⁾	Minimum Measured Effluent Concentration	Maximum Measured Effluent Concentration
2,4,6-trichlorophenol	µg/L	2.1	6.5	10	7	ND	ND
Vinyl Chloride	µg/L	2	525	0.5	44	ND	ND

Notes:

- (1) Sample results from 2010 through 2017 unless otherwise noted.
- (2) ND = non detect.
- (3) No CTR criteria exists. Value shown is NTR criteria.
- (4) f/L = fibers per liter (longer than 10 micrometers).
- (5) Data from samples collected between 2010 and 2015.
- (6) Data from samples collected between 2014 and 2017.
- (7) Data from samples collected in 2013.
- (8) Data from samples collected in 2010 (cis-1,3-dichloropropene) and 2010 through 2013 (trans-1,3-dichloropropene).
- (9) Data from samples collected between 2011 and 2017.
- (10) Data from samples collected between 2010 and 2012.
- (11) Data from samples collected in 2017.

3.2.4.1 CTR Constituents with Identified Reasonable Potential

Effluent permit limitations are assigned in NPDES permits when the discharge is found to have reasonable potential to “cause or contribute to an exceedance of water quality objectives”, and there is not adequate capacity within the receiving stream to assimilate the pollutant concentrations that are contributing to this potential (either because adequate dilution is not available or because measured concentrations in the receiving stream are already in excess of established water quality objectives).

In review of the effluent monitoring results for the CTR constituents summarized in Tables 3.5 and 3.6, it appears that the WPCP may present reasonable potential for the following constituents:

- Bis(2-ethylhexyl)phthalate.
- Chlorodibromomethane.
- Copper.
- Dichlorobromomethane.
- Lead.
- Nitrate.
- Zinc.

These constituents will be discussed further in Section 3.3.1.

3.2.5 Basin Plan

Beneficial uses of the surface water and groundwater that would be affected by the discharge of wastewater treatment plant effluent are identified in the Basin Plan adopted by the SWRCB in March of 1989 and recently revised in May 2018. Effluent and receiving water requirements are established in the Basin Plan, as needed, to protect the identified beneficial uses in the river.

Recent Basin Plan revisions, in effect since Order No. R5-2016-0023 adoption on April 21, 2016, include variance policies from surface water quality standards for point source dischargers, variance program for salinity, exception from implementation of water quality objectives for salinity, and control of diazinon and chlorpyrifos discharges.

Table 3.7 summarizes effluent sampling results for Basin Plan constituents not otherwise addressed in this chapter.

Table 3.7 Final Effluent Concentrations for Basin Plan Constituents⁽¹⁾⁽²⁾

Parameter	Units	Most Stringent Criteria	No. of Samples ⁽¹⁾	No. of Positive Detections	Min. Measured Concentration	Max. Measured Concentration
Iron	µg/L	300 ⁽³⁾	49	46	14	930
Fluoride	mg/L	1 ⁽⁴⁾	7	7	0.12	0.24
Tributyltin	µg/L	0.072 ⁽⁵⁾	8	0	ND ⁽⁶⁾	ND

Notes:

(1) Partial summary only. The remainder of constituents identified in the Basin Plan for this Sacramento River stretch between Red Bluff and Knights Landing are summarized elsewhere within the report.

(2) Sample results from 2010 through 2017.

(3) California Department of Public Health (DPH) secondary maximum contaminant level (MCL).

(4) Agricultural supply based goal.

(5) Aquatic life criteria (chronic).

(6) Abbreviations - ND = non-detect; µg/L - micrograms per liter.

The WPCP has been sampled annually since 2011 for diazinon and chlorpyrifos. Neither constituent has been detected in the effluent to date.

The following constituents are listed in the Basin Plan, but are not included for the Sacramento River stretch between Red Bluff and Knights Landing, and thus, do not apply to the WPCP discharge:

- Boron.
- Molybdenum.
- Trihalomethanes (THMs).

3.2.5.1 Basin Plan Constituents with Identified Reasonable Potential

In review of the effluent monitoring results, it appears that the WPCP may present reasonable potential for discharges of iron. This will be discussed further in Section 3.3.1.

3.2.6 State Implementation Policy

The SWRCB adopted the SIP on March 2, 2000. This document was approved by the Office of Administrative Law and became effective on May 18, 2000, the date EPA published the CTR. EPA Region IX partially approved the SIP in May 2001.

Although issued as a SWRCB “Policy,” the provisions of this document have full regulatory effect. The SIP outlines procedures for NPDES permitting for toxic pollutant objectives that have been promulgated by EPA in the NTR and the CTR, and by the RWQCBs in their respective Basin Plans. The SIP contains procedures for determining for each publically owned treatment works (POTW) which toxic pollutants must have effluent limits, for calculating water quality-based effluent limitations (WQBELs), for establishing mixing zones and dilution credits, for using translators for metals and selenium, for controlling toxicity, and for establishing site-specific water quality objectives.

The implementation procedures outlined in the SIP generally require WQBELs to be established for any constituent for which the ambient or effluent concentration exceeds the lowest applicable criteria in the CTR or NTR. The SIP sets forth the procedures for calculating effluent limits for any such constituent. Where there is insufficient information to calculate final WQBELs, the SIP allows the imposition of interim performance-based effluent limits. These limits are to remain in effect while the necessary information (e.g., ambient monitoring, effluent monitoring, translator studies, or TMDLs) is being developed.

3.2.7 Antidegradation Policy

Both the state and federal governments adopted similar policies prohibiting degradation of surface waters in 1968, but these policies were not applied to discharge requirements until early 2000. The antidegradation policies assert that existing water quality may not be lowered where the existing water quality is better than the adopted water quality objectives of the regulatory agency, unless it can be demonstrated that a lowering of water quality is necessary to accommodate important economic or social development.

The SWRCB issued guidance to RWQCBs (Administrative Procedures Update 90-004) regarding the implementation of the State and Federal antidegradation policies in the NPDES permitting process. This guidance provides a tiered approach for the analysis of compliance with the antidegradation policies. In brief, the guidance indicates that the complexity of the analysis depends on the magnitude of water quality change associated with a proposed action. The

guidance states that actions that produce minor effects and do not result in a significant reduction in water quality require a simpler level of analysis and may be found to be consistent with the intent and purpose of the antidegradation policies. For actions which produce significant changes in water quality, the guidance states that a showing must be made that such changes result in the maximum benefit to the people of the state and are necessary to the social and economic welfare of the community to be consistent with the antidegradation policies.

Any significant change in the City’s discharge must be approved by the RWQCB as meeting the State antidegradation policy.

3.2.8 Compliance Schedule Policy

In 2008, the SWRCB adopted the Compliance Schedule Policy that allows the RWQCB to grant compliance schedules for NDPEs permits when “the discharger must implement actions to comply with a more stringent permit limitation, such as designing and constructing facilities or implementing new or significantly expanded programs and securing financing, if necessary, to comply with permit limitations implementing new, revised, or newly interpreted water quality objectives or criteria in water quality standards”. The policy dictates that the time schedule order be granted for the minimum amount of time necessary to achieve compliance, taking into account the amount of time reasonably required for the discharger to implement actions, not to exceed ten years from the date of adoption, revision, or new interpretation of the applicable water quality objective or criterion in a water quality standard.

The City may seek a time schedule order to comply with future regulatory action following the necessary protocol established in this policy.

3.2.9 Title 22 Reclamation Criteria

The SWRCB Division of Drinking Water (DDW) regulates municipal wastewater reuse to protect public health through regulations which are contained in Title 22, Division 4, Chapter 3 of the California Code of Regulations (CCR) and are commonly referred to as “Title 22 Reclamation Criteria.” Depending upon the degree of exposure, these regulations may specify either specific quality standards that must be achieved, specific treatment processes that must be provided, or both, as shown in Table 3.8.

The WPCP would be required to comply with these requirements if any of the final effluent is recycled.

Table 3.8 Summary of Title 22 Reclamation Criteria

Title 22 Category	Approved Uses	Disinfection Targets
Disinfected Tertiary Recycled Water	Spray Irrigation of Food Crops Landscape Irrigation ⁽¹⁾ Non-restricted Recreational Impoundment Other Non-potable Water Uses	2.2 MPN/100 mL Total Coliform Standard (7-day median) 5-log Poliovirus Reduction
Disinfected Secondary - 2.2 Recycled Water	Surface Irrigation of Food Crops Restricted Recreational Impoundment	2.2 MPN/100 mL Total Coliform Standard (7-day median)

Table 3.8 Summary of Title 22 Reclamation Criteria (continued)

Title 22 Category	Approved Uses	Disinfection Targets
Disinfected Secondary - 23 Recycled Water	Pasture for Milking Animals Landscape Irrigation ⁽²⁾ Landscape Impoundment	23 MPN/100 mL Total Coliform Standard (7-day median)
Undisinfected Secondary Recycled Water	Surface Irrigation of Orchards and Vineyards ⁽³⁾ Fodder, Fiber and Seed Crops	Oxidized wastewater ⁽⁴⁾

Notes:

- (1) Includes unrestricted access golf courses, parks, playgrounds, school yards, and other landscaped areas with similar access.
- (2) Includes restricted access golf courses, cemeteries, freeway landscapes, and landscapes with similar public access.
- (3) No fruit is harvested that has come in contact with irrigating water or the ground.
- (4) Wastewater in which the organic matter has been stabilized, is nonputrescible, and contains dissolved oxygen.

3.2.10 Industrial Storm Water Program

The federal CWA provides the California RWQCBs with the authority and framework for regulating storm water discharges. The NPDES Industrial Storm Water Program regulates storm water discharges from wastewater treatment facilities. Wastewater treatment plants are applicable industries under the storm water program and are obligated to comply with the federal regulations. Since all storm water at the WPCP is collected and discharged with the plant effluent, the NPDES Industrial Storm Water Program is not applicable.

3.2.11 Biosolids Regulations

Legislative action in 1989 (Assembly Bill [AB] 939) resulted in the creation of the California Integrated Waste Management Board (CIWMB), which replaced the Solid Waste Management Board, to oversee and regulate solid waste disposal in the state. In January 2010, the CIWMB's duties and responsibilities were transferred to the California Department of Resources Recycling and Recovery (CalRecycle). CalRecycle is the state enforcement and permitting authority for all of California's state-managed non-hazardous waste handling and recycling programs, including sludge residuals (biosolids produced at POTWs) reuse and disposal practices.

Biosolids may be:

- Land applied as a soil amendment/fertilizer.
- Land applied to reclaim fire ravaged land, open pit mines, and deforested areas.
- Processed into compost at composting facilities.
- Used as alternative daily cover or final cover at landfills.
- Disposed at landfills.
- Surface disposed.
- Combusted to produce energy at a Waste-to-Energy facility (i.e., incineration).
- Alternative uses (e.g., alternative fuel to replace coal in industrial processes such as the cement industry or deep well injection).

Biosolids applied to the land as a soil amendment must meet the requirements of both the Federal CWA and the Resource Conservation and Recovery Act. State laws and regulations that would apply to biosolids applied to the land include:

- CCR Title 23, Chapter 15 (commonly known as "Chapter 15 regulations"), which regulates wastewater biosolids and incinerator ash disposed to landfills and dedicated land disposal operations.
- CCR Title 22, Chapter 30, which provides standards and procedures for the determination of whether or not a wastewater biosolids material constitutes a hazardous waste.

Land application of stabilized sludge from wastewater treatment facilities is governed by federal regulations, 40 CFR Part 503. These standards are generally more stringent than the Chapter 15 regulations due to the intended beneficial use involved in land application biosolids disposal systems. Refer to Section 3.4.5 for additional information on biosolids reuse/disposal requirements and 40 CFR Part 503. For land application, processes need to be provided to significantly reduce pathogens. Qualifying processes include:

- Aerobic digestion systems in which the sludge is agitated with air or oxygen to maintain aerobic conditions for a specific mean cell residence time at a specific temperature. Acceptable values range from 40 days mean cell residence time at 20 degrees Celsius (68 degrees Fahrenheit) to 60 days at 15 degrees Celsius (59 degrees Fahrenheit).
- Anaerobic digestion facilities in which the sludge is treated in the absence of air for a specified mean cell residence time at a specific temperature. Acceptable values range from 15 days at 35 to 55 degrees Celsius (95 to 131 degrees Fahrenheit) to 60 days at 20 degrees Celsius (68 degrees Fahrenheit).
- Air drying on sand, paved or unpaved drying beds on which the sludge has been allowed to remain for a minimum of three months and the ambient average temperature has been above zero degrees Celsius (32 degrees Fahrenheit).
- Composting systems that utilize either within-vessel, static aerated pile, or windrow methods in which the temperature of the sludge has been raised to 40 degrees Celsius (104 degrees Fahrenheit) or higher for five days and at a temperature of at least 55 degrees Celsius (131 degrees Fahrenheit) for a four-hour period within the five-day period.

Nutrient concentrations must also be considered in any biosolids land application program. Ammonia, Total Kjeldahl-Nitrogen, and phosphorous concentrations are used to determine the application rates for the different methods of reuse.

3.2.12 Air Quality Regulations

Several agencies at the federal, state, and local levels have jurisdiction pertaining to air pollution and odor control at wastewater treatment plants. These agencies also have the responsibility to permit new facilities for construction and operation, to establish new air quality criteria in terms of source pollutant levels, and to establish treatment requirements for emission control. Major federal agencies include the EPA and the Occupational Safety and Health Administration (OSHA). State agencies include the California Air Resources Board (CARB) and Cal-OSHA. The RWQCBs also include general nuisance odor provisions in their NPDES permits. At the local level, the Butte County Air Quality Management District (AQMD) has been established to monitor emissions, and to enforce federal and state standards in the Chico area.

The current air quality requirements are mostly federal and state established criteria. Although many of the federal and state air quality criteria are parallel to each other, the state criteria are generally more stringent than the federal criteria. The treatment requirements in areas governed

by local air pollution control districts are the most stringent. This is because these districts were typically established after violations have occurred in the areas.

The AQMD concerns at the WPCP have primarily been with the emissions from the plant's standby generator and cogeneration engine. However, the AQMD will require a permit for all pollutant emitting future processes at the WPCP, including unit processes.

3.3 Probable Discharge Requirements

The existing NPDES permit will expire in 2021. The permit would be revised to incorporate all current regulatory requirements at that time.

It is not possible to determine with absolute certainty what new standards will be included in the new permit until the City actually applies for a renewal and the permit is issued. Many discharge provisions are standard for all permits issued by the RWQCB. Other provisions are site-specific and/or dependent upon the costs that would be incurred to attain compliance.

The City is fortunate in that the Sacramento River, the receiving water body for its treated effluent, has a relatively large flow compared to the City's discharge such that the water quality characteristics after the discharge are primarily determined by the background water quality in the river. Effluent limitations for the City are, therefore, much less stringent than would otherwise be required if this level of dilution were not available.

The following conclusions regarding the probable effluent and receiving water limitations that may be required of the City's wastewater treatment plant are based upon Carollo Engineers, Inc.'s (Carollo's) understanding of current water quality regulations and policies, a review of current NPDES requirements, and discussions with RWQCB staff regarding probable requirements for northern California dischargers.

3.3.1 Discussion of Possible Regulatory Action

The following sections evaluate effluent limitations for the constituents that either exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives (based on current data set and considering current and future policy requirements) or that are likely to be restricted in a more stringent fashion based on regulatory action of other discharges in the Central Valley.

3.3.1.1 BOD₅ and TSS

Current BOD₅ and TSS effluent limits are technology-based limits established within the 40 CFR federal regulations for secondary treatment facilities. Based on the result of a recent lawsuit between the Sacramento Regional Sanitary District (Regional San) and the SWRCB, we expect that the RWQCB will be working to reduce these limits consistent with the requirements for tertiary treatment in the next or subsequent permit renewals.

Anticipated future effluent limits for each (BOD₅ and TSS) are anticipated to be 10 mg/L monthly average, 15 mg/L weekly average, and 30 mg/L as a daily maximum effluent concentration limitation. New mass-based effluent limitations will be calculated with final effluent concentration limitations based on average daily flow from the facility.

3.3.1.2 Ammonia

The current permit order contains permit limits for ammonia (8.2 mg/L and 17.6 mg/L as average monthly and average weekly limitations, respectively). These permit limits were calculated with

dilution credits of 4.7 and 12.2 using mixing zone lengths established for acute and chronic aquatic life criteria, respectively. Both dilution credits uses are reduced from the dilution available at the outfall location (15.8 and 19.9 for acute and chronic criterion, respectively). We anticipate that the RWQCB will continue to allow this dilution for compliance with current NPDES surface water discharge requirements.

In 2013, the USEPA published National Recommended Water Quality Criteria for the Protection of Aquatic Life from the Toxic Effects of Ammonia in Freshwater (2013 Criteria). The 2013 Criteria is an update to USEPA's 1999 Criteria, and varies based on pH and temperature. Although the 2013 Criteria reflects the latest scientific knowledge on the toxicity of ammonia to certain freshwater aquatic life, including new toxicity data on sensitive freshwater mussels, the question has been raised as to whether the mussel species used for the development of the 2013 Criteria is applicable to dischargers in the Central Valley since the species may not be present in some waterways.

Efforts are ongoing within the NPDES program, the Basin Planning unit, and with a discharger group study organized by the Central Valley Clean Water Agency (CVCWA) to determine how to best implement the 2013 Criteria in Central Valley waters. The City is actively participating in the CVCWA study.

When implemented, the revised criteria may result in reduced effluent limits for ammonia discharges from the WPCP. With current available knowledge, it appears that the City will be able to continue to comply with effluent limitations without facility upgrades (even if the effluent limits are reduced) as the WPCP is able to consistently produce effluent with very low ammonia concentrations (< 1 mg/L) when operating optimally. Pond improvements recommended for emergency storage of effluent when the facility is not operating in an optimal fashion (per the Draft Pond Facility Improvement Options Technical Memorandum [TM]) will provide some flexibility for long-term ammonia compliance.

3.3.1.3 Nitrate plus Nitrite

Nitrate is consistently detected in the effluent, since this constituent is produced as a function of the nitrification process (where ammonia breaks down to nitrate during secondary treatment), and the facility is not currently set up to achieve a significant level of denitrification (which enables conversion of nitrate to nitrogen gas [with nitrite formation as an intermediary]). The maximum effluent concentrations measured for nitrate and nitrite are 30 mg/L and 0.012 mg/L, respectively).

The current permit order contains permit limits for nitrate plus nitrite (60 mg/L and 104 mg/L as average monthly and average weekly limitations, respectively). These permit limits were calculated with a dilution credit of 5, which is greatly reduced for the dilution value available at the outfall location. Though the allowance of mixing zone and dilution credits are a discretionary act by the RWQCB, we anticipate that they will continue to allow this dilution for the foreseeable future.

However, facility modifications will be needed to reduce nitrate concentrations if continued discharge to the southern ponds (through discharge location D-002) is desired. Effluent discharged to the ponds currently percolates into the underlying groundwater. Per the Draft Interim Antidegradation Reevaluation Report (Carollo, December 2018), possible antidegradation of the groundwater due to nitrate concentrations in the effluent has been observed. As such, facility improvements will be needed to reduce nitrate concentrations in the

effluent, eliminate the ability for the effluent to percolate into the groundwater (through pond liner project), or both.

3.3.1.4 Bis(2-ethylhexyl)phthalate

The maximum effluent concentration for bis(2-ethylhexyl)phthalate is 33 µg/L, which is greater than the most stringent water quality objective of 1.8 µg/L (human health criteria for water and organisms).

The current permit order does not contain permit limits for bis(2-ethylhexyl)phthalate, but it does have a reopener provision that allows the RWQCB to reopen and modify the permit “as necessary if monitoring results indicate that the discharge has a reasonable potential to cause or contributed to an exceedance of a water quality standard.”

Measured concentrations in the receiving water are limited and range from non-detect to 4.1 µg/L (2010 data point). If the RWQCB requires the use of this data point in the reasonable potential analysis (RPA) conducted during the next permit renewal cycle, then there will be no dilution credits allowed for this constituent. In this case, facility improvements may be necessary to reduce bis(2-ethylhexyl)phthalate concentrations in the discharged effluent.

Assuming this as a worst-case scenario, anticipated effluent limits for bis(2-ethylhexyl)phthalate) would be 1.8 µg/L and 3.6 µg/L as average monthly and maximum daily limitations, respectively.

Alternately, the City may request that a constituent study be assigned in lieu of permit limitations. As was the case for the last permit renewal cycle, the data set for this constituent is still fairly low (for effluent and for the receiving water). Additionally, bis(2-ethylhexyl) phthalate is often identified in laboratory analytical results without a pollutant source (field and lab blanks, etc.). Additional effort to confirm/deny actual presence of the constituent is recommended.

3.3.1.5 Chlorodibromomethane (CDBM) and Dichlorobromomethane (DCBM)

The current permit order contains permit limits for CDBM (17.2 µg/L and 34 µg/L as average monthly and average weekly limitations, respectively) and DCBM (25.2 µg/L and 43 µg/L as average monthly and average weekly limitations, respectively). These permit limits were calculated with a dilution credit of 46.5, which is the confirmed dilution available for human health criteria with a 250 foot mixing zone length.

Maximum effluent values for CDBM and DCBM are 2.8 and 21.4 µg/L, respectively. With dilution, the WPCP is able to comply with CDBM and DCBM discharge requirements. If dilution credits are reduced or discontinued by the RWQCB, facility improvements could be necessary to reduce (or eliminate) effluent concentrations of CDBM and DCBM.

3.3.1.6 Copper

The maximum effluent concentration for copper is 10 µg/L, which is greater than the most stringent water quality objective of 6.2 µg/L (chronic aquatic life criteria calculated with ambient hardness of 62 mg/L).

The current permit order contains permit limits for copper (15 µg/L and 20 µg/L as average monthly and maximum daily limitations, respectively). These permit limits were calculated with a dilution credit of 6.6, which is greatly reduced for the dilution value available at the outfall location.

Though the allowance of mixing zone and dilution credits are a discretionary act by the RWQCB, we anticipate that they will continue to allow this dilution for the foreseeable future. If dilution credits are reduced or discontinued by the RWQCB, facility improvements could be necessary to reduce (or eliminate) effluent concentrations of copper.

3.3.1.7 Lead

The maximum effluent concentration for lead is 1.84 µg/L, which is greater than the most stringent water quality objective of 1.7 µg/L (chronic aquatic life criteria calculated with ambient hardness of 62 mg/L).

The current permit order does not contain permit limits for lead.

Measured concentrations of lead in the receiving water are typically below the WQO, with exception to a sample collected in December 2012 (3.3 µg/L). If the RWQCB requires the use of this data point in the RPA conducted during the next permit renewal cycle, then there will be no dilution credits allowed for this constituent. In this case, facility improvements may be necessary to reduce lead concentrations in the discharged effluent. Alternately, the City may choose to conduct site-specific investigations to determine if the conditions produce metal translator values greater than the default value ("0") used in the effluent limit calculations.

Assuming this as a worst-case scenario, anticipated effluent limits for lead would be 1.3 µg/L and 2.8 µg/L as average monthly and maximum daily limitations, respectively.

3.3.1.8 Iron

Iron has been detected in the effluent and in the receiving water at concentrations higher than the applicable water quality objective (maximum effluent and river concentrations of 930 µg/L and 460 µg/L, respectively).

The most stringent objective for iron is the secondary MCL (300 µg/L). This secondary MCL is a drinking water standard contained in Title 22 of the CCR (which is derived for human welfare considerations [e.g., taste, odor, laundry staining], not for toxicity). Title 22 requires compliance with these standards on an annual average basis, when sampling at least quarterly.

The City can comply with an annual average discharge limitation for iron, if adopted by the RWQCB in forthcoming permits.

3.3.1.9 Zinc

The maximum effluent concentration for zinc is 86.6 µg/L, which is greater than the most stringent water quality objective of 80 µg/L (acute and chronic aquatic life criteria calculated with ambient hardness of 62 mg/L).

The current permit order does not contain permit limits for zinc, but it does have a reopener provision that allows the RWQCB to reopen and modify the permit "as necessary if monitoring results indicate that the discharge has a reasonable potential to cause or contributed to an exceedance of a water quality standard."

Measured concentrations of zinc in the receiving water are consistently below 10 mg/L, and thus, there is assimilative capacity available for effluent discharges of zinc in excess of the defined WQO.

Assuming allowance of the full value of dilution available at the outfall (15.8 and 19.9 for acute and chronic criterion, respectively), calculated effluent limits are 728 µg/L and 1,186 µg/L for

average monthly and maximum daily limitations, respectively. It is likely that the RWQB will reduce the allowable dilution credits to a level with which the WPCP can consistently comply.

3.3.2 Agricultural Irrigation Requirements

Discharge requirements for agricultural irrigation using reclaimed wastewater would be based upon Title 22 requirements (See Table 3.8) and are dependent on the specific crops that will receive the effluent. Facility upgrades would be required if the City chooses to pursue the recycling of treated effluent from the WPCP through agricultural irrigation of any approved uses that require treatment in excess of that available at the Disinfected Secondary (23 Recycled Water) category.

3.3.3 Biosolids Reuse/Disposal Requirements

Several federal, state, and local regulations are in place that influence whether biosolids from municipal wastewater treatment plants can be reused or disposed of. Increased concerns and debate over biosolids disposal and its associated environmental impacts have led to more stringent revisions and amendments for many of these regulations. In September 2016, Governor Brown signed Senate Bill (SB) 1383 establishing targets to achieve a 50 percent reduction in disposed organic waste (including biosolids) in landfills by 2020 and a 75 percent reduction by 2025. Continuing changes in regulations affecting biosolids management make a flexible management program essential.

In order to implement the long-term biosolids permitting program required by the Water Quality Act of 1987, the EPA initiated two rule makings. The first rule making includes 40 CFR Parts 122, 123, and 124 (promulgated in 1983) and 40 CFR Part 501 (promulgated in 1989). Parts 122, 123, and 124 established requirements and procedures for including biosolids affairs in NPDES permits. Part 501 requires procedures for granting state biosolids management programs primacy over federal programs, or for federal programs to implement biosolids permits if a state so chooses.

The second rule making proposed to regulate and control biosolids permitting was 40 CFR Part 503 Standards for the Use and Disposal of Sewage Sludge. After many revisions, Part 503 was promulgated in 1993. This rule addresses three general categories of beneficial reuse/disposal of biosolids including:

- Land application of sewage sludge for beneficial use of organic content.
- Surface disposal of biosolids in a monofill, surface impoundment, or other dedicated site.
- Incineration of sewage sludge with, or without, auxiliary fuel.

Part 503 contains details regarding pathogen reduction and monitoring, record keeping, and reporting requirements. Depending on the pathogen reduction and other requirements, biosolids are classified as either Class A or Class B. The classification of the biosolids determines what the limitations on biosolids disposal will be.

Currently, the WPCP produces Class B biosolids, which are hauled directly from the centrifuge building for land application in unincorporated Sacramento County, California (Silva Ranch).

3.4 Summary of Probable Regulatory-Driven Requirements

Based on the analysis completed for this facility planning effort, the following regulatory-driven requirements are anticipated at the WPCP:

- Requirement to implement tertiary treatment during the next permit renewal (2021) or subsequent renewals.
- Alternative disinfection methods could be required in future permit renewals to eliminate disinfection byproducts and the need for dilution credits/mixing zones.

A summary of probable effluent limitations for the 2021 permit renewal is included in Table 3.9.

Table 3.9 Summary of Probable Effluent Limitations

Parameter	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	Average Annually
BOD ₅ (5-day @ 20 deg. Celsius)	mg/L	10	15	30	-	-	-
	lbs/day ⁽¹⁾	1,001	1,501	3,002	-	-	-
TSS	mg/L	10	15	30	-	-	-
	lbs/day ⁽¹⁾	1,001	1,501	3,002	-	-	-
pH	standard units	-	-	-	6.0	8.5	-
Ammonia ⁽²⁾ Nitrogen, Total (as N)	mg/L	8.2	17.6	-	-	-	-
	lbs/day ⁽¹⁾	821	1,761	-	-	-	-
Copper, Total Recoverable	µg/L	15	-	20	-	-	-
Chlorodibromomethane	µg/L	17.2	-	34	-	-	-
Dichlorobromomethane	µg/L	25.2	-	43	-	-	-
Nitrate Plus Nitrite (as N)	mg/L	60	104	--	-	-	-
Bis(2-ethylhexyl)phthalate	µg/L	1.8	-	3.6	-	-	-
Lead	µg/L	1.3	-	2.8	-	-	-
Zinc	µg/L	-	-	-	-	-	300

Notes:

(1) Based on design dry weather flow of 12 mgd.

(2) Ammonia limits may be reduced with implementation of 2013 Criteria.

Chapter 4

PLANT CAPACITY EVALUATION

This chapter evaluates the capacity of the City’s WPCP to provide adequate treatment for the planning period’s projected flows and loads (analyzed in Chapter 2) in a tightening regulatory environment (described in Chapter 3).

4.1 Basis of Evaluation

Two parameters were used to evaluate the WPCP’s capacity and are defined below:

- *Peak hydraulic capacity*: The maximum flow that can be physically passed through the treatment plant without over-topping structures or submerging effluent weirs. Evaluated with Carollo’s Hydraulix® modeling software.
- *Treatment process capacity*: The maximum flow for the WPCP at which treatment objectives are accomplished for each process unit. Evaluated with BioWin™ wastewater process modeling software.

4.1.1 Flow & Load Basis

Annual average (AA) and maximum month (MM) flow and load projections form the basis for treatment process capacity evaluations. Peak flow projections provide the basis for peak hydraulic capacity evaluation. These flow and load projections were developed in Chapter 2 and are summarized in Table 4.1.

Table 4.1 Projected WPCP Flows & Loads

Condition	Projected Flow ⁽¹⁾ , mgd	Projected Load ⁽¹⁾ , ppd (TSS / BOD / NH ₃)
Peak	23.5	-
MM	13.8	23,500 / 23,300 / 2,500
AA	10.3	19,400 / 17,900 / 2,000
Average Dry Weather (ADW)	9.4	-

Notes:

(1) Current projection is based on the planning period which extends through 2040.

4.1.2 Unit Process Availability Criteria

Both capacity parameters were evaluated for each unit process based on a unit process availability criteria defined below:

- *Firm capacity*: All units are in service except the largest unit.
- *Total capacity*: All units are in service.

These unit process criteria are used to evaluate individual unit process capacities as described herein. For all capacity ratings in this chapter, it is assumed that flow distribution to processes are optimized and that individual units are receiving equal amounts of flow.

4.2 Background

4.2.1 Previous WPCP Facility Planning

The City’s 2005 WPCP Facility Plan¹ outlined two projects to expand the firm AA treatment process capacity of the plant to 12-and 15- mgd, respectively. Each project was outlined to provide 2.5 times those AA flows in peak hydraulic capacity.

The 12 mgd upgrade project was constructed in 2007 and was comprised of hydraulic and process-related capacity improvements to several unit processes. The 15 mgd expansion project has not been implemented; however, AA flow is not projected to eclipse the 12 mgd firm AA capacity in this planning period as described in Chapter 2.

4.2.2 WPCP Description

4.2.2.1 Split Flow Configuration

Influent wastewater flows through the Headworks and primary treatment processes at the WPCP by gravity. After primary treatment, primary effluent is split between two parallel trains that each consist of secondary treatment and disinfection (Plant 1 and Plant 2) processes.

The current total plant capacity rating relies on the combined secondary & disinfection capacities of Plants 1 and 2, which are designed to receive approximately 30 percent and 70 percent of the total flow, respectively. However, as noted elsewhere in this report, all flow is currently being treated using only Plant 2.

A summary of historical WPCP flow splits and capacity ratings is presented in Table 4.2.

Table 4.2 Historical WPCP Capacity Ratings and Flow Split

Project (Year)	Shared - Primary, mgd	Plant 1 - Secondary & Disinfection, mgd (% of Total)	Plant 2 - Secondary & Disinfection, mgd (% of Total)	Total Firm AA Capacity, mgd	Total Peak Flow Capacity, mgd
12 mgd Expansion Project (2007)	12	3.6 (30%) ⁽¹⁾	8.4 (70%)	12	30
1997 Expansion Project (1997)	9	3.6 (40%) ⁽²⁾	5.4 (60%)	9	22.5
1990 Expansion Project	6	6 (100%)	-	6	15

Notes:

- (1) Aeration Tank #2 (Plant 1) is currently used for centrate storage, thus a portion of this capacity use is currently limited. Efforts would be needed to bring this portion of Plant 1 capacity back online.
- (2) Plant 1 was de-rated to 3.6 mgd in 1997 due to new nitrification requirements.

The locations of the major plant hydraulic components described in this chapter are included in the facilities layout in Figure 4.1. The plant hydraulic profile developed for the existing system is included in Figure 4.2, and Figure 4.3 provides a process flow diagram for the existing system.

¹ (Carollo Engineers, Inc. 2005)

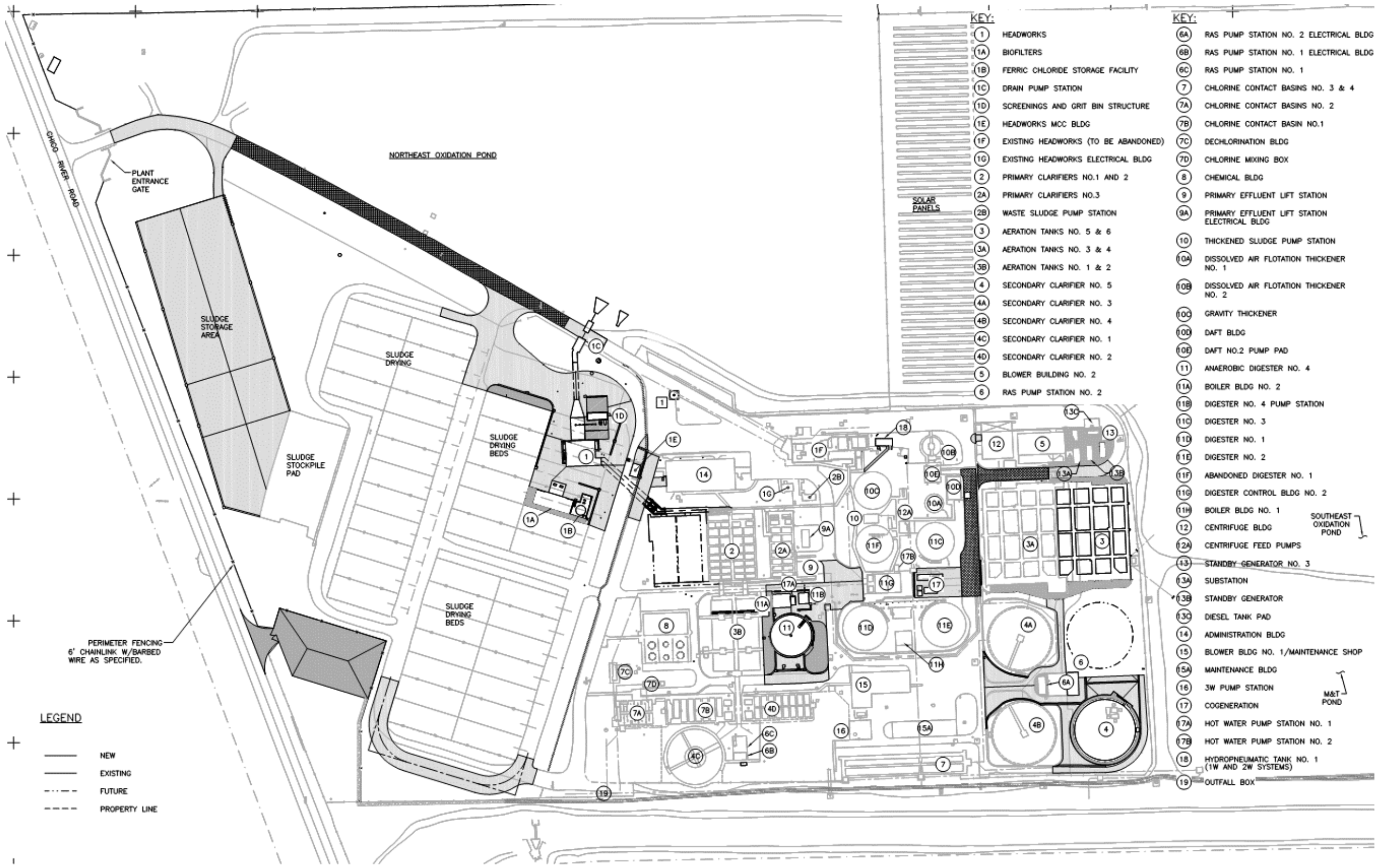


Figure 4.1 Existing WPCP Facilities Layout

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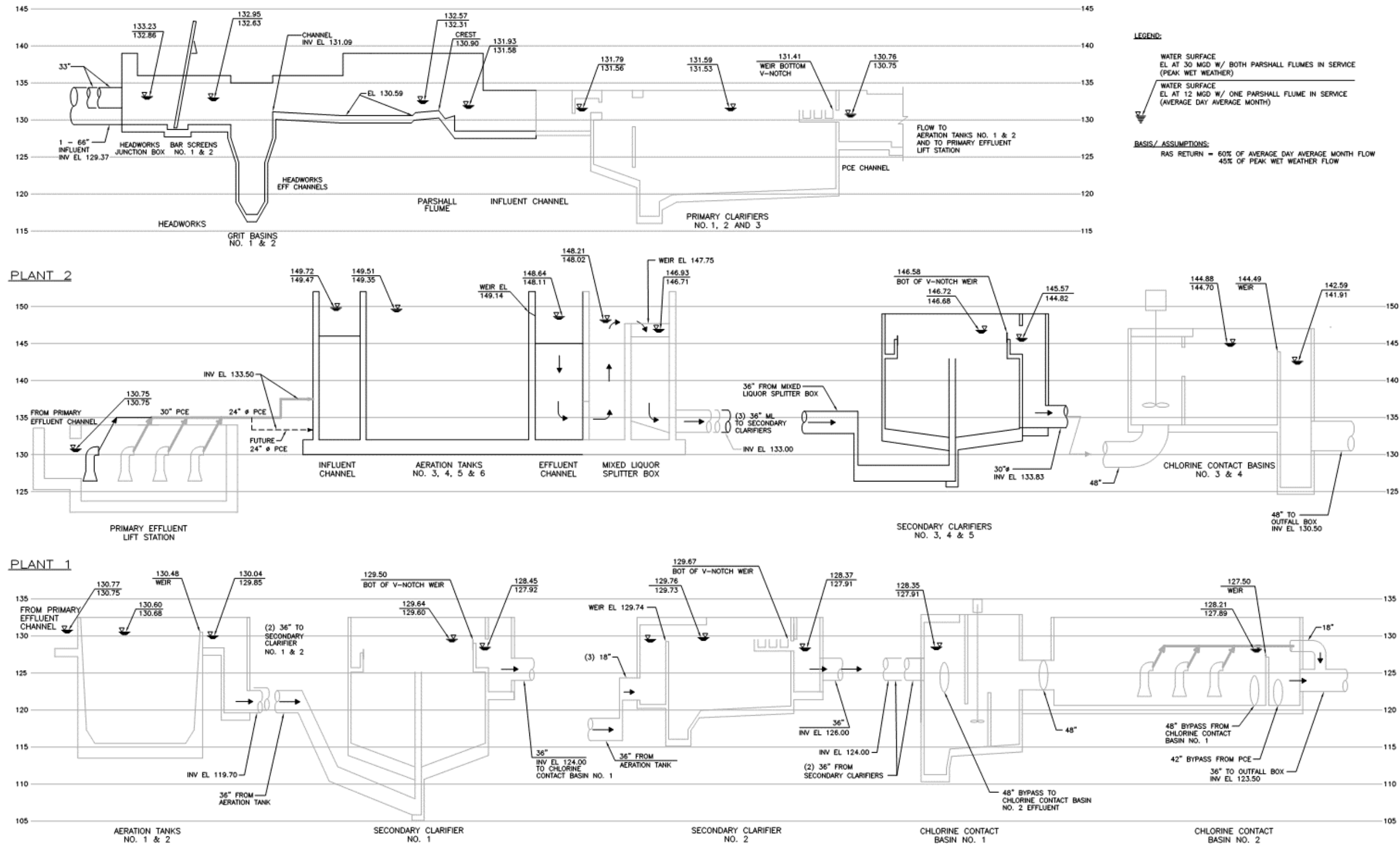


Figure 4.2 Existing WPCP Hydraulic Profile²

² Water surface elevations are based on AA design flows of 12 mgd and design peak flows of 30 mgd.

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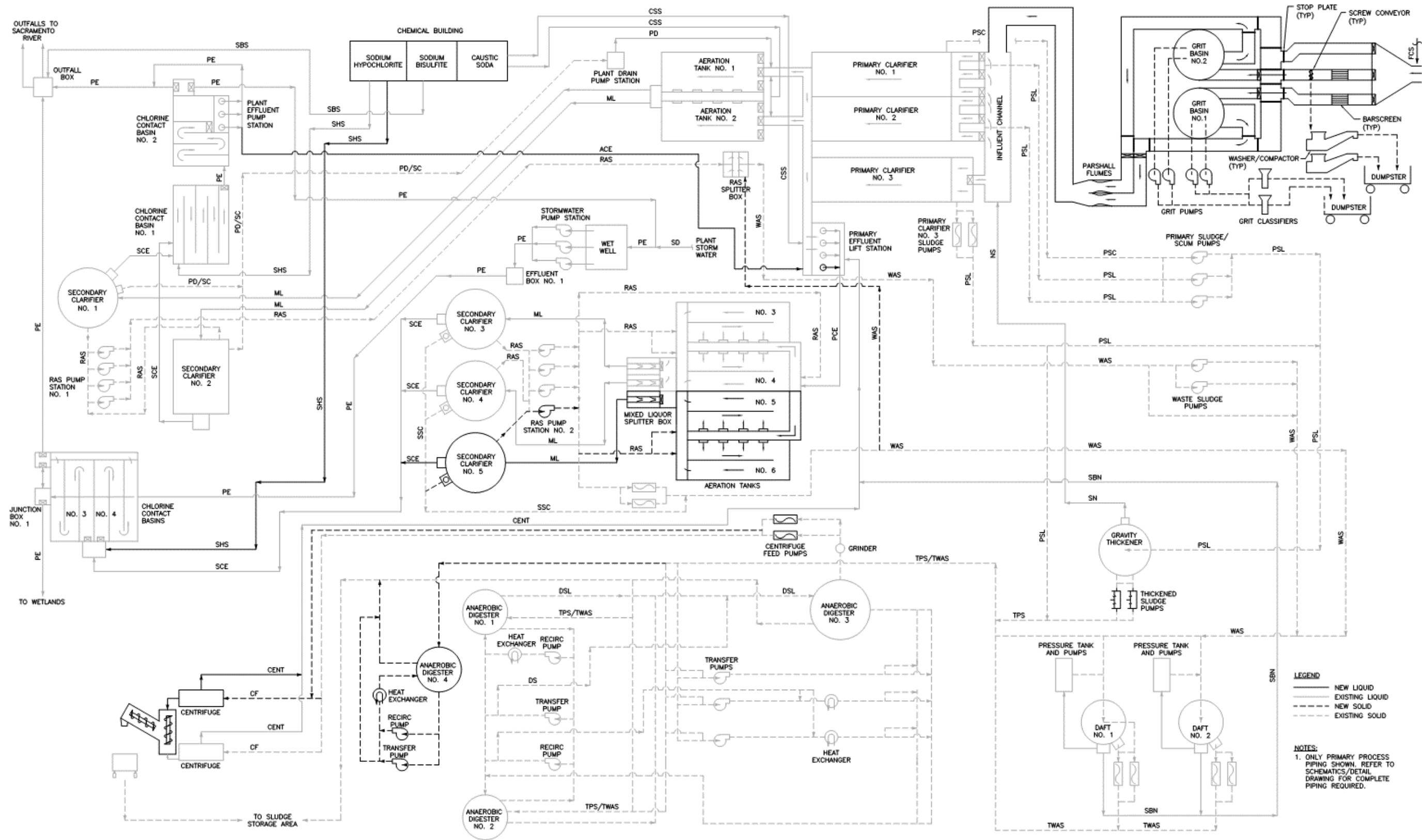


Figure 4.3 Existing WPCP Process Flow Diagram

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4.3 Peak Hydraulic Capacity Evaluation

A detailed hydraulic model was prepared to develop the hydraulic capacity for individual unit processes, which was then evaluated against the projected peak flow using the following unit process criteria:

- *Pumping processes* are evaluated based on their capacity for handling peak flow with the largest unit out of service (firm capacity).
- *Hydraulic structures* are evaluated based on their capacity for handling peak flow without over-topping the walls or submerging the effluent weirs.

Considering the significant cost and effort required to restore Plant 1 to reliable operation (Chapters 5, 6, and 7) and the decreased influent flow projections for the current planning period (Chapter 2), the hydraulic capacity was evaluated assuming that only the Plant 2 secondary facilities will be in operation during projected peak flows (per current operation).

4.3.1 Headworks and Primary Treatment

Untreated wastewater from the City's collection system enters the WPCP at the Headworks via 66-inch and 33-inch sewer pipes which combines in a junction box and flow through a 5-foot wide channel.

Upon entering the Headworks, the water flows through two of three bar screen channels and two mechanically induced vortex grit chambers. Water is conveyed to the Parshall flume located to the southwest of the Headworks through two 4-foot wide channels. From the Parshall flume, water flows through a 5-foot wide rectangular concrete box channel that reduces to a 4-foot wide rectangular channel before Primary Clarifier No. 1. The channel then reduces to a 3-foot wide rectangular channel before Primary Clarifier No. 2, with channel width remaining at 3-feet for the rest of the influent channel. Transition concrete channels split the flow from the influent channel to the three primary clarifiers. The effluent from the primary clarifiers is routed either to Aeration Tank Nos. 1 and 2 through two separate 5.3-foot by 5.5-foot rectangular concrete channels, or to the Primary Effluent Lift Station via a 4-foot wide concrete channel. At this location, the flow is split to Plant 1 and Plant 2 treatment trains.

4.3.2 Primary Effluent Pumping

The Primary Effluent Lift Station contains four vertical turbine pumps, with three pumps rated at 6,600 gallons per minute (gpm) at 30 feet of head and the fourth pump rated at 6,800 gpm at 50 feet of head. This station has a current total capacity of 28.5 mgd and a firm capacity of 24.0 mgd. The capacity of this station can be extended with the installation of a parallel force main between the Primary Effluent Lift Station and the aeration tanks. With the additional pipeline (and using existing pumps), the capacity of the pump station would be increased to a firm capacity of 28.5 mgd and total capacity of 34.5 mgd.

With a firm capacity of 24.0 mgd, the Primary Effluent Lift station has sufficient capacity for the projected AAF flow of 10.3 mgd, and just enough capacity for the projected peak hour wet weather flow of 23.5 mgd.

4.3.3 Plant 2

The Primary Effluent Lift Station pumps primary effluent to the influent channel of Aeration Tank Nos. 3, 4, 5, and 6. Return activated sludge (RAS) can be mixed with the primary effluent at

this point, or added directly to each aeration tank. Mixed liquor exiting from the four aeration tanks enters the Mixed Liquor Splitter Box where the flow is currently split into three streams. The flows are transported to Secondary Clarifier Nos. 3, 4, and 5 through three 36-inch pipes. Effluent from the three secondary clarifiers is combined in two 36-inch pipes that combine into a 48-inch pipe before it enters Chlorine Contact Basin Nos. 3 and 4. After passing through the flash mixer, the flow is split between the two chlorine contact basins. Effluent from both chlorine contact basins is combined and flows to the Outfall Box through a 48-inch pipe. At the Outfall Box, effluent from Plant 2 is combined with effluent from Plant 1, is dechlorinated, and then flows toward the river through parallel 48-inch and 33-inch pipelines.

The existing system provides hydraulic control points at each of the major processes, including the primary clarifiers, aeration tanks, secondary clarifiers, and the chlorine contact basins. The control points, in the form of rectangular or v-notch weirs, provide hydraulic breaks between the processes. These hydraulic breaks are needed so that flows are split evenly between process units where required, and so that the processes are operated within design parameters in a manner such that process performance can be maintained.

The hydraulic capacity of these unit processes is summarized in Table 4.3.

4.3.4 Peak Hydraulic Capacity Analysis Summary

Table 4.3 summarizes the submerged flow condition for each of Plant 2's main hydraulic breaks and the associated adequacy evaluation. Since the weirs are at a lower elevation than the top of the structure, the submerged weir condition is the criteria used for peak flow capacity.

Table 4.3 Effluent Weir Status Summary

Unit Process	Submerged Effluent Weir Flow Condition (mgd)	Adequate Peak Hydraulic Capacity?
Primary Clarifiers	29	Yes
Aeration Tanks	33	Yes
Secondary Clarifiers	33	Yes
Chlorine Contact Basins	25	Yes

4.4 Treatment Process Capacity Evaluation

Unlike the peak hydraulic capacity evaluation, which did not identify any capacity limitations because the projected flow conditions are less than what the current facilities were designed for, the treatment process capacity evaluation appears to show some limitations, primarily because the process evaluation incorporates the expected regulatory changes discussed in Chapter 3.

Process modeling of plant treatment processes was completed using BioWin™, using projected flow and load conditions and more stringent effluent limitations outlined in Chapter 3. The model was calibrated using AA flow and load data from 2017.

Since projected loads are lower than previously anticipated (Chapter 2), and considering the cost and effort that will be required to bring Plant 1 back into reliable operation (Chapters 5, 6, and 7), the process capacity evaluation considers only Plant 2 facilities in operation during projected peak flow and loading conditions.

Process capacity scenarios modeled for this evaluation are summarized in Table 4.4.

Table 4.4 Modeling Scenarios

Treatment Objective ⁽¹⁾	Process	Current Flows and Loads	Projected Flows and Loads
Current Operation	Nitrifying Activated Sludge	Modeled	Modeled
Reduction of effluent nitrate ⁽²⁾	MLE (Modified-Ludzack Ettinger)	Not Modeled	Modeled
Reduction of effluent TSS/BOD ⁽³⁾	MLE + Filtration	Not Modeled	Note ⁽⁴⁾
Reduction of inorganics and disinfection byproducts ⁽⁵⁾	MLE + Filtration + Advanced Disinfection	Not Modeled	Note ⁽⁴⁾

Notes:

- (1) Based on projected regulatory requirements summarized in Chapter 3.
- (2) Less than 10 mg/L NO₃ + NO₂.
- (3) 10/15/30 mg/L (average monthly, average weekly, and maximum daily).
- (4) Refer to the alternatives in Chapter 8 for process descriptions and analysis.
- (5) Values currently undefined, but would predicate non-chlorine disinfection.

4.4.1 Primary Treatment Facilities

Primary treatment facilities at the plant remove the portion of the influent suspended solids that can be separated from the flow by gravity. These facilities also remove grease, scum, and floatables from the influent. The principal components at the WPCP for the primary treatment process are the primary clarifiers and the primary sludge and scum pumping systems.

4.4.1.1 Primary Clarifiers

Three primary clarifiers are utilized at the Chico WPCP. All are rectangular in shape and measure 98 feet by 38 feet, with a sidewater depth of 10.3 feet. The design overflow rate for all three clarifiers in service is 925 gallons per day per square foot (gpd/ft²) for projected AA flow and 2,100 gpd/ft² for peak flow. The firm overflow rates for AA and peak flows are 1,390 gpd/ft² and 3,150 gpd/ft², respectively. These overflow rates fall within commonly accepted design criteria.

4.4.1.2 Primary Sludge and Scum Pumping

Primary sludge is thickened in Primary Clarifier Nos. 1 and 2 and pumped by three primary sludge double disc pumps to the digesters. Two primary sludge progressive cavity pumps are dedicated to Primary Clarifier No. 3, each with a capacity of 70 gpm at 60 feet of head.

These systems continue to provide sufficient capacity for current loads and treatment objectives as well as projected loads and advanced treatment.

4.4.2 Secondary Treatment Facilities

Individual secondary treatment process components for Plant 2 are discussed herein. The capacity evaluation presented discusses operation of the secondary treatment unit processes in nitrification mode. Nitrification describes the biochemical process whereby NH₃ present in municipal wastewater (which, at certain receiving water concentrations, is toxic to aquatic life) is oxidized into nitrate. Currently, the WPCP nitrifies the wastewater through a single stage nitrification step, where the nitrification process occurs simultaneously with carbonaceous

treatment. Carbonaceous treatment describes the oxidation of soluble and particulate organic compounds present in the primary effluent by biochemical processes, which is the primary focus of secondary treatment.

4.4.2.1 Aeration Tanks and Secondary Clarifiers

The aeration tanks in Plant 2 consist of four rectangular tanks, Aeration Tank Nos. 3 through 6, having a total volume of approximately 4.36 million gallons (MG).

Secondary Clarifier Nos. 3, 4 and 5 are all 100-foot diameter circular tanks with a sidewater depth of 14 feet. Each clarifier has a center pier-mounted rotating sludge collector mechanism driven by a 1 horsepower (hp), 1,800 rpm motor which powers a gear reduction mechanism that steps the mechanism speed down to approximately 1 revolution around the tank every 40 minutes.

4.4.2.2 Existing Nitrifying Activated Sludge Process

Without needing to bring the standby Aeration Tank No. 6 in service, Plant 2's aeration tanks have adequate capacity to treat the projected MM flow and BOD, TSS and NH₃ loads with the current treatment process.

However, at the projected influent TSS loading, which is approximately 60 percent higher than the existing condition, Aeration Tank #6 is needed to reduce the mixed liquor concentration and ensure adequate treatment capacity of the secondary clarifiers at the projected peak flow and a sludge volume index (SVI) of 120 mL/g. At SVIs higher than 135 mL/g, a fourth secondary clarifier may be required to provide adequate solids settling at the projected peak flow. While long term historical plant performance has demonstrated the Plant 2 SVI to consistently be < 120 mL/g, the future transition to MLE may result in poorer settling RAS. Observations conducted subsequent to that transition will dictate the need for the 4th clarifier within the identified planning horizon.

Under projected peak flows, the secondary clarifiers for Plant 2 have an overflow rate of 960 gpd/ft², which fall within commonly accepted design criteria.

Depending on the exact loading at the end of the planning period, diffuser configuration modifications may be required to keep the diffuser loading (airflow per diffuser) within acceptable ranges to ensure efficient aeration.

4.4.2.3 Regulatory-Driven Capacity Impacts

To meet expected nitrogen limitations (<10 mg/L combined nitrate and nitrite), it is recommended the Aeration Tanks be reconfigured for the MLE process. MLE is an industry-leading nitrogen removal process that is commonly implemented for nitrogen removal. Removal of NH₃ occurs the same way as the WPCP is currently operated, with long (7+ day) solids retention time (SRT) and additional aeration to facilitate nitrification in the aerobic portions of the Aeration Tanks.

To facilitate removal of nitrate, which is created via nitrification and is highest in concentration at the end of a nitrifying activated sludge tank, the nitrate-rich mixed liquor must be allowed to become anoxic (absence of dissolved oxygen). In the absence of free dissolved oxygen (O₂) to act as an electron acceptor, the activated sludge will adapt to using the oxygen in nitrate (NO₃) as an electron acceptor via denitrification. To ensure the process of denitrification is completed under the varying flow and load conditions, an adequately large anoxic volume must be provided.

In the MLE process, Aeration Tanks are configured with the anoxic zones at the influent end, where nitrate-rich mixed liquor is returned from the end of the tanks. With the City's wraparound

tank configuration, a mixed liquor recycle (MLR) pump would be installed in the common wall at the east end of the tanks, which provides a relatively low cost nutrient removal upgrade.

At a MLR ratio of 300 percent (3 times the influent flow to each tank is recycled back to the anoxic zones), upgraded Aeration Tank Nos. 3 through 5 can provide enough capacity to produce effluent with approximately 15 mg/L combined nitrate and nitrite. MLR rate above 300 percent provide diminishing returns in terms of nitrate removal.

Based on the calibrated process model, which considered operational data from 2017 only, there is not enough soluble BOD (the carbon source for the bacteria) in the primary effluent to support denitrification to treatment levels below 15 mg/L. To increase the soluble BOD and improve the denitrification capacity, a range of options are available.

Increasing the MLR rate improves nitrate removal but very minimally. Increasing the anoxic volume to 50 percent of the total tanks volume, which can be accomplished with the addition of baffle walls, can achieve the required reduction but comes at the expense of reduced aerobic volume (necessary for BOD and NH₃ removal) which decreases the ability of the system to adequately treat any significant short term change of influent characteristics.

Traditional approaches include chemical “food” addition (e.g., methanol or acetate) directly to the process, but this approach is typically a last resort (due to high capital and O&M costs), so is often used only if other carbon sources are not available. Initial analysis indicates that operational changes upstream of the anoxic zones could provide adequate carbon to support nitrification through internal plant return streams that are rich in soluble BOD.

Other carbon streams could be considered, including high strength waste from Sierra Nevada’s brewery. Because the model was calibrated using only 2017 data (due to data fidelity issues and operational changes), a detailed wastewater characterization and refined plant process model is recommended during design of the nitrogen removal upgrade project.

4.4.2.4 Aeration Capacity

Three multistage centrifugal blowers and one high speed turbo blower supply the aeration system air. Each blower has a nameplate capacity of 4,500 standard cubic feet per minute (scfm) at a pressure of 9.1 pounds per square inch gauge (psig). Air requirements in nitrifying activated sludge mode (current operation) at projected AA and MM loads are estimated at 11,200 scfm and 16,000 scfm, respectively.

The existing blower nameplate capacity of 18,000 scfm (firm capacity of 13,500 scfm) is sufficient for projected AA loads using the current operating mode. However, actual performance of the blowers has not matched the rated capacity.

The MLE process recovers oxygen via denitrification; therefore, no increased aeration demand is expected, but given the performance of the existing blowers, an optimization or upgrade project is recommended to ensure sufficient aeration for the current and future processes.

4.4.2.5 Plant 2 RAS and WAS Pumping

RAS Pump Station No. 2 consists of four horizontal mixed-flow centrifugal pumps, each with a capacity of 2,100 gpm at 24 feet of head. One of the RAS pumps is dedicated to Secondary Clarifier No. 3, another is dedicated to Secondary Clarifier No. 4, and another is dedicated to Secondary Clarifier No. 5. A fourth pump can be used as a standby to any clarifier. A total of 9 mgd firm RAS pumping capacity is provided by RAS Pump Station No. 2.

The waste activated sludge (WAS) pumps are also located at the RAS Pump Station No. 2. The WAS pumps consist of two progressive cavity pumps, each with a capacity of 150 gpm at 35 feet of head.

These systems continue to provide sufficient capacity for current loads and treatment objectives as well as projected loads. Since the MLE process requires a similar RAS rate and similar SRT to current operation, no additional impacts are expected related to the capacity of these systems.

4.4.3 Disinfection

The existing plant effluent disinfection system uses liquid sodium hypochlorite solution (SHS) to disinfect, and liquid sodium bisulfite solution (SBS) to dechlorinate. Because projected flows are within the capacity of the 2007 expansion project and no anticipated process changes have a significant impact on previous analyses, an abbreviated analysis of these systems is presented herein.

Regulatory-driven upgrades to disinfection processes are discussed further in Chapter 8.

The existing chlorination and dechlorination chemical delivery facilities are adequately sized for the projected AA and peak flows. The existing chlorine contact basins are adequately sized for projected AA and peak flows.

4.4.3.1 Sodium Hypochlorite Feed System

SHS, for effluent disinfection and other uses in the plant, is stored in two 9,500-gallon storage tanks located at the Chemical Building. The Chemical Building contains four metering pumps for distribution of SHS throughout the plant. Two pumps are rated at 150 gallons per hour (gph) and two pumps are rated at 60 gph. The SHS pumps discharge to Chlorine Contact Basin Nos. 1, 3, and 4, along with a number of other dosage points across the plant.

One each of the 60 gph and 150 gph pumps delivers SHS for chlorination of the effluent from Plant 1 and Plant 2, respectively. The other 150 gph pump serves as a backup for both plants. The remaining 60 gph pump delivers SHS to the other dosing points within the plant.

The SHS feed system has enough storage and pumping capacity to meet the plant demands at projected AA and peak flows.

4.4.3.2 Disinfection Contact Facilities

Disinfection contact facilities at the WPCP have been provided for both Plant 1 and Plant 2.

Plant 2 Chlorine Contact Basin Nos. 3 and 4 each have a volume of 257,000 gallons. In normal operation, the basins are operated in parallel. Each of the basins can be taken out of service for cleaning and other maintenance purposes.

The existing facilities will provide sufficient contact time at both ADAM and peak flows.

4.4.3.3 Dechlorination Facilities

The SBS feed system consists of two 6,500-gallon liquid SBS storage tanks, two 80 gph metering pumps, two chlorine residual analyzers, and ancillary equipment. The SBS feed system has enough storage and pumping capacity to meet the plant demands at projected AA and peak flows.

The Outfall Box gates are –hydraulically actuated and are connected to the plant SCADA system to allow flow to the river to be interrupted upon detection of a positive chlorine residual. The

gate controlling pond discharge is also integrated within the hydraulic controls, allowing for automated diversion.

4.4.4 Solids Handling

Existing on-site solids handling systems at the plant are evaluated in the following subsections.

4.4.4.1 Primary Solids Thickening

Solids removed from the primary clarifiers were previously thickened in a single 55-foot diameter gravity thickener converted from a primary clarifier. The generous sizing was because this tank was initially used as a primary clarifier and then used as a thickener for both primary and secondary sludge. This practice was discontinued when the first dissolved air flotation thickener (DAFT) was constructed to separately thicken WAS.

The recent conversion of the Primary Clarifier No. 1 and 2 sludge pumps to positive displacement, double disc diaphragm pumps has allowed WPCP staff to experiment with sludge thickening directly in all of the primary clarifiers. Previously this capability was only possible in Primary Clarifier No. 3. To date the WPCP has had positive results with this change and has idled the gravity thickener process.

4.4.4.2 WAS Thickening

WAS is presently thickened separately from primary sludge prior to stabilization in the anaerobic digesters. Dual 25-foot diameter DAFTs are provided for this purpose. Operation of the two existing DAFTs provides sufficient capacity to thicken WAS at plant flows up to 15 mgd. In the event that one DAFT is out of service, the remaining unit could be operated at a level exceeding its design capacity, or excess WAS could be co-thickened with the primary sludge in the gravity thickener.

WAS pumping can be interrupted for short term periods since it is not critical to waste secondary solids continuously so long as the appropriate waste volume over time is maintained. The presence of a second unit provides additional reliability for the WAS thickening process. One unit may be out of service for maintenance reasons without adversely affecting the process and can accommodate longer shutdown periods, if required.

The existing system provides adequate capacity for the projected AA loads. The anticipated additional loading from a potential tertiary filter is less than 1 percent of the influent loads; therefore, no additional impacts are expected.

4.4.4.3 Anaerobic Digestion

Solids generated from the primary sedimentation and secondary treatment processes are stabilized in three 70-foot diameter anaerobic digesters (Anaerobic Digester Nos. 1, 2, and 4) having a combined volume of 277,500 cubic feet (2,077,500 gallons). Sludge heating of Anaerobic Digester Nos. 1, 2, and 4 is by means of pumped circulation of the digester contents through external heat exchangers. Externally mounted pumps provide mixing.

The floating cover digester was converted to Anaerobic Digester No. 3 and serves primarily as a sludge storage/holding tank for the solids dewatering process. This tank is a 60-foot diameter tank with a total effective storage of 32,500 cubic feet (243,000 gallons). This volume provides approximately 3 days sludge storage at a plant influent flow rate of 10.3 mgd. Anaerobic Digester No. 3 could also be heated and used as a primary digester in the event that either Digester Nos. 1, 2, or 4 is out of service. Anaerobic Digester No. 3 has a gas mixing system and

recirculation pump discharge nozzles to keep the contents of the digester mixed before the dewatering process.

At the projected AA sludge generation rate associated with 10.3 mgd AA flows to the plant and the thickened sludge concentrations anticipated, Anaerobic Digester Nos. 1, 2, and 4 are capable of providing a theoretical detention time of about 20 days under MM loading conditions.

A minimum detention time of 15 days at MM loadings is required for the solids to meet federal EPA requirements as a Process to Significantly Reduce Pathogens (PSRP). Compliance with the PSRP requirements is essential to provide the City with the stabilization needed for the biosolids to be classified as Class B and to be used for land application.

The existing system provides adequate capacity for the projected AA loads. The anticipated additional solids loading from a potential tertiary filter is less than 1 percent of the influent loads; therefore, no additional impacts are expected.

4.4.4.4 Solids Dewatering

Two separate methods of solids dewatering are available at the WPCP. Digested sludge from Anaerobic Digester No. 3 can be fed to the centrifuge for solids dewatering. The centrifuge mechanically dewateres the digested sludge through high-speed rotation, concentrating the solids into a "cake." The centrifuge utilizes polymer to flocculate the solids prior to dewatering. Following centrifuge dewatering, the solids can either be direct off-hauled, or stored on site for future disposal. The WPCP currently dewateres all solids via centrifuge, and has them off-hauled directly through a contract with Synegro.

Alternatively, digested sludge may be directly transferred to the drying beds located to the north of the WPCP unit processes. These drying beds may be also used for further drying of the cake solids from the centrifuge, or digested sludge can be transferred to the beds directly from the digesters. After completion of solar drying, the solids can be stockpiled in two designated areas to await off haul.

The existing centrifuges were designed to dewater digested sludge from the sludge storage tank (Anaerobic Digester No. 3) for 45 hours per week at 18 mgd MM design conditions. Under this operational strategy and at a projected MM flow of 13.9 mgd, the solids dewatering process has adequate capacity.

4.4.4.5 Digester Gas

Digester gas is a usable byproduct produced continually by the anaerobic digesters. Digester gas is utilized in two areas: the boilers of the integrated type sludge heaters and the cogeneration system. The demand for gas by the boilers and cogeneration system is intermittent and variable. Specified digester gas demands are less than the theoretical output of the digesters at 9 mgd.

There are presently no facilities at the plant intended for the storage of gas produced by the anaerobic digestion process. A very limited amount of storage is available in the space between the digester domes on the fixed-roof digesters and the surface of the digester contents. Once this space is filled and the gas demand is satisfied, excess gas is flared in the waste gas burner. The cogeneration feasibility study determined that digester gas storage did not provide an economic benefit to operate in a peak shaving mode.

4.5 Overall WPCP Capacity

In general, the 12 mgd expansion project completed in 2007 provided the capacity for adequate treatment of the currently projected flows and loads through the planning period. A relatively low-cost nutrient removal upgrade to the MLE process may require supplemental carbon, which can be obtained from a variety of internal streams, operational changes, or external sources.

Although historically low, an increase in SVI that results from the MLE upgrade (or any other operational or influent changes) may trigger the need for a fourth secondary clarifier to provide adequate settling capacity at the projected peak flow.

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Chapter 5

FACILITY INSPECTION/FIELD OBSERVATIONS

On April 25 and 26, 2018, Carollo's multi-disciplinary condition assessment team completed a visual condition assessment of over 500 WPCP assets. This team of structural, mechanical, electrical, and process engineers was accompanied by WPCP staff, who provided both condition and risk-related context to supplement the visual facility inspection. Assessment data was captured electronically using tablets and CarolloAM, an online condition assessment tool.

5.1 Facility Overview

Raw wastewater (plant influent) flows to the WPCP from the City's collection system, through the Headworks facilities, and then to the primary treatment facilities. After primary treatment, flow is conveyed to Plant 1 and/or Plant 2, which are the WPCP's two parallel secondary treatment trains. Plant 1 consists of the secondary and disinfection processes constructed prior to the 1997 Expansion Project. Plant 2 was constructed during the 1997 Expansion Project, with additional capacity added during the 12 mgd Expansion Project (referred to herein as the 2009 Expansion Project). Primary effluent flows by gravity to Plant 1 and/or is pumped (via the Primary Effluent Lift Station) to Plant 2. Effluent from Plant 1 and Plant 2 can be combined for final dechlorination prior to discharge to the Sacramento River.

5.2 Administration Building

The Administration Building (constructed during the 1997 Expansion Project) provides working space, a kitchen, and locker room facilities for WPCP staff and also houses a water quality laboratory.

WPCP staff indicated during the facility inspection that the roof leaks and needs to be replaced. They also indicated that the working space is too small for the number of current staff, the building needs to be recoated, and the heating, ventilation, and air condition (HVAC) system needs to be replaced.

5.3 Headworks

The Headworks facilities, constructed during the 2009 Expansion Project, provide influent screening, grit removal, and influent flow measurement. Flow can be diverted to the Northeast Pond in the event of a major plant upset or mechanical failure within the Headworks that could cause equipment damage or flooding within the WPCP. In the event of bypass, flows would be returned from the facility's Northeast Pond to the Headworks facilities once the system is brought back on line.

Odor control facilities remove and treat the foul air escaping from the influent wastewater as it flows through the Headworks facilities.

5.3.1 Screening and Grit Removal

Raw wastewater from the City's collection system passes through Headworks for screening and grit removal prior to primary treatment.

5.3.1.1 Screening

Screenings are separated from the influent flow by the mechanical bar screens or through use of the manual bar rack (should one or both screens be out of service). The separated screenings are raked up and out of the influent flow, discharged onto the shaftless screw conveyor and transported to two screenings washer-compactor units that wash and dewater the screenings before discharging them to a dedicated disposal bin.

5.3.1.2 Grit Removal

The screened influent flows through the grit removal and handling facilities, which remove heavy inorganic materials (e.g., sand and gravel) from the flow. Grit is removed as flow passes through two vortex grit chambers. Grit collected at the bottom of the grit chambers is pumped to grit classifiers for separation of trapped organics prior to discharge of the collected grit into a disposal bin.

Removed screenings and grit are hauled to the landfill for final disposal.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- Bar screens: No major issues, normal wear for equipment age. Staff indicated that they had some difficulty with the operation of screens following startup, but have since remedied the issue (level control related).
- Conveyor: No major issues; normal wear for equipment age.
- Screenings washer/compactor units: currently run dry due to limitations of drain line capacity. This could lead to premature failure, and as such, drain upsizing is needed.
- Grit chambers: the drive unit for Vortex Grit Chamber No. 1 was rebuilt in 2015, and covers were added to keep water from pooling on the seal. Similar improvements for Vortex Grit Chamber No. 2 are likely needed in the near term.
- Grit pumps: Normal wear for equipment age, minimal to no corrosion, some scale buildup from seal water.
- Grit basement exhaust fan: Operating well, minimal corrosion.

5.3.2 Flow Measurement

Two Parshall Flumes provide influent flow measurement as flow is routed from Headworks to the primary treatment facilities through parallel channels. Both Parshall Flume structures were observed to be in good condition.

5.3.3 Odor Control

All exposed water surfaces within the Headworks facilities are covered by fiberglass reinforced plastic (FRP) covers to control the release of odors produced by the influent flow. Foul air is withdrawn from each enclosed region, collected via air ducts, and treated at the biofilters (which were constructed during the 2009 Expansion Project with the Headworks facilities). The odor control system consists of two (2) packed bed media biofilter structures, biofilter fans, and ancillary items. The biofilter fans pull a vacuum on the foul air ductwork and push it through the biofilter media through a series of buried diffusers.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- Biofilter fans: Flexible expansion joints and duct expansion couplings are compressed unevenly and show some degradation from sun exposure.
- Biofilter media: Needs to be replaced. WPCP staff are pursuing with operations budget (quote pending).

5.3.4 Chemical Dosing

Chemical facilities at Headworks include the ferric chloride storage and feed facilities. The goal for these facilities was to provide for ferric chloride dosing as the influent flow enters the Headworks facility, assisting in odor mitigation at Headworks and enhancing the primary clarification process. These facilities were constructed along with the Headworks facilities during the 2009 Expansion Project, but have never been used.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- Chemical feed pumps: System has never been used (and may not be used in the future as operations prefers to keep phosphorous in the process. There is visible leakage of grease and oil from the pump motor.
- Sump pumps: Not found. It is likely that these were moved to another facility.

5.3.5 Headworks Drain Pumps Plant Drain 1

The Headworks Drain Pumps redirect storm drainage water collected from the Headworks facility and new sludge storage areas to the influent channel just upstream of the Headworks inlet structure. Additionally, the pumps will serve to drain the emergency storage pond when used following an influent bypass condition.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- Headworks drain pumps: No issues, facilities are rarely run.

5.3.6 Structural Assessment

The structures that make up the Headworks facilities are all in good condition. The inspection team was not able to inspect the polyvinyl chloride (PVC) sheet concrete liner in the influent wet well or through the Headworks facility. WPCP staff reports that T-lock remains intact, and no corrosion has been observed.

5.3.7 Headworks Electrical Building

Distribution of power to the Headworks facilities is through MCC-P14 (Cutler-Hammer Freedom [DM] 2100 Series, intelligent MCC), which is located in the Headworks Electrical Building; constructed during the 2007 Expansion. Input/output (I/O) interface to this area (from SCADA) is through PLC-HH (FluidIQs custom panel with Allen-Bradley Control Logix PLC I/O rack), through Device Net.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- MCC-P14 is in good condition, with projected remaining useful life of 10+ years.
 - Staff maintains a lot of spare parts for this system.
- PLC HH is in good condition, with projected remaining useful life of 10+ years.
- Electrical building roof: Coating flashing on roof has failed and will need to be replaced.

5.4 Primary Treatment

Primary treatment facilities at the WPCP remove the portion of the influent suspended solids that can be separated from the flow by gravity. Approximately 60 to 80 percent of the influent suspended solids are normally removed in this manner. Removal of organic solids during primary treatment reduces the demand for oxygen in the secondary treatment process. The relatively quiescent conditions in the primary sedimentation process also permit grease, scum and materials with densities lower than water to float to the surface where they are separated from the influent flow. The principal components at the WPCP for the primary treatment process are the primary clarifiers and the primary sludge and scum pumping systems.

5.4.1 Primary Clarifiers

Three rectangular primary clarifiers provide primary treatment for all of the WPCP's influent flow. Primary Clarifier Nos. 1 and 2 were constructed in 1972, and Primary Clarifier No. 3 was constructed during the 1997 Expansion Project.

Each primary clarifier is fitted with a chain-and-flight mechanism for removal of the primary sludge that settles on the sloped floor. The chain-and-flight collector moves the sludge towards the head end of the tank, into a sloped trench in the floor of the clarifier. Within the trench, a smaller chain-and-flight cross collector moves the primary sludge into a hopper containing the sludge pump suction pipe. Removal of floatables is accomplished with rows of spray nozzles mounted on the walkways perpendicular to the longitudinal axis of the tanks. These sprays move the surface scum to a rotating scum trough located at the influent end of the clarifier, which removes the floatables.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- A detailed structural evaluation is needed to confirm remaining useful life of structures that make up Primary Clarifier Nos. 1 and 2.
- There were concrete deterioration and drainage issues observed at the bottom of the stairs to the pump gallery. The guardrail kick plate is sliding out of position in several areas.
- The sludge collector drive for Primary Clarifier No. 1 is on the City's rebuild schedule (noise from motor and drive noted during inspection).
- Primary Clarifier No. 2 sludge collector was replaced in 2016.
- The skimmers and flights need to be replaced on Primary Clarifier Nos. 1 and 3.
- The motor and chains were not visible during inspection, but the WPCP staff indicated that they are in good condition.
- The effluent gate for Primary Clarifier No. 3 appears to be nearing the end of its useful life.

5.4.2 Primary Sludge and Scum Pumping

Primary sludge and pumping facilities have been constructed simultaneous to the primary clarifier expansions. Additional primary sludge and primary scum pumping capacity may be needed if additional primary clarifiers are installed in future facility upgrade projects.

5.4.2.1 Waste Sludge Pump Station

Three primary sludge pumps serving Primary Clarifier Nos. 1 and 2 (Primary Sludge Pump Nos. 1, 2, and 3) are located in the Waste Sludge Pump Station. One of the recessed impeller pumps within the Waste Sludge Pump Station is customarily utilized for scum removal from a common scum pit serving Primary Clarifier Nos. 1, 2, and 3. This pump can also serve as a standby sludge pump for Primary Clarifier Nos. 1 and 2 in the event that one of the duty pumps is unavailable.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- Primary Sludge Pump Nos. 1 – 3 were replaced in early 2018 with double disk style pumps. These pumps have been working well in this application and are in good condition.

5.4.2.2 Primary Clarifier 3 Pump Gallery

Two primary sludge pumps dedicated to Primary Clarifier No. 3 (Primary Sludge Pump Nos. 4 and 5) are located in the pump gallery of Primary Clarifier No. 3.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- Primary Sludge Pump Nos. 4 and 5 are no longer eligible for rebuild (due to their age) and will need to be replaced in the near term (< 5 years).

5.4.3 Old Headworks Electrical Building

Distribution of power to Primary Clarifier Nos. 1 and 2 (and ancillary equipment) is through MCC-P3 (Westinghouse Series 2100). Distribution of power to Primary Clarifier No. 3 (and ancillary equipment) is through MCC-P13 (Cutler-Hammer Freedom 2100 Series). Both are located in the Old Headworks Electrical Building. I/O interface to this area (from SCADA) is through PLC-H1 (Tesco custom panel with Allen-Bradley PLC 5/40 I/O rack) through Control Net.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- MCC-P3 is nearing the end of its remaining useful life, and should be replaced in the near-term (< 10 years).
- MCC-P13 is in good condition, with projected remaining useful life of 10+ years.
- PLC-H1 is obsolete and should be replaced in the near-term (< 5 years).

5.4.4 Primary Effluent Lift Station

The Primary Effluent Lift Station (constructed during the 1997 Expansion Project) consists of an enclosed wet well structure and a modular electrical building located to the east of the wet well. Primary effluent flows from Primary Clarifier Nos. 1, 2, and 3 into the wet well via the primary effluent channel. The wet well also receives subnatant from the two DAFT units and centrate from the two centrifuges. From the wet well, primary effluent is pumped into a discharge

manifold via four vertical turbine pumps. The pumping rate is controlled through variable frequency drives (VFDs) located within the modular electrical room. The discharge pipe is routed underground to Aeration Tank Nos. 3, 4, 5, and 6.

The following observations were made by the condition assessment team:

- The pumps and pump station structure are in good condition. WPCP staff did not indicate any major operational issues.

5.4.5 Primary Effluent Lift Station Electrical Room

Distribution of power to the primary effluent pumps (and ancillary equipment) is through MCC-P13 (Cutler-Hammer Freedom 2100 Series), located in the Primary Effluent Lift Station Electrical Room. I/O interface to this area (from SCADA) is through PLC-H-I/O (Tesco custom panel with PLC 5/40 I/O rack) through Control Net.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- MCC-P13 is in good condition, with projected remaining useful life of 10+ years.
- PLC-H1-I/O is obsolete and should be replaced in the near-term (< 5 years).

5.5 Plant 1 Secondary Treatment and Disinfection Contact

Plant 1 consists of the secondary treatment and disinfection processes constructed prior to the 1997 expansion project. Plant 1 facilities have not been consistently operated since completion of the 1997 expansion project, and are in a state of general disrepair.

5.5.1 Aeration Tanks and Blowers

The Plant 1 aeration tanks consist of two rectangular tanks (Aeration Tank Nos. 1 and 2), both constructed in 1972. The aeration system (added in 1990) consists of four blowers that supply air through a series of submerged diffusers to the activated sludge suspension retained within the aeration tanks (referred to as "mixed liquor"). The introduction of air into the process provides oxygen necessary for the biological oxidation of influent BOD and NH₃.

Upon completion of the 1997 Expansion Project, the tanks sat mostly idle until they were converted (in 2005) to serve as a full-scale Waste Activated Sludge Anaerobic Contact (WASAC) demonstration. This conversion required the installation of a baffle wall within Aeration Tank No. 2 and floating mixers in both tanks. Several piping modifications were made during the same project to assist the demonstration.

Following the completion of the WASAC demonstration, the tanks were idle again until 2017 when Aeration Tank No. 2 was repurposed for centrate equalization (Aeration Tank No. 1 is still idle). The ammonia-rich centrate is a byproduct of the centrifuge dewatering process and was historically pumped directly to Plant 2. The bacteria that remove ammonia typically do not grow quickly enough to adapt to abrupt variations in ammonia loading; consequently, Plant 2 was experiencing diurnal ammonia spikes that coincided with the 5 hour (+/-) daily dewatering operation at the WPCP. One of the blowers is turned on occasionally to aerate/mix the centrate, but is never kept running for a long period of time.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- A structural evaluation is needed to determine if the structures have adequate seismic design capacity.
- Equipment appears in fair condition (visual), but has been out of service for a significant period of time.
- Blowers are not bolted down to support pads.
- Ladder to roof requires compliance-driven updates.
- Blowers cannot be controlled from SCADA (monitoring signal to SCADA only).
- Plant staff indicate that foaming issues (from nocardia bacteria) occur when they operate Plant 1.
- Aeration Tank Nos. 1 and 2 need new diffusers (plant staff indicate that many are broken).

The following improvements (at a minimum) would be required to recommission the Plant 1 secondary treatment facilities for normal operation:

- Construct a new/repurpose another existing facility for centrate equalization (or improve Plant 2 for ammonia spikes).
- Remove WASAC demonstration improvements.
- Replace blowers.
- Replace diffusers.
- Spot repair/rehabilitation of process piping.
- Rehabilitate gates and actuators.
- Replace solenoid valves and instrumentation.
- Electrical improvements (discussed later).

5.5.2 Blower Building No. 1 Electrical Room

Distribution of power to equipment associated with Aeration Tanks No. 1 and 2 is through MCC-P1 and MCC-EP1 (both Westinghouse 2100 Series), both located in the Blower Building No. 1 Electrical Room. I/O interface to this area (from SCADA) is through LCP-B (PLC-DI-I/O), a Tesco custom panel with Allen-Bradley PLC 5/40 I/O rack through Control Net.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- MCC-P1 is nearing the end of its remaining useful life, and should be replaced in the near-term (< 5 years).
- MCC-EP1 is at the end of its remaining useful life, and should be replaced immediately.
- LCP-B (PLC-DI-I) is obsolete and should be replaced in the near-term (< 5 years).

5.5.3 Secondary Clarifiers 1 & 2

The secondary clarification facilities in Plant 1 consist of one circular clarifier (Secondary Clarifier No. 1) and one rectangular clarifier (Secondary Clarifier No. 2). Secondary Clarifier No. 2 was constructed with the original plant expansion project (in 1972) and Secondary Clarifier No. 1 was constructed during the 1990 Expansion Project.

A few years after construction of Secondary Clarifier No. 1, the clarifier slab was damaged during dewatering of the structure due to high groundwater conditions. This damage was repaired prior to the 1997 Expansion Project.

Both clarifiers were taken off-line following start-up of the new Plant 2 facilities during the 1997 Expansion Project and have not been operated regularly since.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- Secondary Clarifier No. 1: the sludge collector mechanism, scum collector, and drive appear to be in fair condition, with minimal corrosion and no visible lubricant leaks. However, this equipment has been out of service for a significant period of time (with some equipment not visible due to water and algae in the bottom of the clarifier. As such, true condition is unknown.
- Secondary Clarifier No. 2: the sludge collector mechanism and drive appear to be in poor condition, with corrosion and some lubricant leaks. WPCP staff indicate that the mechanism needs to be realigned. Structural staff indicate that seismic restraints are needed for the mechanism. The motors are disconnected. Non-metallic components appear to show damage from exposure to the sun.

The following improvements (at minimum) would be required to recommission the Plant 1 secondary treatment facilities for normal operation:

- Secondary Clarifier No. 1:
 - Rebuild/replace sludge collector drive and motor.
 - Rebuild/replace scum collector actuator.
 - Recoat all mechanisms with repair of particularly degraded areas.
 - Instrumentation upgrades/replacement.
 - Electrical improvements (discussed later).
- Secondary Clarifier No. 2:
 - Rebuild/replace sludge collector drives and motor; provide seismic restraints (as needed).
 - Replace chains and flights.
 - Replace sprayers and piping.
 - Replace fiberglass launders, troughs, and weirs.
 - Instrumentation upgrades/replacement.
 - Electrical improvements (discussed later).

5.5.4 RAS & WAS Pumping

The RAS pump station for Plant 1 consists of four horizontal centrifugal pumps and ancillary items. Two pumps are dedicated to Secondary Clarifier No. 1, one is dedicated to Secondary Clarifier No. 2, and a fourth pump can be used as a standby for either of the Plant 1 secondary clarifiers.

The Plant 1 WAS pumps are located in the upper level of the Waste Sludge Pump Station. The WAS pumps consist of two non-clog centrifugal pumps installed during the 1997 Expansion Project in a duty/standby arrangement.

All pumps were taken out of service following the completion of start-up of the new Plant 2 facilities during the 1997 Expansion Project and have not been operated regularly since (with exception to one RAS pump that was used during the WASAC demonstration).

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- The pumps appear to be in fair condition with intact coating and minimal corrosion or evidence of leakage, but have been out of service for a significant period of time.

The following improvements (at minimum) would be required to recommission the Plant 1 secondary treatment facilities for normal operation:

- Inspect pumps internals – impellers, wear surfaces, bearings, seals, etc.
 - Replace worn components or entire pumps (as needed).
- Test motors - rebuild or replace as necessary.
- Instrumentation upgrades/replacement.
- Electrical improvements (discussed later).

5.5.5 Disinfection Contact

The existing plant effluent disinfection system uses liquid SHS for disinfection. The sodium hypochlorite is added to the secondary effluent and left in contact for a sufficient amount of time for disinfection to take place. Following disinfection, sodium bisulfite solution is added to neutralize the residual chlorine (termed dechlorination) prior to discharging the effluent to the Sacramento River. There are four principal components of the effluent disinfection system:

1. SHS feed system.
2. Mixing system.
3. Contact facilities.
4. Dechlorination facilities.

Each of these disinfection system facilities (except Plant 1 contact facilities) are discussed later in this Chapter.

Disinfection contact facilities in Plant 1 consists of Chlorine Contact Basin Nos. 1 and 2 (both constructed in 1972) and a flash mixer for chemical mixing. During the 1990 Expansion Project, one of the old rectangular secondary clarifiers was converted into Chlorine Contact Basin No. 1 by removing the sludge collection mechanisms and installing baffle walls. The basins are normally operated in series; effluent first passes through Basin No. 1 and then through Basin No. 2.

The Plant 1 disinfection contact facilities were taken out of service following the startup of the Plant 2 facilities and have not been operated regularly since.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- Equipment appears in fair condition (visual), but has been out of service for a significant period of time.
- Chlorine Contact Basin No. 1: bottom center wall needs repair.
- Chlorine Contact Basin No. 2. Assigned a number 4 rating based on seismic retrofit for CMU walls. Bridge bearing needs replacement.

The following improvements (at minimum) would be required to recommission the Plant 1 secondary treatment facilities for normal operation:

- Rehabilitate or replace gates and actuators.
- Replace sampling pumps.
- Rehabilitate/replace flash mixer – motor, drive, shaft, blades, and bearings.
- Instrumentation upgrades/replacement.
- Electrical improvements (discussed later).

5.5.6 RAS Pump Station No. 1 Electrical Room

Distribution of power to equipment associated with Secondary Clarifier Nos. 1 and 2, associated RAS pumping, and Chlorine Contact Basin Nos. 1 and 2 facilities is through MCC EP6 and (Westinghouse 2100 Series), located in RAS Pump Station No. 1. WAS pumping receives power from MCC-EP3 (Cutler-Hammer Freedom 2100 Series), located in the Sludge Pump Station Electrical Room. I/O interface to this area (from SCADA) is through LCP-B (PLC-D1-I/O), LCP-H (PLC-HI-I/O) and LCP-R (PLC-C1-I/O), all Tesco custom panels with Allen-Bradley PLC 5/40 I/O rack through Control Net.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- MCC-EP3 is in good condition, with projected remaining useful life of 10+ years.
- MCC-EP6 appears to be in fair condition, but is nearing the end of its remaining useful life and should be replaced in the near-term (< 5 years).
- PLC-D1-I/O, PLC-H1-I/O, and PLC-C1-I/O are all obsolete and should be replaced in the near-term (< 5 years).

5.5.7 Effluent Disposal

The plant effluent disposal system is capable of discharging treated effluent and site stormwater into either (1) the Sacramento River (i.e., normal operation), or (2) the emergency storage ponds (i.e., during emergency bypass or to maintain wildlife use at the ponds). For Sacramento River discharge, effluent from Plant 2 flows by gravity regardless of river conditions. Effluent discharged to the river from Plant 1 flows by gravity during normal plant flows and river conditions and is pumped via the Plant Effluent Pump Station during high plant flows and river conditions.

The Plant Effluent Pump Station has three vertical turbine pumps, with an estimated maximum (total) pumping capacity of about 10 mgd with one pump serving standby.

The Plant Effluent Pump Station was taken out of service following the completion of start-up of the new Plant 2 facilities during the 1997 Expansion Project (due to cessation of discharge from Plant 1), and have not been regularly operated since.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- The pumps appear to be in fair condition with intact coating and minimal corrosion or evidence of leakage, but have been out of service for a significant period of time.

The following improvements (at minimum) will be needed if Plant 1 disinfection contact facilities are to be re-commissioned for normal plant operation:

- Pull pumps to inspect internals – impellers, wear surfaces, bearings, seals, etc.:
 - Replace worn components or entire pumps as needed.
- Test motors - rebuild or replace as necessary.
- Instrumentation upgrades/replacement.
- Electrical improvements (discussed later).

5.5.8 Plant 1 Electrical and Instrumentation Systems

The Plant 1 electrical distribution system is made up of several motor control centers (MCCs) that were installed during the 1990 Expansion Project. These MCCs (MCC-EP1, MCC-EP3, MCC-EP6, and MCC-P1) are all either off-line or are only lightly loaded, and were observed to be near or past their useful lives.

All electrical distribution facilities should be replaced if Plant 1 facilities are to be re-commissioned (including downstream conduit and wiring).

5.5.9 Plant 1 Instrumentation/Control

The WPCP SCADA system consists of a number of programmable logic controllers (PLCs) and remote I/O racks distributed throughout the plant. The PLC processors and some of the I/O modules are Allen-Bradley ControlLogix, which is the current production line. The remaining PLC and I/O equipment (which includes many of the PLC processors and I/O racks in Plant 1) is Allen-Bradley PLC-5, which is obsolete.

All PLC and I/O equipment should be replaced if Plant 1 is re-commissioned.

5.6 Plant 2 Secondary Treatment and Disinfection

5.6.1 Aeration Tanks 3, 4, 5 & 6

There are four rectangular aeration tanks in Plant 2 (Aeration Tank Nos. 3, 4, 5, and 6). Aeration Tank Nos. 3 and 4 were constructed during the 1997 Expansion Project, and Aeration Tank Nos. 5 and 6 were constructed during the 2009 Expansion Project.

Similar to the Plant 1 aeration tanks, the Plant 2 aeration tanks are used to aerate the activated sludge suspension referred to as "mixed liquor." Plant 2 aeration tanks are each configured with a two pass flow scheme and an aerated influent channel splitting the tank pairs (Aeration Tanks 3 and 4 form one pair, and Aeration Tanks 5 and 6 form another). The head end of each aeration tank is sectioned into three compartments with redwood baffles that can be utilized as anoxic selectors. Mixed liquor exits the compartments and enters the aerobic zone within the first pass. Flow continues around the interior wall and into the second pass. Flow exits the second pass of each aeration tank over a sharp-crested weir into the aerated effluent channel. Mixed liquor from all of the tanks then passes through the mixed liquor splitter box, prior to secondary clarification. The primary effluent, either combined with or separate from the RAS flow, is controlled by sluice gates located on both sides of the influent channel to the aeration tanks. Generally, the mixed liquor is combined within the influent channel and fed through the sluice gates located at the end of the channel to the head end of the aeration tanks in a plug flow mode. Circular membrane fine bubble diffusers, mounted on the tank floor, provide aeration. There are a total of seven aeration grids in each tank, of which three are within the selector compartments. Each grid in the

aeration tanks has different diffuser densities and overall dimensions, designed to deliver air at a rate similar to the dissolved oxygen uptake. Channel aeration is also provided in both the influent and effluent channels to ensure that the mixed liquor solids do not settle and accumulate in the bottom of either channel.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- Overall the basin mechanical assets are in good to fair condition.
- The diffusers were not visible during the assessment, but staff indicated that the basins are drained each year to be cleaned and inspected:
 - Diffusers in Aeration Tank Nos. 3 and 4 were replaced during 2009 Expansion Project. Diffusers in Aeration Tank Nos. 5 and 6 were installed during the same project.
- All gates are regularly exercised.
- WPCP staff indicate that a leak exists between Aeration Tank Nos. 4 and 5, possibly due to differential settling between the two structures.

5.6.2 Blower Building No. 2

Air is supplied to the aeration grids in the Plant 2 aeration tanks through dedicated headers for each tank. Each header is equipped with a flow meter for flow measurement and a motorized butterfly valve for aeration airflow control in the vertical pipe section. Aeration air delivery to each grid droplet in Aeration Tank Nos. 3, 4, and 5 is throttled by automatic valve as required to meet the oxygen demand and predictive ammonia control in that section of the tank. Aeration air delivery to the grid droplets in Aeration Tank No. 6 is currently throttled manually (not yet upgraded for predictive control).

Air for channel aeration comes from a channel air header that splits off the main aeration manifold. The channel aeration system is fitted with a modulating butterfly valve and an air flow meter. This configuration allows for a constant supply volume of channel air even though the volume and pressure of the aeration air may change due to process demands. The channel aeration header is fitted with 26 drop legs, each having a control valve and 4 or 5 coarse bubble diffusers that supply the mixing energy to keep the mixed liquor solids in suspension.

Three multistage centrifugal blowers, and one high speed turbo blower, supply the aeration system air. The WPCP has just initiated a project to add a new blower (or replace Blower No. 7) to increase the range of operation that the system can operate under.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- Blower 7 is nearing the end of its expected useful life (also leaking oil) and will likely require replacement in the short term (< 5 years).

5.6.3 Blower Building No. 2 Electrical Room

Distribution of power to equipment in this area is through MCC-P8 (Cutler-Hammer Freedom 2100 Series). I/O interface to this area (from SCADA) is through PLC-B (Tesco custom panel with Allen-Bradley PLC 5/40 I/O rack), and PLC-BB (FluidIQs custom panel with Allen-Bradley PLC 1756-L63) through Ethernet.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- The electrical room gets flooded every year (with high rainfall). Flow comes in through MCC-P8.
- MCC-P8 is in good condition, with projected remaining useful life of 10+ years.
- PLC-B is obsolete and should be replaced in the near-term (< 5 years).
- PLC-BB is in good condition, with projected remaining useful life of 10+ years.

5.6.4 Secondary Clarifiers 3, 4 & 5

Secondary Clarifier Nos. 3 and 4 were constructed during the 1997 Expansion Project, and Secondary Clarifier No. 5 was constructed during the 2009 Expansion Project. The clarifiers each have a center pier-mounted rotating sludge collector mechanism, and a skimmer and beach arrangement for removal of secondary scum.

The assessment team found facilities in this area to be in generally good condition. WPCP staff indicate no issues with facilities or associated equipment.

5.6.5 RAS & WAS Pumping

RAS Pump Station No. 2 serves Plant 2 and is located between Secondary Clarifier Nos. 3 and 4. This station consists of four horizontal, mixed-flow centrifugal pumps mounted on an outdoor pad. Each secondary clarifier has a dedicated RAS pump, and the fourth pump serves as a standby.

The WAS pumps are located at the Plant 2 RAS pump station. WAS pumping is served by two progressive cavity pumps that draw from the RAS discharge header located between the RAS and WAS pumps at the Plant 2 RAS pump station.

The assessment team found facilities in this area to be in generally good condition. WPCP staff indicate no issues with facilities or associated equipment.

5.6.6 Disinfection Contact

During the 1997 Expansion Project, two contact basins were constructed for Plant 2 (Chlorine Contact Basin Nos. 3 and 4). In normal operation, the basins are operated in parallel. Each of the basins can be taken out of service for cleaning and other maintenance purposes.

SHS is mixed with secondary influent coming into the chlorine contact basins with use of a chemical induction system that injects SHS directly into the flow as it enters the CCB influent box, facilitating mixing through high velocity discharge from the induction system and the airfoil design propeller at the end of the unit. The induction system (dual unit) was installed during the 2009 Expansion Project.

A supplementary dosing point is included with the extension of the chlorine solution lines to the effluent weir of the secondary clarifiers (Plant 1 and Plant 2).

The assessment team found facilities in this area to be in generally good condition. WPCP staff indicate no issues with facilities or associated equipment.

5.6.7 RAS Pump Station No. 2 Electrical Room

Distribution of power to equipment in this area (secondary clarifiers, RAS/WAS pumping, and the chlorine contact basins) is through MCC-P11 and MCC-P11A (both Cutler-Hammer Freedom

2100 Series), located in the RAS Pump Station No. 2 Electrical Room. I/O interface to this area (from SCADA) is through PLC-R (Tesco custom panel with Allen-Bradley PLC 5/40 I/O rack), and PLC-RR (FluidIQs custom panel with Allen-Bradley PLC 1756-L63).

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- MCC-P11A is in fair condition, with projected remaining useful life of < 10 years.
- MCC-P11 is in good condition, with projected remaining useful life of 10+ years.
- PLC-R is obsolete and should be replaced in the near-term (< 5 years).
- PLC-RR is in good condition, with projected remaining useful life of 10+ years.

5.7 Effluent Disposal

Treated effluent can either be discharged to the Sacramento River or to the facility storage ponds.

5.7.1 Outfall Diffuser in the Sacramento River

In normal operation, chlorinated effluent from Chlorine Contact Basin No. 2 and from Chlorine Contact Basin Nos. 3 and 4 flows to the Outfall Box. At the Outfall Box, effluent from the two plants combine for dechlorination, and is then split into one of two outfall pipes that run parallel until they reach the outfall junction box. At this box, the flow is combined into a pipe that flows to a gate structure, and is then discharged into the river through a diffuser constructed during the 2009 Expansion Project.

Distribution of power to equipment in this area is through MCC-P12 (Cutler-Hammer Freedom 2100 Series), located in the Chemical Building Electrical Room (discussed later). I/O interface to this area (from SCADA) is through PLC-C (Tesco custom panel with Allen-Bradley ControlLogix Processor and PLC 5/40 I/O rack) through Control Net.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- All instruments at outfall need to be replaced.

5.7.2 Storage Pond Discharge

In alternative modes of operation, the effluent may be discharged to the storage ponds (southeast and southwest ponds). In this arrangement, effluent from Plant 1 flows by gravity to the Stormwater Pump Station, where it is pumped to Junction Box No. 1 adjacent to Chlorine Contact Basin No. 3. Effluent from Plant 2 flows by gravity to Junction Box No. 1 where it combines with the effluent from Plant 1. From Junction Box No. 1, the effluent flows by gravity to the discharge structure (which then directs the flow into the M&T pond, and onto the storage ponds).

The Stormwater Pump Station also conveys storm water collected throughout the treatment plant to the storage ponds or to the Outfall Box. The station consists of three centrifugal pumps and a wet well.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- All stormwater pumps received new drives in 2016, and the pump station appears in good condition.
- Junction boxes and discharge gates appear in good condition.
- Pond modifications may be required in the near-term in order for the City to maintain compliance with new NPDES requirements associated with the pond discharge.

5.8 Chemical Systems

5.8.1 Chemical Building

The Chemical Building was constructed during the 1997 Expansion Project, and houses three chemical systems (SHS, SBS, and sodium hydroxide [caustic soda solution (CSS)]). Each system consists of two tanks in their own chemical containment basin. Chemical is supplied from the storage tanks to the metering pumps inside of the Chemical Building for distribution to the different injection points.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- Coating on floors has failed and needs to be replaced.
- Handrail is missing pieces.
- The chemical fill station instrumentation needs to be replaced.

5.8.2 Sodium Hypochlorite

SHS for effluent disinfection and other uses in the plant is stored in two storage tanks, replaced during the 2009 Expansion Project. SHS metering pumps transfer chemical from the storage tanks to three separate chemical feed lines. One flows to Chlorine Contact Basin No. 1, a second flows to Chlorine Contact Basin Nos. 3 and 4, while the third line feeds a solution split board. At the split board, the SHS is further distributed to the following dosing points: influent prechlorination, gravity thickener, aeration tank effluent foam control, RAS chlorination, and secondary clarifier algae control.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- SHS tanks have had leakage issues historically. WPCP staff indicate that SHS facilities are currently in good condition.

5.8.3 Sodium Bisulfite

A sodium bisulfite solution feed system is provided for the purpose of neutralizing the chlorine residual in the plant effluent following disinfection to eliminate its potential toxic effects in the plant discharge to the Sacramento River. The system consists of two liquid sodium bisulfite solution storage tanks (replaced during the 2009 Expansion Project), two metering pumps, two chlorine residual analyzers, and ancillary equipment.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- All SBS facilities appear in good condition.

5.8.4 Sodium Hydroxide

Sodium hydroxide has historically been used to maintain residual alkalinity in the secondary treatment process to assure complete nitrification. The CSS system consists of two storage tanks and three metering pumps. WPCP staff have not used CSS since completion of construction of the 2009 Expansion Project, where an odor scrubber at the old Headworks facility was taken off-line. The facility is set up to meter chemical to Aeration Tank Nos. 1 and 2, and to the Primary Effluent Lift Station for dosing of influent flow to Aeration Tank Nos. 3, 4, 5, and 6. WPCP staff are considering reestablishing use of CSS to control operational issues observed at the Plant 2 aeration tanks intermittently over the last few years.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- All CSS facilities appear in good condition, but have not been used for several years.

5.8.5 Chemical Building Electrical Room

Distribution of power to equipment in this area is through MCC-P12 (Cutler-Hammer Freedom 2100 Series). I/O interface to this area (from SCADA) is through PLC-C (Tesco custom panel with Allen-Bradley ControlLogix Processor and PLC 5/40 I/O rack) through Ethernet.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- MCC-P12 is in good condition, with projected remaining useful life of 10+ years.
- PLC-C is obsolete and should be replaced in the near-term (< 5 years).

5.9 Solids Handling

On-site solids handling systems at the plant consist of:

- A single gravity thickener for concentrating solids removed by the primary clarifiers.
- Two DAFTs for concentrating solids removed from the secondary treatment system.
- Three anaerobic digesters to stabilize and reduce the mass of solids removed from the liquid treatment process by the primary sedimentation and generated in the secondary treatment processes.
- A secondary digester/sludge storage tank to store the digested sludge prior to dewatering.
- Two centrifuges to mechanically dewater the digested sludge through high speed rotation.
- Approximately 4.2 acres of paved drying beds to dewater digested sludge or further dry mechanically dewatered cake solids prior to transport to the on-site stockpile.

5.10 Solids Thickening

The solids thickening process at the WPCP consists of a Gravity Thickener (constructed during the 1990 Expansion project), two DAFT units (DAFT No. 1 – constructed in 1982 and DAFT No. 2 – constructed during the 1997 Expansion Project), and associated pumping systems.

5.10.1 Gravity Thickener

Sludge from the primary clarifiers can either be pumped into the Gravity Thickener or directly to the digesters with use of double disc sludge pumps (that serve Primary Clarifier Nos. 1 and 2)

and/or progressing cavity primary sludge pumps (that serve Primary Clarifier No. 3). Primary scum from all three clarifiers is collected in a gravity line and piped to the scum well located on the north side of the Waste Sludge Pump Station. This scum is pumped by a centrifugal pump located in the Waste Sludge Pump Station to the anaerobic digesters in a common discharge line with sludge from Primary Clarifiers Nos. 1 and 2.

When the Gravity Thickener is used as an intermediate thickening step prior to digestion, Thickened Sludge Pumps are used to pull thickened sludge from the Gravity Thickener, through sludge grinders, and then transfer it to the digesters. These pumps were replaced during the 2009 Expansion Project, and the building envelope was modified (to allow increased O&M access) in 2015.

Distribution of power to Gravity Thickener (and ancillary equipment) is through MCC-P3, and I/O interface to this area (from SCADA) is through PLC-H-I/O (both discussed earlier).

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- WPCP staff took the gravity thickener out of service when the new pumps serving Primary Clarifier Nos. 1 and 2 were installed (which now allow thickening in the clarifiers).
- The Gravity Thickener will require concrete repairs for continuation of use.

5.10.2 Dissolved Air Flotation Thickeners

The DAFT units thicken WAS from the activated sludge process prior to sludge digestion. Four Thickened Waste Activated Sludge (TWAS) pumps transfer the thickened float from the DAFTs to the anaerobic digesters. The DAFT underflow is returned to the Primary Effluent Lift Station. Each DAFT is outfitted with recycle pressurization pumps, compressors, and polymer feed systems. A duplex sump pump package removes drainage from the DAFT pump pad drainage area.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- The drive on DAFT #2 needs to be replaced. DAFT #1 drive replaced in 2016.
- The TWAS pumps are no longer being rebuilt by plant staff (due to cost) and will need to be replaced in the near term (< 5 years).
- The sump pumps for the pit/vault where the TWAS pumps are located are original and nearing the end of their expected useful life. Staff indicated that they would like to install the pumps on rails when they are replaced to ease maintenance.

5.10.3 DAFT Control Building

Distribution of power to DAFT units (and ancillary equipment) is through MCC-EP5 (Westinghouse Series 2100). I/O interface to this area (from SCADA) is through PLC-B-I/02 (Tesco custom panel with Allen-Bradley PLC 5/40 I/O rack) through Control Net.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- The roof on the DAFT control building needs to be replaced.
- MCC-EP5 is in fair condition, with projected remaining useful life of < 10 years.
- PLC-B-I/02 is obsolete and should be replaced in the near-term (< 5 years).

5.11 Solids Digestion

5.11.1 Anaerobic Digester Nos. 1, 2, and 4

Solids generated from the primary sedimentation and secondary treatment processes are stabilized in the facility's anaerobic digesters. Anaerobic Digester Nos. 1 and 2 were constructed during the 1997 Expansion Project, and Anaerobic Digester No. 4 was constructed during the 2009 Expansion Project.

The sludge feed system for the anaerobic digesters controls and monitors the distribution of primary sludge directly from the primary clarifiers, thickened primary sludge from the gravity thickener, and TWAS from the DAFTs to Anaerobic Digester Nos. 1, 2, and 4.

The digested sludge removed from each digester enters an overflow box through one of the three overflow pipes. From the overflow box, the digested sludge flows by gravity to Anaerobic Digester No. 3 for sludge dewatering process or it can be discharged to the Sludge Drying Beds if Anaerobic Digester No. 3 (or the solids dewatering process) is out of service.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- Anaerobic Digester No. 1: Valves in pipe gallery are difficult to operate, and are old. Recommend replacement. Leaking joint at stairs on dome.
- Anaerobic Digester No. 2: Valves in pipe gallery are difficult to operate, and are old. Recommend replacement:
 - Isolated leaking on side glass.
 - Isolated corrosion on glass piping.
 - Expansion joint shows some movements.
 - Retaining wall needed on side of digester by manway.
- Anaerobic Digester No. 4: Valves in pipe gallery are difficult to operate, which may be due to lack of exercise. Recommend replacement.
- Digester cleaning and inspection is recommended (last occurred during the 2009 Expansion Project).

5.11.2 Anaerobic Digester 3

Anaerobic Digester No. 3 was constructed in 1972. The structure's primary function is now as a sludge storage tank for sludge dewatering process, but it can also be used as a primary digester in the event that Digester Nos. 1, 2, or 4 are out for service. Digested sludge from Digester Nos. 1, 2, and 4 is discharged by gravity to Anaerobic Digester No. 3 via the digester piping network.

Thoroughly mixed sludge is withdrawn from the center of the tank by the centrifuge feed pumps located on the northeast side of Anaerobic Digester No. 3 and then discharged to the centrifuge for solids dewatering.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- The cover for Anaerobic Digester No. 3 was replaced in 2013.
- The digester and its appurtenances appear to be in good condition.

5.11.3 Boiler Building No. 1 Electrical Room

Distribution of power to equipment in this area is through MCC-P9 (Cutler-Hammer Freedom 2100 Series). I/O interface to this area (from SCADA) is through PLC-D (Tesco custom panel with Allen-Bradley PLC 5/40 I/O rack) through Control Net.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- MCC-P9 is in good condition, with projected remaining useful life of 10+ years.
- PLC-D is obsolete and should be replaced in the near-term (< 5 years).

5.11.4 Boiler Building No. 2 Electrical Room

Distribution of power to equipment in this area is through MCC-P15 (Cutler-Hammer Freedom 2100 Series, intelligent MCC). I/O interface to this area (from SCADA) is through PLC-DD (FluidIQs custom panel with Allen-Bradley PLC 1756-L63) through Ethernet.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- MCC-P15 is in good condition, with projected remaining useful life of 10+ years.
- PLC-DD is in good condition, with projected remaining useful life of 10+ years.

5.11.5 Sludge Heating and Mixing Systems

5.11.5.1 Boilers/Sludge Heating

The heating system for the digesters consists of an integrated type sludge heater, a sludge recirculation pump, hot water circulating pump, 3-way hot water mixing valve, temperature sensors/transmitters, and associated piping. The integrated type sludge heater consists of two main components: hot water boilers and a water-sludge heat exchanger. Heat is supplied to the digester heating system through the sludge heaters.

Sludge Heat Exchanger No. 1, located in Boiler Building No. 1, is normally used to provide heat for Anaerobic Digester No. 1 via Digester Recirculation Pump No. 1. With the piping flexibility provided, it could also be used to provide heat for Anaerobic Digester No. 2. Anaerobic Digester No. 2 is normally heated by Sludge Heater Nos. 1 and 2 (located in the Digester Control Building) via Digester Recirculation Pump No. 2. Sludge Heater No. 4, located in Boiler Building No. 2, is normally used to provide heat for Anaerobic Digester No. 4 via Digester Recirculation Pump No. 1.

Other recessed impeller pumps are located in the Digester Control Building. One or more of these three pumps can be valved to mix the contents of Anaerobic Digester No. 3 in the event that the gas mixing compressor is out of service. These pumps are also used (as necessary by WPCP staff) for transferring sludge between digesters or to the Sludge Drying Beds.

Sludge is continuously withdrawn from the digester by the digester recirculation pump through the sludge heat exchanger and returned to the digester. The hot water circulating pump

continuously circulates hot water through the sludge heat exchanger, providing the heat input to the sludge as it passes through the heat exchanger. A 3-way hot water mixing valve is modulated to control the flow of hot water from the boiler side into the digester heating system.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- The dual sludge heaters for Anaerobic Digester No. 2 are in poor condition and were not in use at the time of the assessment. WPCP staff indicated that they have been difficult to operate in the past.
- The sludge heaters use unconditioned digester gas, which reduces the expected life of the equipment.
- A below grade wall is leaking in Boiler Building #2.
- Digester control building: Sludge heaters out of use (until needed).
- The tank for Boiler No. 3 keeps leaking.
- Boiler #4 has required a lot of maintenance recently.
- Operations staff says that they cannot heat 3 digesters with the 2 smaller boilers.

The City has initiated a project to upgrade the heating loop.

5.11.5.2 Digester Mixing

Mixing of Anaerobic Digester Nos. 1, 2, and 4 contents is accomplished by externally-mounted pumps. The pumped mixing system consists of a high volume pump taking suction from either a submerged location near the top of the digester or from the bottom of the tank. The pump(s) discharge tangentially at several points along the perimeter locations through high velocity nozzles to impart entrainment of the entire digester contents moving in a circulation mode.

Anaerobic Digester Nos. 1 and 2 mixing system consists of one digester mixing pump, suction piping (top and bottom) with valves, discharge piping with valves and discharge nozzles. The digester mixing pumps for each tank are connected via a suction and discharge manifold to provide operational flexibility if either of the pumps are out of service.

Anaerobic Digester No. 4 mixing system consists of two digester mixing pumps (1 duty, 1 standby), suction piping (top and bottom) with valves, discharge piping with valves and discharge nozzles.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- System valving for Anaerobic Digesters No. 1 and 2 is old and needs to be replaced in the near term (< 5 years).

5.11.6 Digester Gas System

Gas produced during digestion is collected from the digesters and holding tanks and is used as fuel for the energy recovery cogeneration engine generators, which supply a portion of the electric power to the plant equipment. Heat is reclaimed from the generators to heat the digesters to approximately 95 degrees Fahrenheit.

Digester gas is stored in the dome of the digester in the space above the sludge level. Digester gas pipelines connect adjacent digesters in order to equalize the pressure in the system. The gas is withdrawn from each digester through a pipe at the center of the dome and routed through

the gas header line to the sludge heaters, the gas booster for the cogeneration facility, and waste gas flare for excess quantities of digester gas. Gas is conditioned for the cogeneration system, but not for the boilers.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- Digester gas systems appear in good condition.

5.12 Solids Dewatering

Two separate methods of solids dewatering are used at the WPCP. Centrifuges mechanically dewater the digested sludge through high-speed rotation, concentrating the solids and separating the liquid (centrate). Sludge drying beds are also available for solar drying the sludge, and a sludge storage area is available for windrow drying of the sludge. The drying beds may be used for further drying of the cake solids from the centrifuge, or digested sludge can be transferred to the beds directly from the digesters.

5.12.1 Centrifuge Feed and Dewatering

Digested sludge is fed from Anaerobic Digester No. 3 to Centrifuge Nos. 1 and 2 utilizing progressive cavity pumps. A sludge grinder is installed immediately prior to the centrifuge feed pumps. The sludge grinder macerates the digested sludge, chopping up stringy materials and plastics present in the digested sludge. The centrifuges separate sludge particles from the sludge liquid through inertial force. The bowl rotates at high speeds, pushing the water and solids closer to the wall. The heavier flocculated solids particles are forced closer to the wall of the bowl than the water. They collect on the inside wall of the spinning bowl, and are removed by the scroll.

5.12.2 Polymer System

The centrifuge dewatering process is optimized through use of an emulsion polymer, stored in the centrifuge building (in totes) and delivered to the centrifuges (following activation) via VeloBlend package units. These package units include polymer blenders, polymer storage tanks, in-line mixing equipment, metering pumps, and other ancillary equipment.

5.12.3 Screw Conveyors

Cake solids are transported from the centrifuge discharge hoppers to the truck loading area via shaftless screw conveyors. Shaftless Screw Conveyor Nos. 1 and 3 transport solids from the centrifuge discharge hoppers to the inclined Shaftless Screw Conveyor No. 2, which in turn transports the solids to the truck loading area. The shaftless screw conveyors allow liquids discharged through the centrifuge during startup and shutdown to be sent to drain instead of being conveyed into the truck loading area. Each conveyor is fitted with a drain box containing a flushing port, and a connection to the building centrate drainage system.

5.12.4 Centrifuge Building Electrical Room

Distribution of power to equipment in this area is through MCC-P10 (Cutler-Hammer Freedom 2100 Series). I/O interface to this area (from SCADA) is through PLC-B2-I/O (Tesco custom panel with Allen-Bradley PLC 5/40 I/O rack) through Control Net.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- The roof on the centrifuge building needs to be replaced.
- The centrifuge building does not vent well, and hydrogen sulfide is corroding the control panels, electrical wiring, and other ancillary items located within the process environment. Plant staff requests a project to put the centrifuge control panels in separate room (above polymer feed system) or to provide better ventilation.
- MCC-P10 is in good condition, with projected remaining useful life of 10+ years.
- PLC-B2-I/O is obsolete and should be replaced in the near-term (< 5 years).
- The centrifuge is locked out from operation during a power outage to limit electrical demand on the standby power generation system.

5.12.5 Sludge Drying Beds

The sludge drying beds are asphalt paved, shallow subdrainage type beds, designed to dry digested sludge both through evaporation and through percolation of water through the granular subdrain. The facility consists of 38 beds, each sloped toward a center gravel strip, to facilitate removal of underdrain liquid. A perforated gravity collection pipe is located within the gravel strip, which returns the underdrain liquid to the Plant Drain Pump Station, located on the north side of Aeration Tank Nos. 1 and 2. The digested sludge distribution piping has been interconnected with the subdrainage system, allowing the operations staff to drain standing water from the beds in times of wet weather.

5.12.5.1 Sludge Stockpile and Storage Areas

There are two areas available for long-term storage of cake or dried solids, both located north and north-west of the sludge dewatering beds. These paved areas are sloped and have drains to assist in the removal of moisture resulting from precipitation.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- The sludge stockpile and storage areas are in good condition, but will require repaving within the next 10 years.

5.13 Plant Power Systems

Electrical power for the WPCP is supplied by Pacific Gas and Electric (PG&E) at 12,000 volts (12 kilovolt [kV]). Power is supplied from the high voltage line on the west side of the plant through an underground ductbank on the south edge of the plant to the 12 kV switchgear containing the PG&E metering section, main circuit breaker, protective relays, and two fused switches. Two secondary substation transformers connected to the fused switches step power down from 12 kV to 480 volts for distribution throughout the plant. The 480-volt switchgear connected to each transformer distributes the power to MCCs located in the various process areas of the plant.

Plant power systems also include a cogeneration unit that converts excess digester gas into electricity, a photovoltaic (solar) system that converts solar energy into electricity, and three standby generators that provide standby power in the event that utility power is interrupted.

Natural gas is also supplied by PG&E. The gas service is buried along the plant access road and supplies the meter located northeast of the Administration Building. From the utility meter, natural gas is distributed through the plant, primarily for the purposes of building heat, laboratory use, and cogeneration and sludge heating when sufficient digester gas is not available.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- **Electrical Power:** the plant has a single-ended electrical system, meaning that each process area is powered from a single piece of electrical equipment, typically an MCC. Because the process must be kept in operation, it is difficult to perform regular maintenance on the electrical equipment. Regular maintenance on the electrical equipment is recommended to ensure the electrical system performs properly in the event of an electrical fault. A regular maintenance program can also identify electrical equipment that should be replaced which allows for an orderly replacement instead of an emergency replacement due to equipment failure.
- The 12 kV switchgear is nearing the end of its useful life, and should be replaced in the near-term (< 5 years).
- Standby Generator No. 2: corrosion on exterior (at base) needs repair.

5.13.1 Cogeneration System

In 2010, a cogeneration engine, rated at an output of 335 kilowatts, was installed as part of the 2009 Expansion Project and is equipped with exhaust heat recovery silencer, a jacket water heat exchanger, and waste heat exchanger. An advanced gas conditioning system has also been installed for the new engine and is equipped with two media tanks for hydrogen sulfide removal, a digester gas compressor, glycol chiller, and two media columns for siloxane removal.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- Staff indicated that the cogeneration unit has not been run consistently for some time due to operational issues (possible control issues due control/sensor bank location in the engine shed, where exposed to excessive heat and vibration).
- The cogeneration engine appears mechanically sound, and staff indicated that it was recently rebuilt.

5.13.2 Solar Photovoltaic System

The WPCP houses a 1.1 Megawatt solar photovoltaic system (constructed in 2005), which can reduce the plant's use of utility power by approximately 35 percent.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- The system experiences downtime about 20 percent of the time, on average.
- The solar inverters are obsolete and need to be replaced in the near-term (< 5 years).
- WPCP staff is looking to replace the solar panels, to increase energy production. A new switchboard will be needed when this upgrade occurs.

5.14 Utility Water Systems

The utility water systems include potable (1W), nonpotable (2W) system, and the plant water (3W) systems.

5.14.1 Plant 1W & 2W Systems

Potable and nonpotable water (1W and 2W) are utilized throughout the plant for various purposes. 1W is used in the Administration Building for general potable water and laboratory uses. 1W is also distributed through the plant where needed, specifically for the toilet facility at the Blower/Shop Building, wash basins in locations such as the Centrifuge Building and the Blower/Shop Building, and eyewash stations at the chemical handling facilities. 2W is used for all site irrigation, pump seal water, wash down within process buildings, polymer solution make-up water, fire protection at the Administration Building, and wash down in outdoor areas where 3W is not available.

1W and 2W are supplied by two deep-well pumps which provide groundwater from deep within the aquifer to ensure percolation from the oxidation ponds does not contaminate the potable water supply. These pumps supply water under pressure to a piping distribution network which covers the entire plant. The system includes two hydropneumatic tanks for storage. The 1W and 2W systems are separated downstream of the pump discharge by a backflow preventer to mitigate the potential for potable water contamination.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- Well 1 (constructed in 1978) is nearing the end of its expected useful life, and should be replaced in the near-term (< 5 years).
- The centrifugal sand separators were recently replaced.
- Hydropneumatic Tank No. 1: Very critical, no redundancy, if 2W system goes down, 3W needs to be back fed into the system (which is difficult).
- Hydropneumatic Tank No. 2 Air Compressor: normal wear, outside exposed to elements.
- Well pumps are nearing the end of their expected useful life, and should be replaced in the near-term (< 5 years).

5.14.2 Plant 3W System

The plant water (3W) is also utilized throughout the plant for various purposes. Most of the 3W use is in spray nozzles, however, it is also used for wash down of outdoor process areas, chemical solution make-up water, and supply to the facility fire hydrants.

3W is pumped from Chlorine Contact Basin Nos. 3 and 4 through the 3W Pump Station. These pumps supply plant water under pressure to a supply loop that surrounds the plant. The system includes a hydropneumatic tank for the control of water hammer.

The following observations were made by the condition assessment team during the on-site inspection at the WPCP:

- Pumps 1 through 4 at the 3W pump station have worn internals and are in need of replacement in the near-term (< 5 years).
- The 3W pressure transmitter has a bad display.

- WPCP staff indicated that it is difficult to isolate portions of the 3W system, and that the distribution system has leaking (buried) valves (chlorine is deteriorating seals).
- The hydropneumatic tank basket strainer was recently replaced and are in good condition.

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Chapter 6

CONDITION ASSESSMENT AND RISK ANALYSIS OVERVIEW

This Chapter presents the condition assessment framework and risk analysis methodology for the City's WPCP assets. A key component of managing the City's assets at the WPCP is the incorporation of risk into the decision-making process so that capital projects can be properly prioritized. The following sections describe the approach used for assigning risk categories as part of this WPCP condition assessment, including probability of failure (POF) scoring, consequence of failure (COF) scoring, asset condition scoring, asset useful life determination, and asset replacement costs estimation and timing.

The methodology described herein aligns with water and wastewater industry standard asset management practices and the City's preferences.

6.1 Probability of Failure and Condition Assessment Scoring

Each of the WWTP assets are assigned a POF and condition assessment score. The calcium (CA) score is based on a combination of information gathered during the visual assessment of each asset and an evaluation of remaining useful life (RUL). The POF score is based on operational and other criteria scores that are developed with input from staff.

6.1.1 Condition Assessment Scoring

An asset's CA score is the higher of its asset criteria score (Q-score) and its assessed condition score. These scoring methodologies are described below.

6.1.1.1 Asset Criteria Scoring (Q-score)

Carollo conducted an on-site effort to assess the condition score of the WPCP aboveground assets. The assessment was performed by a multi-disciplinary team experienced in various fields of engineering.

For each asset in their discipline, the team evaluated several criteria and assigned an assessed condition score between 1 and 5 for each criteria. These criteria were adapted for different asset types; for example:

- A structural (non-building) asset's criteria included observed cracking, wear of miscellaneous metal components, and concrete deterioration.
- A pump's criteria included pump body, gearbox, and motor condition.
- An electrical asset's criteria included wiring, enclosure, and equipment condition.

From these asset criteria sub-scores, a Q-score was calculated for each asset as follows:

- If any of an asset's sub-scores is greater than 3, its Q-score is the highest sub-score.

- If all of an asset's sub-scores are 3 or less, its Q-score is the average of all of the sub-scores.
- Assets that were not visually assessed are assigned a Q-score of 0.

6.1.1.2 Condition Scoring

An asset's condition score is based on a RUL evaluation.

Original Useful Life

Each asset is assigned an original useful life (OUL) value according to the number of years the asset is expected to be in service as a function of asset type. The OUL for each WPCP asset was estimated based on industry standard guidelines (e.g., American Water Works Association (AWWA), Water Environment Federation (WEF), American Society of Civil Engineers (ASCE), and the International Infrastructure Management Manual (IIMM), Carollo's internal discipline-specific experience, and input from City staff. OUL values used in the assessment of WPCP assets are summarized in Table 6.1.

Table 6.1 Original Useful Life Estimates

Discipline	Asset Type	Asset Subtype	Estimated OUL
Electrical	General		20
	Control Panel	-	30
	MCC	-	30
	Panelboard	-	20
	PLC	-	20
	Solar	-	20
	Switchgear	-	30
	Transformer	-	30
	VFD	-	20
Instrumentation	General		20
	Analyzer	-	20
	Controller	-	20
	Flow Meter	-	20
	Sampler	-	20
	Sensor	-	20
Mechanical	General		20
	AC Unit	-	20
	Air Diffusers	-	20
	Bar Screen	-	20
	Blower	-	30
	Boiler/Heat Exchanger	-	25
	Centrifuge	-	30
	Cogeneration	-	25
	Collector	-	30

Table 6.1 Original Useful Life Estimates (continued)

Discipline	Asset Type	Asset Subtype	Estimated OUL
	Compressor	-	20
	Conveyor	-	20
	Crane	-	40
	Drive	-	30
	Fan	-	20
	Gate	-	30
	Generator	-	40
	Grinder	-	20
	Grit Classifier	-	20
	Grit Washer	-	20
	Heater	-	20
	Hydraulic Unit	-	30
	Mixer	-	20
	Motor (Mechanical)	-	25
	Pump	-	20
	Pump	Chemical	20
	Pump	End Suction	20
	Pump	Grit	20
	Pump	Mixing	20
	Pump	Recirculating	20
	Pump	Sludge/Scum	20
	Pump	Submersible	20
	Pump	Sump	20
	Pump	Vertical Turbine	20
	Pump	Water	20
	Tank (Mechanical)	Hydropneumatic	35
	Trough	-	20
	Valve	-	35
Structural	General		50
	Aeration Tank	-	50
	Building	-	50
	Clarifier (Structural)	-	50
	Concrete	Above-ground	50
	Concrete	Buried	50
	Contact Basin	-	50
	Digester	-	50

Table 6.1 Original Useful Life Estimates (continued)

Discipline	Asset Type	Asset Subtype	Estimated OUL
	Slab on grade	-	50
	Tank (Structural)	Chemical	50

Notes:

(1) These values were estimated based on a combination of the IIMM, AWWA, WEF ASCE guides, other industry references, Carollo experience, and Staff input.

Remaining Useful Life

The calculated Remaining Useful Life (RUL_{calc}) for each asset is calculated using the asset’s age and the associated OUL of the asset’s type.

$$RUL_{calc} = OUL - Age$$

During the field evaluation, the assessment team also attributed a RUL range to an asset based on field observations and WPCP staff feedback. The RUL ranges are listed below along with an evaluated RUL (RUL_{eval}) assignment:

- Needs immediate replacement ($RUL_{eval} = 0$).
- Less than 5 years ($RUL_{eval} = 4$).
- Less than 10 years ($RUL_{eval} = 9$).
- 10 years or more ($RUL_{eval} = 11$).

These ranges were compared to the RUL_{calc} to establish the RUL as follows:

- If $RUL_{eval} < RUL_{calc}$, then $RUL = RUL_{eval}$.
- If $RUL_{calc} < RUL_{eval}$, then $RUL = RUL_{eval}$.
- If $RUL_{eval} = 11$ and $RUL_{calc} > RUL_{eval}$, then $RUL = RUL_{calc}$.
- If there is no RUL_{eval} , then $RUL = RUL_{calc}$.

The RUL for each asset is converted to a percentage and assigned a condition score (Table 6.2).

$$\% \text{ Useful Life Remaining} = \frac{RUL}{OUL}$$

Table 6.2 Condition Scoring

% of Useful Life Remaining	Condition Score ⁽¹⁾	Description ⁽¹⁾	Percent of Asset Requiring Repair ⁽¹⁾⁽²⁾
81% - 100%	1	Very Good Condition	0%
66% - 80%	2	Minor Defects	0 - 10%
31% - 65%	3	Maintenance Required to Return to Accepted Level Service; Backlog of Maintenance	11 - 20%
11% - 30%	4	Requires Rehabilitation; Major Renewal Required	21 - 49%
≤10%	5	Asset Unserviceable or Obsolete	50% and above

Notes:

(1) Adapted from the IIMM.

(2) "Percentage of asset requiring repair" is that percentage of the value of the asset needed to return the asset to a condition ranking of one.

6.1.2 Probability of Failure Scoring

Two criteria were considered during POF scoring. Associated scoring was assigned to the assets (for each criteria) according to the breakdown included in Table 6.3.

Table 6.3 Probability of Failure Scoring Matrix

Criteria	Probability of Failure Criteria Scores		
	1	3	5
Reliability/Operations and Maintenance	Excellent/Very Good; Requires Little to No Maintenance	Moderate; Requires Significant and/or Frequent Maintenance	Very Poor; Out of Service; Requires Replacement
Obsolescence	New/Like-New; Spare Parts Readily Available; Latest Available Technology	Mid-Life; Third-Party Spare Parts Available; Older Technology Still Supported	Obsolete; Spare Parts Not Available; Technology Not Supported

An asset’s overall POF score is the higher of its two POF criteria scores.

6.1.3 Resulting Score Assignment for Risk Analysis

For each asset, the maximum of the CA score and the overall POF score is used for the risk analysis described in Section 6.3.

6.2 Consequence of Failure Scores

To complete the risk analysis, each asset was assigned a COF score. A COF score represents potential impacts of the asset's failure. The following COF scoring matrix was developed for this risk analysis based on the nature of the WPCP.

COF scores range from 1 to 5, with 1 representing the lowest consequence and 5 representing the highest consequence (Table 6.4).

Table 6.4 Consequence of Failure Scoring Matrix

COF Criteria	1	3	5
Compliance with Regulations	Little to no risk of violation	Low or moderate risk of violation; Out of compliance for short duration	High risk of violation; Likely enforcement action with fines; Out of compliance for long duration
Health & Safety (Public & City Staff)	Little to no risk of injuries or adverse health effects	Moderate injuries or medical attention, potential for adverse public health effects	Serious injury or loss of life
Financial Impact	No impact	Absorbed within current budget	Financial Impact
Operation and Maintenance (O&M) Effort	Less than 8 hours; 1 O&M staff	Less than 1 week; 2-3 O&M staff	>2 weeks; 3+ O&M staff

Criteria for compliance with regulations were determined based on the expected impact the equipment would have on the plant's operating permit should it fail. Critical equipment was assigned a 5 if it would have a high likelihood of inducing a substantial permit violation. The regulatory compliance scoring also takes into account possible fines. For example, a major failure of the disinfection and/or dechlorination system (in conjunction with a failure of the emergency pond diversion gate) would likely result in substantial fines levied by the RWQCB. Equipment such as PLCs and solids handling MCCs were assigned a score of 5 if failures could easily lead to fines if resulting treatment changes are not expeditiously noted and addressed by WPCP staff and are substantial enough to affect the plant condition. Items that simplify permit-compliant plant operation, but are non-essential, were assigned a 3 (e.g., HVAC systems in electrical rooms), and minor items were assigned a 1.

Health and safety was considered for all assets that have the potential to cause injury while the asset is being repaired or in the event that a catastrophic failure occurs. Large equipment such as pumps pose minor injury potential upon failure; however, there is substantial risk of injury during replacement. Equipment that is light enough to be carried can cause lacerations and bruising. Heavier equipment can cause more substantial injuries from blunt force trauma if the removal process is not carefully controlled.

Financial impact scores were based on the results of the replacement cost estimate and the budgetary impact.

O&M effort scores were assigned to each asset based on the expected effort required by O&M staff should an asset fail. For example, the failure of pump would require significantly less effort by O&M staff to repair than the failure of the cogeneration system.

6.3 Risk Assessment Methodology

To assist in prioritizing expenditures (capital, O&M, and/or staff time), assets or groups of assets can be grouped into risk categories. The following sections describe the approach to establishing an asset's risk and applying adjustment factors when alternative means for mitigating risk are not available.

6.3.1 Risk Category Assignment

Risk is an indicator of priority or need for corrective action. The asset's CA, POF and COF scores are used to assign assets to a risk category using a matrix established for the City's WWTP assets (Figure 6.1).

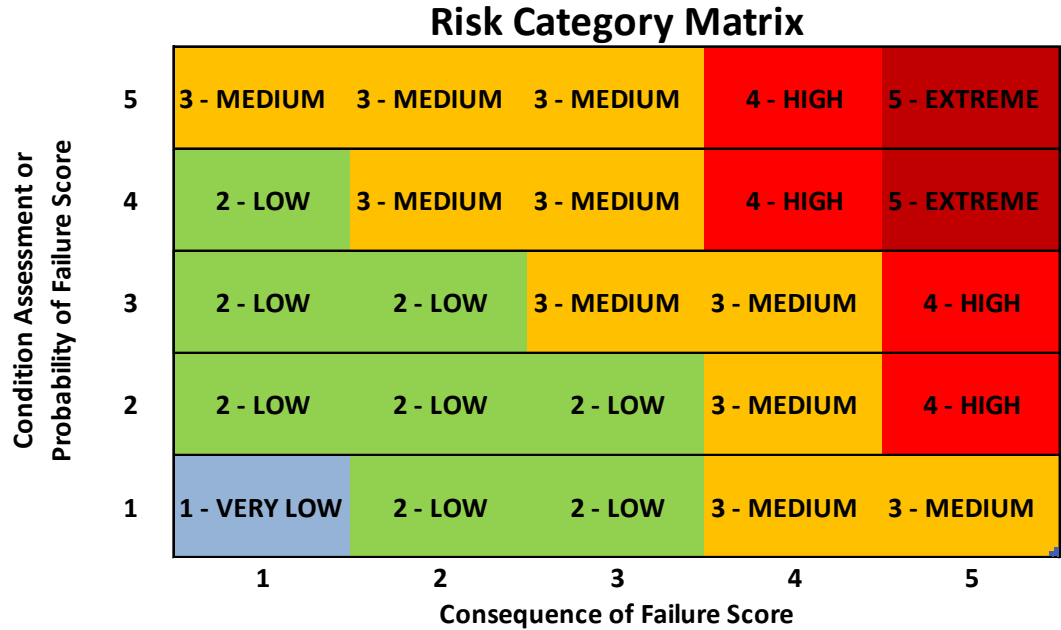


Figure 6.1 Risk Category Matrix

6.3.2 Mitigated Risk Result

Mitigation is also an important tool for managing risk. Mitigation of risk can occur through equipment/system redundancy, real-time monitoring, spare part availability, and emergency response plans. When it is not possible to reduce an asset's risk by reducing its CA or POF, it may be possible to reduce the risk by implementing practices that reduce the COF by employing a mitigation. In asset management, this is accomplished through reduction of established COF score results with use of a mitigation factor. The mitigated COF is calculated as follows:

$$\text{Mitigated COF} = \text{COF} \times \text{Mitigation Factor}$$

A mitigation factor of 70 percent is applied within this evaluation if a system (or particular piece of equipment in question) has redundancy. The mitigated COF score reduces the risk assigned to an asset, thus adjusting its priority. When prioritizing resources, an asset with a mitigated risk would be considered a lower priority than an asset in a high-risk category that has no mitigation in place. Tracking both the mitigated risk and "raw" risk helps to highlight the importance of maintaining or retaining mitigations in place, especially for high-risk assets.

6.4 Summary of Risk Scores

Risk scores are summarized herein as a function of WPCP process (Figure 6.2), and also by discipline (Figure 6.3).

In general, repair, upgrade, and/or replacement of assets with high risk scores (4 or 5) should be scheduled before assets with risk scores of 3 or less.

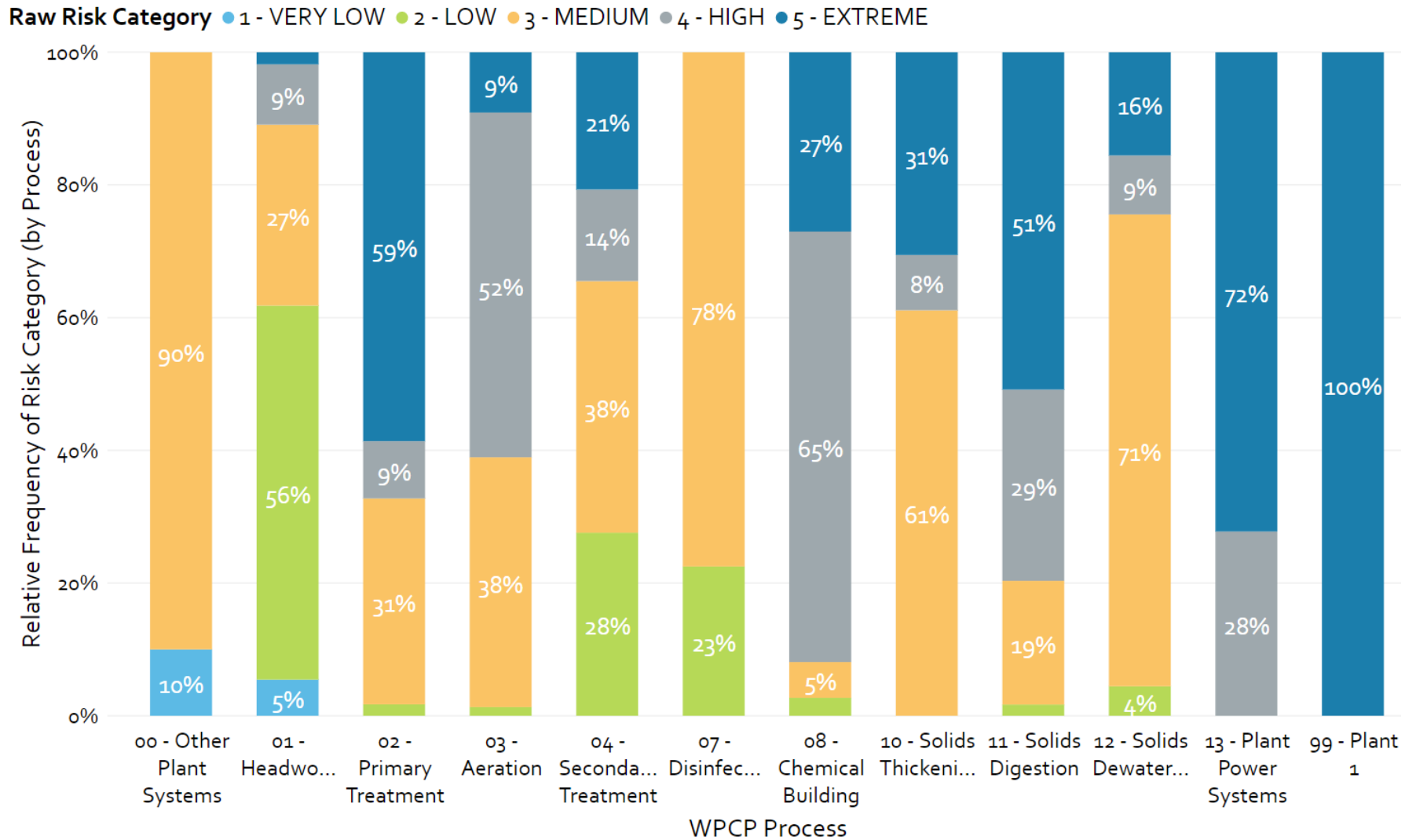


Figure 6.2 Summary of Risk Scores as a Function of WPCP Process

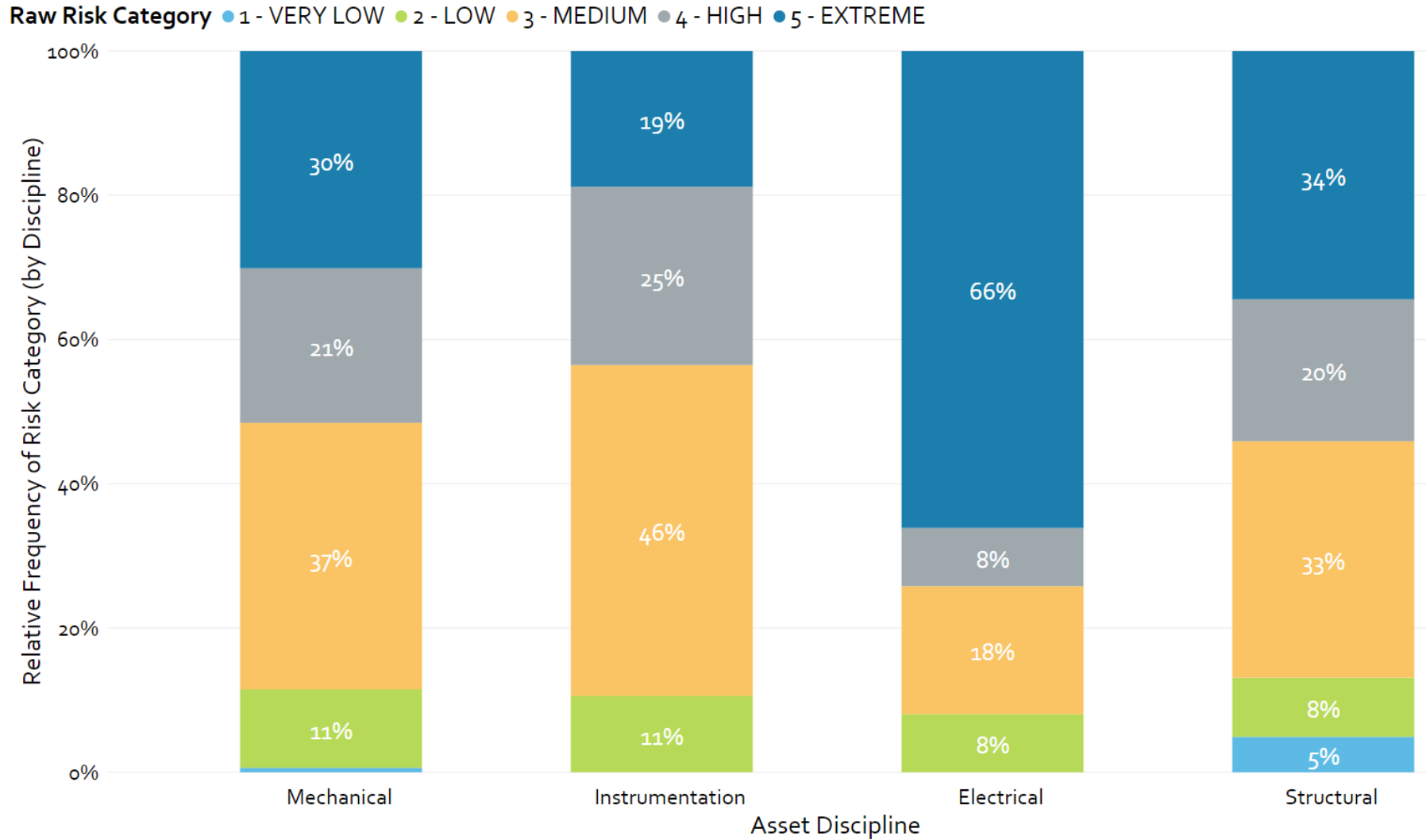


Figure 6.3 Summary of Risk Scores as a Function of Asset Discipline

A high number of risk scores fall into the “medium risk” category (risk score = 3). Very few assets fall into the “low” or “very low” risk categories (risk scores = 1 or 2). The relative frequency of “high risk” and “extreme risk” scoring is similar for mechanical, instrumentation, and structural assets (44-54 percent), but is high for electrical assets (74 percent total).

All Plant 1 facilities and a high degree of primary treatment and solids digestion facilities received “extreme” risk scores (risk score = 5), so will be prioritized for replacement in the shorter term than facilities with lower risk scores.

Chapter 7

ASSET REPLACEMENT

7.1 Replacement Cost Methodology

The replacement values presented in this report represent the estimated cost to install individual (replacement) assets in 2021 dollars. Actual replacement (or project) costs will depend on actual labor and material costs, site conditions, competitive market conditions, project schedules, and other variable factors. As a result, the final replacement values (or project cost) may vary from the estimates presented within this report. Because of these factors, funding needs of the City must be carefully reviewed before making final financial decisions.

The assumptions used for the replacement cost estimates are as follows:

1. Replacement cost estimates were determined only for existing and future assets expected to require replacement by 2040.
2. Replacement project costs are presented as current-value based on an Engineering News Record Construction Cost Index (ENR CCI) (20-Cities Average Index, February 2021).
3. Estimates of probable replacement costs were prepared in accordance with the guidelines of the Association for the Advancement of Cost Engineering (ACE) International for a Class 5 estimate. According to the definitions of ACE International, the "Class 5 Estimate" is defined as an estimate used for screening or feasibility studies during 0 to 2 percent project completion with an expected accuracy of +50 percent to -30 percent in relation to the actual completed project cost.

Replacement costs are comprised of both direct and indirect costs. The following sections provide describe the methodology used to develop the cost estimates.

7.1.1 Direct Costs

Direct costs are those directly attributed to the physical make-up of the assets (e.g., site development, materials, site dewatering, facilities, equipment, piping, electrical, instrumentation, controls, installation and labor, etc.). Direct costs for each asset were estimated from a variety of sources and categorized based on the asset type. Where possible, the cost from a 100 percent design estimate or a schedule of values pertaining to the actual asset (i.e., developed as part of a recent project) was used and brought to current dollars using the Commodity Channel Index. Other cost sources utilized include Carollo reference projects, vendor quotes for identical or similar equipment, and Carollo's cost estimating database. An installation factor of 40 percent was added to the material cost to obtain the total direct cost. The selected installation factor was applied universally for simplicity, but may be an under- or over-estimation of actual installation costs, depending on the asset.

7.1.2 Indirect Costs

Indirect costs consist of contingency factors, demolition, general conditions, contractor overhead and profit, sales tax, engineering/legal/administration, ancillary support, and construction management. Because the asset inventory is comprised only of major assets, remaining components are accounted for in a cost multiplier termed “ancillary support.” This category encompasses items such as seal water pumps, small valves, service-air piping, and small electrical/instrumentation components, etc. The lumped value of these assets typically amounts to approximately 10-20 percent of the sum of the direct project costs. Because sales tax is applied only to goods, equipment, and materials (as opposed to labor), the local sales tax rate of 7.25 percent was applied to half of the direct cost, under the assumption that equipment and materials make up approximately half of the total direct cost. In order to calculate a total multiplier that could be applied to all assets, the sales tax rate of 7.25 percent was halved to 3.625 percent and applied to the entire direct cost.

7.2 Project Cost Estimates

Replacement cost estimates for each asset were calculated from the direct costs and a number indirect cost factors discussed in the previous section. The magnitude of the adjustments related to removal/ installation (demolition, construction and estimating contingency, and general conditions) depends on the level of effort required to replace the asset based on its size, location, and the level of interconnection with other assets. Contingency multiplier ranges used for this effort are summarized in Table 7.1.

All asset replacement projects were assumed to require outside (contracted) labor.

The project costs were developed under the assumption that all of the assets evaluated will be replaced in kind and does not consider rehabilitation costs required to return the assets to original condition. When rehabilitation is an option, the cost may be less than the stated replacement costs, but it can vary significantly depending on the scope of work to be performed. In addition, rehabilitation can be limited to parts available and whether or not the equipment is current or obsolete. The City can optimize asset replacement and renewal by evaluating rehabilitation versus replacement as assets reach the end of their useful lives.

Table 7.1 Cost Estimating and Contingency Factors

Factor	Description	Applied Contingency
Demolition	This is a lumped cost to estimate any minor demolition or removal of existing assets. Major demolition would be estimated as a separate item.	10%
Ancillary Support	Lumped cost of low value items not included as individual assets such as sump pumps, seal water pumps, small valves, service-air piping, hoses, etc.	5%
Construction and Estimating Contingency	Unforeseen or unanticipated project costs involved in the design details and installation of the new asset.	40%
General Conditions	All items contained within Division 01 of most project specifications including mobilization and demobilization, contractor temporary facilities, contractor's field supervision, and bonds and insurance.	18%
Contractor Overhead and Profit Margin	This value includes general contractor home office overhead and profit.	18%
Sales Tax Rate	Sales tax of 7.25 percent applies to half of the total direct cost (sales tax rate of 7.25% was halved to 3.625% and applied to the entire direct cost).	3.625%
Engineering, Legal, Administrative, and Project Contingencies	Engineering (design and services during construction), legal, and administrative costs reflect assistance with permitting and financing.	35%
Total Multiplier Applied to Direct Cost		1.30

7.3 Estimated Replacement Timing and Capital Improvement Planning

The determination of when an asset needs to be replaced for this evaluation is based on the shorter value of (1) the remaining useful life, or (2) the percent life remaining based on the condition score. The replacement costs established in the previous section are then assigned to each year of the planning period based on the projected year of replacement for the assets.

Appendix C summarizes the assets recommended for replacement over planning horizon, based on the condition assessment effort described herein and a “simple” replacement strategy (i.e., replacement at the end of asset’s useful life). All costs are presented in 2021 dollars.

This “simple” replacement strategy is depicted in Figure 7.1. Because asset replacement is not feasible as depicted, and because additional expenditure will be needed over time to address regulatory and capacity needs identified in Chapters 3 and 4, additional analysis is included herein (Chapter 8) for CIP planning using a more strategic approach to facility upgrades.

Appendix D contains a list of projected replacement costs for assets originally identified in the condition assessment (Chapters 5 and 6) as requiring replacement within the planning horizon, but since removed as unnecessary due to improvement projects completed in parallel to the completion of this study, alternative means for improvement and/or capacity, or other.

Actual replacement of assets, in lieu of enhanced maintenance to extend useful life, is a decision that the City will have to make based on available funds, other system need, and risk of failure for a given asset.

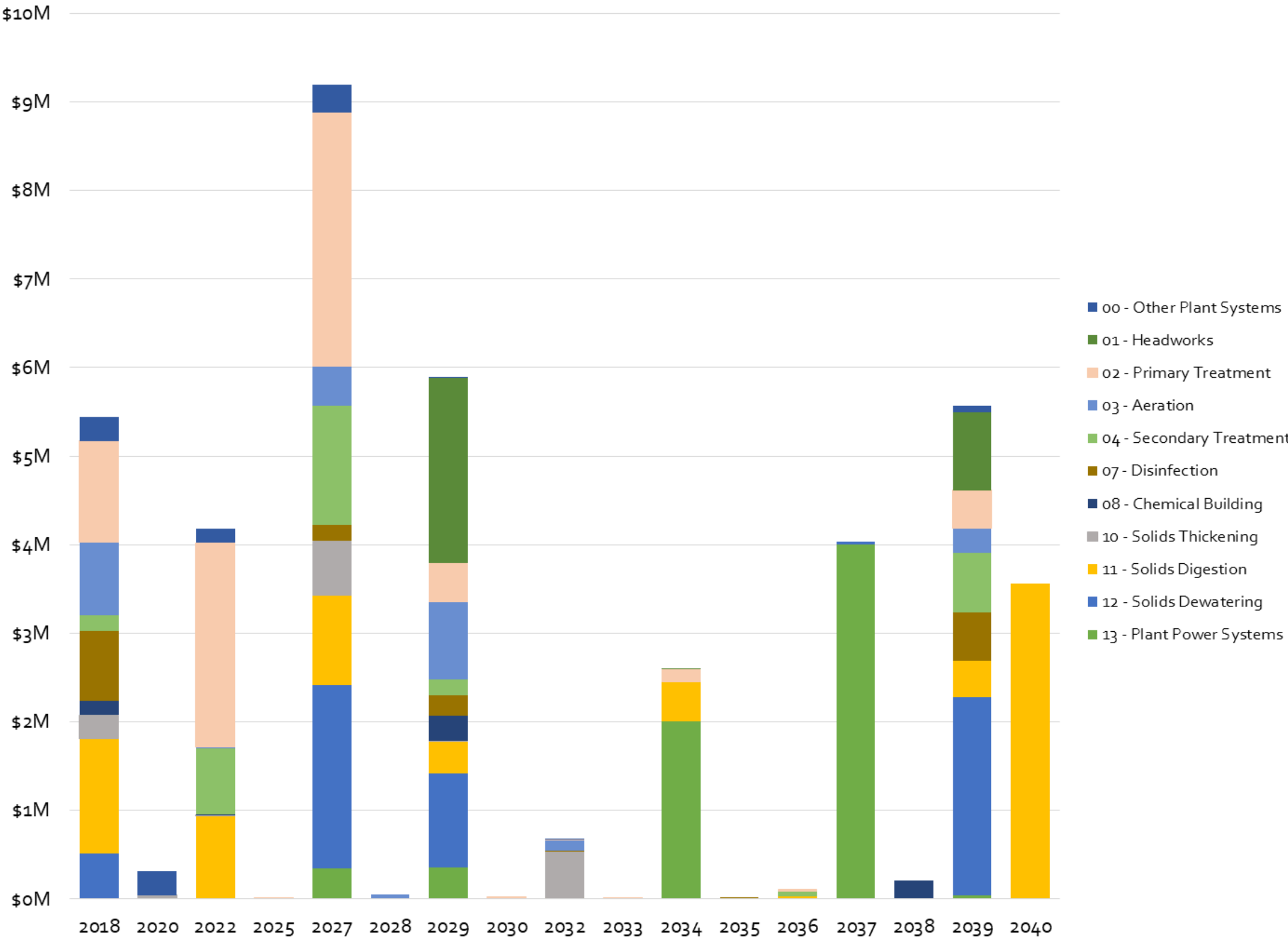


Figure 7.1 Summary of Projected Condition-Driven Replacement Costs

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Chapter 8

ALTERNATIVES EVALUATION AND RECOMMENDATIONS

8.1 Approach

There are four main categories related to facility improvements discussed within this Strategic Planning document, each with differing project triggers and associated timelines. These project categories include:

- *Condition-Driven Facility Needs*: Condition-driven facility needs were determined through completion of a detailed multidiscipline condition assessment conducted April 25 to 26, 2018 (discussed in Chapters 5, 6, and 7).
- *Anticipated Near-Term Regulatory-Driven Upgrades*: Projects in this category are predicated on potential water quality regulation requirements anticipated in future NPDES permit renewals discussed in Chapter 3).
- *Required Capacity Improvements*: Projects in this category include improvements required to extend both treatment capacity and hydraulic capacity to meet demands within the planning period (discussed in Chapter 4).
- *Strategic Long-Term Planning*: Projects anticipating future environmental changes and conservation measures, consistent with the City's long-term goals for sustainable, cost-effective, and responsible wastewater conveyance and treatment (discussed in this chapter).

The purpose of this chapter is to develop a plan for the identified projects in each of these categories to inform funding decisions. Projects that are currently funded (i.e., included in the City's existing budget) are not discussed herein. Where necessary, an alternatives analysis is conducted, and recommendations are provided for future project implementation.

8.1.1 Basis of Cost Estimates

Construction costs included in this report were estimated using unit costs developed from previous construction contracts, estimating guides, unit prices, and construction costs of similar facilities and process configuration at other locations. Using these sources, adjusted capital costs were developed.

Construction costs have historically escalated with time. This trend is expected to continue in the future. To record these trends in rising costs, several indices have been established for various fields of construction. The most commonly used standard barometer of construction cost changes is the Engineering News Report's Construction Cost Index (ENR-CCI). Capital costs for the alternative analysis are based on a predicted February 2021 20-Cities ENR-CCI of 11699, and the R.S. Means Location Factor for Redding, CA, of 1.185 (an index which represents the relative geographic difference in materials pricing and cost of labor between individual cities as

compared to a standard factor). Redding currently represents the closest and most appropriate location factor for estimating construction costs in Chico.

Costs within this section were developed following the AACE International Recommended Practice No. 18R-97 for a Class 5 estimate level. According to AACE International, a "Class 5 Estimate" is defined as an estimate used for screening or feasibility studies during 0 to 2 percent project completion with an expected accuracy of +50 percent to -30 percent in relation to the actual completed project cost.

Replacement costs are comprised of both direct and indirect costs. Definition of each are included in Chapter 7, along with a listing of cost factors and estimating contingencies applied for estimation of construction and project costs.

8.2 Condition-Driven Facility Needs

The facility improvement needs discussed in Chapters 5, 6, and 7 were developed following an on-site full facility condition assessment with a multi-disciplinary team. Facility replacement and rehabilitation needs were developed for both Plant 1 and Plant 2 based on the criteria included in Chapters 6 and 7.

Some of the rehabilitation and replacement projects identified in Chapters 5, 6, and 7 were determined unnecessary due to revised capacity need projections (Chapter 2), process upgrade recommendations (Chapter 4), and the likely retirement of certain facilities (this Chapter). This includes all condition-driven projects identified for Plant 1.

8.2.1 Summary of Condition-Driven Needs

Condition-driven needs identified in Chapters 5, 6, and 7 are summarized in the following sections.

8.2.1.1 Plant 1

Plant 1 has not been operated consistently since the Plant 2 facilities were commissioned (directly following commissioning of facilities constructed in the 1997 Expansion Project). As a result, much of these facilities have not been consistently maintained and will require extensive rehabilitation and/or replacement if the capacity of this treatment train is deemed useful in the future.

Table 8.1 includes a summary of near-term improvements that would be required to bring Plant 1 back into reliable operation.

Table 8.1 Summary of Near-Term Plant 1 Condition Needs

Process Area	Required Improvement	Timeline for Implementation	Estimated Project Cost ⁽¹⁾
Aeration Tank Nos. 1 and 2	Basin rehabilitation ⁽²⁾ Equipment replacement ⁽³⁾	< 5 years	\$904,000
Aeration Blowers	Equipment replacement ⁽⁴⁾	< 5 years	\$2,304,000

Table 8.1 Summary of Near-Term Plant 1 Condition Needs (continued)

Process Area	Required Improvement	Timeline for Implementation	Estimated Project Cost ⁽¹⁾
Secondary Clarifier No. 1	Basin rehabilitation ⁽⁵⁾ Equipment replacement ⁽⁶⁾	< 5 years	\$629,000
Secondary Clarifier No. 2	Basin rehabilitation ⁽⁵⁾ Equipment replacement ⁽⁷⁾	< 5 years	\$733,000
RAS/WAS Pumping	Equipment replacement ⁽⁸⁾	< 5 years	\$200,000
Chlorine Contact Basin Nos. 1 and 2	Basin rehabilitation ⁽⁵⁾ Equipment replacement ⁽⁹⁾	< 5 years	\$503,000
Plant 1 Electrical Facilities	Equipment replacement ⁽¹⁰⁾	< 5 years	\$1,834,000
Plant 1 PLC and I/O Equipment	Equipment replacement ⁽¹¹⁾	< 5 years	\$131,000
Total Near-Term Required Capital Investment			\$7,238,000⁽¹²⁾

Notes:

- (1) Costs are listed in February 2021 dollars using an ENR-CCI 20 Cities Index of 11699. Cost estimating assumptions and limitations as discussed herein.
- (2) Requires the construction/repurposing of another existing facility for centrate equalization and removal of WASAC demonstration improvements (cost for this not included).
- (3) Includes concrete repair/rehabilitation, replacement of basin diffusers, gates and actuators, all process instrumentation, and spot repair/rehabilitation of process piping.
- (4) Includes replacement all four aeration blowers.
- (5) Includes concrete repair/rehabilitation, all process instrumentation, and spot repair/rehabilitation of process piping.
- (6) Includes the replacement of the sludge collector drive and motor (with provision of seismic restraints), the replacement of sprayers and piping, the replacement of chains, flights, fiberglass launders, troughs, and weirs, and the replacement of all process instrumentation.
- (7) Includes the replacement of sludge collector drive and motor, recoating of all mechanisms, and replacement of all process instrumentation.
- (8) Includes replacement of pumps, motors, and all process instrumentation.
- (9) Includes the replacement of gates and actuators, sampling pumps, and flash mixers.
- (10) Includes all Plant 1 electrical distribution facilities.
- (11) Includes all Plant 1 PLCs and I/O modules.
- (12) Does not include longer-term system needs (see Table 8.2).

Table 8.2 includes a summary of condition driven projects for Plant 1 that would be required to keep Plant 1 operational longer-term, along with estimated projects costs and implementation timelines.

Table 8.2 Summary of Long-Term Plant 1 Condition Needs

Process Area	Required Improvement	Timeline for Implementation	Estimated Project Cost ⁽¹⁾
Effluent Pumping	Replace Effluent Pumps	2027	\$270,000
Aeration	Rehabilitate Blower Building ⁽²⁾	2040	\$262,000
Aeration	Replace Aeration Basins Nos. 1 and 2 ⁽³⁾	2040	\$8,068,000
Secondary Clarification	Replace Secondary Clarifier Nos. 1 and 2 ⁽⁴⁾	2040	\$6,514,000
Disinfection	Replace Chlorine Contact Basin Nos. 1 and 2 ⁽⁵⁾	2040	\$4,996,000
Total Long -Term Required Capital Investment			\$20,110,000⁽⁶⁾

Notes:

- (1) Costs are listed in February 2021 dollars using an ENR-CCI 20 Cities Index of 11699. Cost estimating assumptions and limitations as discussed herein.
- (2) Includes building upgrades to Blower Building No. 1.
- (3) Includes replacement of Aerations Basin Nos. 1 and 2.
- (4) Includes replacement of Secondary Clarifier Nos. 1 and 2.
- (5) Includes replacement of Chlorine Contact Basin Nos. 1 and 2.
- (6) Does not include estimated near-term project costs (see Table 8.1).

The total project cost for the Plant 1 improvements over the next 20 years is \$27,350,000.

As noted elsewhere in this report, based on flow and load projections completed herein and the high estimated cost for repair/replacement of aged facilities, it is not recommended that the City invest in the rehabilitation of Plant 1. As such, these costs are not considered in the CIP projections included herein.

8.2.1.2 Plant 2

Although Plant 2 has been well maintained, some elements are nearing the end of their useful lives, and will require attention. Table 8.3 includes a summary of near-term improvements that would be required to maintain Plant 2 operational reliability.

Table 8.3 Summary of Near-Term Plant 2 Condition-Driven Needs

Process Area	Required Improvement	Timeline for Implementation	Estimated Project Cost ⁽¹⁾
Primary Treatment	Basin rehabilitation ⁽²⁾ Equipment replacement ⁽³⁾	< 5 years	\$3,451,000
Aeration	Equipment replacement ⁽⁴⁾	< 5 years	\$827,000
Secondary Treatment	Equipment replacement ⁽⁵⁾	< 5 years	\$922,000
Disinfection	Equipment replacement ⁽⁶⁾	< 5 years	\$785,000
Chemical Building	Equipment replacement ⁽⁷⁾	< 5 years	\$174,000
Solids Thickening	Equipment replacement ⁽⁸⁾	< 5 years	\$327,000
Solids Digestion	Equipment replacement ⁽⁹⁾	< 5 years	\$2,224,000
Solids Dewatering	Equipment replacement ⁽¹⁰⁾	< 5 years	\$508,000
Plant Power Systems	Equipment replacement ⁽¹¹⁾	< 5 years	\$9,000
Other Plant Systems	Equipment replacement ⁽¹²⁾	< 5 years	\$698,000
Total Near-Term Required Capital Investment			\$9,925,000

Notes:

- (1) Costs are based on February 2021 dollars using an ENR-CCI 20 Cities Index of 11699. Cost estimating assumptions and limitations as discussed herein.
- (2) Includes concrete repair and rehabilitation, replacement of gates and actuators, all process instrumentation, and spot repair/rehabilitation of process piping.
- (3) Includes replacement of sludge collector motor and chains for Primary Clarifier Nos. 1 and 2, pit pumps for Primary Clarifier Nos. 1 and 2, primary effluent pump motors (pumps No. 2 and 3), replacement of PLC-H, and ancillary items.
- (4) Includes replacement of Blower No. 7, air diffuser and air flow meters in Aeration Basin Nos. 3 and 4, PLC-B, and ancillary items.
- (5) Includes replacement of sludge collectors for Secondary Clarifier Nos. 3 and 4, replacement of MCC-EP-1, MCC-P1, and PLC-R, and ancillary items.
- (6) Includes replacement of flash mixers for Chlorine Contact Basin Nos. 3 and 4, gates and actuators, flow meters, sampling pumps, PLC-C, and ancillary items.
- (7) Includes replacement of CSS Pump Nos. 1 and 2, SBH Recirculation Pump No. 1, SHS Pump No. 1, PLC-C, and ancillary items.
- (8) Includes replacement of Recycle Pressurization Pump Nos. 1-4, air compressors for DAFT Nos. 1 and 2, polymer feed system, MCC-EP5, PLC-B-1/02, and miscellaneous items.
- (9) Includes improvements to Boiler Building No. 2 and replacement of Sludge Heater Nos. 1-3, digester gas flow meters, PLC-D, and ancillary items.
- (10) Includes replacement of Screw Conveyor No. 1, solids grinder, miscellaneous exhaust/supply fans, flow meters, and unit heaters, PLC-B2-1/02, and ancillary items.
- (11) Includes replacement of LCP-PCP-47.
- (12) Includes replacement of Deep Well Pump Nos. 1 and 2, MCC-PC/EP-2, and ancillary items.

Table 8.4 includes a summary of longer-term condition-driven project costs for Plant 2 facilities.

Table 8.4 Summary of Long-Term Plant 2 Condition Needs

Process Area	Required Improvement	Timeline for Implementation	Estimated Project Cost ⁽¹⁾
Headworks	Equipment rehabilitation/replacement ⁽²⁾	2029 - 2039	\$2,979,000
Primary Treatment	Equipment replacement ⁽³⁾	2025 - 2039	\$3,902,000
Aeration	Equipment replacement ⁽⁴⁾	2027 - 2039	\$1,783,000
Secondary Treatment	Equipment replacement ⁽⁵⁾	2027 - 2039	\$2,235,000
Disinfection	Equipment replacement ⁽⁶⁾	2027 - 2039	\$1,010,000
Chemical Building	Equipment replacement ⁽⁷⁾	2029 - 2038	\$481,000
Solids Thickening	Equipment replacement ⁽⁸⁾	2027 - 2039	\$1,137,000
Solids Digestion	Equipment replacement ⁽⁹⁾	2027 - 2040	\$5,815,000
Solids Dewatering	Equipment replacement ⁽¹⁰⁾	2027 - 2039	\$5,425,000
Plant Power Systems	Equipment replacement ⁽¹¹⁾	2027 - 2039	\$6,751,000
Other Plant Systems	Equipment replacement ⁽¹²⁾	2027 - 2039	\$398,000
Total Long-Term Required Capital Investment			\$31,916,000

Notes:

- (1) Costs are based on February 2021 dollars using an ENR-CCI 20 Cities Index of 11699. Cost estimating assumptions and limitations as discussed herein.
- (2) Includes replacement of major mechanical equipment items (shaftless screw conveyor, mechanical bar screens, screenings washer/compactors, vortex grit chamber drives, grit cyclone separators, ferric facility pumps biofilter fans, grit basement exhaust and supply fans, flow meters/transmitters, sump pumps, analyzers, samplers, etc.) (in 2029); and replacement of grit pumps, channel gates, and MCC-P14 (in 2039).
- (3) Includes rehabilitation of Primary Clarifier No. 3 (motor and chains, sludge collector drives, chains, etc), replacement of Primary Effluent Pumps Nos. 1-3 (with new VFDs), and ancillary items (in 2027); replacement of MCC-EP7 and PLC-X (in 2029); miscellaneous items (2030 - 2036); and replacement of Primary Effluent Pump No. 4 and MCC-P13 (in 2039).
- (4) Includes replacement of tank inlet/outlet gates and MCC-P8 (in 2027); DO meters (in 2028); air diffusers and flow meters for Aeration Basin Nos. 5 and 6, exhaust and supply fans for Blower Building No. 2, and PLC-BB (in 2029); air inlet and blow off valves (in 2032); miscellaneous items (2034-2036); and Blower No. 8, and inlet and outlet gates for Aeration Basin Nos. 5 and 6 (in 2039).
- (5) Includes replacement of sludge collector drive for Secondary Clarifier No. 3, RAS Pump Nos. 4-7, MCC-P11A, and SWGP-1 (in 2027); MCC-P11 and PLC-RR (in 2029); miscellaneous flow meters and heat pumps (in 2036); and the sludge collector drive for Secondary Clarifier No. 5, RAS Pump No. 9, and Secondary Scum Pump No. 5 (in 2039).
- (6) Includes replacement of sluice gates (in 2027), miscellaneous flow meters, analyzers, and sample pumps (2028-2035), and the hydraulic power unit and sluice gates (in 2039).
- (7) Includes replacement of MCC-P12, SBS recirculation Pump No. 2, and miscellaneous heat pumps, unit heaters, exhaust fans, and instrumentation (in 2029); and replacement of SBS Pump Nos. 1 and 2 and SHS Pumps 2-4 (in 2038).
- (8) Includes replacement of DAFT No. 2 collector drive, TWAS Pump Nos. 1-4, Thickened Sludge Grinder Nos. 1 and 2, instrumentation for DAFT Nos. 1 and 2, and MCC-P13 (in 2029); DAFT No. 1 collector drive (in 2032); and Thickened Sludge Pump Nos. 1 and 2 (in 2039).
- (9) Includes replacement of Digester No. 3, most digester transfer/recirculation pumps and Sludge Mixing Pump Nos. 1-3 (in 2027); MCC-P15, MCC-P9, PLC-X, and miscellaneous items (in 2029); miscellaneous flow meters, inlet valves (2030-2036); and Digester Transfer Pump No. 2, Sludge Mixing Pump No. 4, Digester Recirculation Pump No. 3, and Hot Water Loop Pump Nos. 1-3 (in 2039).
- (10) Includes replacement of Centrifuge No. 1 and miscellaneous control and starter panels (in 2027); Screw Conveyor Nos. 2 and 3, Polymer Mixing Pump Nos. 1-2, Polymer Blending Pump Nos. 1-2, and MCC-P10 (in 2029); miscellaneous items (2030-2037); and Centrifuge No. 2, Centrifuge Feed Pump Nos. 1-2, and ancillary items (in 2039).
- (11) Includes replacement of solar power system, Switchboard-P2, Transformer No. 1, and Standby Generator No. 2 Control Panel (in 2027); Substation No. 1, Panel-P9A, and miscellaneous electrical items (in 2029); the cogeneration unit (in 2034); Standby Generator No. 2 and the synchronizer panel for Generator Nos. 1-2 (in 2037); and the cogeneration hot water loop and control panels for Standby Generator No. 3 and 4 (in 2039).
- (12) Includes replacement of 3W Pump Nos. 1-4 and main hot water pumps (in 2027); miscellaneous items (2029-2032), and 3W Pump No. 5 (in 2039).

8.2.2 Evaluation of Alternatives for Upgrade

Rehabilitation/replacement needs for condition-driven deficiencies are summarized in Chapters 5, 6, and 7 (and herein). The following sections outline options for reducing the City's overall spending projection through deletion of projects/asset replacement and the development of a modified timeline for delivering projects.

8.2.2.1 Options for Reduced or Deferred Capital Expenditure

As mentioned elsewhere, it is recommended that the City focus WPCP improvement efforts on Plant 2 (deferring all capital investment outlined herein for Plant 1). This recommendation is based on the following findings associated with this planning effort:

- Reduced WPCP flow projections as compared to previous planning findings (Chapter 2).
- Process modeling that predicted adequate capacity within Plant 2 facilities to treat current and projected flows with minimal facility upgrades (Chapter 4).
- High estimated cost to bring Plant 1 facilities back into reliable operation (Chapters 5, 6, 7, and herein).

Removal of Plant 1 projects (all condition-driven) reduces the overall condition-driven CIP costs by over \$27 million.

Other recommended projects that currently appear unnecessary (based on discussions with the City) include the following:

- Rehabilitation/replacement of gravity thickener and thickened sludge pump equipment:
 - These facilities are currently not used, following completion of facility upgrades that have allowed WPCP staff to thicken sludge in the primary clarifiers. The costs associated with rehabilitation/replacement of these facilities over the planning horizon is approximately \$850,000.
- Rehabilitation/replacement of ferric chloride facilities:
 - These facilities have not been used since their construction, and plant staff indicate that they do not plan to use them in the foreseeable future. The costs associated with rehabilitation/replacement of these facilities over the planning horizon is approximately \$300,000.
- Rehabilitation/replacement of Aeration Blowers No. 7 and 8:
 - The City is currently implementing related improvements. The costs associated with rehabilitation/replacement of this equipment is overall \$2 million.
- Rehabilitation/replacement of the photovoltaic (solar) system:
 - The City has requested that costs associated with replacement/repair of these facilities be left off of the CIP. The costs associated with the rehabilitation/replacement of these facilities is approximately \$9.5 million.

These costs for these improvements are included in Tables 8.1 – 8.4 (for reference), but are not carried through the recommended CIP for condition-driven projects (included herein as Tables 8.5, 9.1, and 9.4).

8.2.2.2 Modified Timeline for Delivery of Condition-Driven Projects

The list of condition-driven projects (both short-term and long-term) were reviewed for opportunities to couple projects for ease of delivery, with allowance of time in between projects (where possible) to stabilize project funding and staffing needs. Table 8.5 includes a summary of recommended condition improvement project packages for the WPCP.

Table 8.5 Recommended Condition Improvement Project Packages

Approximate Timeline for Implementation	Improvement Package Project Components	Estimated Project Cost ⁽¹⁾
2021	Aeration and Primary Treatment Upgrades Recommended by 2023	\$1,735,000
2022	Disinfection, Chemical Building, Solids Thickening and Dewatering, Plant Power Systems, and Other Plant Systems Upgrades Recommended by 2023	\$2,501,000
2023	Solids Digestion Upgrades Recommended by 2023	\$2,224,000
2025	Primary Treatment Upgrades Recommended by 2025 ⁽²⁾	\$3,451,000
2027	Condition Driven Upgrades Recommended in 2027 ⁽³⁾	\$7,164,000
2028	Condition Driven Upgrades Recommended in 2028 ⁽⁴⁾	\$3,041,000
2029	Condition Driven Upgrades Recommended in 2029 ⁽⁵⁾	\$5,056,000
2033	Condition Driven Upgrades Recommended in 2033 ⁽⁶⁾⁽⁷⁾	\$3,301,000
2039	Condition Driven Upgrades Recommended in 2039 ⁽⁸⁾	\$9,806,000
2040	Anaerobic Digester 3	\$3,562,000
Total Required Capital Investment		\$41,841,000

Notes:

- (1) Costs are based on February 2021 dollars using an ENR-CCI 20 Cities Index of 11699. Cost estimating assumptions and limitations as discussed herein.
- (2) Deferred from 2023 project list.
- (3) With exception to solids digestion projects recommended in 2027 (these are deferred to 2028).
- (4) With addition of solids digestion projects deferred from 2027.
- (5) Includes miscellaneous improvements recommended for Headworks in 2034.
- (6) Allows completion of tertiary treatment upgrades in 2031 (cost not included).
- (7) Includes miscellaneous project needs scheduled between 2029 and 2036.
- (8) With addition of condition-driven projects for the Chemical Building recommended for 2038.

8.3 Required Capacity Improvements

The hydraulic capacity of the WPCP was evaluated with use of a hydraulic model (Hydraulix®), and projected flows for the planning period (Chapter 4). With limited population growth and increased implementation of conservation efforts since the most recent facility planning exercise (2005), no major improvements are needed to increase hydraulic capacity through the end of the planning period (2040).

The process capacity of the WPCP was evaluated with use of process modeling software (BioWin™) and projected flows and loads for the planning period (Chapter 4). As reported in Chapter 4, flows are lower than originally projected, but loading will be similar. If existing secondary treatment processes are maintained, then no capacity related upgrades would be required.

However, with the treatment process upgrades predicated by potentially reduced effluent nitrate limits, there may be a need for a fourth secondary clarifier. As discussed in Chapter 4, the long-term SVI for Plant 2 has consistently been below 120 milliliters per gram (mL/g). With the process upgrades for nitrogen removal, the SVI may change. With increased SVI, a fourth secondary clarifier will be needed to provide sufficient secondary settling capacity at projected PFs. It is recommended that the City plan for this future expenditure. As such, the cost for a secondary clarifier is estimated herein, with projected implementation planned for the end of the planning cycle (2036) based on the evaluation completed herein (which does not consider the impacts of the Campfire on influent flows and loads).

Update: The planned timeline for implementation of additional secondary clarifier capacity in Plant 2 was revisited in August 2019. In this analysis, the need for additional secondary clarifier capacity is likely to occur approximately 4 years earlier than originally anticipated (Appendix E). As such, this secondary clarifier is now scheduled in the CIP for implementation by 2032.

The estimated cost for a new 100-foot diameter secondary clarifier is approximately \$7.4 million (construction cost) and \$9.9 million (total project cost) based February 2021 dollars. Cost estimates are included herein as Appendix F.

8.3.1 Limitations of Capacity Analysis

The capacity of the existing WPCP facilities was evaluated against expected flows and loads projected over the planning horizon (through 2040), as calculated with an expected growth rate of 1.2 percent per year (Chapter 2). This value is consistent with long-term observations for population growth within the City's sphere of influence, but may prove inadequate long-term due to:

- The recent surge of temporary residents that have settled within City limits due to forced displacement following the destructive Camp Fire in Paradise, California (November 2018).
- Updated collection system modeling that includes development in areas previously reserved as conservation areas, the flows/loads of which have not been considered herein.

Additionally, the City has been in discussion with the Town of Paradise related to a future sewer connection that would transfer sewer flows from the Town to the WPCP for treatment and disposal. This planning study does not consider future flows/loads associated with this planned connection.

It is recommended that the City revisit the findings of this evaluation within the next 3 to 5 years to best prepare for future facility needs related to hydraulic and process capacity.

8.4 Anticipated Near-Term Regulatory-Driven Upgrades

This section discusses near-term facility upgrades that could result from projected NPDES regulatory drivers discussed in Chapter 3.

The current NPDES Order (R5-2016-0023) includes two permitted discharge locations:

- D-001: Discharge to the Sacramento River (via an effluent diffuser).
- D-002: Discharge to the underlying groundwater (via the M&T Pond).

The current Order does not include any effluent requirements for the Sacramento River that require facility improvements. However, it is anticipated that future WPCP upgrades will be required based on anticipated permit limitation modifications implemented with future permit renewals.

Additionally, the current Order includes a time schedule order (TSO) for the land discharge location (D-002), which requires compliance with specified effluent limits by May 2021. These permit limits include conventional constituents (BOD, TSS, and total organic carbon [TOC]) for the discharged effluent, and also require that the discharged effluent not cause a violation of the groundwater limitations outlined in the Basin Plan (as referenced by the Order). To determine compliance with groundwater limitations (in accordance with the permit Order), the City installed a groundwater monitoring network, has completed more than 1 year of quarterly groundwater monitoring, and has prepared initial findings in the form of an Interim Antidegradation Analysis. The findings of this interim effort indicate that the groundwater underlying the WPCP may be impacted by nitrate levels in the effluent discharged to the ponds. As such, suggested improvements for nitrate reduction (denitrification upgrades) at the WPCP are presented in Chapter 4.

Probable future effluent limitations outlined in Chapter 3 (that differ from those in the current permit Order) are summarized below in Table 8.6, along with assumed implementation horizons (time frames).

Table 8.6 Summary of Probable Future Effluent Limitations

Parameter	Unit	Probable Effluent Limit	Averaging Period ⁽¹⁾	Assumed Implementation Horizon ⁽²⁾	Proposed Treatment
BOD ₅ (5-day @ 20 deg. Celsius)	mg/L	10/15/30	Monthly/Weekly /Daily	2031	Tertiary Filtration
TSS	mg/L	10/15/30	Monthly/Weekly /Daily	2031	Tertiary Filtration
pH	standard units	6.0/8.5	Instantaneous Minimum/ Maximum	Current	N/A
Ammonia Nitrogen, Total (as N)	mg/L	8.2/17.6 ⁽³⁾	Monthly/Weekly	Current	N/A
Copper, Total Recoverable	µg/L	15/20	Monthly/Daily	Current	Potentially Filtration ⁽⁴⁾
Chlorodibromo-methane	µg/L	17.2/34.0	Monthly/Daily	Current	Alternative Disinfection ⁽⁴⁾
Dichlorobromo-methane	µg/L	25.2/43.0	Monthly/Daily	Current	Alternative Disinfection ⁽⁴⁾
Nitrate Plus Nitrite (as N)	mg/L	10 ⁽⁵⁾	Monthly	2021 ⁽⁶⁾	Denitrification Upgrades

Table 8.6 Summary of Probable Future Effluent Limitations (continued)

Parameter	Unit	Probable Effluent Limit	Averaging Period ⁽¹⁾	Assumed Implementation Horizon ⁽²⁾	Proposed Treatment
Bis (Di-2-ethylhexyl)-phthalate (DEHP)	µg/L	1.8/3.6 ⁽⁷⁾	Monthly/Daily	2031	Potentially Filtration
Lead	µg/L	1.3/2.8 ⁽⁷⁾	Monthly/Daily	2031	Potentially Filtration
Zinc	µg/L	300 ⁽⁷⁾	Average Annually	2031	Potentially Filtration

Notes:

- (1) Monthly and weekly values are average effluent concentration limitations. Daily value is maximum effluent concentration limitation.
- (2) Implementation timing assumed for planning purposes. Actual required timeline for implementation may vary.
- (3) Ammonia limits may be reduced with implementation of 2013 Criteria.
- (4) Would only be required if current limits are reduced during future permit renewals due to mixing zone limitations (or other).
- (5) Current permit limitations are 60/104 mg/L (average monthly/average weekly).
- (6) Based on current permit requirements, for implementation by May 30, 2021 (assuming pond discharge will continue).
- (7) Assumes no dilution credit assignment, which is currently considered conservative.

8.4.1 Summary of Near-Term Regulatory Needs

Based on projections completed for this report, the following WPCP improvement projects are anticipated based on near-term regulatory needs:

- Required improvements for land discharge of treated effluent (by May 30, 2021), if City prefers to continue discharging to the ponds:
 - Denitrification upgrades (installation of MLE upgrades in existing Plant 2 aeration tanks).
- Required improvements for land discharge of treated effluent (by May 30, 2021), if City prefers to continue discharging to the ponds during facility upset conditions:
 - Lining of a portion (or all) of the WPCP Southeast and/or Northeast ponds.
- Required improvements for more stringent BOD and TSS effluent criteria (assumed required in 2021 permit, with full implementation by 2031):
 - Addition of tertiary treatment facilities at WPCP.
- Required improvements for DEHP, lead and zinc concentrations, with implementation assumed by 2031:
 - Possibly treated with MLE and tertiary filtration improvements, assuming optimized chemical addition.
 - Would only be required if current mixing zone/dilution credit allowances become more stringent, with newly identified reasonable potential, or with failure of other non-treatment options discussed herein.
- Required improvements for disinfection byproducts (DBP), with implementation assumed by 2036:
 - Treat with alternative disinfection facilities.
 - Would only be required if current mixing zone/dilution credit allowances become more stringent, or with newly identified reasonable potential.

Update: Since preparation of the original draft of this planning report, the City has received confirmation from the RWQCB that the deadline for compliance with the land discharge specifications included in the current permit order (which are scheduled to take effect on May 30, 2021) will be administratively extended along with the permit, and the RWQCB will add a deadline extension in the new permit. As such, the MLE and pond improvement schedules were shifted to 2024 and 2026, respectively. The City should begin planning as soon as feasible, since the true timing for this work is not yet known and because it will take a few years to fund, design, and construct related facilities.

8.4.2 Required Improvements for Land Discharge

As mentioned previously, facility improvements will be required if the City prefers to continue to discharge treated effluent to the WPCP ponds long-term.

8.4.2.1 Denitrification Upgrades

It is anticipated that effluent limitations for nitrate will become more stringent as a function of the TSO included in the current permit Order. Probable effluent nitrate plus nitrite limitations of 10 mg/L (as a monthly average) will require secondary process improvements. The secondary treatment process currently nitrifies (removes ammonia), but does not denitrify (convert nitrates and nitrites into nitrogen gas for release to the atmosphere).

In order to induce denitrification within the existing aeration tanks, the secondary process must be converted to incorporate an MLE process. The MLE process requires an anoxic zone upstream of the aerobic zone to remove the nitrate. For incorporation of this process into the existing Plant 2 aeration tanks, the anaerobic zone for each tank will be converted to an anoxic zone and the mixed liquor suspended solids (MLSS) recycle rate will be increased. These adjustments will require additional sludge pumps to increase the MLSS recirculation rate. Additionally, since the sludge age will be longer and the concentration of MLSS will be higher, more clarification volume may be needed.

The following improvements are needed to upgrade the secondary process to MLE:

- Addition of four 7.5 mgd MLE pumps:
 - One pump per tank, with shelf-spare on hand.
- Addition of fourteen 6-horsepower submersible mixers.
- Piping, electrical, instrumentation, and ancillary items.

The estimated cost for the MLE process upgrades is approximately \$3,254,000 (construction cost) as reported in the Final Draft Pond/Facility Improvement Options TM (Carollo July, 2019). The estimated project cost for these upgrades is approximately \$4,090,000 (project cost from report updated to 2021 dollars). Cost estimates are included herein as Appendix F.

8.4.2.2 Pond Liner Installation

If the City decides to continue to use the existing WPCP ponds for emergency storage of treated effluent that does not comply with land-discharge requirements (i.e., bypassed flows during facility upset conditions), then the ponds will need to be lined. The Final Draft Pond/Facility Improvement Options TM includes an alternative analysis of pond lining options.

Based on City feedback, detailed project cost estimates were prepared for pond liner installation alternatives configured to provide 25 MG of storage capacity. Various pond liner materials were evaluated for the Southeast and Northeast ponds, with conclusion that jointed plain concrete

pavement (JPCP) presents the best life cycle cost for this application. Estimated construction costs for pond lining using JPCP range from \$20.0 million for the Northeast Pond (which includes diversion piping between the outfall box and the pond) to \$48.5 million for the Southeast Pond (assuming full lining of the Southeast pond, with installation of pump-back facilities between the pond and Headworks facility). Estimated project costs range from \$23.0 million to \$58.2 million.

The JPCP cost results for the pond options are summarized in Table 8.7.

Table 8.7 Summary of JPCP Pond Liner Alternative Costs

Pond Lining Costs	Total Area (Acres)	Estimated Volume (MG)	Capital Cost ⁽¹⁾	Present Value Life-Cycle Cost ⁽¹⁾	Cost Per Gallon (\$/gal) Capital/Life-Cycle
Southeast Pond	32.1	31.4	\$17,335,000	\$18,727,000	\$0.55/\$0.60
Southeast Pond (Partial)	21.5	21.0	\$11,611,000	\$12,542,000	\$0.55/\$0.60
Northeast Pond	11.5	7.5	\$6,211,000	6,709,000	\$0.83/\$0.89

Notes:

(1) Costs are in March 2019 dollars using an ENR-CCI 20 Cities Index of 11264.

(2) This is a class 5 Budget Estimate as defined by the AACEI's Revised Classification (1999) with an expected accuracy range of +100 to -50 percent. This cost estimate is based upon the Engineer's perception of the current conditions in the project area and is subject to change as variances in the cost of labor, materials, equipment, services provided by others or economic conditions occur. Since the Engineer has no control over these factors, he cannot warrant or guarantee that actual bids will not vary from the costs presented herein. This estimate does, however, reflect the Engineer's professional opinion of accurate costs at this time.

Update: In February 2021, the City indicated a new preference for HDPE pond lining in lieu of the JPCP, applied to the Northeast Pond only. The estimated construction costs for a pond lining project for using the HDPE liner material (which includes diversion piping between the outfall box and the Northeast pond) is \$11.5. This cost is carried through the CIP with forecasted implementation by 2026. Cost estimates are included herein as Appendix F.

8.4.3 Tertiary Treatment

Tertiary treatment is likely to be required within the next few NPDES permit cycles with reduced BOD/TSS limits (and likely turbidity limit of 2 Nephelometric turbidity units [NTU]). This level of treatment is typically accomplished with filtration, which is a process that removes suspended solids that remain in treated flow after the secondary clarification process.

The following filtration technologies are available:

- Conventional sand filtration.
- Dual media filtration.
- Fuzzy filters.
- Microscreen media disk filters.
- Cloth disk filters.
- Membrane filters (ultrafiltration [UF] and microfiltration [MF]).

The three industry leading filtration methods (dual media filters, cloth disk filters, and membrane filters) were evaluated herein for implementation at the WPCP. These treatment options were chosen for their proven treatment reliability, high quality effluent, and range of footprint requirements and costs.

8.4.3.1 Filter Design Flow and Flow Equalization

The requirement to filter the effluent flow could be based on the AAF or PF, depending on the final permit requirements. The more conservative assumption is that the permit will require that the peak facility flow be filtered. In this case, flow equalization could be considered to reduce filter size and capital costs. Providing flow equalization for the WPCP PF may be possible, but it is not considered within this evaluation as there are many other key considerations (and because flow equalization may not actually save the City money). Instead, filters are sized to provide filtration for the PF without redundancy, with a normal redundancy requirement included for treatment of the MMF. All filters were evaluated assuming the 2040 flow predictions of 23.4 mgd for PHF and 13.8 mgd for MMF.

8.4.3.2 Filter Loading Rate

Title 22 regulations for recycled water require a maximum loading rate of 5 gallons per minute per square foot (gpm/sf) for granular media filters. Cloth disk filters have been approved for Title 22 reuse at loading rates of 6 to 7 gpm/sf, depending on the cloth type used. Higher loading rates (up to 22 gpm/sf) are possible if specific design and monitoring conditions are met. Likewise, for membrane filters, each filtration supplier and media has its own equivalent Title 22 validation and specified design criteria.

The filters for the WPCP will not be required to meet Title 22 standards unless the City wishes implement a water recycling program. For planning purposes, non-Title 22 conforming loading rates are used herein for evaluation of the various filtration options.

8.4.3.3 Dual Media Filters

Dual media filters use a combination of sand and anthracite to remove solids and turbidity from the waste flow. Water flows down through the media and is collected below. When head loss reaches a pre-determined set-point, a backwash is conducted, using filtrate water either from a separate backwash supply tank or from chlorine contact basins (CCBs) (where available). Backwashes are conducted using two flow rates (high and low), operated in sequence.

The maximum loading rate for dual media filters will be approximately 7 to 8 gpm/sf in order to achieve treatment requirements predicted for the WPCP. This loading rate may also be allowed for Title 22 quality water in the future, depending on adoption of impending (related) regulations (discussed later).

Chemical dosing may be required for optimized filtration. Details for this are site-specific, and are highly dependent on filter influent water quality and finished water quality requirements. Bench scale or start-up testing will be necessary to determine whether polymer or coagulant dosing will be required for the chosen WPCP filtration system. For planning purposes, a small chemical feed system has been included in the capital costs.

Dual media filters are a popular (and proven) technology for producing high quality effluent with variable influent water quality. Their operations are highly customizable with regards to loading rate and backwash frequency. Since there are few mechanical components, the ongoing maintenance is relatively low compared to other filters. Downfalls of the dual media filter include high capital cost, large footprint, and high O&M costs. Media replacement needs contribute to one of the larger O&M costs, as an estimated 10 percent of the media is lost per year.

Projected design criteria for dual media filters for the WPCP is summarized in Table 8.8.

Table 8.8 Dual Media Filter Design Criteria

Design Criteria	Value	Units
Maximum Month Flow ⁽¹⁾	14.5	mgd
Peak Hour Flow ⁽²⁾	24.6	mgd
Tertiary Lift Station ⁽³⁾	90	hp
Number of Filters	6	
Filter Length	14	ft
Filter Width	26	ft
Total Filter Area	2,184	sf
Filter Media		
Anthracite depth	4	ft
Sand depth	1	ft
Filtration Rate at Average Flow (N-2) ⁽¹⁾⁽⁴⁾	6.9	gpm/sf
Filtration Rate at Peak Hour (N-0) ⁽²⁾⁽⁵⁾	7.4	gpm/sf
Backwash Supply Tank Usable Volume	110,000	gal
Backwash Pumps (duty / standby)	2 (1 + 1)	
Flow	8,700	gpm
Motor Power	125	hp
Backwash Waste	Direct to Headworks	

Notes:

- (1) Projected WPCP maximum month flow through end of planning cycle (2040). Includes filter recirculation flow of 5 percent to account for backwashes recycled to headworks.
- (2) Projected WPCP peak hour flow through end of planning cycle (2040). Includes filter recirculation flow of 5 percent to account for backwashes recycled to headworks.
- (3) Assumes two duty 30-hp pumps and one standby 30-hp pump.
- (4) Four (4) of six (6) filters on-line.
- (5) Six (6) of six (6) filters on-line.

A potential layout for the dual media filters at the WPCP is included as Figure 8.1. With this layout, effluent from the secondary clarifiers would be routed through the filters and then back around to the influent side of the CCBs.

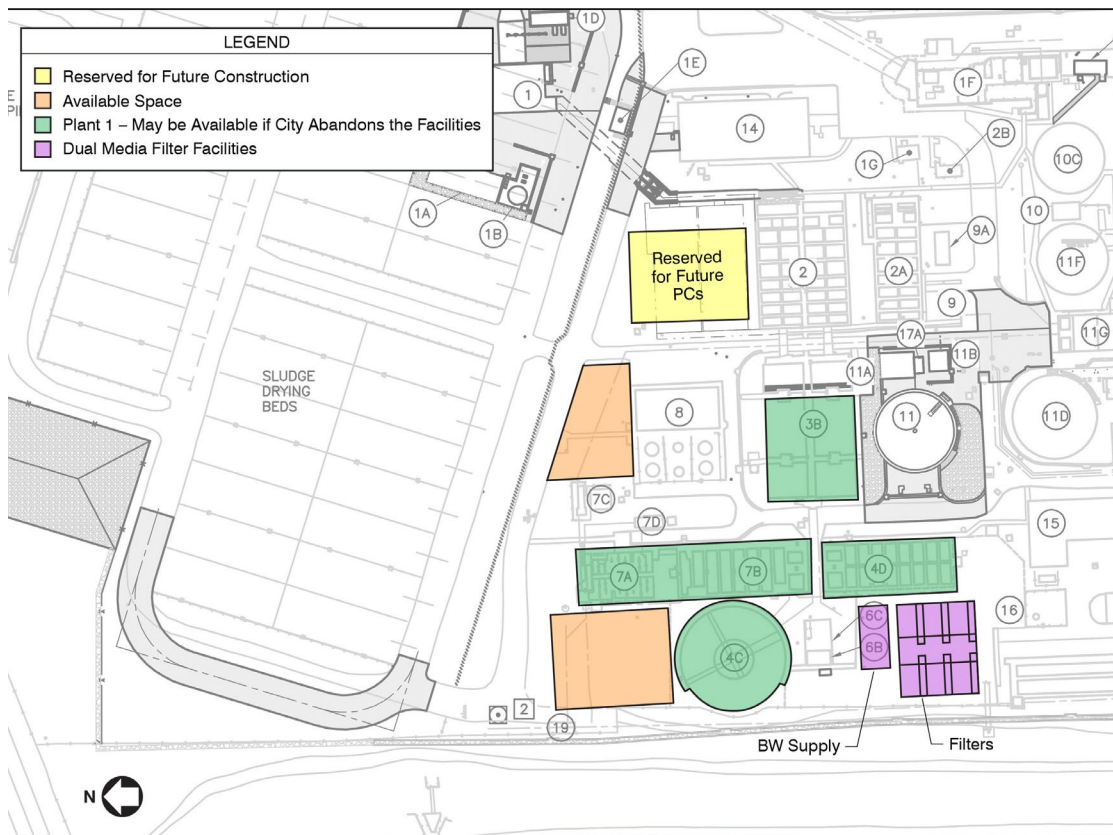


Figure 8.1 Potential Layout for Dual Media Filter Facilities at WPCP

The proposed filter configuration assumes that the filter backwash flows are pumped directly to the Headworks facility at a rate of approximately 8,700 gpm per backwash (110,000 gallons), and approximately four backwashes per day. At 8,700 gpm flows, the Headworks facility will see flows that equal 12.5 mgd for approximately 12.5 minutes. Upon initial review, the Headworks facilities (with 38 mgd of total capacity) should sufficiently handle this backwash flow, even during peak hour flows of 23.4 mgd (though the recommendation will be to not backwash the filters during peak hour flow conditions). This can be explored more during detailed design. If it is found that there will be issues with the Headworks accepting the filter backwash flow, then the filtration facilities will need to include equalization for the backwash waste flow. Nearby Plant 1 facilities could provide some of this equalization volume.

The estimated costs of the dual media filters are \$24.2 million (construction cost), and \$32.7 million (project cost). O&M needs for dual media filters include media replacement, periodic inspection of facilities and power (mainly for backwashes). The annual operations cost is estimated at approximately \$98,000 per year, not including labor.

Cost estimate details are included herein as Appendix F.

8.4.3.4 Cloth Disk Filters

Cloth disk filters are vertical disks located within concrete or steel tanks. For the vendors considered within this study, water flows by gravity from the outside of the disks, through the vertical disk media, to an effluent collection pipe, and down to an effluent chamber. Figure 8.2 illustrates the configuration of a basic disk filter.

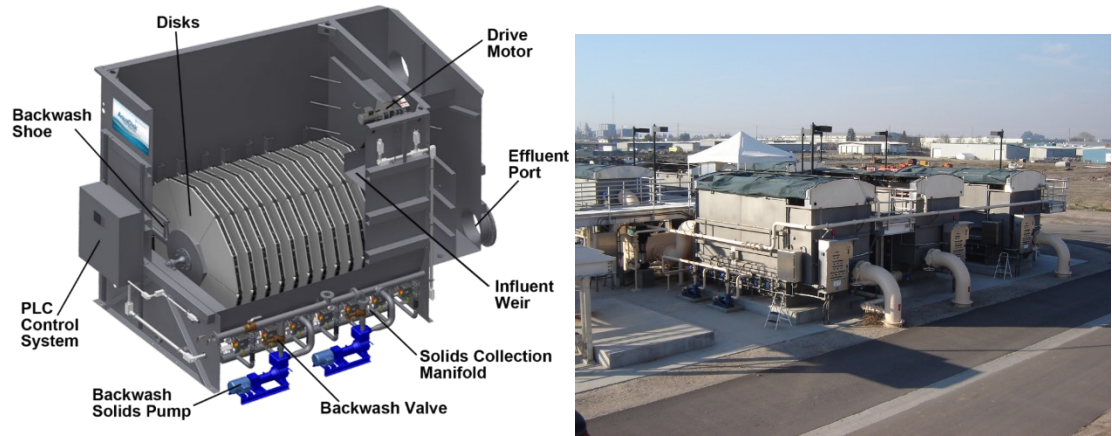


Figure 8.2 Configuration of Basic Disk Filter

Courtesy of Aqua Aerobics (Left) and Disk Filters at Turlock Regional Water Quality Control Facility (Right)

Backwashes are conducted through a suction foot that vacuums each disk using filtrate water. Unlike some other conventional filters, cloth filters can be backwashed while still producing effluent. As such, the downtime for disk filters is minimized. Additionally, since backwashing uses the filtrate directly on the other side of the media, there is no need for a backwash supply tank (reducing overall footprint and cost).

Disk filters were very popular in the early 2000s for their reduced footprint requirement, low head loss, and continuous flow production throughout backwashing. They also have a reduced energy requirement compared to other filter technologies because they operate with gravity flow. However, where dual media filters are robust, cloth media disk filters require a relatively high quality influent (consistent turbidity less than 5 NTU and TSS lower than 15 mg/L) to produce a high quality effluent. Flows with turbidity values above 5 NTU can cause downstream compliance issues if upstream coagulant addition is not used to optimize treatment. Coagulant addition must be carefully handled because too much coagulant can easily clog cloth filters. With the proper influent or upstream chemistry, disk filters are a good solution downstream of a nitrified secondary treatment process.

Though not monitored regularly, available data indicates that the WPCP has low effluent turbidity as flow exits the secondary clarifiers. Thus, regular chemical addition may not be required. Upgrading the secondary treatment process to include denitrification is not expected to adversely affect the effluent water quality if sufficient clarification capacity is available. The City should monitor effluent turbidity values after the MLE process is implemented, so that adequate information will be available for filtration system design.

Projected design criteria for disk filters for the WPCP is summarized in Table 8.9.

Table 8.9 Cloth Disk Filter Design Criteria

Design Criteria	Value	Units
Design Average Flow ⁽¹⁾	13.8	mgd
Peak Hour Flow ⁽²⁾	23.4	mgd
Tertiary Lift Station ⁽³⁾	90	hp

Table 8.9 Cloth Disk Filter Design Criteria (continued)

Design Criteria	Value	Units
Number of Filters	3	
Filter Length	50 ⁽³⁾	ft
Filter Width	13	ft
Number of Disks per Unit	14	
Total Number of Disks Recommended	28	
Total Filter Area Provided ⁽⁴⁾	4,520	sf
Filter Loading Rate at PF (N-1)	5.4	gpm/sf
Filter Loading Rate at Design Flow	2.1	gpm/sf
Filter Loading Rate at Design Flow (N-1)	3.2	gpm/sf
Backwash Pumps (duty/standby)	2 (1+1)	
Motor Power	20	hp
Backwash Waste	Direct to Headworks	

Notes:

- (1) Projected WPCP maximum month flow through end of planning cycle (2040).
- (2) Projected WPCP peak hour flow through end of planning cycle (2040).
- (3) Assumes two duty 30-hp pumps and one standby 30-hp pump.
- (4) Filter includes pumping room and disk filters.

A potential layout for the disk filters at the WPCP is included as Figure 8.3. Similar to the dual media filter layout, effluent from the secondary clarifiers would be routed through the disk filters and then to the influent side of the CCBs.

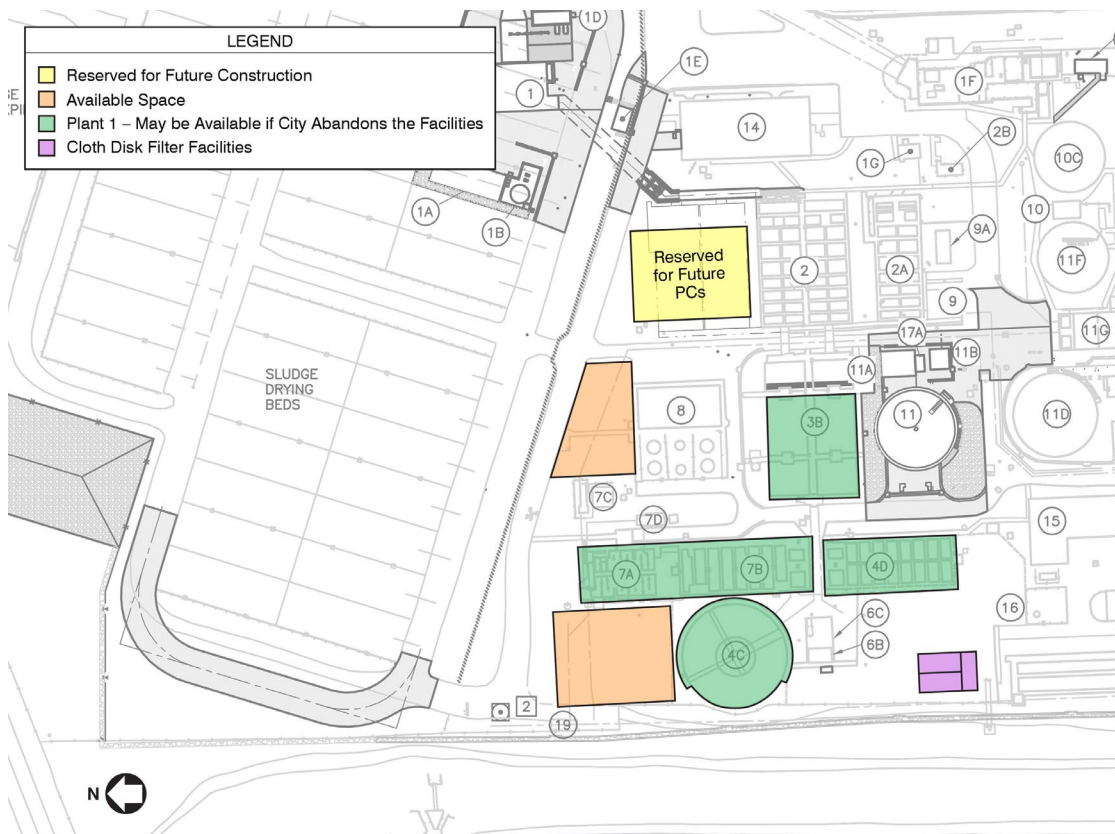


Figure 8.3 Potential Layout for Disk Filter Facilities at WPCP

The estimated costs for the cloth disk filters are \$10.2 million (construction cost) and \$13.7 million (project cost). O&M needs for disk filters include media replacement every three years, quarterly cleaning, and a complete overhaul of internal equipment every 10 years. The total O&M cost is approximately \$157,000 per year, not including labor.

Cost estimate details are included herein as Appendix F.

8.4.3.5 Membrane Filtration

Low pressure membrane filters include both MF and UF systems. Conventional MF filters are made of hollow fiber polyvinylidene difluoride (PVDF). The two types of membranes available are classified as pressurized or as submerged. Submerged membranes are placed inside an open tank and water flows in an outside-in orientation through a vacuum pump on the filtrate side. Pressurized membranes are enclosed inside a plastic housing and water is pumped on the influent side. Pressurized membranes can be either outside-in or inside-out. Both membrane orientations require backwashes, chemical cleaning, and air scours. Pressurized systems can run at higher fluxes than submerged systems and are usually used with “cleaner” water applications. Submerged membranes are commonly used for water with higher solids (as would exist with use of a membrane bioreactor upstream of the filter, or with use of existing concrete basins). Pressurized membranes were considered in this evaluation.

Figure 8.4 depicts an example installation of a typical pressure membrane filter facility.



Figure 8.4 Example Installation of Pressurized UF Membranes

(Courtesy of Pall Corporation)

Membranes are not only effective at removing TSS, they can also achieve high log removal for protozoa. Pore sizes for MF filters are no larger than one micron, so effluent turbidity is normally very low (under 1 NTU). MF systems serve as required pre-treatment for reverse osmosis (RO) systems, like those used in potable reuse systems.

With membrane filtration, pumps will be required for feeding and backwashing water. Backwashes are conducted by pushing filtrate through the membranes (in reverse flow direction), approximately every 30 to 60 minutes, or when pressures increase to a backwash trigger point.

Membranes tend to be the most expensive filtration option, with high capital and operational costs. Membranes are maintained by backwashing, maintenance chemical cleaning (MC), and full clean-in-place (CIP) flushes. MCs can be conducted as frequently as three times a week or as infrequently as once per week (depending on the influent water quality). Full CIPs are usually conducted every 30 days, but can be less frequent if the influent water is good. Membranes are slightly more flexible with lower quality water (but cleaning frequencies and corresponding costs increase with reduced influent water quality).

Design criteria for a future MF system at the WPCP are summarized in Table 8.10.

Table 8.10 Microfiltration Membrane Design Criteria

Design Criteria	Value	Units
Average Design Flow ⁽¹⁾	13.8	mgd
Peak Design Flow ⁽²⁾	23.4	mgd
Footprint (excluding Feed System)	8,050	sf
Length	70	ft
Width	115	ft
Feed System		
Feed Pumps	5	No.
Footprint	3,500	sf
Length	50	ft
Width	70	ft
Strainers	5	No.
Membranes		
Redundancy	N-3 at MM Flows ⁽³⁾	-
Racks	10	No.
Modules/Rack	128	No.
Installed Modules	1280	No.
AMSA/module	721	sf
Total AMSA	922,880	sf
Average Flux ⁽⁴⁾	10 to 25	gfd
Maximum Instantaneous Flux ⁽⁵⁾	17 to 28	gfd
Ancillary Equipment		

Table 8.10 Microfiltration Membrane Design Criteria (Continued)

Design Criteria	Value	Units
CIP Tank	1	No.
CIP System	2	No.
Nuetralizing Tank	1	No.
Nuetralizing Pumps	2	No.
Air Compressor	3	No.
Air Receiver	2	No.
Backwash Tank	N/A	No.
Backwash Pumps	N/A	

Notes:

- (1) Projected MMF at end of planning period (2040).
- (2) Projected peak hourly flow at end of planning period (2040).
- (3) Redundancy based on one rack out of service for maintenance, one in chemical cleaning, and one in backwash at MMF.
- (4) Based on all racks in operation. Range provided for projected ADWF, AAF, MMF, and Peak Hour at end of planning period (2040).
- (5) Based on all non-redundant racks. Range provided for projected ADWF, AAF, MMF, and Peak Hour at end of planning period (2040).

As with the other two filters, the MF process design criteria assumes no redundancy for the peak hour flow, and normal redundancy for the MMF.

While membranes are normally chosen for their smaller footprint and higher effluent quality. However, in this application (without upstream equalization), the footprint is comparable to that required by the dual media filters (refer to Figure 8.5 for potential layout). Due to the larger footprint, it may be necessary to demolish or fill in Secondary Clarifier No. 2, or to locate the facilities elsewhere on the site.

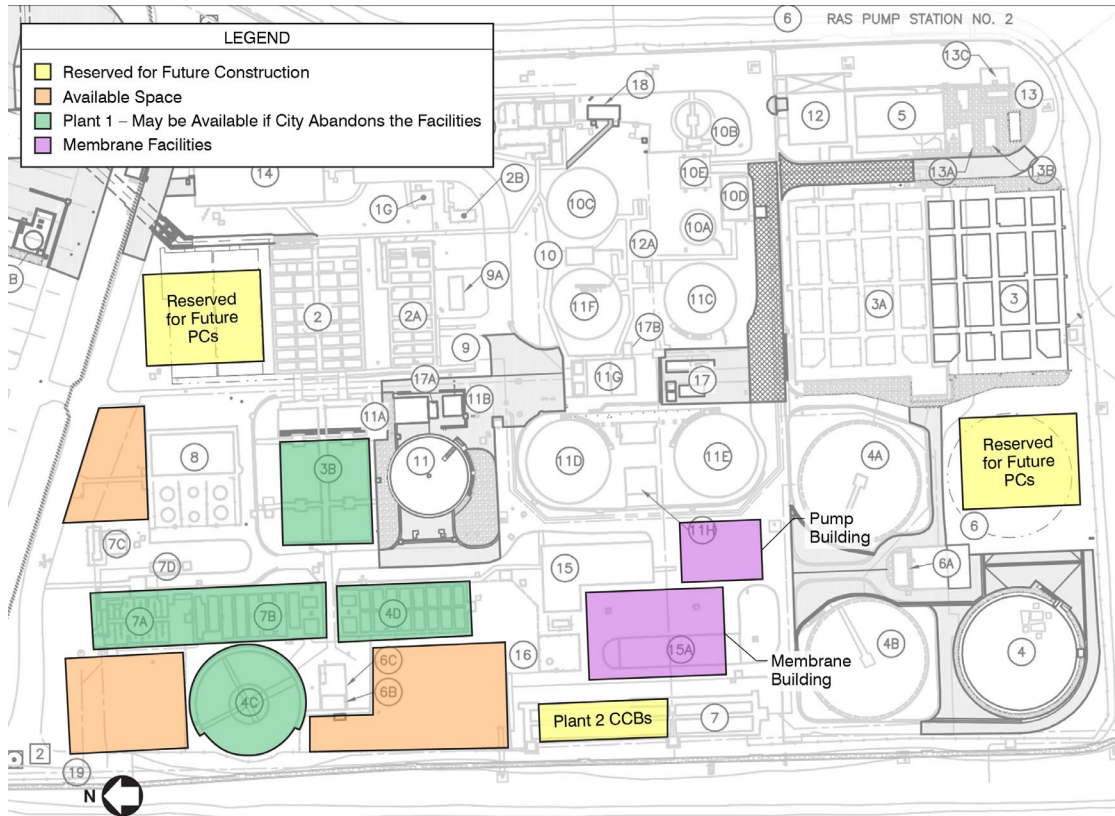


Figure 8.5 Potential Layout for Membrane Filter Facilities at WPCP

The total construction cost for this system is estimated at \$32.4 million, with a \$43.7 million total project cost. O&M needs for membrane filters include chemicals for cleaning, membrane and part replacement, and power for pumping. Total O&M costs for the proposed WPCP membrane system is estimated at \$555,000 per year, not including labor. Membranes would require more maintenance than the other two types of filters due to the frequency of required cleanings.

Cost estimate details are included herein as Appendix F.

8.4.3.6 Evaluation of Tertiary Filtration Options

The evaluation of tertiary treatment options presented herein considers the following:

- Capital cost.
- Operational cost.
- Reliability.
- Ability to meet regulations.
- Footprint.
- Labor Requirement.
- Potential to be used for future recycled water production.

The alternative evaluation is summarized in Table 8.11.

Table 8.11 Comparison of Tertiary Treatment Options

Tertiary Treatment Alternative	Dual Media Filtration	Cloth Disk Filters	Membrane Filters
Design Flow	14.5 ⁽¹⁾	13.8	13.8
PF	24.6 ⁽²⁾	23.4	23.4
Total Construction Cost ^(3,4)	\$24,200,000	\$10,157,000	\$32,350,000
Total Project Cost ⁽⁵⁾	\$32,680,000	\$13,712,000	\$43,700,000
Annual O&M Cost ⁽⁶⁾	\$98,000	\$157,000	\$555,000
Estimated Labor	50% FTE	50% FTE	100% FTE
Total Footprint	7,800 SF	2,100 SF	11,550 SF
Influent Water Quality Requirements	< 5 NTU < 15 mg/L TSS	< 5 NTU < 15 mg/L TSS	< 5 NTU < 15 mg/L TSS
Ability to Meet Regulatory Requirements	HIGH	HIGH	HIGH
Title 22 Conversion	Will need coagulant facilities	Will need coagulant facilities	No chemical addition required
Potential to be used in potable reuse water production system	Can be used for Ozone/BAF ⁽⁷⁾	No dual purpose	Can be used as RO pretreatment ⁽⁸⁾

Notes:

- (1) Projected WPCP maximum month flow through end of planning cycle (2040). Includes filter recirculation flow of 5 percent to account for backwashes recycled to headworks.
- (2) Projected WPCP peak hour flow through end of planning cycle (2040). Includes filter recirculation flow of 5 percent to account for backwashes recycled to headworks.
- (3) Costs are in February 2021 dollars using the ENR-CCI 20 Cities Index of 11699.
- (4) This is a class 5 Budget Estimate as defined by the AACEI's Revised Classification (1999) with an expected accuracy range of +100 to -50 percent. This cost estimate is based upon the Engineer's perception of the current conditions in the project area and is subject to change as variances in the cost of labor, materials, equipment, services provided by others or economic conditions occur. Since the Engineer has no control over these factors, he cannot warrant or guarantee that actual bids will not vary from the costs presented herein. This estimate does, however, reflect the Engineer's professional opinion of accurate costs at this time.
- (5) A 35 percent project cost factor includes engineering design, legal, environmental, and administrative costs of the project.
- (6) Includes general maintenance, electricity, chemicals, and part replacement. Does not include labor costs.
- (7) Ozone/biologically active filtration (BAF) is not yet approved in California for potable reuse.
- (8) RO is required for current regulated potable reuse in California.

8.4.3.7 Recommended Improvements for Tertiary Filtration

Based on the cost comparison completed herein (and assuming non-potable reuse of the treated effluent if future water recycling goals are actualized), cloth disk filters would be the recommended tertiary treatment process. Cloth filters have been known to have start-up issues, but can be optimized with use of upstream coagulation, if necessary. With a high quality secondary effluent (which is expected from the MLE upgrade), it is anticipated that cloth filters will perform well.

If the City plans to pursue a potable reuse project (either in the short-term or long-term future), then the use of dual media filters or membrane filters could result in overall cost savings in the long-run (see discussion below). All three technologies will be able to provide adequate treatment for Title 22 disinfected tertiary recycled water needs with minor upgrades, providing the City with many options for effluent reuse.

8.4.4 Requirements for DEHP, Lead, and Zinc Compliance

Additional effort is recommended herein to determine final compliance strategies for DEHP, lead and zinc, as discussed in the following sections.

8.4.4.1 Lead and Zinc Compliance

Additional characterization is needed for effluent concentrations of lead and zinc, as proper removal options will vary depending on their speciation (soluble vs. insoluble). The insoluble portion of either heavy metal will be readily removed with filtration, but the soluble portion will pass through the filtration process. As such, treatment would be needed for dissolved fractions of each metal if the dissolved concentrations exceed the associated water quality objectives.

In the unlikely event that filtration does not remove these constituents, coagulation, flocculation, sedimentation, and/or chelation would be needed upstream of the filtration process. With this application, sludge from the sedimentation process could be routed to the anaerobic digesters to bind insoluble zinc and lead sulfides.

There are non-treatment options for regulatory compliance for lead and zinc that the City should explore prior to implementation of any additional treatment (beyond the required filters). Non-treatment options include site-specific river studies that may extend water quality objectives, thus allowing for increased effluent discharge limitations (i.e., translator studies and/or water effect ratio studies).

In any case, the City should initiate ongoing monitoring of dissolved lead and zinc in conjunction with the required "total concentration" testing. This will inform efforts that may help the City avoid treatment, and will also inform design details for treatment of the constituents (if required).

8.4.4.2 DEHP Compliance

DEHP is used as a plasticizer in many resins and is non-soluble in water. DEHP does have an affinity to adsorb to particulate matter, so much of its concentrations in the WPCP effluent may be held in discharged TSS, which will be readily removed with implementation of the filtration process. The MLE upgrade for the secondary treatment process may have a slight impact on sorption of DEHP. This should be studied as processes are brought into operation.

Non-treatment options for DEHP compliance include:

- *Ultra-Clean Sampling*. Implementation of ultra-clean sampling methods to reduce the possibility of sample contamination and false positives. DEHP can be found even in laboratory blanks and therefore sampling and testing methods must be carefully analyzed. A comparison of sampling methods can be conducted to see if a disparity exists.

- *Source Control.* Control of influent DEHP will aid in the reduction of effluent DEHP levels. Some effort will be needed to determine if there is a contributing source for DEHP (i.e., influent sampling, industrial and commercial input review, etc). If found, follow-up efforts will be needed to regulate this input.

Treatment options for DEHP include:

- *Advanced Oxidation.* DEHP can be removed with advanced oxidation. An example of this is an ultraviolet light advanced oxidation process (UVAOP), where an oxidant (like hydrogen peroxide or NaOCl (sodium hypochlorite) is added upstream of a high-dose UV. This technology is discussed more in the potable reuse section. Ozone could also potentially be used as an oxidant, with or without the UV.
- *Optimized Chemical Manipulation prior to Filtration.* Research has shown that use of photo-Fenton pre-treatment can enhance removal of DEHP by filtration.

8.4.4.3 Recommended Improvements for DEHP, Lead, and Zinc

It is very likely that filtration will be able to remove DEHP, lead, and zinc to levels that will allow compliance, should the RWQCB remove/reduce current dilution credit allocations. As needed, non-treatment options discussed herein should be explored prior to treatment alternatives. The cost of these efforts is estimated to range from \$75,000 to \$300,000.

8.4.5 Alternative Disinfection

The Chico WPCP currently uses NaOCl for free chlorine disinfection. The current disinfection regulations include a monthly average total coliform limit of 23 MPN per 100 mL, which the WPCP can consistently meet with current chlorine dosing practices. However, two major regulatory requirements require a re-examination of the disinfection system:

- Possible reduction of effluent water quality limitation to 2.2 MPN per 100 mL.
- Possible future stringent regulation of DBPs.

While existing DBP effluent limitations (for chlorodibromomethane and dichlorobromomethane) have not been exceeded, an increased level of disinfection (to meet 2.2 MPN per 100 mL) may require higher chlorine doses or contact time (thus, potentially, leading to increased DBP formation). Additionally, the WPCP's ability to comply with DBP limits relies heavily on dilution credits allowed in the current permit. If dilution credits for these DBPs (or others that may be identified in future reasonable potential analyses), then an alternate disinfection process may be required.

Several disinfection alternatives were analyzed with respect to their DBP formation potential and their ability to comply with the more stringent total coliform limit projected. Disinfection processes that are able to meet both of these criteria are evaluated in more detail.

8.4.5.1 Paracetic Acid

Paracetic Acid (PAA) is a weak organic acid that has gained attention as an alternative to disinfection with NaOCl over the past decade. PAA is similar in chemical structure to acetic acid (found in vinegar), except that it has an additional oxygen atom. It is used in the food industry for washing produce and disinfecting bottles.

It was thought to be a viable alternative to chlorine in wastewater due to its lower toxicity, lower cost, and ability to disinfect without forming DBPs.

The benefits of PAA include the lack of DBP formation and its effectiveness against bacteria. PAA, however, does have some toxicity (lower than chlorine) and is not actually the cheapest chemical disinfectant. Furthermore, while PAA provides bacterial disinfection, it does not provide any protozoa (*Giardia* and *Cryptosporidium*) or virus inactivation. The current Title 22 regulations require at least a 5-log virus removal for disinfected tertiary recycled water. It would not be advisable to implement PAA in case (1) the EPA requires a virus limitation in the future, or (2) the City decides to pursue water reuse at any treatment level.

For these reasons, PAA is not recommended as an alternative disinfection process for the WPCP, and is not evaluated further herein.

8.4.5.2 Pasteurization

Pasteurization is another disinfection technology that emerged from the food industry. The process involves the use of heat to destroy bacteria and disinfect process flows. With pasteurization, wastewater is routed through a series of heat exchangers, heating the flow to the point of bacterial destruction. Pasteurization is very effective at bacterial disinfection and also does not form DBPs. However, pasteurization requires a dependable heat (and/or energy) source, thus the process can be quite expensive. Digester gas produced on-site could theoretically offset some of the capital and operational costs associated with heating, but this gas is already used elsewhere within the facility (thus, it is not actually available to offset these costs). Additionally, with current limitations in system installation (there is currently only one municipal wastewater pasteurization facility in California), the system does not have the proven track record necessary for full-scale implementation.

For these reasons, pasteurization is not recommended as an alternative disinfection process for the WPCP, and is not evaluated further herein.

8.4.5.3 Chloramination and Sequential Chlorination

Chloramination is a disinfection process used often in drinking water applications because of the lower DBP production potential in using this process. Chloramines are formed when chlorine is added in the presence of free ammonia. The typical design ratio for chloramine dosing is a 5:1 mass ratio of chlorine to ammonia. In cases where background ammonia is low, an additional ammonia source must be added. Since chloramines are weaker oxidants than chlorine, a longer contact time or higher chloramine dose (as compared to a corresponding chlorine dose) may be necessary.

Another method of chloramination is called sequential chlorination, where free chlorine (in the form of NaOCl) is added at the beginning of the disinfection process. After a short contact time (determined through bench scale testing), ammonia is added to the water to form chloramines. This method allows for a slightly shorter contact time to achieve the disinfection goal.

In both methods, the chloramines would need to be quenched using the same SBS that is currently used at the WPCP. In the quenching process, approximately 50 percent of the ammonia is released as free ammonia. The current ammonia limit for Sacramento River discharge is 8.2 mg/L (as a maximum monthly average). The current ammonia discharge is typically low (close to 1 mg/L or less). Ammonia addition for chloramine disinfection could result in ammonia discharge concentrations that range from 3 to 5 mg/L. While the total theoretical concentration is less than the current ammonia discharge limit, it does not allow much operational flexibility and may result in effluent violations during facility upset conditions.

For these reasons, chloramination and sequential chlorination are not recommended as alternative disinfection processes, and are not evaluated further herein.

8.4.5.4 Ozone

Ozone is a powerful oxidant that has been used in drinking water commonly for reduction of taste and odor issues, and also for disinfection. It is not commonly used in wastewater disinfection because the primary design criteria includes an ozone-to-TOC ratio (typically around 1). Since wastewater effluent normally has higher TOC than drinking water, the corresponding ozone dose is higher. A bench test would be recommended to determine the required ratio for disinfection (down to 2.2 MPN per 100 mL) if the City decides to pursue this alternative.

Ozone is generated on site at facilities using ozone generators. These generators take either liquid oxygen (LOX) or highly conditioned ambient air to produce ozone.

Ozone is beneficial for its reliable bacterial disinfection and virus inactivation. It has no toxicity and does not need to be quenched because it degrades rapidly. Ozone contactors do need to be covered and ozone that is off-gassed needs to be destroyed before releasing the air to the atmosphere. Typical downfalls of ozone are high capital cost and bromate production. In the presence of bromide, bromate forms, which is a DBP.

Ozone is a reliable disinfectant alternative and will be evaluated further herein.

Ozone Design Assumptions

As stated previously, the primary design criteria for ozone is the ozone-to-TOC ratio. In 2018, the City of Los Angeles Bureau of Sanitation (LABOS) conducted an ozone bench study with effluent from the Donald C. Tillman Water Reclamation Plant, a wastewater facility that produces tertiary disinfected effluent through cloth disk filters and using NaOCl for disinfection. The results of the ozone test showed an ozone-to-TOC ratio of at least 2 was necessary to reach a total coliform of 2.2 MPN per 100 mL as is shown in Figure 8.6.

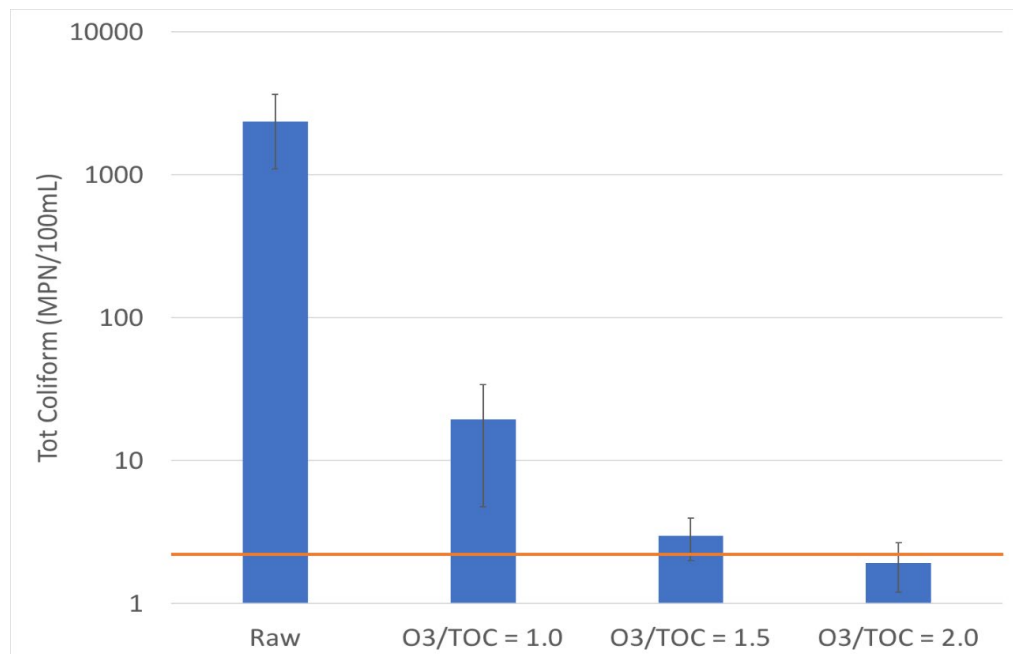


Figure 8.6 Ozone-to-TOC Ratio for Disinfection to 2.2 MPN/100ml

(Source: Los Angeles Bureau of Sanitation)

The modeled effluent TOC from secondary clarification process (with MLE process upgrades implemented) is 8 mg/L. Some of this TOC will be removed through the filtration process. Since the TOC removal depends greatly on the characterization of the organics in the water, and since there is no information available for dissolved organic carbon (DOC) concentrations in the WPCP effluent, a conservative assumption was made that all of the TOC remains in the water after filtration. As such, a WPCP TOC concentration of 8 mg/L would correspond to an ozone dose of 16 mg/L. This value was used to size the ozone process, with capacity for both peak (23.4 mgd) and maximum monthly (13.8 mgd) flows. Additionally, a minimum contact time of 8 minutes was used, which is typical for ozone contactors.

A possible layout for an ozone disinfection system is included below as Figure 8.7. This layout includes LOX storage, an ozone generation building, and ozone contactors. The total footprint demand is 7,600 square feet (sf). If potable reuse is pursued in the future (discussed later), approximately 5,100 sf of this facility footprint can be shared between the two processes.

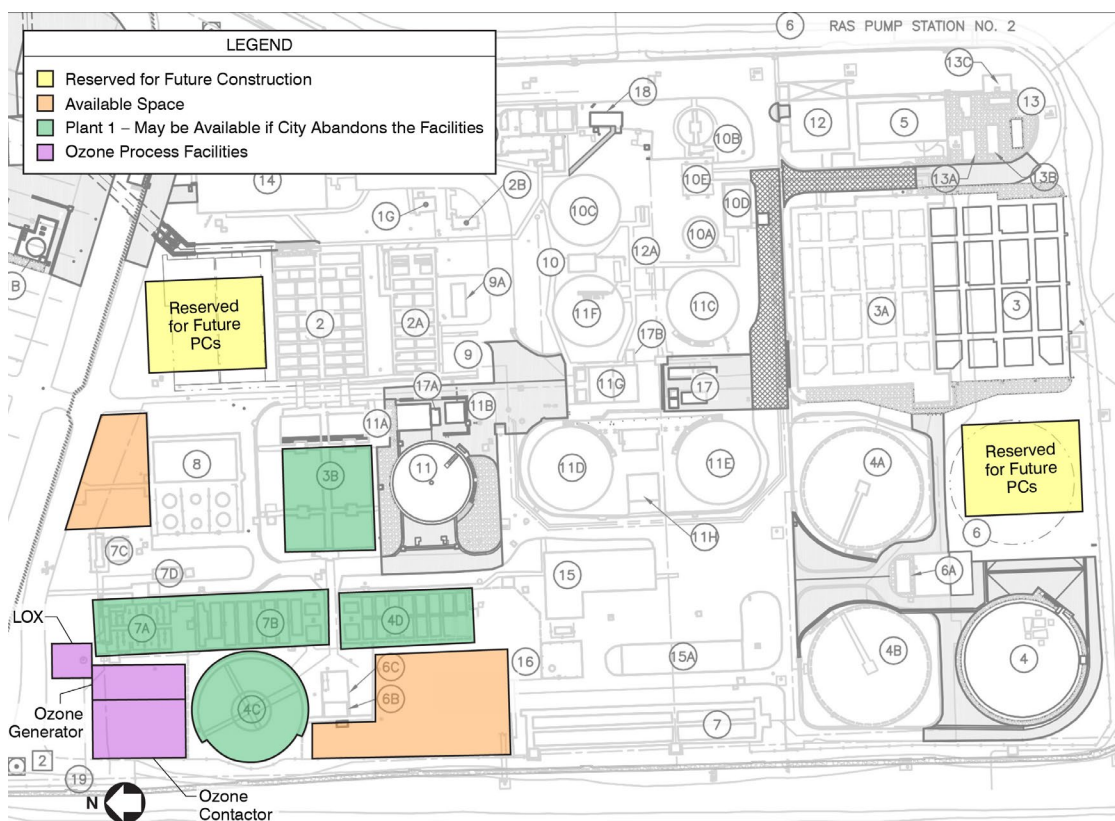


Figure 8.7 Potential Layout for Ozone Facilities at the WPCP

The estimated total capital cost for the ozone facilities is \$20.8 million, with a total project cost of \$28.1 million. Total annual O&M costs are expected to be approximately \$1.3 million (not including labor) for an annual average flow of 10.3 mgd. O&M costs include purchasing LOX, general maintenance (cleaning system, replacement of mechanical components), and electricity costs.

8.4.5.5 UV Disinfection

UV disinfection is the second most popular wastewater disinfection option. UV is popular due to its efficiency, lack of toxicity, and lack of DBP formation. UV has high bacterial, virus, and protozoa disinfection, and it does not need to be quenched before discharge. However, UV typically has higher electrical costs than chlorine, and its treatment efficacy is highly dependent on the UV system influent water quality.

Despite these drawbacks, UV disinfection is the primary alternative to chlorine disinfection, and will be evaluated further herein.

UV Design Assumptions

Ultraviolet transmittance (UVT) is one of the key design criterion for UV systems, alongside UV dose and wastewater flow. For the WPCP UV design, a process capacity of the peak hour flow (23.4 mgd) was assumed, along with a UVT of 55 percent (which is a typical low value for wastewater effluent). It is probable that after filtration, the UVT of the filtered flow will increase, potentially requiring a reduced number of UV lamps. For planning purposes, the conservative value of 55 percent UVT is used in this evaluation.

For planning purposes, two facility layouts are assumed herein. One is a new, standalone system, depicted in Figure 8.8.

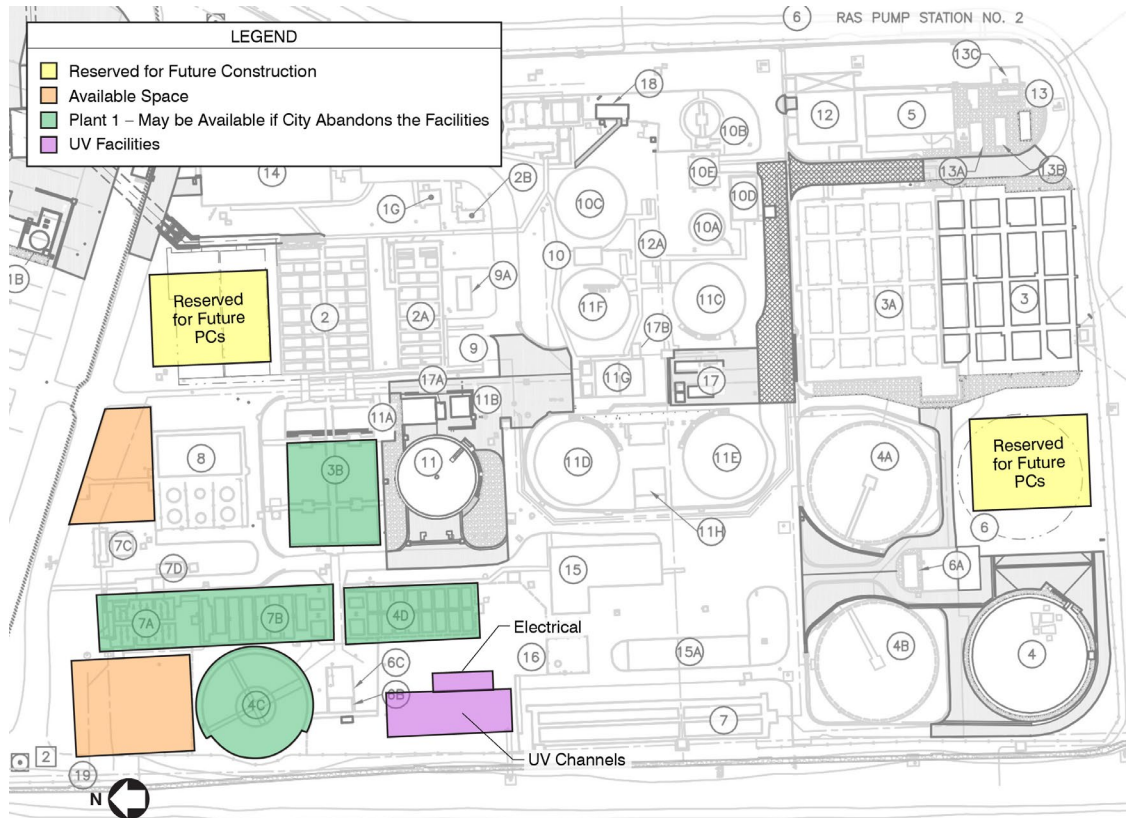


Figure 8.8 Potential Layout for UV Disinfection Facilities at the WPCP (Free-Standing)

The second UV system layout assumes that the UV facilities will be contained within existing Chlorine Contact Basin Nos. 3 and 4. This structure could house the UV channels (which house the UV lamps), and the electrical paneling. The footprint required for this upgrade is shown in Figure 8.9.

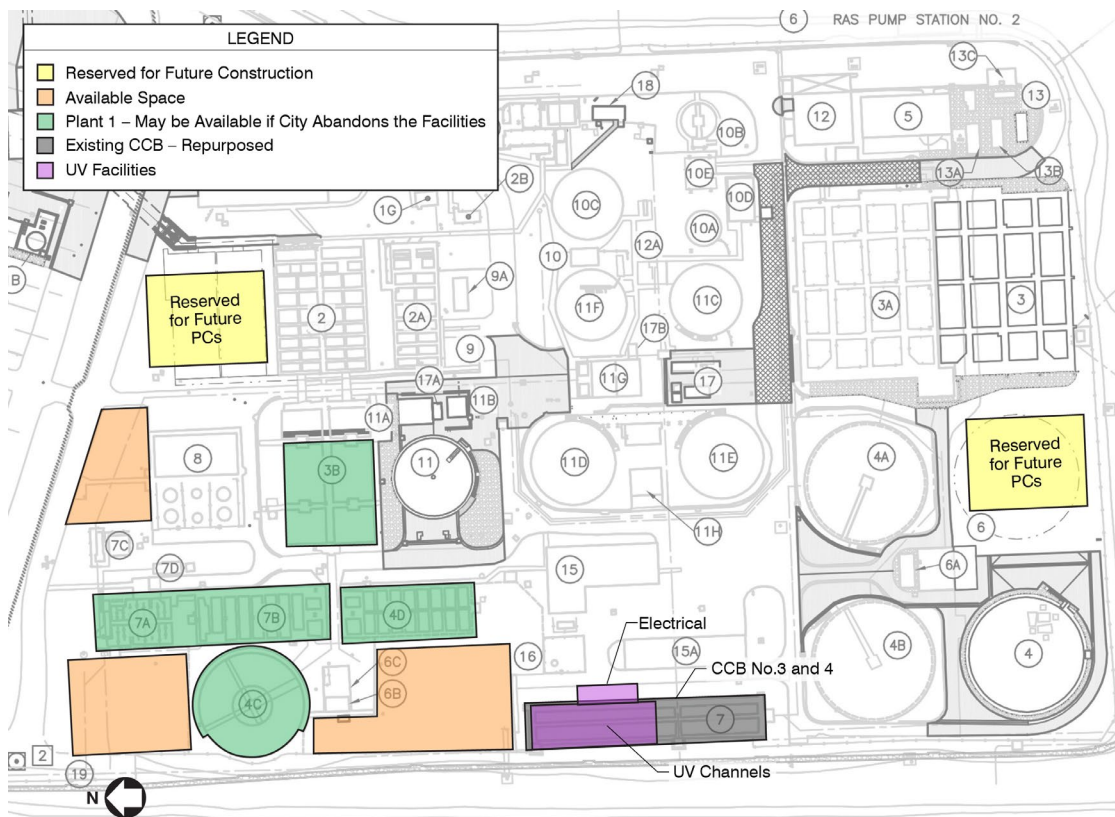


Figure 8.9 Potential Layout for UV Disinfection Facilities at the WPCP (Retrofitting CCBs)

In UV replacements of CCBs, it is common to retrofit an existing CCB, if possible, to save construction costs associated with the required UV channels. Though the use of an existing structure can sometimes allow an overall project cost saving, this can also result in costs as high as a new, standalone UV system (depending on the overall condition and configuration of the existing CCBs).

With this caveat in mind, construction cost estimates were prepared for both layouts. The estimated construction costs for the retrofit CCB UV system and a new, standalone UV system would be approximately \$15.9 to 18.5 million, respectively. Project costs range from approximately \$21.4 to \$25.0 million, depending on chosen layout. O&M costs are estimated to range from \$411,000 to \$463,000 per year (not including labor), depending on the UV system selected and the number of lamps required to treat the flow. These costs include electricity, equipment replacement (lamps, ballasts, wipers, and sleeves), and sensor calibrations.

8.4.5.6 Modified Chlorine Disinfection

Before selection of an alternative disinfection process, it may prove beneficial to assess if the existing disinfection system can be modified to meet the new requirements while reducing DBP formation. While the predicted future regulations will not include Title 22 regulation

requirements, the 2.2 MPN per 100 mL is correlated with a 450 milligrams-minutes per liter (mg-min/L) contact time through the Title 22 regulation. With this in mind, the following analysis is recommended.

To meet the recommended total coliform limit, either a longer contact time or a higher dose of chlorine may be required. Efficient chlorination can be hindered for any of the following reasons:

- Screening of pathogens by TSS.
- Short circuiting of the CCBs.
- Degradation of the chlorine (potentially due to sunlight).
- Potential for DBP formation.

The 450 mg-min/L recommendation from Title 22 is a conservative standard set to account for the above chlorination hindrances. With testing, it is possible to prove a sufficient disinfection efficiency with a CT much lower than 450 mg-min/L. With a lower CT, there is a lower probability of DBP formation.

Additionally, with filtration, the particulate matter in the water is reduced and there is lower potential for pathogen shielding. Filtration processes can be enhanced through appropriate chemical coagulation, optimized to reduce particulate matter. Besides improving water quality, filtration also increases effectiveness of downstream disinfection since suspended solids can often shield pathogens (in the case of UV) or consume the disinfectant through oxidation (hypochlorite or ozone). Additionally, filtration can reduce the amount of natural organic material which could result in lower DBP formation. As is discussed later, a very high level of filtration may prevent the need for expensive disinfection upgrades.

Testing in other wastewater treatment plants with recycled water programs has shown that a CT as low as 160 mg-min/L can be effective at both total coliform reduction and virus disinfection. Contact times as low as 4 minutes have also been proven. In instances where CT's lower than 450 mg-min/L have been proven through bench testing, a safety factor has been applied and a new CT has been requested (and approved) by the RWQCB.

Since CT is a design parameter dependent on site-specific water quality, it must be proven through bench-scale (and/or pilot-scale) testing. The recommended testing strategy is as follows:

- Optimize the filters through testing of various coagulant mixtures.
- Conduct tracer testing to determine the actual contact time in the existing CCBs.
- Test chlorine dose-response with bench-scale testing using optimized filter effluent.

The total cost to run these tests and corresponding analysis ranges from approximately \$80,000 to \$100,000 (assuming bench-scale testing in lieu of pilot-scale testing). The testing, though expensive, may result in the use of the existing CCBs with negligible improvements. If a contact time less than the existing contact time is shown, the compliance point can be moved to be earlier in the basin. After that point, the chlorine can degrade naturally until it reaches the existing SBS chlorine quenching process.

There is no clear capital or project cost associated with the low CT disinfection modifications. As such, no projection is made for capital improvements budgeting.

8.4.5.7 Evaluation of Disinfection Alternatives

Three disinfection alternatives were evaluated herein with estimation of construction and operational costs and the development of preliminary layouts. These alternatives are compared based on the following criteria (summarized in Table 8.12):

- Capital cost.
- Operational cost.
- Reliability.
- Ability to meet regulations.
- Footprint.
- Potential to be used in future recycled water applications (Title 22 and potable reuse).

Table 8.12 Disinfection Alternative Evaluation and Comparison

Disinfection Alternative	Ozone	UV (Replace Existing CCBs)	UV (No CCB Replacement)	Existing CCB Testing
Design Flow (mgd)	23.4	23.4	23.4	23.4
Total Construction Cost ⁽¹⁾⁽²⁾	\$20,780,000	\$15,900,000	\$18,500,000	TBD
Total Project Cost ⁽³⁾	\$28,100,000	\$21,400,000	\$25,000,000	TBD; Initial investment of \$80-\$100 K
Annual O&M ⁽⁴⁾	\$1,256,000	\$437,000	\$437,000	
Total Footprint	7,550 sf	1,200 to 2,200 sf		Existing
Ability to Meet Regulations	Median coliform predicted to be below 2.2 MPN/ 100 mL. May have outliers	Conservative design criteria should allow criteria to be met 99% of time		Bench testing will allow determination of a CT value that consistently meets criteria.
Title 22 Potential	Only 1 Title 22 use in CA	Frequently used in Title 22		
Potential to be Used in Potable Reuse	Could be used in non-RO based potable reuse train. Lower ozone dose is required for O3/BAF, but equipment and LOX storage could be shared	No large benefit in potable reuse		

(1) Notes:
 (2) Costs are in February 2021 dollars using an ENR-CCI 20 Cities Index of 11699.
 (3) This is a class 5 Budget Estimate as defined by the ACEI's Revised Classification (1999) with an expected accuracy range of +100 to -50 percent. This cost estimate is based upon the Engineer's perception of the current conditions in the project area and is subject to change as variances in the cost of labor, materials, equipment, services provided by others or economic conditions occur. Since the Engineer has no control over these factors, he cannot warrant or guarantee that actual bids will not vary from the costs presented herein. This estimate does, however, reflect the Engineer's professional opinion of accurate costs at this time.
 (4) A 35 percent project cost factor includes engineering design, legal, environmental, and administrative costs of the project.
 (5) Includes general maintenance, electricity, chemicals, and part replacement. Does not include labor costs.

8.4.5.8 Recommended Improvements for Alternative Disinfection

Of the three alternative disinfection options evaluated herein, UV disinfection is the only option that would be guaranteed to meet disinfection criteria with little or no DBP formation. For this reason, the project cost of \$25.0 million should be carried into the planning budget to provide funding for this option by 2036. If a low CT can be shown to meet disinfection goals with minimal DBP production, then it should be pursued. The testing costs of \$100,000 should be carried through, with testing pursued after the upgrade to MLE is completed.

8.5 Strategic Long-Term Planning

The ideas discussed in this section align with the City's long-term goals for sustainable, cost-effective, and responsible wastewater conveyance and treatment, but are not required for regulatory, capacity, or condition-driven purposes. Additionally, while the groundwater basin underlying the City currently provides ample (and sustainable) water supply capabilities, opportunities do exist that will allow the City to save some of this valuable resource through reuse of treated flow from the WPCP.

The strategic planning projects discussed herein are all focused on reuse of treated water from the WPCP. There are several levels of recycled water, all dictated by treatment level and compliance with associated regulatory requirements:

- Title 22 Recycled Water:
 - Undisinfected secondary recycled water.
 - Disinfected secondary - 23 recycled water.
 - Disinfected secondary - 2.2 recycled water.
 - Disinfected tertiary recycled water.
- Potable Reuse:
 - Indirect potable reuse (IPR).
 - Direct potable reuse (DPR).

These are discussed in more detail in the following sections.

8.5.1 Title 22 Recycled Water

The regulation of recycled water was introduced in Chapter 3, with a summary of differing Title 22 recycled water categories presented in Table 3.8. Effluent from the WPCP currently complies with the treatment requirements for "undisinfected secondary recycled water" and "disinfected secondary - 23 recycled water", thus the effluent could currently be reused in the following ways (with approved Title 22 Engineering Report and recycled water NPDES permit):

- Surface irrigation of orchards and vineyards (where fruit will not be contacted by the water or touch the ground), fodder, fiber, and seed crops.
- Pasture for milking animals.
- Landscape impoundment.
- Landscape irrigation, including restricted access golf courses, cemeteries, freeway landscapes, and landscapes with similar public access.

With implementation of tertiary filtration and disinfection upgrades discussed in this chapter, effluent from the WPCP could comply with the treatment requirements for “disinfected secondary - 2.2 recycled water” and “disinfected tertiary recycled water”, thus allowing effluent reuse in the following ways (with approved Title 22 Engineering Report and recycled water NPDES permit):

- Surface and spray irrigation of food crops.
- Restricted and non-restricted recreational impoundments.
- Landscape irrigation, including unrestricted access golf courses, parks, playgrounds, school yards, and other landscapes with similar access.
- Other non-potable uses.

A Title 22 recycled water program (at any level of implementation) will require more monitoring, and may require some small WPCP process upgrades. Costs for treatment upgrades would be minimal, but distribution of the recycled water could be a large investment. The most economical way to distribute recycled water is through a truck fill station located at the WPCP (assuming limited reuse). With many possible agricultural reuse opportunities surrounding the WPCP, piped flow may also be a feasible option.

Regardless, recycled water use tends to be seasonal in nature, so the surface water discharge would need to be maintained, and equalization/storage ponds might be necessary (depending on demand).

If the City chooses to pursue a Title 22 recycled water program, the following efforts would be needed:

- Identification of interested customers.
- Completion of necessary upgrades to meet the level of treatment required by chosen recycled water category.
- Preparation of a Title 22 Engineering Report for planned reuse application.
- Obtain a recycled water permit through the RWQCB.

It is impossible to estimate the cost for implementing a tertiary recycled water program with the information currently available because the complexity of the project is directly related to the number (and type) of customers, distance to customer discharge location, and timing of recycled water demand. The planning portion of Recycled Water Study would likely be in the \$200,000 to 500,000 range.

8.5.2 Potable Reuse

The term "potable reuse" incorporates all types of water reuse that are safely incorporated into potable water supplies. For the purposes of this study, the term "potable reuse" refers to the practice of using purified water derived from wastewater effluent to supplement water supplies. Additional potable reuse terminology is defined in the following section.

8.5.2.1 Definitions

Terminology related to potable water reuse has evolved from the initial classification of indirect and direct potable water reuse defined in the report Framework for Direct Potable Reuse (WateReuse, 2015) to more specific definitions established by California Assembly Bill 574, which was passed in October 2017. This bill finds that by June 2018 the State Board should establish a

framework for the regulation of potable reuse projects to encourage the development of potable reuse to mitigate the impact of long-term drought and climate change.

The definitions below were compiled from the Framework for Direct Potable Reuse and the California Assembly Bill 574 to reflect the recent changes in the terminology and for the specific terminology that will be used in this report:

- **Disinfected Tertiary Recycled Water:** Water that has been filtered and subsequently disinfected to "Title 22" standards for unrestricted non-potable reuse applications.
- **Purified Water:** Water that has been treated at an advanced treatment plant (or advanced water purification facility), and has been verified (through monitoring) to be suitable for augmenting drinking water supplies.
- **IPR:** The addition of recycled and/or purified water for augmentation of groundwater or surface waters. Groundwater and surface waters are considered environmental buffers for providing public health protection benefits, such as contaminant attenuation dilution, and time to detect and respond to failures before final treatment and distribution. IPR can used with advanced treated water, but can also be accomplished with tertiary effluent when applied by spreading (i.e., groundwater recharge) to take advantage of soil aquifer treatment (SAT).
- **IPR for Groundwater Recharge:** Planned used of purified recycled water for replenishment of a groundwater basin or an aquifer that has been designated as a source of water supply for a public water system.
- **Surface Water Augmentation (SWA):** Planned placement of purified recycled water into a raw surface water reservoir used as a source of domestic drinking water supply for a public water or into a constructed system conveying water to such a reservoir.
- **DPR:** Planned introduction of purified recycle water either directly into a public water system, or into a raw water supply immediately upstream of a water treatment plant. DPR includes (i) raw water augmentation and (ii) treated drinking water augmentation. Additional treatment, monitoring, and/or an engineered buffer(s) would be used in place of an environmental buffer to provide equivalent protection of public health and response time in the event that the purified water does not meet specifications.
- **Raw Water Augmentation:** Planned placement of purified recycled water into a system of pipelines or aqueducts that deliver raw water to a drinking water treatment plant that provides water to a public water system.
- **Treated Drinking Water Augmentation:** Planned placement of purified recycled water into the water distribution system of a public water system.

Since the City relies completely on groundwater for its source of water, the most likely potable reuse application will involve IPR for groundwater recharge. There are two methods of recharging groundwater with potable reuse - surface application and groundwater injection. Each of these is described in the following sections.

8.5.2.2 IPR: Groundwater Replenishment - Surface Application

Title 22 Article 5.1, §60320 includes requirements for groundwater augmentation through surface application. These are summarized below:

- Minimum treatment levels must achieve:
 - Title 22 filtered wastewater, pursuant to §60301.320.

- Title 22 disinfected tertiary recycled water, pursuant to §60301.320.
- Wastewater must be treated to achieve a 12-log reduction of enteric virus and a 10-log reduction of both *Giardia* and *Cryptosporidium*. The water can be credited with a 1-log virus reduction for every month that the water can be demonstrated to remain underground. If the water is underground for six months, it is credited with the 10-log reduction of *Giardia* and *Cryptosporidium*.
- Subsurface travel time can be verified in multiple ways, but the level of reliability of the determination method directly impacts the amount of log removal credit achieved. For instance, a tracer study using an added tracer gets 1.0-log removal credit per month, whereas a groundwater model receives 0.5-log removal credit per month of subsurface travel time.
- Recycled water must not exceed 10 mg/L of total nitrogen, based on the average of weekly samples.
- Diluent water is required for surface spreading in direct proportion to the level of TOC in the disinfected tertiary recycled water. A maximum recycled water contribution (RWC) ratio of 0.2 is required upon startup. If a TOC level of 0.5 mg/L can be achieved without the diluent water, then the diluent water can be reduced and the RWC can be increased to 1. However, if the target TOC level cannot be achieved, then the RWC must be set to reliably achieve a TOC concentration no greater than 0.5 mg/L divided by the RWC. For instance, if a TOC of 1.0 mg/L for the recycled water can be achieved reliably, then the RWC can be set at 0.5.
- Diluent water must comply with the standards listed in section 60320.114. Diluent water is typically surface water or groundwater from another part of the basin. Drinking water can be used.

Surface spreading is used in Los Angeles County Sanitation District's Water Replenishment program. The District has been using surface spreading in the Montebello Forebay as a recharge method since 1962. While the RWC has varied through the years since the project's inception, the current RWC is 35 percent of the total expected groundwater recharge into the basin, currently, about 44,000 acre-feet per year (AFY) is recharged into the groundwater basin.

Groundwater recharge via surface spreading would require the following steps, in addition to the Title 22 requirements described above:

- Completion of groundwater studies to determine a discharge area with the most optimal percolation rates.
- Determination of maximum available size of the spreading basin.
- Discussion with RWQCB about likely diluent requirements based on the projected tertiary water quality.
- Identification of diluent water (a combination of the size of the available spreading basin and the RWC requirement will determine the amount of necessary diluent water).
- Completion of an antidegradation analysis to demonstrate that groundwater quality will not be adversely impacted by the addition of recycled water.

Table 8.13 provides results of an example surface spreading scenario (with high-level assumptions).

Table 8.13 Spreading Basin Design Criteria

Surface Spreading Example ⁽¹⁾	Value	Unit
Tertiary Disinfected Flow	10.3	mgd
Anticipated RWC ⁽¹⁾	0.5	ratio
Diluent Flow	10.3	mgd
Total Recharge Flow	20.6	mgd
Spreading Basin Size	23000	AFY
Assumed Percolation Rate	6	in/day
Required Spreading Basin Area	130	Acres

Notes:

(1) Hypothetical values based on conservative design assumptions, for the purposes of comparative cost analysis.

(2) Maximum required RWC. Dictated by RWQCB.

The estimated project cost for the example spreading basin summarized in Table 8 would be approximately \$7.5 million. This includes land costs, design, and environmental permitting. However, it does not include the capital or operational expense required to convey the tertiary water to the spreading basin.

The benefits of a surface spreading project include low treatment investment, lower infrastructure costs than non-potable reuse, and increased groundwater recharge.

8.5.2.3 IPR: Groundwater Replenishment - Subsurface Application - Reverse Osmosis Based Train

For IPR via groundwater injection, the wastewater must be treated to achieve a 12-log reduction of enteric virus and a 10-log reduction of both Giardia and Cryptosporidium. These requirements are the same as those for IPR via surface spreading, except that there is an additional TOC limit of 0.5 mg/L. In California, a full advanced treatment (FAT) train is required to meet this TOC requirement, and the treatment train must include an RO train and an oxidation treatment process that can demonstrate 0.5 log reduction of 1,4-dioxane.

Additionally, the subsurface travel time of injected effluent must meet a minimum of 2 months in the groundwater prior to its reuse. Subsurface travel time is credited with 1.0 log virus reduction per month. However, like with the surface application, the amount of credit is directly dependent on method of verification.

An anti-degradation analysis would be required for subsurface application as well. The RO effluent will be very high quality and is not expected to degrade water quality. Additional stabilization of RO permeate will be necessary to prevent leaching of minerals or metals from the soils.

Treatment Requirements

The treatment train that meets all of these criteria and has been used or recommended in applications across the state contains:

- MF.

- RO.
- An ultraviolet advanced oxidation process, with either hydrogen peroxide or NaOCl as the oxidant.

This treatment train has been proven to purify secondary or tertiary treated water to the standard required by California regulations.

Upstream flow equalization would be necessary to provide constant flow to the membrane system. The design influent flow for the FAT train is the projected ADWF of 9.4 mgd. Using a diurnal peaking factor of 1.39, a basin size of 5 MG was calculated. This equalization basin could be located in the area currently used by the sludge drying beds. These drying beds may no longer be necessary with the switch to mechanical dewatering and direct hauling of the biosolids.

A FAT train with post-treatment stabilization (mineral addition to reduce water aggressiveness caused by FAT treatment) with 9.4 mgd of capacity would cost approximately \$145 million to construct. The total project cost, including planning, design, and permitting, would be approximately \$1953 million. As depicted in the conceptual layout (included herein as Figure 8.10), the entire advanced water purification facility could be located in the area currently occupied by the sludge drying beds.

A treatment train recovery rate of 80 percent (assuming MF backwash can be recycled to the headworks) would imply a production rate of 7.4 mgd of purified water.

RO Concentrate

Assuming the ADWF influent flow of 9.4 mgd, and an average RO recovery of 80 percent, the process would produce about 7.4 of purified water (slightly more is lost due to the upstream UF), and approximately 2 mgd of RO concentrate. In addition to the costs discussed above, RO concentrate treatment/disposal must be accounted for in estimation of expected project costs. There are a few options for in-land RO concentrate management. These include:

- Deep well injection:
 - The requirements for injection well depth vary (could be 1,000 to 8,000 feet).
- Zero liquid discharge (ZLD):
 - One ZLD option is thermal treatment of the RO concentrate. This involves either evaporation or distillation to separate liquid from the salts in the RO concentrate.
 - Another ZLD option is chemical/RO treatment of the RO concentrate. This would consist of chemical softening, media filtration, secondary RO, and evaporation via crystallization or evaporation ponds.

High level capital costs for these alternatives range from \$101 to \$233 million in construction cost, and \$137 to \$314 million in total project cost.

Purified Water Injection Wells

Groundwater studies are necessary to determine the appropriate injection locations and capacity for each injection well. Injection well capacity has been estimated to be approximately half of extraction well capacity for the area, although injection of up to 80 percent of extraction capacity can be completed with well-equipped injection wells. According to the 2015 Urban Water Management Plan, Cal Water operates 62 groundwater wells in Chico and three in Hamilton, with a combined capacity of 59,500 gpm, or 85.7 mgd. Although individual well sites will vary in capacity, it can be said that the average well extraction capacity is near 915 gpm (1.3 mgd).

Therefore, a conservative estimate of injection capacity is approximately 450 gpm (0.66 mgd). Based on these assumptions, injection of 7.4 mgd of purified water would require approximately 12 injection wells. The estimated construction cost for this number of wells (assuming 500 feet in depth) is \$39.3 million (\$53 million in project cost).

IPR via Groundwater Injection Summary

Table 8.14 summarizes the various components of a potential IPR treatment for groundwater replenishment via subsurface application.

Table 8.14 Cost Summary for IPR via Subsurface Application (RO-Based)

Component	Construction Cost (\$ M) ⁽¹⁾⁽²⁾	Project Cost ⁽³⁾
FAT Treatment Train ⁽⁴⁾	\$144.6	\$195.3
Equalization	\$5.1	\$6.9
RO Concentrate Treatment ⁽⁵⁾	\$101 to \$233	\$137 to \$314
Injection Wells ⁽⁶⁾	\$39.3	\$53.0
Total Cost	\$290 to \$422	\$392 to \$569
Cost per mgd (7.7 mgd)	\$39 to \$57	\$53 to \$77

Notes:

- (1) Costs are in February 2021 dollars using an ENR-CCI 20 Cities Index of 11699.
- (2) This is a class 5 Budget Estimate as defined by the AACEI's Revised Classification (1999) with an expected accuracy range of +100 to -50 percent. This cost estimate is based upon the Engineer's perception of the current conditions in the project area and is subject to change as variances in the cost of labor, materials, equipment, services provided by others or economic conditions occur. Since the Engineer has no control over these factors, he cannot warrant or guarantee that actual bids will not vary from the costs presented herein. This estimate does, however, reflect the Engineer's professional opinion of accurate costs at this time.
- (3) A 35 percent project cost factor includes engineering design, legal, environmental, and administrative costs of the project.
- (4) FAT Treatment train includes MF/RO/UV AOP and stabilization, building, and associated yard piping. Effluent pumping station not included.
- (5) Lower range of RO concentrate treatment is chemical softening/RO treatment followed by crystallization method. The upper range includes evaporation ponds.
- (6) Includes 12 injection wells, 500 feet deep.

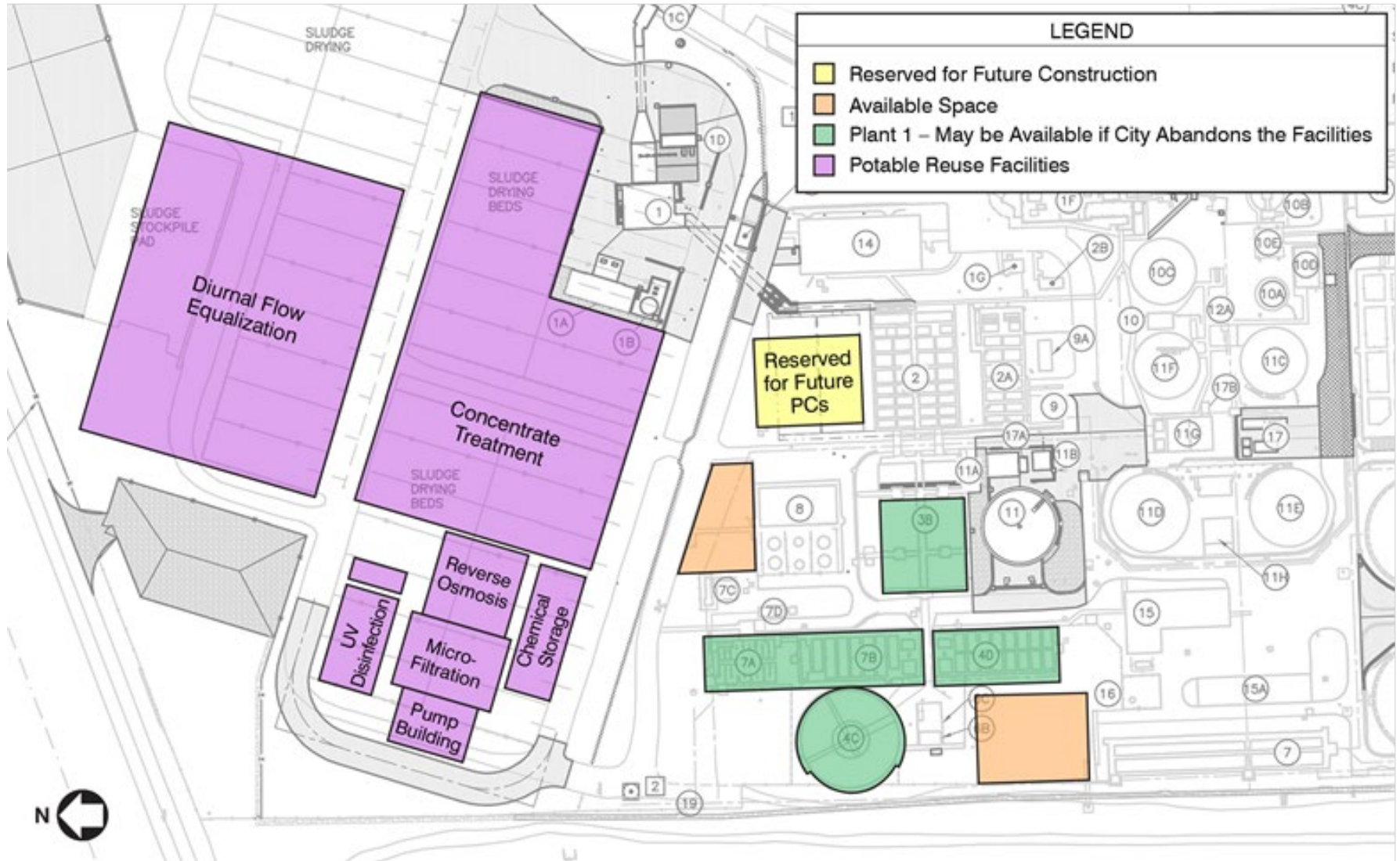


Figure 8.10 Potential Layout for RO-Based Full Advanced Treatment Facilities at the WPCP

IPR: Groundwater Replenishment - Subsurface Application - Non-RO Based Train

Due to the extremely expensive nature of inland RO concentrate treatment or disposal, much research has been invested in determining a reliable non-RO based treatment train. In 2017, a non-RO treatment train was piloted for a year at a wastewater treatment plant in Altamonte Springs, Florida. The results of this pilot showed that a non-RO based treatment train could reliably meet all pathogen log reduction goals as well as contaminant of emerging concern (CEC) targets, and TOC limits expected for DPR level of treatment. The treatment train included:

- *Ozone/Biologically Active Filtration*: The results of the study showed that the ozone dose could be designed based on an ozone-to-TOC plus nitrite ratio of less than 0.5. This ozone dose breaks down compounds (including CECs) to make them biologically available for the BAF step, but is not required for disinfection. BAF is biologically active filtration using activated carbon media. A biofilm builds up on the surface of the biologically active filter and the microbes within that film help to remove and breakdown CECs that were made bio-available by the ozone.
- *UF*: UF and MF are very similar and can be interchanged in many instances. The pore size for UF membranes is 0.1 micron or smaller, whereas the MF membranes have a pore size of 1 micron. UF membranes provide some virus removal, although they are not officially credited with it. The two membrane types do achieve the same protozoa log reduction credits. Cost estimates prepared herein assume implementation of UF.
- *Granular Activated Carbon (GAC)*: the purpose of the GAC step is to adsorb remaining TOC and metals before the effluent is disinfected.
- *UV*: The Altamonte Springs pilot used a UVAOP with NaOCl as the oxidant. Because the influent to the UVAOP process was not RO permeate, a higher NaOCl dose was required because there was a higher chlorine demand in the water. Conventional UV without AOP might be recommended for Chico since CECs will have been destroyed and removed in the ozone/BAF process.

The recommended non-RO treatment train for subsurface application is ozone/BAF/UF/GAC/UV. Since there is no RO, the treatment train recovery will be higher. With the same influent 9.4 mgd, a production rate of 9.0 mgd is expected instead of the 7.4 mgd production that a RO-based train might provide. This higher production rate would require a higher number of wells to inject the flow into the subsurface (estimated at 14 wells). Equalization is also assumed for this treatment train as a means of balancing diurnal flows (less essential for operation, but will optimize treatment).

The treatment train cost is similar to the MF/RO/UV AOP cost, but this approach would not require RO concentrate treatment. Construction costs are estimated to be \$145 million and project costs are estimated at \$195 million. These costs are combined with the injection well costs in Figure 8.11. Note that no infrastructure is provided for conveyance to the injection wells. Figure 8.11 depicts the proposed location of purification facilities (current sludge drying bed area).

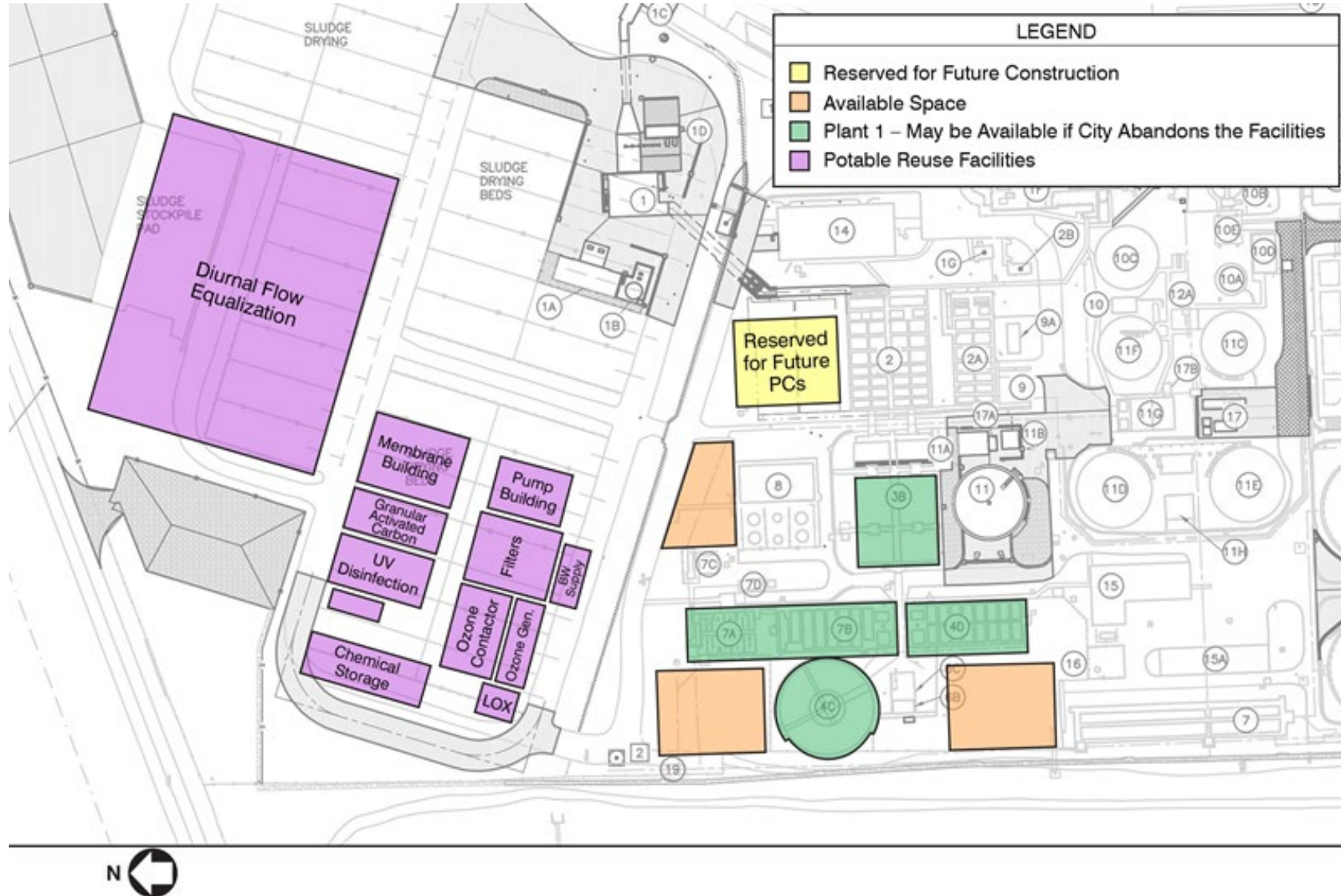


Figure 8.11 Potential Layout for Ozone/BAF-Based Full Advanced Treatment Facilities at the WPCP

Table 8.15 IPR for Groundwater Replenishment - Subsurface Application (Non-RO) Cost Estimate

Component	Construction Cost ⁽¹⁾⁽²⁾	Project Cost ⁽³⁾
Treatment Train ⁽⁴⁾	\$150.8	\$203.5
Equalization	\$5.1	\$6.9
Injection Wells ⁽⁵⁾	\$45.9	\$61.9
Total Cost	\$201.8	\$272.3
\$/mgd	\$22.4	\$30.2

Notes:

(1) Costs are in February 2021 dollars using an ENR-CCI 20 Cities Index of 11699.

This is a class 5 Budget Estimate as defined by the AACEI's Revised Classification (1999) with an expected accuracy range of +100 to -50 percent. This cost estimate is based upon the Engineer's perception of the current conditions in the project area and is subject to change as variances in the cost of labor, materials, equipment, services provided by others or economic conditions occur. Since the Engineer has no control over these factors, he cannot warrant or guarantee that actual bids will not vary from the costs presented herein. This estimate does, however, reflect the Engineer's professional opinion of accurate costs at this time.

A 35 percent project cost factor includes engineering design, legal, environmental, and administrative costs of the project.

(2) Treatment train includes ozone/BAF, UF, GAC, and UV.

(3) Assumes fourteen (14) injection wells, 500 feet deep each.

Regulatory Considerations

While this non-RO based treatment train is not currently regulated in California, this train has a high degree of confidence from industry professionals. California regulators are recognizing that requiring RO for potable reuse creates an economic and energy inefficient barrier to water security for many inland communities. By the time a potable reuse project is considered in Chico, it is likely that this treatment approach will be approved for IPR in California. If the train is not yet approved, it is possible to obtain approval from the RWQCB on an individual project basis, but a much more intensive permitting effort would be required.

8.5.3 Opportunities to Capitalize on Existing Processes for Water Reuse Applications

The earlier sections discussed the required upgrades to produce tertiary treated discharge based on pending regulations. There are opportunities to save on a future potable reuse treatment train if the tertiary upgrades are made with potable reuse in mind. For instance, if dual media filters are chosen for the tertiary filtration, they can be converted to BAF filters for the non-RO based potable reuse train. The media can be replaced and flows re-routed to allow some filters to operate for discharge while some act as the first barrier in a potable reuse train. Reusing the media filters would save in concrete and excavation costs, but piping and mechanical costs would still apply.

If ozone disinfection were chosen for discharge, some of the facilities could be shared between the ozone disinfection and the ozone/BAF process. However, because the ozone for ozone/BAF only serves to make the compounds bioavailable instead (and not for disinfection), the ozone doses would be different and contact times would vary as well.

Lastly, if MF membranes were chosen as the tertiary upgrade option, it would be possible for them to act as the first step in a FAT train. Depending on timing up the FAT upgrade, mechanical components for the MF system may need to be replaced for FAT conversion (due to age).

Cost savings were not calculated for these options because there are many factors that would influence the costs, especially timing and unforeseen technological advances.

8.5.4 Water Reuse Conclusions and Recommendations

The City is situated in a relatively water-rich, and highly agriculturally impacted area. Without other pressures to reduce discharge to the Sacramento River, the most sensible water recycling program would be a non-potable reuse for agricultural purposes. This project would require a potentially extensive network of piping, but would be able to capitalize on the required regulatory improvements of adding tertiary treatment and upgraded disinfection.

Implementation of a potable reuse application would require a significant need for water security or a significant incentive from Cal Water.

Regardless of the type of recycled water program, the following steps are recommended for implementation:

- Identification of customer base.
- Feasibility study.
- Pipeline routing study.
- Environmental studies and permitting.
- Engineering report for Report of Waste Discharge (ROWD) to obtain a new/modified NPDES permit.
- Design of improvements.
- Construction of improvements.
- Compliance verification.

The cost for initial planning studies to determine feasibility of water reuse can range from \$50,000 to \$1,000,000, depending on overall project scope. Planning grants are available from the State Water Resources Control Board that can fund up to \$75,000 of feasibility study costs.

Chapter 9

FACILITY PLANNING

Facility planning recommendations are summarized herein based identified needs at the WPCP as related to the condition of existing facilities, capacity limitations at the WPCP, regulatory drivers for current and future project implementation, and the City's long-term goals related to water reuse.

9.1 Summary of Condition-Driven Projects

Condition-driven needs at the WPCP were identified through an on-site, multi-discipline visual condition assessment of all facilities, including detailed mechanical, structural, and electrical/instrumentation and control inspections of each asset (Chapter 5). Identified condition-driven needs were prioritized based on risk, which is a function of the calculated remaining useful life for each asset, the consequence of the asset's failure, and probability that the asset will fail (Chapter 6). Asset rehabilitation, repair, and/or replacement cost estimates were prepared, and condition-driven replacement costs were projected over the planning horizon (through 2040) for each WPCP process area, based on a "simple asset replacement" strategy (Chapter 7).

In Chapter 8, the list of prioritized condition-driven projects (both short-term and long-term) were reviewed and options for reducing or deferring capital expenditure were identified. Additionally, opportunities for coupling projects were developed (for ease of delivery, with allowance of time in between projects, where feasible, to stabilize project funding and staffing needs), and condition-driven project package recommendations were developed. Table 9.1 includes a summary of recommended condition improvement project packages for the WPCP, as recommended in Chapter 8.

Table 9.1 Recommended Condition Improvement Project Packages

Approximate Timeline for Implementation	Improvement Package Project Components	Estimated Project Cost ⁽¹⁾
2021	Aeration and Primary Treatment Upgrades Recommended by 2023	\$1,735,000
2022	Disinfection, Chemical Building, Solids Thickening and Dewatering, Plant Power Systems, and Other Plant Systems Upgrades Recommended by 2023	\$2,501,000
2023	Solids Digestion Upgrades Recommended by 2023	\$2,224,000
2025	Primary Treatment Upgrades Recommended by 2025 ⁽²⁾	\$3,451,000
2027	Condition Driven Upgrades Recommended in 2027 ⁽³⁾	\$7,164,000
2028	Condition Driven Upgrades Recommended in 2028 ⁽⁴⁾	\$3,041,000
2029	Condition Driven Upgrades Recommended in 2029 ⁽⁵⁾	\$5,056,000
2033	Condition Driven Upgrades Recommended in 2033 ⁽⁶⁾⁽⁷⁾	\$3,301,000
2039	Condition Driven Upgrades Recommended in 2039 ⁽⁸⁾	\$9,806,000
2040	Anaerobic Digester 3	\$3,562,000
Total Required Capital Investment		\$41,841,000

Notes:

- (1) Costs are based on February 2021 dollars using an ENR-CCI 20 Cities Index of 11699. Cost estimating assumptions and limitations as discussed herein.
- (2) Deferred from 2023 project list.
- (3) With exception to solids digestion projects recommended in 2027 (these are deferred to 2028).
- (4) With addition of solids digestion projects deferred from 2027.
- (5) Includes miscellaneous improvements recommended for Headworks in 2034.
- (6) Allows completion of tertiary treatment upgrades in 2031 (cost not included).
- (7) Includes miscellaneous project needs scheduled between 2029 and 2036.
- (8) With addition of condition-driven projects for the Chemical Building recommended for 2038.

9.2 Summary of Capacity-Driven Projects

As described in Chapter 4, no major facility improvements are needed to increase the hydraulic capacity of the WPCP through the end of the planning period (2040).

Process (treatment) capacity needs will vary based on the secondary treatment process that is implemented over time (which depends on the City's decision related to pond use at the facility):

- If the existing secondary treatment process (nitrification) is maintained (i.e., effluent discharge to the ponds is discontinued), then no capacity related upgrades would be required.
- With the implementation of denitrification in the secondary process (as will be required to reduced effluent nitrate concentrations for continued use of the facility ponds), there may be a need for a fourth secondary clarifier (if SVI increases with implementation of MLE).

Because the City has decided to implement denitrification upgrades in the near-term, expenditure planning is included herein to accommodate modified MLE improvements (summarized in Section 9.3) and a fourth secondary clarifier in Plant 2 (summarized below). A summary of projected costs for the recommended capacity-driven projects is included in Table 9.2.

Table 9.2 Recommended Capacity-Driven Projects

Approximate Timeline for Implementation	Project/Component	Estimated Project Cost ⁽¹⁾
2032 ⁽²⁾	100-ft Secondary Clarifier	\$9,900,000
Total Required Capital Investment		\$9,900,000

Notes:

- (1) Costs are based on February 2021 dollars using an ENR-CCI 20 Cities Index of 11699. Cost estimating assumptions and limitations as discussed herein.
- (2) Based on projected influent TSS loads, considering implementation of an MLE secondary treatment process, and assuming SVI values increase as a result of MLE implementation. **Update:** implementation year updated in August 2019 as indicated in Chapter 8 and Appendix E.

9.2.1 Limitations of Capacity Analysis

The capacity of the existing WPCP facilities was evaluated against expected flows and loads projected over the planning horizon (through 2040), as calculated with an expected growth rate of 1.2 percent per year (Chapter 2). This value is consistent with long-term observations for population growth within the City's sphere of influence, but may prove inadequate long-term due to:

- The recent surge of temporary residents that have settled within City limits due to forced displacement following the destructive Camp Fire in Paradise, California (November 2018).
- Updated collection system modeling that includes development in areas previously reserved as conservation areas, the flows/loads of which have not been considered herein.

Additionally, the City has been in discussion with the Town of Paradise related to a future sewer connection that would transfer sewer flows from the Town to the WPCP for treatment and disposal. This planning study does not consider future flows/loads associated with this planned connection.

It is recommended that the City revisit the findings of this evaluation within the next 3 to 5 years to best prepare for future facility needs related to hydraulic and process capacity.

9.3 Summary of Regulatory-Driven Projects

Regulatory drivers for future facility upgrade needs were evaluated in Chapter 3 and recommendations for regulatory-driven facility upgrade projects were developed in Chapter 8 (see 8.4.2).

9.3.1 Projects Required by Current NPDES Permit

The following projects are required by the current NPDES permit order (Order No. R5-2016-0023):

- Required improvements for land discharge of treated effluent (by May 30, 2021) if City prefers to continue discharging to the facility ponds:
 - Denitrification upgrades (installation of modified MLE upgrades in existing Plant 2 aeration tanks).
- Required improvements for land discharge of treated effluent (by May 30, 2021) if City prefers to continue discharging to the ponds during facility upset conditions:
 - Lining of a portion (or all) of the WPCP Southeast and/or Northeast ponds.

The City has decided to implement denitrification upgrades as well as a project to convert the Northeast pond for storage of bypassed effluent during facility upset conditions (Chapter 8). The approximate timing of these improvements has been adjusted in the CIP based on recent discussions with the RWQCB (discussed in Chapter 8), but will need to be revisited in the nearterm as the NPDES permit renewal for the facility is currently underway.

9.3.2 Tertiary Filtration

Based on a cost comparison of tertiary filtration options (Chapter 8), and assuming non-potable reuse of the treated effluent if future water recycling goals are actualized, cloth disk filters are recommended for implementation when tertiary treatment upgrades become necessary due to updated permit requirements. Cloth disk filters have been known to have start up issues, but can be optimized with use of upstream coagulation, if necessary. With a high quality secondary effluent (which is expected from the modified MLE upgrade), it is anticipated that cloth filters will perform well.

If the City plans to pursue a potable reuse project (either in the short-term or long-term future), then the use of dual media filters or membrane filters could result in long-term cost savings (Chapter 8). All three technologies will be able to provide adequate treatment for Title 22 disinfected tertiary recycled water needs with minor upgrades, providing the City with many options for effluent reuse. In any case, the area north of existing Chlorine Contact Basins No. 3 and 4 should be reserved for future tertiary filtration facilities.

Capital planning efforts summarized herein assume the implementation of cloth disc filters.

9.3.3 Requirements for DEHP, Lead, and Zinc Compliance

Additional characterization is needed for effluent concentrations of lead and zinc, as proper removal options will vary depending on their speciation (soluble vs. insoluble). In the unlikely event that filtration does not remove these constituents, coagulation, flocculation, sedimentation, and/or chelation would be needed upstream of the filtration process.

Budget is established herein for investigation of non-treatment options for regulatory compliance for lead and zinc (discussed in Chapter 8). It is recommended that the City explore these options prior to implementation of any additional treatment (beyond tertiary filtration).

9.3.4 Alternative Disinfection

Three alternative disinfection options were evaluated in Chapter 8. Of these three options, UV disinfection is the only option that would be guaranteed to meet disinfection criteria with little or no DBP formation. For this reason, the project cost of \$25.0 million are carried into the planning budget to provide funding for this option by 2036. If a low CT can be shown to meet disinfection goals with minimal DBP production, then it should be pursued. The testing costs of \$100,000 is also carried through, with testing pursued after the upgrade to MLE is complete.

9.3.5 Summary of Regulatory-Driven Project Costs

Table 9.3 includes a summary of costs developed for each of the regulatory-driven projects anticipated in for the WPCP over the planning horizon.

Table 9.3 Summary of Regulatory-Driven Project Costs

Approximate Timeline for Implementation	Project/Component	Estimated Project Cost ⁽¹⁾
2023	DEHP, Lead, and Zinc Treatment Evaluation	\$300,000 ⁽²⁾
2024	Modified MLE process upgrades ⁽³⁾	\$4,090,000
2026	Pond lining project	\$11,456,000 ⁽³⁾
2028	Chlorine CT Testing	\$100,000 ⁽²⁾
2031	Tertiary filtration	\$13,712,000 ⁽⁴⁾
2036	Alternate Disinfection	\$25,000,000 ⁽⁵⁾
Total Required Capital Investment		\$54.7 M

Notes:

- (1) Costs are based on February 2021 dollars using an ENR-CCI 20 Cities Index of 11699. Cost estimating assumptions and limitations as discussed herein.
- (2) Study costs only. Implementation of improvements identified during study may require additional capital investment than that included herein.
- (3) To comply with discharge requirements identified for continued use of the facility ponds NPDES Order No. R5-2016-0023 and Draft Interim Antidegradation Reevaluation (Carollo, December 2018). Selection of pond liner material (and associated cost) modified herein (Chapter 8).
- (4) Assumes implementation of cloth disk filtration.
- (5) Assumes implementation of UV disinfection in new facilities.

9.3.6 Limitations of Regulatory Analysis

Facility upgrade recommendations made herein are based on ongoing (and recent) coordination with the Central Valley RWQCB, experience at similar facilities, and site-specific effluent and receiving water quality observations.

The regulatory climate is highly volatile, especially in California. This creates difficulty in fully predicting facility needs based on impending regulatory requirements over a long-term (20 year) planning horizon. For this reason, it is recommended that the City revisit the findings of this evaluation within the next 5 to 10 years to best prepare for future facility needs.

9.4 Strategic Long-Term Planning

Strategic long-term water reuse project options are evaluated in Chapter 8. The options evaluated include effluent reuse as a Title 22 recycled water source and IPR of treated effluent via groundwater injection or subsurface application.

9.4.1 Title 22 Recycled Water

With construction of the recommended tertiary filtration and UV disinfection facility upgrades, it may be possible to implement a Title 22 recycled water reuse program with little additional treatment costs (i.e., addition of coagulant dosing and expanding filter capacity, as needed, to run at a Title 22 accepted loading rate). However, the cost of infrastructure improvements needed to convey recycled water will vary greatly depending on the location of the final customer(s). As such, additional effort is needed to evaluate the overall feasibility of implementing a recycled water program.

It is recommended that the City complete a recycled water feasibility study prior to implementation of a program, so that potential customers can be identified and anticipated

costs can be estimated. This study typically costs between \$200,000 and \$500,000 to complete, depending on the complexity of the recycled water system and the overall study scope.

9.4.2 Indirect Potable Reuse

IPR options are explored at a high level in Chapter 8. Estimated project costs range from \$290 million (for IPR via groundwater injection with implementation of a non-RO based treatment train) to over \$569 million (for IPR via groundwater with implementation of an RO based treatment train).

9.4.3 Water Reuse Recommendations

The City is situated in a relatively water-rich, and highly agriculturally impacted area. Without other pressures to reduce discharge to the Sacramento River, the most sensible water recycling program would be non-potable reuse for agricultural purposes. As discussed in Section 9.4.1, this project would require a potentially extensive network of piping, but would capitalize on tertiary treatment and upgraded disinfection improvements anticipated by impending regulatory requirements.

Regardless of the type of recycled water program, the following steps are recommended for implementation:

- Identification of customer base.
- Feasibility study.
- Pipeline routing study.
- Environmental studies and permitting.
- Engineering report for ROWD to obtain a new/modified NPDES permit.
- Design of improvements.
- Construction of improvements.
- Compliance verification.

The cost for initial planning studies to determine feasibility of water reuse can range from \$50,000 to \$1,000,000, depending on overall project scope. Planning grants are available from the State Water Resources Control Board that can fund up to \$75,000 of feasibility study costs.

9.5 Capital Improvement Project Summary

Capital need projections are included herein to supplement the City's sewer rate study, providing sustainable budgets for current and projected WPCP needs through updated sewer fees. All recommended projects are summarized in Table 9.4.

Table 9.4 Summary of Recommended Project and Project Costs

Projected Timeline for Implementation	Project Description	Project Driver	Estimated Project Cost ⁽¹⁾
2021	Aeration and Primary Treatment System Condition-Driven Upgrades Recommended by 2023(x)	Condition	\$1,749,000
2022	Disinfection, Chemical Building, Solids Thickening and Dewatering, Plant Power Systems, and Other Plant Systems Condition-Driven Upgrades Recommended by 2023	Condition	\$2,501,000
2023	Solids Digestion Condition-Driven Upgrades Recommended by 2023	Condition	\$2,224,000
2023	DEHP, Lead, and Zinc Treatment Evaluation	Regulatory	\$300,000
2024	Modified MLE process upgrades	Regulatory	\$4,090,000
2025	Primary Treatment Condition-Driven Upgrades Recommended by 2025	Condition	\$3,451,000
2025	Recycled Water Feasibility Study	Strategic	\$500,000
2026	Pond Lining Project	Regulatory	\$11,456,000
2027	Condition Driven Upgrades Recommended in 2027	Condition	\$7,164,000
2028	Condition Driven Upgrades Recommended in 2028	Condition	\$3,041,000
2028	Chlorine Testing	Regulatory	\$100,000
2029	Condition Driven Upgrades Recommended in 2029	Condition	\$5,056,000
2031	Tertiary Filtration Upgrades	Regulatory	\$13,712,000
2032	100-ft Secondary Clarifier	Capacity	\$9,900,000
2033	Condition Driven Upgrades Recommended in 2033	Condition	\$3,301,000
2036	Alternate Disinfection	Regulatory	\$25,000,000
2039	Condition Driven Upgrades Recommended in 2039	Condition	\$9,806,000
2040	Anaerobic Digester 3	Condition	\$3,562,000
Total Required Capital Investment			\$106.9M⁽²⁾

Notes:

- (1) Costs are based on February 2021 dollars using an ENR-CCI 20 Cities Index of 11699. Cost estimating assumptions and limitations as discussed herein.
- (2) Does not include project costs associated with water reuse projects.

Figures 9.1 and 9.2 depict project spending per category (condition, capacity, and regulatory-driven), total projected project spending over the planning horizon (through 2040), respectively.

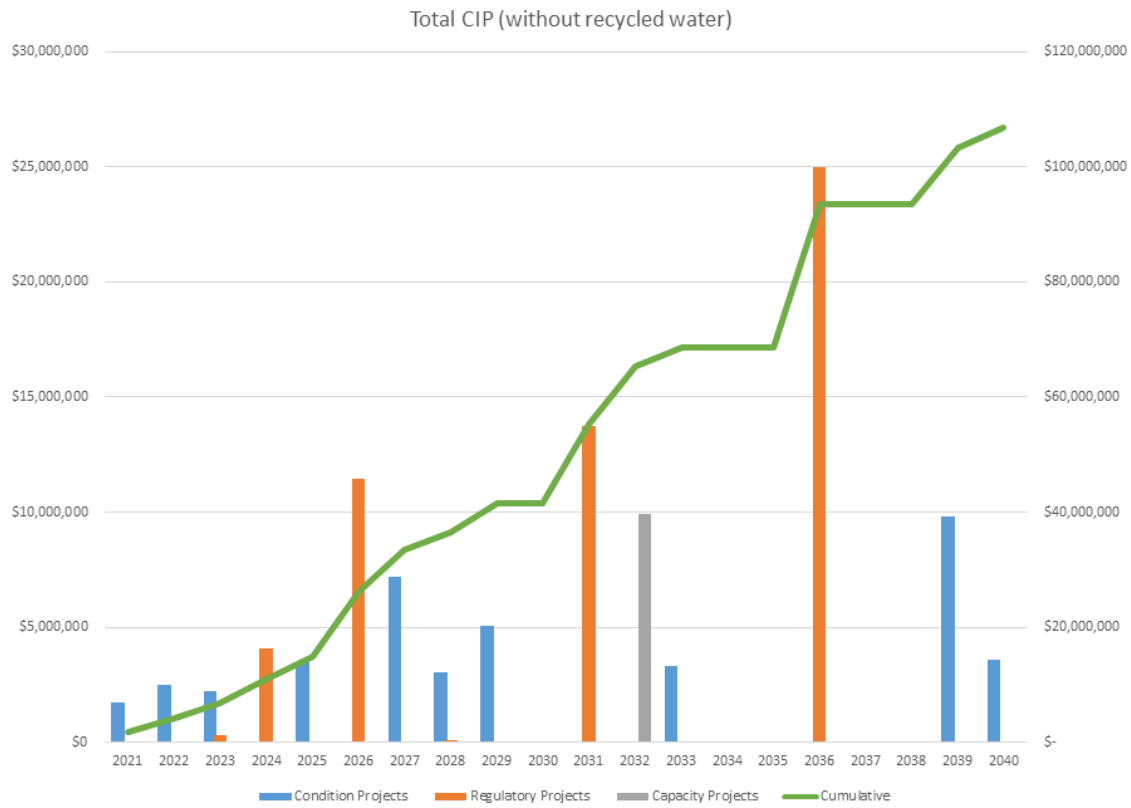


Figure 9.1 Projected Capital Investment (Per Spending Category)

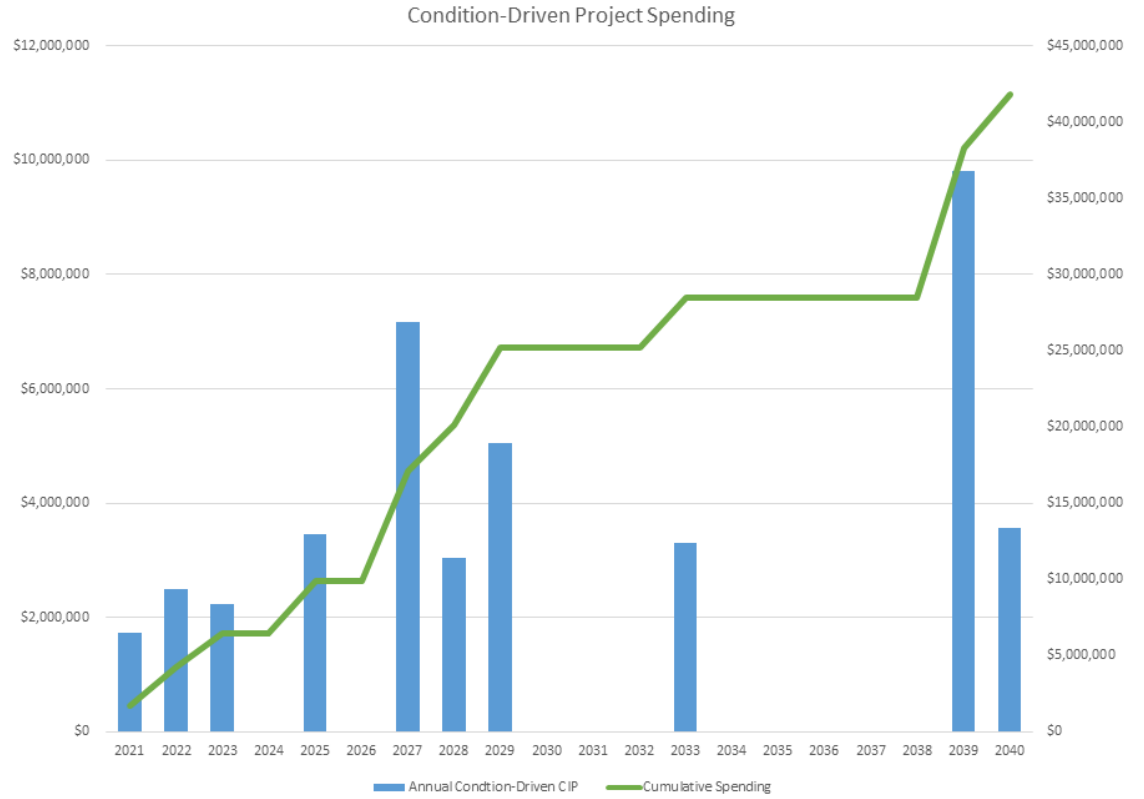


Figure 9.2 Total Annual Capital Spending through Planning Horizon

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Appendix A

STAFFING NEEDS



City of Chico
Strategic Planning and Facility Rate Review Support

WPCP Strategic Planning Report STAFFING NEEDS

DRAFT | June 2019

This document is released for the
purpose of information exchange review
and planning only under the authority of
Beverly Hann, P.E.
6/5/2019
CA PE No. C73050

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Abbreviations

ADF	average daily flow
BAPPG	Bay Area Pollution Prevention Group
City	City of Chico
CIU	Categorical Industrial User
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency
FOG	Fats, Oil, and Grease
FTE	Full time equivalents
mgd	million gallons per year
NACWA	National Association of Clean Water Agencies
NEIWPC	New England Interstate Water Pollution Control Commission
NELAC	National Environmental Laboratory Accreditation Conference
NPDES	National Pollutant Discharge Elimination System
NSCIU	Non-Significant Industrial User
O&M	operations and maintenance
POTW	publicly owned treatment works
SIU	significant Industrial User
SWOT	Strength/weakness/opportunity/threat
TM	Technical Memorandum
TNI	The NELAC Institute
WPCP	Water Pollution Control Plan

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EXECUTIVE SUMMARY

The current staffing approach at the City of Chico (City) Water Pollution Control Plant (WPCP) was evaluated from an operational standpoint, considering current facility plant flows and in-place treatment processes. This analysis involved a detailed review of the actual work conducted by plant operational staff, maintenance personnel, laboratory staff, industrial pretreatment staff, and administrative and supervisory staff.

A comparison of the City's current staffing levels against others of similar size and treatment processes (along with a theoretical analysis of staffing needs based on actual facility flow and treatment processes in service) revealed that the WPCP will require two additional WPCP operators, one new WPCP mechanic, and one additional laboratory technician in the near-term (2019-2020).

Future FTE positions were evaluated through the addition of future treatment processes projected for the facility (as included in the WPCP Strategic Planning Report), in accordance with assumed implementation dates projected within the report and associated facility flows. Staffing projections were calculated using the New England Interstate Water Pollution Control Commission (NEIWPCC) staffing spreadsheet for five-year increments starting in 2021 and ending in 2036.

The largest gap in full time equivalents (FTEs) exists in the mechanical maintenance section. Current analysis indicates that there is a shortfall of five mechanical maintenance positions. The findings included herein recommend that one mechanic position be added in the near-term (2019-2020), with additional mechanic positions phased in as future plant process improvements are implemented.

City policy requires two WPCP operator's on shift at all times. Existing shift coverage shortages, complex plant improvements, and new lift stations added to the City's collection system justify two additional operators in the near-term (2019-2020). As with the WPCP mechanic positions, additional operator positions will be phased through 2036 with implementation of new plant processes. As vacant and new WPCP operator positions are filled, the Lead WPCP Operator will assume an operations supervisory role.

With the introduction of the Environmental Laboratory Accreditation Program (ELAP) certified The National Environmental Laboratory Accreditation Conference (NELAC) Institute (TNI) program, the laboratory section will require a laboratory technician position to remain Environmental Protection Agency (EPA) compliant.

The long-term impact of the Paradise resident influx due to the 2018 Camp Fire is currently unknown. WPCP staff estimate that the current influent flow to the WPCP has increased by approximately 1 million gallons per day (mgd) since the Paradise residents have started to relocate to the City.

The cogeneration facility is currently in operation with sporadic outages. There is a concern over the lack of parts and the quality of contracted maintenance. This facility is also used for temperature control of the facility's solids digestion process. Due to the complexity of the cogeneration equipment, ongoing maintenance is currently performed by an outside contractor. This practice is expected to continue in the future.

STAFFING NEEDS

1.1 Introduction

The analysis presented herein comprises part of the City's WPCP strategic planning, the purpose of which is to allow for informed budgeting of current and future wastewater enterprise expenditures. In addition to the expected capital expense that future capacity, regulatory, and condition-driven needs will incur, ongoing operational expense for these facilities must be considered to best predict overall budgetary needs. This Staffing Needs Technical Memorandum (TM) provides the City with budget and management tools that predict future operational expenditures related to the current and future needs at the WPCP.

WPCP facilities are described in detail in the WPCP Strategic Planning Report, including the main flow split within the WPCP that makes up "Plant 1" (older secondary treatment facilities that are currently unused) and "Plant 2" (newer secondary treatment facilities that currently treat all WPCP flow). For the purpose of this staffing needs assessment, only active processes associated with Plant 2 were used for calculating operations and maintenance workload for the WPCP. Additionally, since the WPCP staff are responsible for maintenance of the City's 16 sewer lift stations, these facilities are also included in current and future staffing projections summarized herein. Staffing needs associated with the collection system piping were not considered.

1.2 Current WPCP Staffing Summary

The current WPCP staffing levels, and associated facility operations and maintenance duties, are summarized in the following sections.

1.2.1 Current Staffing Allocations

Allocated staffing levels for the WPCP are summarized in Table 1.

Table 1 Allocated Staffing at City of Chico Water Pollution Control Facility

Staffing Category	Allocated Full-Time Equivalents
Administration ⁽¹⁾	1.5
Operations ⁽²⁾	6
Maintenance ⁽³⁾	2
Laboratory Services ⁽⁴⁾	2
Industrial Waste ⁽⁵⁾	2
Total⁽⁶⁾	13.5

Notes:

- (1) Includes the Wastewater Manager and one part-time Administrative Assistant.
- (2) Includes one Lead WWTP Operator and five WWTP Operator III positions.
- (3) Includes one Electrician/Environmental Supervisor and one Electrical Technician.
- (4) Includes one Laboratory Supervisor and one Laboratory Technician.
- (5) Includes one Senior Industrial Waste Inspector and one Industrial Waste Inspector.
- (6) Positions as of May 2019.

Though allocated staffing for the WPCP includes 13.5 FTEs, there are currently three and a half FTE vacancies:

- Two Operator III vacancy
- One Electrical Technician vacancy
- One half-time Administrative Assistant vacancy

The City has struggled, in recent years, to keep all WPCP staff positions filled.

Current staffing at the WPCP is organized as depicted in Figure 1.

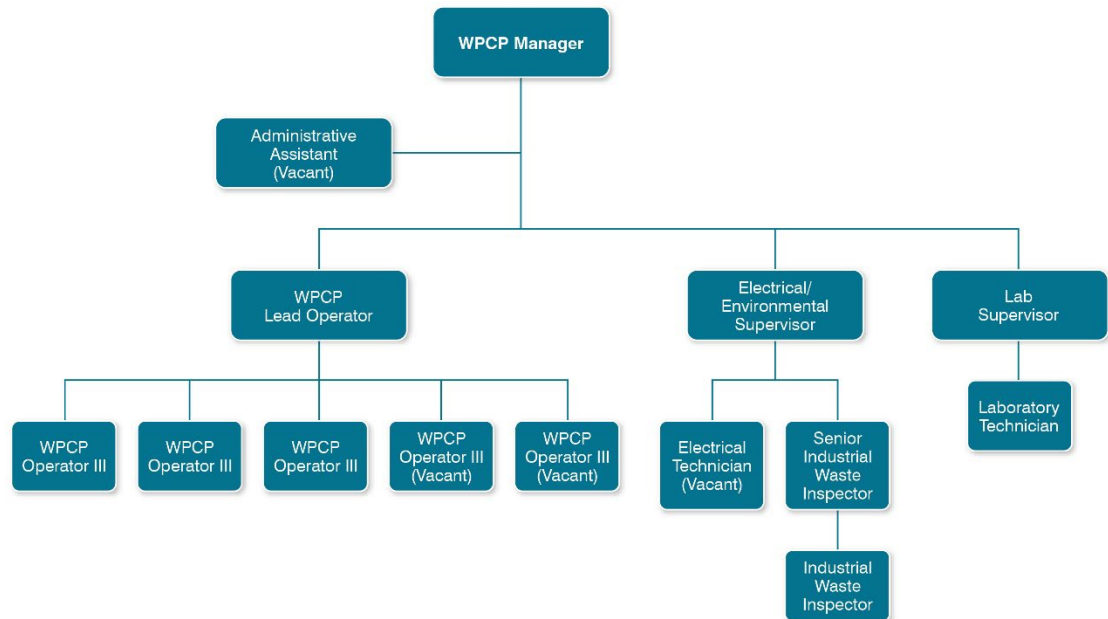


Figure 1 Existing WPCP Organizational Chart (13.5 FTEs)

Details regarding the differing assignments of the WPCP staff (operations, maintenance, industrial waste, and laboratory) are summarized in the following sections.

1.2.2 Operations

The following details pertain to the current operational approach at the WPCP:

- The WPCP is staffed with a minimum of two operators from 7:00 am to 3:30 pm (seven days per week).
- Operation staff rotate an on-call assignment from 3:30 pm to 7:00 am. The on-call operator responds to critical plant and lift station alarms via remote access from a supervisory control and data acquisition (SCADA) call-out system.
- A senior operator is on-site from 7:00 am to 3:30 pm, Monday through Friday each week.
- All preventative and corrective maintenance is performed by operation staff working during the day shift (7:00 am to 3:30 pm).
- The current staffing goal is to have six (6) operators on shift Tuesday, Wednesday, and Thursday each week. The Lead WPCP Operator is currently filling a shift operator position.

- Operators rotate on a daily basis between lift station maintenance, centrifuge/analyzers, plant preventative maintenance, and projects. There is also one operator assigned to backfill shifts as needed.
- Operators rotate weekend shifts. Assigned in pairs, operators report for weekend duty every third weekend.
- The operations staff currently maintain 16 remote sewer lift stations located throughout the City.
- The operations staff can make adjustments to many of the process systems at the WPCP through use of the SCADA system.
- WPCP personnel never perform confined space entry (all assignments requiring confined space entry are performed through use of independent contractors).
- As of May 2019, dewatered sludge is trucked to an off-site disposal location.
- As of May 2019, there are two WPCP Operator III vacancies.

WPCP operations staff currently perform all plant and lift station preventative and corrective maintenance. There is a valid concern regarding the sustainability of continuing to perform corrective maintenance (long-term) with operations staff only, because the current operations staff have mechanical skills that future generations will (likely) lack. The more recent trend of treatment plant mechanics performing all mechanical maintenance requires an evaluation of current staffing levels in operations and mechanical staff separately.

1.2.3 Maintenance

The following details pertain to the current maintenance approach at the WPCP:

- The majority of preventative and corrective mechanical maintenance is performed by the operations staff in conjunction with contracted services.
- The Electrician/Environmental Supervisor manages the industrial waste group and serves as the electrical and instrumentation technician. The combination of electrical and environmental supervision is non-standard.
- The WPCP has a professional services agreement (PSA) with Telstar Controls Inc. to perform SCADA integration maintenance. This contract is typically \$50,000 annually.
- The electrical technician staff currently maintain 16 remote sewer lift stations located throughout the City.
- As of May 2019 there is one Electrical Technician vacancy.

As detailed later in this report, the City will need to add plant mechanical staff in the near future. The breakdown of future duties for operations staff versus mechanical staff will determine the total FTEs required to maintain equipment and electrical maintenance levels.

1.2.4 Industrial Waste

The following details pertain to the current industrial waste approach at the WPCP:

- The City's industrial waste group consists of one Electrical/Environmental Supervisor, one Senior Industrial Waste Inspector and one Industrial Waste Inspector.
- This group is responsible for the City's Industrial Pretreatment Program, which includes ongoing compliance with the WPCP's National Pollutant Discharge Elimination System (NPDES) permit through regulation of industrial dischargers to the City's collection system.

- Industrial discharge categories (and WPCP duties) are as follows:
 - Significant Industrial Users (SIU's)
 - Industrial waste staff inspects SIU sites, collects water quality samples, and reports results for seven (7) SIUs (including one zero liquid discharger) annually
 - Categorical Industrial User (CIU's)
 - Industrial waste staff inspects CIU sites, collects water quality samples, and reports results for two CIU's annually
 - Non-Significant Categorical Industrial User (NSCIU)
 - Industrial waste staff inspects NSCIU sites, collects water quality samples, and reports results for two NSCIU's annually
 - Pollution Prevention Permits
 - Industrial waste staff inspects/reports on 50 industrial users (including 7 micro-breweries) annually. These are NSIU's, but are critical discharges (in accordance with the City's discharge requirements).
- Industrial waste staff also manage the City's Fats, Oil, and Grease (FOG) Program. This program is aimed at controlling discharges of fats, oil, and grease to the WPCP, requiring inspection of 400 food service establishments. The inspector conducts public outreach and weekly inspections of these facilities. The program goal is inspection of all FOG facilities annually. Currently this program makes up half of the daily workload for an industrial inspector.
- Industrial waste staff collects the daily plant composite sampling for process control
- Industrial waste staff issues temporary discharge permits for septage receiving at the WPCP
- Industrial waste staff serve as the City representative for the Bay Area Pollution Prevention Group (BAPPG).

An anticipated future program that may impact this group is an EPA program that is aimed at reducing discharges of mercury from dental offices into publicly owned treatment works (POTWs). This EPA rule (40 CFR Part 441 - Dental Office Discharges Containing Amalgam) became effective in July 2017. By July 2020 all dentist offices discharging to the WPCP must submit a one-time report confirming compliance by July 2020. The industrial wastewater inspection group will be responsible for annual compliance inspections thereafter. The direct impact to the industrial waste inspection group is unknown at this time. WPCP staff estimate that there may be 80 dentist offices within the City that currently discharge to the WPCP, but that not all will be regulated.

1.2.5 Laboratory

The following details pertain to the current laboratory approach at the WPCP:

- The City's WPCP Laboratory group consists of one Lab Supervisor and one Laboratory Technician.
- The laboratory is ELAP certified, and this group is responsible for sample collection and testing to comply with the WPCP NPDES permit.
- The laboratory group performs daily, monthly, quarterly, and annual testing for plant process control and permit requirements, including upstream and downstream receiving waters (Sacramento River).

- Some permit required tests are outsourced to a local certified lab (outside lab services are bid annually).
- There are no laboratory supervisor or technician vacancies as of May 2019.

The upcoming RWQCB ELAP TNI 17025 permit requirement will significantly impact the current WPCP laboratory operation. Implementation of permit requirements is expected to occur over the next three years, starting as early as mid-year 2019. Future laboratory staffing options are addressed in Section 6.

1.2.6 SWOT Analysis

A strength/weakness/opportunity/threat (SWOT) analysis was performed for the current staffing plan implemented at the WPCP. The observations from this analysis are summarized in Table 2.

Table 2 SWOT Analysis 2018

Strengths	Opportunities
<ul style="list-style-type: none"> • Continuity of leadership • Long term historical knowledge • Strong operator maintenance skills • Strong Electrical/Instrumentation skills • Multi-skilled operations staff 	<ul style="list-style-type: none"> • Transition open positions to accomplish short term goals • Enough time to adapt • Transition the WPCP Lead Operator to supervisory position • Develop a standard WPCP staffing plan
Weaknesses	Threats
<ul style="list-style-type: none"> • All corrective and preventative maintenance performed by operations personnel • Lack of promotional opportunities • Industrial Waste Inspection completion rates • Unconventional WPCP organization staffing 	<ul style="list-style-type: none"> • Reduction in historical maintenance knowledge through operator attrition. • Ability to attract and retain operations personnel with maintenance background. • ELAP 17025 TNI permit requirements. • Unable to routinely fill WPCP Operator shifts

An updated staffing plan must take advantage of the current strengths and opportunities while minimizing the system weaknesses and threats. Of particular concern are the ELAP permit requirements, and the fact that new operators are starting to have less experience in complex mechanical/maintenance. The method of staffing currently used (where operations staff complete both operations and maintenance activities) will become less feasible as the operators with mechanical experience retire.

1.3 Analysis of Current Staffing Levels

1.3.1 Theoretical Analysis

In order to assess current and future staff requirements at the WPCP, a theoretical analysis of staffing needs was conducted using the NEIWPCC staffing tool. The NEIWPCC is the industry standard for estimating wastewater treatment plant staffing needs. The NEIWPCC estimate accounts for staff hours required to operate and maintain a treatment facility based on capacity (average dry weather design flow), type of shift staffing (daily or 24 hour), and the specific

processes that make up the treatment system. The estimate also accounts for laboratory and industrial pre-treatment requirements.

Current NEIWPC annual operations and maintenance staff hour estimates are included herein as Appendix A, with results summarized in Table 3.

Table 3 Current NEIWPC Operations and Maintenance Staffing Estimate

Treatment Process	Annual Operations Staff Hours ^{(1),(2),(3)}	Annual Maintenance Staff Hours ^{(1),(2),(4),(5)}
Basic and advanced operations and processes	6,000	
Maintenance		9,454
Laboratory operations	4,317	
Biosolids/sludge handling	6,240	
Additional hours for management, operations for 16 lift stations, two-day shift operators and implementation of the Industrial Pre-Treatment Program	5,750	500
Total Hours	22,307	9,954
Staff positions (1,500 hours/person/year)	14.9	6.6
Current staffing ⁽⁴⁾	11.5	2
Difference	-3.4 (3 FTE)	-4.6 (5 FTE)

Notes:

- (1) Hours are estimated per NEIWPC criteria (1,500 hours worked per year [five-day workweek and 6.5 hours of productive time per day, adjusted for holidays, sick leave and vacations]).
- (2) Hours for providing or receiving training are not included.
- (3) Management, laboratory and industrial pretreatment personnel are indicated in the operations staff estimate.
- (4) Electrical and instrumentation personnel are included in the maintenance staff estimate.
- (5) Operations staff currently perform all mechanical preventative and corrective maintenance.
- (6) Biosolids/sludge handling split between operations and maintenance personnel.

The results of the NEIWPC analysis indicate that there is a current shortage of mechanical maintenance personnel (-5 FTE) and operations staff (-3 FTE) at the WPCP for a design average day average month (ADAM) influent flow of 12 million gallons per day (mgd), with actual current annual average day flow of 6.9 mgd.

1.4 Comparative Analysis

To better assess current staffing needs, a comparative analysis was conducted using staffing information from comparable wastewater treatment plants. This comparative analysis was conducted with use of a database produced by the National Association of Clean Water Agencies (NACWA) as part of a 2017 Financial Survey, along with results from phone surveys of local agencies (Cities of Yuba City, Woodland, and Vacaville, Vallejo Sanitation District, Fairfield Suisun Sewer District, Central Marin SA, Encina Water Authority and City of Sunnyvale).

Treatment facilities in California with similar average daily flow rates that treat flow using an activated sludge process (and related processes) were selected for baseline comparison. Some

additional agencies with larger flow rates were also included as benchmarks to demonstrate staffing at increased plant capacities.

A summary of the NACWA survey data, phone survey findings, and WPCP data is included in Table 4.

Based on the information presented in Table 4, a determination can be made of typical operations and maintenance (O&M) staffing levels per mgd of treated flow, using the median value. The results of this comparison indicate the following:

- The total WPCP staffing (per mgd) is about the same as the median value for total staffing at the surveyed agencies.
- WPCP operations staffing (per mgd) is the same as the median value for operations staffing at the surveyed agencies.
- Maintenance staffing (per mgd) is about half of the median value for maintenance staffing at the surveyed agencies.
- There is a disparity in maintenance and operational levels among the agencies surveyed.

The disparity in maintenance levels among the list of agencies might be explained as follows:

- The current staffing approach at the WPCP utilizes plant operators for maintenance tasks where other facilities utilize maintenance personnel. This maintenance resource crossover clouds the staffing counts in the traditional sense of O&M staffing.
- Some facilities report a lack of maintenance personnel (i.e. the City of Redding reports that additional maintenance personnel were requested in a recent staffing study).
- All agencies performed some type of remote lift station maintenance by operators or mechanics (varied level and staffing per agency).

Other results of the phone survey (in addition to those included in Table 4) include:

- Unattended facility operation is not unusual.
- All treatment plants include administration staff in the total operations staff count.
- All treatment plants have a dedicated full-time Administrative Assistant.
- Facilities without dedicated treatment plant mechanics are actively seeking approval to obtain the positions.
- ELAP TNI laboratory compliance is a major concern among the agencies.

1.5 Analysis of Future Staffing Needs

Predicted WPCP system upgrades (planned for the next twenty years) are discussed in the WPCP Strategic Planning Report. These include:

- Denitrification upgrades (Chapter 4)
- Tertiary treatment upgrades (Chapter 8)
- Alternate disinfection (Chapter 8)
- Additional secondary clarifier (Chapter 4)
- Off-site recycled water system upgrades (Chapter 8)

Additionally, the City anticipates one additional sewer lift station. These are included in future staffing needs projections discussed herein.

WPCP impacts due to the recent Camp Fire in Paradise are an unknown at this time but have increased WPCP influent flow rates (short-term). No staffing changes are recommended at this time related to this flow increase, or unknown future impacts.

Table 4 Comparative Analysis

Facility	Average Daily Flow, ADF (mgd)	Staffing ^{(2), (3)}			Staff/Flow (ADF)		
		Operations	Maintenance	Total Staff	Operations Staff/ADF	Maintenance Staff/ADF	Total Staff/ADF
City of Chico	6.8	11.5	2	13.5	1.7	0.3	2.0
City of Yuba City ⁽⁴⁾	6.0	16	7	24	2.7	1.2	4.0
City of Redding – Clear Creek WWTP ⁽⁴⁾	6.0	14	1	15	2.3	0.2	2.5
City of Woodland ⁽⁴⁾	6.0	10	1	11	1.7	0.2	1.8
City of Vacaville	7.7	25	13	38	3.2	0.6	4.9
Vallejo Sanitation District	10	26	15	41	2.6	1.5	4.1
Central Marin SA	14.2	17	11	29	1.2	0.8	2.0
Fairfield Suisun SD ⁽⁴⁾	14.9	20	10	30	1.3	0.7	2.0
Encina Water Authority	20.7	32	11	43	1.5	0.5	2.1
City of Sunnyvale	29.5	24	9	25	0.8	0.3	0.8
Average					1.9	0.6	2.6
					1.7	0.6	2.1

Notes:

- (1) NACQA survey information did not include information regarding the facility age, process control strategies, or schedules worked by the staff.
- (2) Supervisory, administrative, industrial waste, and laboratory staff are included in the operations personnel tabulation for all agencies.
- (3) Maintenance staff includes electrical and instrumentation technician staff for all agencies.
- (4) Results based on phone surveys completed between December 2018 and May 2019.

1.6 Results of Future Staffing Analysis

Staff hour requirements for projected facility needs were prepared using the NEIWPCC staffing tool. Results are summarized in Table 5. Refer to Appendices B, C, and D for projection details for 2021, 2031, and 2036, respectively.

Table 5 also includes assumed implementation dates for the treatment upgrades currently projected over the planning period (ending in 2040). The new processes will likely require less mechanical maintenance attention, but greater operator attention as staff learn the nuances of the new treatment processes and optimize operation. Annual Instrumentation hours were added for each additional process.

The results of the NEIWPCC analysis for future staffing needs (Table 5) indicate that there will be a need for additional maintenance staff and operations staff over the planning period (bringing total FTE count to 21 as summarized in Table 6). Future FTEs recommendations assume that current vacancies are filled.

1.7 STAFFING APPROACH RECOMMENDATIONS

The City currently allocates 13.5 total staff for operations (11.5) and maintenance (2) of the WPCP and collection system lift stations. Unfortunately, only 10 of the 13.5 allocated positions were filled as of May 2019.

The results of the NEIWPCC staffing estimate (Table 3) indicate that the current staffing allocation has a maintenance mechanic deficit of five FTEs and an operator deficit of three FTE. The Comparative Analysis results (Table 4) indicates that the WPCP has total O&M staffing levels that are below average for operations and maintenance compared to the listed agencies, but there are several caveats that must be considered in review of this comparison:

- Process control strategies differ between the facilities using the same processes.
- The age/condition of facilities differs between the listed facilities.
- Some respondents report a current lack of maintenance personnel.
- Work schedules differ between the listed facilities, which will affect the overall staffing needs.
- Listed agencies have differing levels of need for remote lift station O&M.

Current issues facing the WPCP include:

- Challenges allocating/creating new positions for treatment plant mechanics.
- New ELAP regulatory changes will overwhelm the current laboratory staffing level in 2020. One additional Laboratory Technician is recommended in 2020.
- There are currently open positions for Electrical Technician, WPCP Operator III (2), and a part-time Administrative Assistant.
- Lack of WPCP operators to adequately staff day shifts.

With the expected series of complex process changes slated to occur over the next decade, the City should plan to transfer the majority of maintenance to the new treatment plant mechanic position(s), with backup from the treatment plant operators. The treatment plant mechanic will be a critical position for participating in new process design and startup. The operator duties will increase with new treatment processes and the three additional lift stations.

Table 5 Predicted Future Staffing Needs

Process	Assumed Year of Required Implementation	Projected Average Daily Flow ⁽¹⁾	Additional Operations Annual Hours	Additional Maintenance Annual Hours	Additional Operations FTE Needs ⁽²⁾	Additional Maintenance FTE Needs ⁽²⁾
TNI ELAP Lab Certification ⁽³⁾	2020	N/A ⁽⁴⁾	1500	N/A	1 (lab tech)	N/A
Lift Stations ⁽⁴⁾	2021	N/A	300	84	0.2	0.06
Denitrification	2021	7.2	320	75	0.2	0.05
Cloth Filtration (Tertiary)	2031	8.8	160	80	0.1	0.05
UV Disinfection	2036	9.6	320	96	0.2	0.06
Additional Secondary Clarifier	2036	9.6	320	160	0.2	0.10
TOTALS⁽⁵⁾			2,920	495	1.9	0.32

Notes:

- (1) Refer to Chapter 2 of the WPCP Strategic Planning and Sewer Rate Review Support Project Report for flow projections.
- (2) One FTE equals 1,500 annual work hours. This includes holidays, vacations, sick leave, etc.
- (3) TNI requires one additional laboratory technician.
- (4) 17 total lift stations projected in 2021.
- (5) Total WPCP staffing in 2036 is estimated at 21. This includes an additional ½ FTE to bring the office administration position up to full-time, one additional laboratory technician, 3 additional operators (1 FTE Operator Apprentice and 2 WWTP Operator III), and 3 Treatment Plant Mechanics.

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1.7.1 Current Staffing Recommendations

The NEIWPC staffing levels comparison estimate (Table 3) indicates that there is a current need for three additional WPCP Operations FTEs and five mechanic FTEs. Based on the observed current WPCP staffing need, four and a half new FTEs are recommended in the near-term (2019-2020), bringing total staffing to 18 FTEs by 2021:

- One Treatment Plant Mechanic
- Two WPCP Operator III
- One Laboratory Technician
- One Administrative Assistant (addition of 0.5 FTE from current listing)

With this option, all plant and lift station maintenance would be completed by the WPCP mechanics, with WPCP operator assistance (as-needed). Large maintenance activities could be scheduled without impacting plant operations staffing, and weekend operator coverage could be increased as necessary. The new Laboratory Technician would implement the new ELAP TNI permit requirements. This option would also create a full-time position for the Administrative Assistant. The current 0.5 Administrative Assistant position does not provide continuity and creates consistent position turnover.

This near-term staffing recommendation includes the reclassification of the group's supervisory assignment, as follows:

- The "WPCP Lead Operator" title would be changed to "WPCP Operations Supervisor", maintaining supervisory continuity. No modification of direct staff reports is recommended.
- The "Electrical/Maintenance Supervisor" title would be changed to "Maintenance Supervisor", and their direct staff reports would be modified. The Electrical/Maintenance Supervisor position is currently managing the industrial waste group and performing electrical maintenance. This is not standard. The addition of one WPCP Mechanic I/II position, and the filling of the vacant Electrical Technician position, will require a dedicated Maintenance Supervisor. This position will assume responsibility for plant maintenance activities working in cooperation with the WPCP Operations Supervisor.
- The "Laboratory Supervisor" title would be change to "Laboratory/Pretreatment Supervisor", and their direct staff reports would be modified (assuming management of the industrial waste group). This organization will allow efficient use of FTEs to maintain state and federal compliance responsibilities under one supervisor.

As with current WPCP supervisor positions, these modified supervisor roles would remain working positions.

The 2019-2020 proposed organizational chart (based on current facility processes and flows) is included herein as Figure 2.

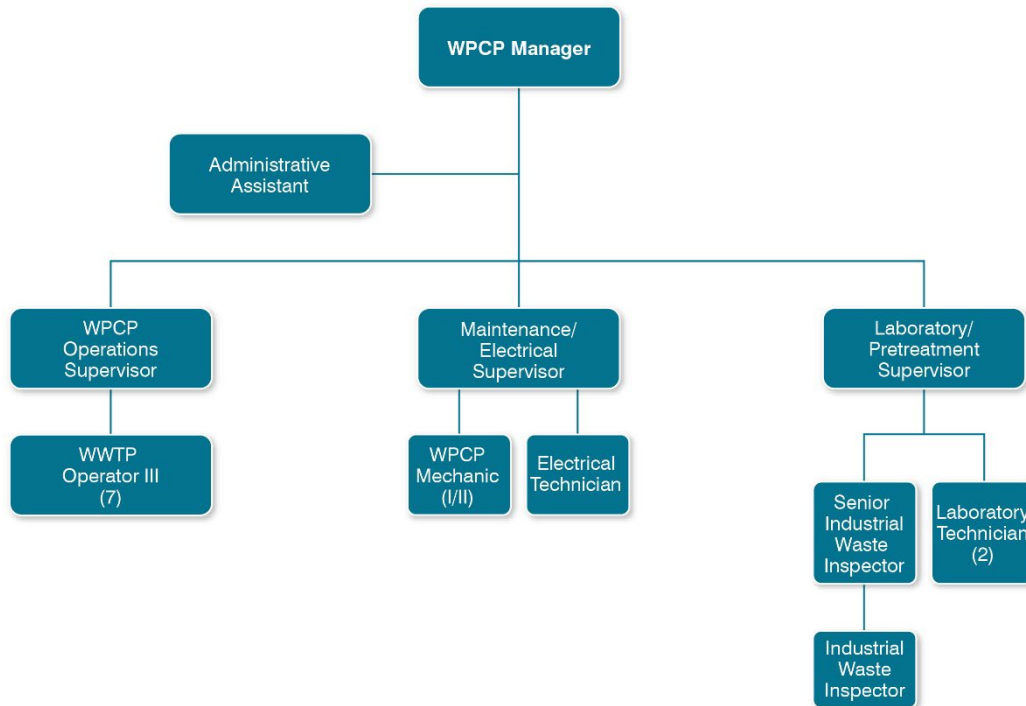


Figure 2 Recommended 2019-2020 Organizational Chart (18 FTEs)

1.7.1.1 Future Staffing Recommendations (Through 2040)

Although WPCP inflow rates are expected to increase from 6.9 to 9.6 mgd (average daily flow [ADF]) over the evaluation period, this will have minimal impact on future staffing needs.

The recommendations to increase staffing levels coincide with new complex treatment processes that will require additional operations and maintenance hours annually.

Denitrification Upgrades

Denitrification upgrades (assumed fully implemented by 2021 to comply with current NPDES permit requirements) will have a minimal impact on operations staffing levels. The process will include additional process control systems, instrumentation, SCADA control/reporting and preventative maintenance. Key personnel for this process are the current and vacant Electrical Technician FTEs.

Tertiary Upgrades

Tertiary upgrades (assumed fully implemented with use of cloth filters by 2031) will require additional mechanical staff along with annual maintenance. The combined processes of denitrification (in 2021) and filtration (in 2031) will require the addition of one treatment plant mechanic. The mechanic position should be filled before design of the anticipated tertiary upgrade is finalized. The addition of tertiary treatment will bring the total staffing level needs up to 19 FTEs by 2026 (anticipated mid-way for design), and 20 FTEs by 2031 (anticipated start-up).

Figures 3 and 4 depict recommended WPCP organizational changes for 2026 and 2031, respectively.

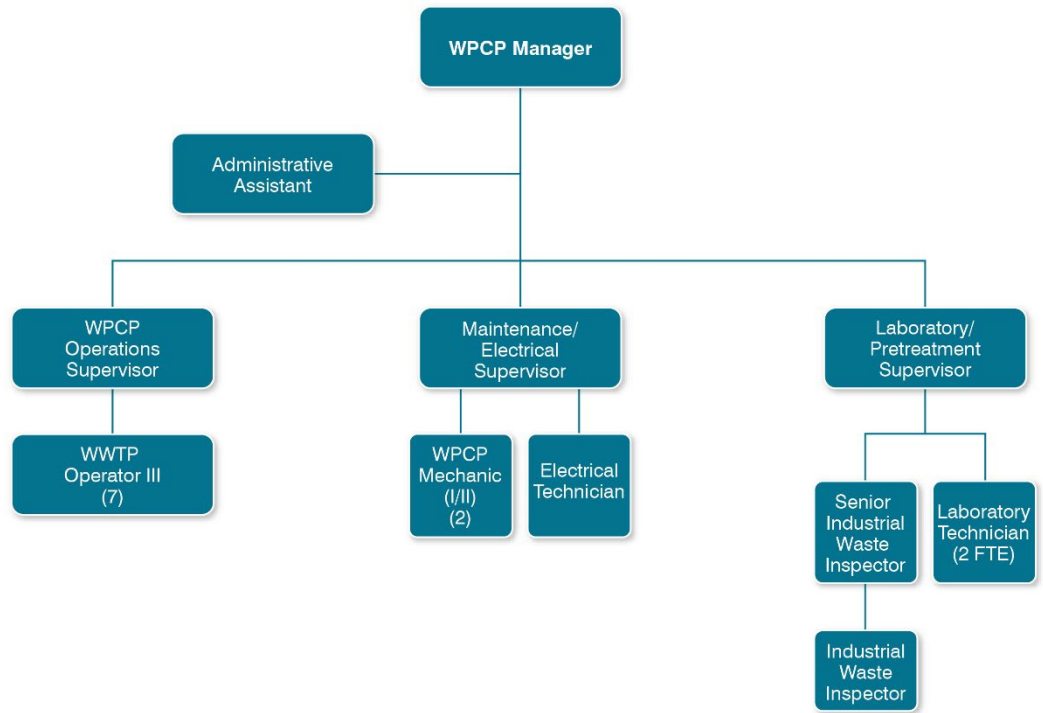


Figure 3 Recommended 2026 WPCP Organizational Chart (19 FTEs)

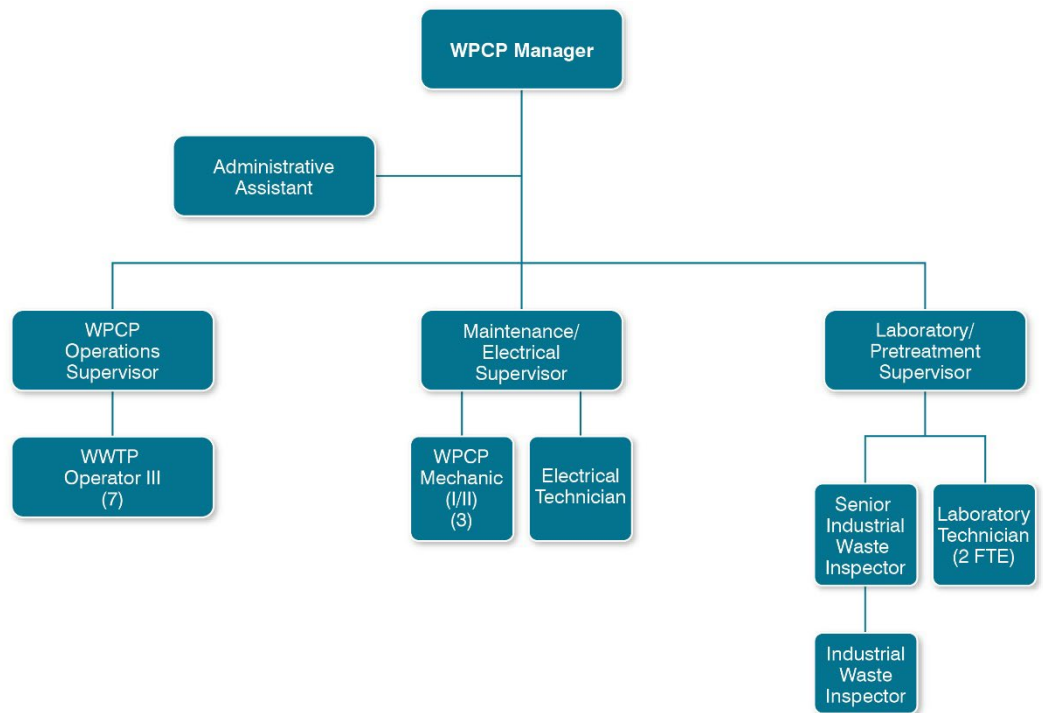


Figure 4 Recommended 2031 WPCP Organizational Chart (20 FTEs)

Disinfection Upgrades and Clarification Expansion

Upgrades associated with alternative disinfection and the addition of a fourth secondary clarifier will require one additional WPCP Operator. The timeline for this need is currently unknown. It is assumed that implementation of alternative disinfection may be needed by 2036, with possible similar timing for the additional secondary clarifier. As such, this additional operator is projected (herein) for implementation on the same timeline. The new WPCP operator recommended for 2036 could be addressed through use of a WPCP Operator Apprentice position in lieu of WPCP Operator I/II. A successful apprentice program has been proven to help agencies that had previously experienced recruitment issues. Additionally, a local recruitment for an apprentice will often lead to a long-term employee. The apprentice program can include operations and maintenance duties, thus allowing apprentices to fill either future position openings.

Figure 5 depicts recommended WPCP organizational changes for 2036.

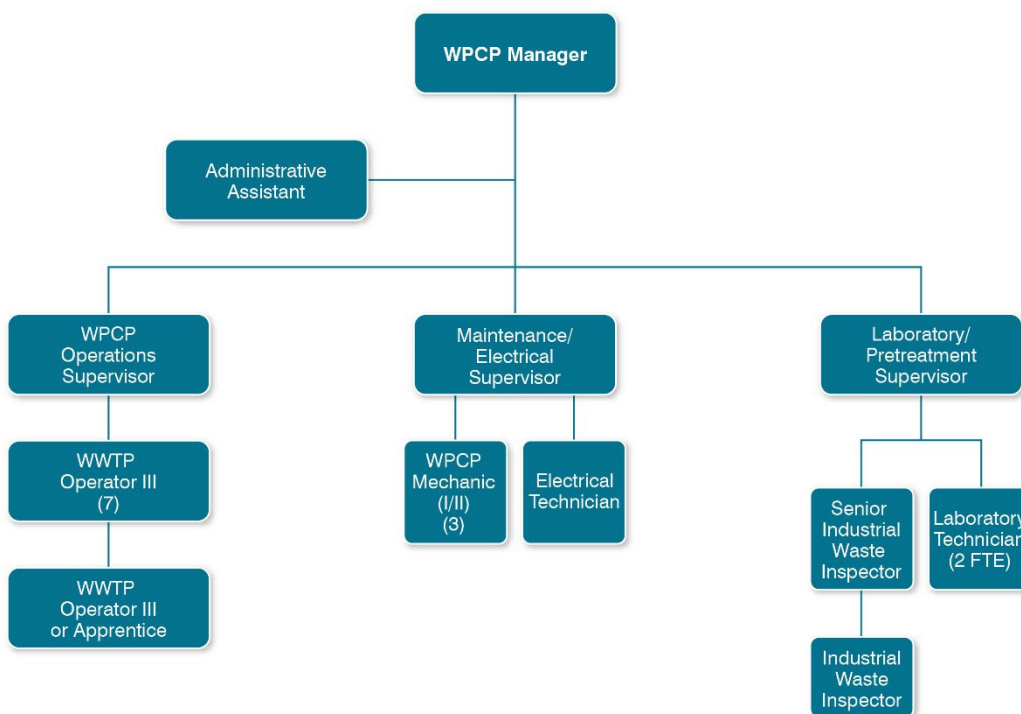


Figure 5 Recommended 2036 WPCP Organizational Chart (21 FTEs)

1.8 Summary

Modifications to the current staffing levels are made herein based on the results of an NEIWPC evaluation, a comparative analysis (NACWA and phone interviews with local peer plants), and observations of need at the WPCP.

Future staffing level recommendations are also made herein, based on proposed facility improvements projected over the next 20-year timeline, and in accordance with EIWPCC calculations for appropriate staffing of these upgrades.

Table 6 summarizes recommended WPCP staffing levels in thru 2040.

Table 6 City of Chico Recommended Staffing Levels through 2040

Year	Process	Addition of Staff	Total FTEs ⁽¹⁾
2019-2020	Current Maintenance Level With TNI Implementation	Add 0.5 FTE Administrative Assistant (equals 1 FTE), add two (2) Treatment Plant, add one (1) Laboratory Technician and one (1) Treatment Plant Mechanic.	18
2021	Denitrification	None	18
2026	Design/Construction Phase of Tertiary Treatment	Add one (1) Treatment Mechanic I/II	19
2031	Start-Up of Tertiary Treatment	One (1) Treatment Plant Mechanic	20
2036	Alternative Disinfection and Addition of Secondary Clarifier	WPCP Treatment Plant Operator III or WPCP Apprentice	21

Notes:

(1) Assumes all vacant positions are filled

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Appendix A
NEIWPC STAFFING ANALYSIS (CURRENT)

THE NORTHEAST GUIDE FOR ESTIMATING STAFFING AT PUBLICLY AND PRIVATELY OWNED WASTEWATER TREATMENT PLANTS (One Plus Shift)

Plant Name: City of Chico 2019 Existing Staffing

Design Flow: 10-20.0 mgd

Actual Flow: 6.9

FINAL ESTIMATES

Chart #	Annual Hours
Chart 1 – Basic and Advanced Operations and Processes	6000.00
Chart 2 – Maintenance	9454.00
Chart 3 – Laboratory Operations	4317.00
Chart 4 – Biosolids/Sludge Handling	6240.00
Chart 5 – Yardwork	0.00
Estimated Operation and Maintenance Hours	26011.00
Estimated Operation and Maintenance Staff	17.34
Estimated Additional Staff from Chart 7	3.50
TOTAL STAFFING ESTIMATE	20.84

Note: The Total Staff estimate from Charts 1-5 will not be the final amount of staff necessary to run the facility. Please review Chart 7 for additional staffing needs.

Chart 6 - Automation/SCADA

Computerized preventative maintenance
E-mail
Internet website
Laboratory Information Management System (LIMS)
Local Area Network (LAN)
Supervisory Control and Data Acquisition (SCADA)
Telemetry

Chart 7 - Considerations for Additional Plant Staffing

Management responsibilities (i.e., human resources, budgeting, outreach, training, town/city meetings, scheduling, etc.) and responsibility for clerical duties (i.e., billing, reports, correspondence, phones, time sheets, mailings, etc.)
Plant staff responsible for collection system operation and maintenance, pump station inspections, and/or combined sewer overflows
Plant staff involved in generating additional energy
Plant receives an extra high septage and/or grease load (higher than designed organic and grease loadings) or
Plant operators responsible for operating generators and emergency power
Plant responsible for industrial pre-treatment program
Age of plant and equipment (over 15 years of age)

Note: The user should attach supporting information to justify additional staffing needs from Chart 7.

Final Comments:

2019 Existing Staffing
Design Flow MGD 12.0
WPCP Manager, (2) Industrial Waste Inspectors and (0.5) Administrative Assistant.

Plant
Chart 7 includes

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Appendix B

NEIWPC STAFFING ANALYSIS (2021)

THE NORTHEAST GUIDE FOR ESTIMATING STAFFING AT PUBLICLY AND PRIVATELY OWNED WASTEWATER TREATMENT PLANTS (One Plus Shift)

Plant Name: City of Chico 2021 Staffing Guide

Design Flow: 10-20.0 mgd	Actual Flow: 7.2
---------------------------------	-------------------------

FINAL ESTIMATES

Chart #	Annual Hours
Chart 1 – Basic and Advanced Operations and Processes	6320.00
Chart 2 – Maintenance	9454.00
Chart 3 – Laboratory Operations	4317.00
Chart 4 – Biosolids/Sludge Handling	6240.00
Chart 5 – Yardwork	0.00
Estimated Operation and Maintenance Hours	26331.00
Estimated Operation and Maintenance Staff	17.55
Estimated Additional Staff from Chart 7	4.00
TOTAL STAFFING ESTIMATE	21.55

Note: The Total Staff estimate from Charts 1-5 will not be the final amount of staff necessary to run the facility. Please review Chart 7 for additional staffing needs.

Chart 6 - Automation/SCADA

Computerized preventative maintenance
E-mail
Internet website
Laboratory Information Management System (LIMS)
Local Area Network (LAN)
Supervisory Control and Data Acquisition (SCADA)
Telemetry

Chart 7 - Considerations for Additional Plant Staffing

Management responsibilities (i.e., human resources, budgeting, outreach, training, town/city meetings, scheduling, etc.) and responsibility for clerical duties (i.e., billing, reports, correspondence, phones, time sheets, mailings, etc.)
Plant staff responsible for collection system operation and maintenance, pump station inspections, and/or combined sewer overflows
Plant staff involved in generating additional energy
Plant receives an extra high septage and/or grease load (higher than designed organic and grease loadings) or
Plant operators responsible for operating generators and emergency power
Plant responsible for industrial pre-treatment program
Age of plant and equipment (over 15 years of age)

Note: The user should attach supporting information to justify additional staffing needs from Chart 7.

Final Comments:

2021 Staffing Guide - processes include denitrification
Plant Design Flow MGD 12.0
includes WPCP Manager, (2) Industrial Waste Inspectors and (1.0) Administrative Assistant.

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Appendix C

NEIWPC STAFFING ANALYSIS (2031)

THE NORTHEAST GUIDE FOR ESTIMATING STAFFING AT PUBLICLY AND PRIVATELY OWNED WASTEWATER TREATMENT PLANTS (One Plus Shift)

Plant Name: City of Chico 2031 Staffing Guide

Design Flow: 10-20.0 mgd	Actual Flow: 8.8
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FINAL ESTIMATES

Chart #	Annual Hours
Chart 1 – Basic and Advanced Operations and Processes	6480.00
Chart 2 – Maintenance	9534.00
Chart 3 – Laboratory Operations	4317.00
Chart 4 – Biosolids/Sludge Handling	6240.00
Chart 5 – Yardwork	0.00
Estimated Operation and Maintenance Hours	26571.00
Estimated Operation and Maintenance Staff	17.71
Estimated Additional Staff from Chart 7	4.00
TOTAL STAFFING ESTIMATE	21.71

Note: The Total Staff estimate from Charts 1-5 will not be the final amount of staff necessary to run the facility. Please review Chart 7 for additional staffing needs.

Chart 6 - Automation/SCADA

- Computerized preventative maintenance
- E-mail
- Internet website
- Laboratory Information Management System (LIMS)
- Local Area Network (LAN)
- Supervisory Control and Data Acquisition (SCADA)
- Telemetry

Chart 7 - Considerations for Additional Plant Staffing

- Management responsibilities (i.e., human resources, budgeting, outreach, training, town/city meetings, scheduling, etc.) and responsibility for clerical duties (i.e., billing, reports, correspondence, phones, time sheets, mailings, etc.)
- Plant staff responsible for collection system operation and maintenance, pump station inspections, and/or combined sewer overflows
- Plant staff involved in generating additional energy
- Plant receives an extra high septage and/or grease load (higher than designed organic and grease loadings) or
- Plant operators responsible for operating generators and emergency power
- Plant responsible for industrial pre-treatment program
- Age of plant and equipment (over 15 years of age)

Note: The user should attach supporting information to justify additional staffing needs from Chart 7.

Final Comments:

2031 Staffing Guide - processes include Cloth Filtration
 Plant Design Flow MGD 12.0
 includes WPCP Manager, (2) Industrial Waste Inspectors and (1.0) Administrative Assistant.

Chart 7

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Appendix D

NEIWPCO STAFFING ANALYSIS (2036)

THE NORTHEAST GUIDE FOR ESTIMATING STAFFING AT PUBLICLY AND PRIVATELY OWNED WASTEWATER TREATMENT PLANTS (One Plus Shift)

Plant Name: City of Chico 2036 Staffing Guide

Design Flow: 10-20.0 mgd	Actual Flow: 9.6
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FINAL ESTIMATES

Chart #	Annual Hours
Chart 1 – Basic and Advanced Operations and Processes	6800.00
Chart 2 – Maintenance	10094.00
Chart 3 – Laboratory Operations	4317.00
Chart 4 – Biosolids/Sludge Handling	6240.00
Chart 5 – Yardwork	0.00
Estimated Operation and Maintenance Hours	27451.00
Estimated Operation and Maintenance Staff	18.30
Estimated Additional Staff from Chart 7	4.00
TOTAL STAFFING ESTIMATE	22.30

Note: The Total Staff estimate from Charts 1-5 will not be the final amount of staff necessary to run the facility. Please review Chart 7 for additional staffing needs.

Chart 6 - Automation/SCADA

Computerized preventative maintenance
E-mail
Internet website
Laboratory Information Management System (LIMS)
Local Area Network (LAN)
Supervisory Control and Data Acquisition (SCADA)
Telemetry

Chart 7 - Considerations for Additional Plant Staffing

Management responsibilities (i.e., human resources, budgeting, outreach, training, town/city meetings, scheduling, etc.) and responsibility for clerical duties (i.e., billing, reports, correspondence, phones, time sheets, mailings, etc.)
Plant staff responsible for collection system operation and maintenance, pump station inspections, and/or combined sewer overflows
Plant staff involved in generating additional energy
Plant receives an extra high septage and/or grease load (higher than designed organic and grease loadings) or
Plant operators responsible for operating generators and emergency power
Plant responsible for industrial pre-treatment program
Age of plant and equipment (over 15 years of age)

Note: The user should attach supporting information to justify additional staffing needs from Chart 7.

Final Comments:

2036 Staffing Guide - processes include UV disinfection and additional secondary clarifier
Plant Design Flow MGD 12.0
includes WPCP Manager, (2) Industrial Waste Inspectors and (1.0) Administrative Assistant.

Chart 7

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Appendix B

DAILY DATA

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
5/1/2009	FALSE	FALSE		3.8	10.0	7.8	48%	38%	78%		1.28			237	202	0.85		15,374	13,103					15,374	13,103					
5/2/2009	FALSE	FALSE		4.0	11.0	8.2	49%	36%	74%		1.35																			
5/3/2009	FALSE	FALSE		4.2	11.0	8.0	53%	38%	73%		1.38																			
5/4/2009	FALSE	FALSE		3.8	10.1	8.0	47%	37%	80%		1.26			184				12,273						12,273						
5/5/2009	FALSE	FALSE		4.3	10.0	7.9	54%	43%	79%		1.26			167	132	0.79		11,009	8,701					11,009	8,701					
5/6/2009	FALSE	FALSE		4.0	10.0	7.7	52%	40%	77%		1.30						16			1,038										
5/7/2009	FALSE	FALSE		3.8	9.7	7.5	51%	40%	78%		1.28			248	231	0.93		15,562	14,495					15,562	14,495					
5/8/2009	FALSE	FALSE		3.8	9.5	7.3	51%	40%	78%		1.29			263				16,113						16,113						
5/9/2009	FALSE	FALSE		3.3	9.7	6.9	48%	34%	72%		1.39		7.7																	
5/10/2009	FALSE	FALSE		2.9	9.7	6.8	42%	30%	71%		1.42		7.5																	
5/11/2009	FALSE	FALSE		3.5	9.2	7.1	49%	38%	77%		1.29		7.4	355				21,056			TSS			21,056						
5/12/2009	FALSE	FALSE		3.6	9.2	7.2	50%	40%	79%		1.27		7.3	272	199	0.73		16,415	12,009					16,415	12,009					
5/13/2009	FALSE	FALSE		3.6	9.3	7.2	49%	38%	78%		1.29		7.2																	
5/14/2009	FALSE	FALSE		3.7	9.3	7.1	52%	40%	77%		1.31		7.2	318	221	0.69		18,957	13,175					18,957	13,175					
5/15/2009	FALSE	FALSE		3.4	9.1	7.1	48%	38%	78%		1.29		7.1	194			21	11,462		1,231				11,462		1,231				
5/16/2009	FALSE	FALSE		2.8	9.6	6.7	42%	29%	70%		1.43		7.0																	
5/17/2009	FALSE	FALSE		2.8	9.6	6.8	41%	29%	71%		1.41		7.0																	
5/18/2009	FALSE	FALSE		3.1	9.0	7.1	44%	35%	79%		1.26		7.1	220				13,060						13,060						
5/19/2009	FALSE	FALSE		3.7	9.8	7.2	52%	38%	73%		1.36		7.1	251	184	0.73		15,030	11,018					15,030	11,018					
5/20/2009	FALSE	FALSE		3.4	9.3	7.2	46%	36%	78%		1.29		7.1																	
5/21/2009	FALSE	FALSE		3.4	9.2	7.2	47%	37%	79%		1.27		7.1	231			21	13,929		1,275				13,929		1,275				
5/22/2009	FALSE	FALSE		3.5	9.3	7.2	48%	37%	77%		1.29		7.1	261	213	0.82		15,738	12,844					15,738	12,844					
5/23/2009	FALSE	FALSE		3.3	9.6	6.9	48%	34%	72%		1.38		7.1																	
5/24/2009	FALSE	TRUE		3.2	9.3	6.5	49%	34%	69%		1.44		7.0																	
5/25/2009	FALSE	TRUE		2.6	9.6	6.6	40%	27%	69%		1.45		7.0																	
5/26/2009	FALSE	TRUE		3.2	8.6	6.8	47%	37%	80%		1.26		7.0	207	206	1.00		11,819	11,762					11,819	11,762					
5/27/2009	FALSE	TRUE		3.4	8.6	6.8	49%	39%	79%		1.26		6.9																	
5/28/2009	FALSE	TRUE		3.5	8.6	6.8	51%	41%	79%		1.26		6.9	209			20	11,895		1,131				11,895		1,131				
5/29/2009	TRUE	TRUE		3.4	8.5	6.7	51%	40%	79%		1.27		6.8	312				17,382						17,382						
5/30/2009	TRUE	TRUE		3.0	8.9	6.4	47%	34%	72%		1.39		6.7																	
5/31/2009	TRUE	TRUE		2.7	8.8	6.4	42%	31%	73%		1.38	7.1	6.6									14,401	12,138	1,169		14,401	12,138	1,169		
6/1/2009	TRUE	TRUE		3.1	8.6	6.7	46%	36%	77%		1.29	7.1	6.7					15,108						14,383	12,001	1,169				
6/2/2009	TRUE	TRUE		3.4	8.5	6.7	50%	39%	78%		1.28	7.1	6.7	250				13,957						14,357	12,001	1,169				
6/3/2009	TRUE	TRUE		3.4	8.3	6.8	49%	41%	82%		1.22	7.0	6.7											14,357	12,001	1,169				
6/4/2009	TRUE	TRUE		3.7	8.9	6.9	53%	41%	78%		1.29	7.0	6.7	322				18,530						14,748	12,001	1,169				
6/5/2009	TRUE	TRUE		3.6	8.7	6.8	53%	41%	78%		1.28	7.0	6.7				20			1,160				14,997	12,550	1,167				
6/6/2009	TRUE	TRUE		3.6	8.8	6.4	56%	41%	73%		1.37	6.9	6.6											14,997	12,550	1,199				
6/7/2009	TRUE	TRUE		2.9	8.9	6.2	46%	32%	70%		1.43	6.9	6.6											14,957	12,161	1,199				
6/8/2009	TRUE	TRUE		3.1	8.7	6.5	47%	35%	75%		1.34	6.8	6.6	248				13,481						14,769	12,161	1,199				
6/9/2009	TRUE	TRUE		3.4	8.3	6.5	52%	41%	79%		1.27	6.8	6.6	227				12,397						14,611	12,161	1,199				
6/10/2009	TRUE	TRUE		3.4	8.4	6.6	51%	40%	79%		1.27	6.8	6.6											14,611	12,161	1,199				
6/11/2009	TRUE	TRUE		3.4	8.3	6.6	52%	41%	79%		1.26	6.8	6.6	250	195	0.78		13,665	10,659					14,551	11,911	1,199				
6/12/2009	TRUE	TRUE		3.3	8.5	6.3	52%	39%	75%		1.34	6.8	6.5	274			20	14,506		1,058				14,432	11,891	1,171				
6/13/2009	TRUE	TRUE		2.9	8.4	6.1	47%	34%	73%		1.38	6.7	6.4											14,432	11,891	1,171				
6/14/2009	TRUE	TRUE		2.5	8.5	6.0	41%	29%	71%		1.41	6.7	6.4											14,131	11,571	1,171				
6/15/2009	TRUE	TRUE		2.9	8.4	6.4	45%	35%	77%		1.31	6.7	6.4	237				12,741						14,216	11,571	1,156				
6/16/2009	TRUE	TRUE		3.0	8.4	6.5	46%	36%	78%		1.29	6.7	6.4		204									14,216	11,472	1,156				
6/17/2009	TRUE	TRUE		3.0	8.4	6.5	46%	36%	78%		1.29	6.7	6.4	260				14,116						14,210	11,472	1,156				
6/18/2009	TRUE	TRUE		3.3	8.2	6.4	52%	40%	78%		1.28	6.6	6.4	256	186	0.73	19	13,664	9,928	1,040				14,247	11,214	1,133				
6/19/2009	TRUE	TRUE		3.3	8.3	6.4	52%	40%	77%		1.30	6.6	6.3	235				12,543						14,092	11,254	1,133				
6/20/2009	TRUE	TRUE		2.8	8.5	6.1	45%	33%	72%		1.39	6.6	6.3											14,092	11,254	1,133				
6/21/2009	TRUE	TRUE		2.5	8.2	6.0	41%	30%	73%		1.38	6.5	6.3											14,103	11,254	1,097				
6/22/2009	TRUE	TRUE		3.1	8.4	6.4	48%	36%	76%		1.31	6.5	6.3	231				12,380						13,879	10,856	1,097				
6/23/2009	TRUE	TRUE		3.5	8.1	6.4	55%	43%	79%		1.26	6.5	6.3	167	161	0.96		8,917	8,596					13,569	10,404	1,097				
6/24/2009	TRUE	TRUE		3.5	8.0	6.3	55%	43%	79%		1.27	6.5	6.3											13,569	10,404	1,097				
6/25/2009	TRUE	TRUE		3.5	8.0	6.4	55%	44%	80%		1.24	6.5	6.3				21			1,143				13,569	10,404	1,106				
6/26/2009	TRUE	TRUE		3.2	8.3	6.3	51%	39%	76%		1.32	6.5	6.3	310				16,262						13,847	10,065	1,106				
6/27/2009	TRUE	TRUE		2.7	8.1	5.9	45%	33%	73%		1.36	6.4	6.2											13,847	10,065	1,106				
6/28/2009	TRUE	TRUE		2.5	8.1	5.9	43%	32%	73%		1.37	6.4	6.2											13,977	10,065	1,100				
6/29/2009	TRUE	TRUE		3.2	8.5	6.4	50%	38%	76%		1.31	6.4	6.3	242			23	12,998			1,235			13,684	10,065	1,127				
6/30/2009	TRUE	TRUE		3.4	8.1	6.5	52%	42%	79%		1.26	6.4	6.3	250	145	0.58		13,457	7,805					13,670	9,613	1,127				
7/1/2009	TRUE	TRUE		3.4	8.2	6.4	53%	41%	78%		1.27	6.4	6.3											13,670	9,613	1,127				
7/2/2009	TRUE	TRUE		3.4	8.1	6.3	53%	42%	79%		1.27	6.4	6.3	274	197	0.72														

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
7/4/2009	TRUE	TRUE		2.7	7.7	5.4	49%	35%	71%		1.41	6.3	6.1									13,609	9,745	1,127				13,609	9,745	1,127
7/5/2009	TRUE	TRUE		2.4	7.7	5.8	41%	31%	75%		1.34	6.3	6.1									13,257	9,745	1,127				13,257	9,745	1,127
7/6/2009	TRUE	TRUE		3.0	8.3	6.4	47%	36%	77%		1.30	6.3	6.1	239				12,693				13,220	9,745	1,119	12,693			13,220	9,745	1,119
7/7/2009	TRUE	TRUE		3.4	8.1	6.3	54%	42%	78%		1.28	6.3	6.1	213	167	0.78		11,252	8,822			13,097	9,613	1,119	11,252	8,822		13,097	9,613	1,119
7/8/2009	TRUE	TRUE		3.3	8.0	6.3	53%	42%	79%		1.27	6.3	6.1									13,071	9,613	1,119				13,071	9,613	1,119
7/9/2009	TRUE	TRUE		3.5	8.0	6.2	56%	44%	78%		1.28	6.3	6.1				21					13,071	9,613	1,110			1,074	13,071	9,613	1,110
7/10/2009	TRUE	TRUE		3.3	8.3	6.3	53%	40%	76%		1.32	6.3	6.1	333	224	0.67		17,463	11,747			13,409	9,880	1,110	17,463	11,747		13,409	9,880	1,110
7/11/2009	TRUE	TRUE		2.7	8.1	5.9	45%	33%	73%		1.37	6.2	6.1									13,409	9,880	1,110				13,409	9,880	1,110
7/12/2009	TRUE	TRUE		2.5	8.0	5.9	42%	31%	74%		1.36	6.2	6.1									13,390	9,769	1,110				13,390	9,769	1,110
7/13/2009	TRUE	TRUE		2.8	8.3	6.3	45%	34%	76%		1.32	6.2	6.2	215				11,236				13,157	9,769	1,123	11,236			13,157	9,769	1,123
7/14/2009	TRUE	TRUE		3.2	7.9	6.4	50%	40%	81%		1.23	6.2	6.2	200	174	0.87		10,732	9,337			12,995	9,715	1,123	10,732	9,337		12,995	9,715	1,123
7/15/2009	TRUE	TRUE		3.2	8.1	6.4	50%	39%	79%		1.26	6.2	6.2									12,995	9,715	1,123				12,995	9,715	1,123
7/16/2009	TRUE	TRUE		3.2	7.9	6.5	49%	40%	82%		1.22	6.2	6.2	262			21	14,194				13,092	9,715	1,123	14,194		1,125	13,092	9,715	1,123
7/17/2009	TRUE	TRUE		3.2	8.1	6.2	52%	40%	77%		1.30	6.2	6.2	231	176	0.76		11,964	9,115			13,022	9,470	1,123	11,964	9,115		13,022	9,470	1,123
7/18/2009	TRUE	TRUE		2.8	8.1	5.9	48%	35%	73%		1.38	6.2	6.2									12,949	9,470	1,123				12,949	9,470	1,123
7/19/2009	TRUE	TRUE		2.5	8.0	5.8	43%	31%	73%		1.37	6.2	6.2									12,897	9,404	1,144				12,897	9,404	1,144
7/20/2009	TRUE	TRUE		3.0	8.6	6.4	46%	35%	75%		1.33	6.2	6.2	232				12,426				12,889	9,404	1,144	12,426			12,889	9,404	1,144
7/21/2009	TRUE	TRUE		3.2	8.2	6.4	50%	40%	79%		1.27	6.2	6.3	92				4,934				12,359	9,404	1,144	4,934			12,359	9,404	1,144
7/22/2009	TRUE	TRUE		3.2	8.3	6.4	50%	39%	78%		1.29	6.2	6.3									12,359	9,404	1,144				12,359	9,404	1,144
7/23/2009	TRUE	TRUE		2.9	8.1	6.3	45%	35%	78%		1.28	6.2	6.3									12,357	9,404	1,144				12,357	9,404	1,144
7/24/2009	TRUE	TRUE		3.4	8.4	6.3	54%	40%	75%		1.33	6.2	6.2	207	186	0.90		10,866	9,764			12,496	9,571	1,144	10,866	9,764		12,496	9,571	1,144
7/25/2009	TRUE	TRUE		2.8	8.0	6.0	47%	35%	75%		1.33	6.2	6.2									12,496	9,571	1,144				12,496	9,571	1,144
7/26/2009	TRUE	TRUE		2.4	8.0	5.9	41%	30%	74%		1.35	6.2	6.2									12,496	9,571	1,145				12,496	9,571	1,145
7/27/2009	TRUE	TRUE		2.8	8.3	6.3	44%	34%	76%		1.31	6.2	6.3	179				9,435				12,009	9,571	1,145	9,435			12,009	9,571	1,145
7/28/2009	TRUE	TRUE		2.6	8.3	6.4	40%	31%	77%		1.29	6.2	6.3	212	113	0.53		11,351	6,050			11,965	9,131	1,145	11,351	6,050		11,965	9,131	1,145
7/29/2009	TRUE	TRUE		3.3	8.2	6.5	51%	40%	79%		1.27	6.2	6.3	185				9,983				11,841	9,131	1,145	9,983			11,841	9,131	1,145
7/30/2009	TRUE	TRUE		3.4	8.2	6.7	51%	41%	82%		1.22	6.2	6.3				19					11,764	9,131	1,090			1,072	11,764	9,131	1,090
7/31/2009	TRUE	TRUE		3.3	8.2	6.2	53%	40%	76%		1.32	6.2	6.3		179							11,643	9,310	1,090		9,238		11,643	9,310	1,090
8/1/2009	TRUE	TRUE		2.7	8.2	5.9	46%	33%	72%		1.38	6.2	6.2									11,643	9,310	1,090				11,643	9,310	1,090
8/2/2009	TRUE	TRUE		2.7	8.2	6.1	45%	33%	75%		1.34	6.2	6.3									11,425	9,153	1,090				11,425	9,153	1,090
8/3/2009	TRUE	TRUE		3.2	8.4	6.5	49%	38%	77%		1.30	6.2	6.3									11,425	9,153	1,090				11,425	9,153	1,090
8/4/2009	TRUE	TRUE		3.4	8.4	6.5	52%	40%	77%		1.29	6.2	6.4	206	154	0.75		11,208	8,379			11,410	9,056	1,090	11,208	8,379		11,410	9,056	1,090
8/5/2009	TRUE	TRUE		3.4	8.6	6.5	53%	40%	75%		1.33	6.3	6.4									11,410	9,056	1,090				11,410	9,056	1,090
8/6/2009	TRUE	TRUE		3.5	8.1	6.5	53%	43%	80%		1.25	6.3	6.4	269	183	0.68		14,645	9,963			11,549	9,157	1,090	14,645	9,963		11,549	9,157	1,090
8/7/2009	TRUE	TRUE		3.4	8.6	6.5	52%	40%	75%		1.33	6.3	6.3									11,572	9,199	1,090				11,572	9,199	1,090
8/8/2009	TRUE	TRUE		3.0	8.4	6.2	48%	36%	74%		1.35	6.3	6.3									11,572	9,199	1,090				11,572	9,199	1,090
8/9/2009	TRUE	TRUE		2.5	8.3	6.1	41%	30%	74%		1.36	6.3	6.4									11,572	9,199	1,098				11,572	9,199	1,098
8/10/2009	TRUE	TRUE		3.1	8.5	6.5	48%	37%	77%		1.30	6.3	6.4	172				9,359				10,949	8,835	1,098	9,359			10,949	8,835	1,098
8/11/2009	TRUE	TRUE		3.5	8.5	6.7	52%	41%	79%		1.27	6.3	6.5	209	127	0.61		11,745	7,137			11,005	8,623	1,098	11,745	7,137		11,005	8,623	1,098
8/12/2009	TRUE	TRUE		3.4	8.7	6.6	52%	39%	76%		1.32	6.3	6.5									11,005	8,623	1,098				11,005	8,623	1,098
8/13/2009	TRUE	TRUE		3.4	8.4	6.6	52%	41%	79%		1.27	6.3	6.5	237	165	0.70	21	13,045	9,082	1,154		11,135	8,674	1,117	13,045	9,082	1,154	11,135	8,674	1,117
8/14/2009	TRUE	TRUE		3.3	8.2	6.4	52%	40%	78%		1.29	6.3	6.5	240								11,281	8,591	1,117	12,782			11,281	8,591	1,117
8/15/2009	TRUE	TRUE		2.7	8.6	6.3	44%	32%	73%		1.37	6.3	6.4									11,281	8,591	1,117				11,281	8,591	1,117
8/16/2009	TRUE	TRUE		2.5	8.7	6.4	40%	29%	73%		1.37	6.3	6.5									11,057	8,591	1,113				11,057	8,591	1,113
8/17/2009	TRUE	TRUE		3.2	8.7	6.8	47%	37%	78%		1.28	6.3	6.5	172								10,885	8,516	1,113	9,723			10,885	8,516	1,113
8/18/2009	TRUE	TRUE		3.4	8.8	6.8	50%	39%	78%		1.29	6.4	6.6	218	135	0.62		12,429	7,697			10,995	8,414	1,113	12,429	7,697		10,995	8,414	1,113
8/19/2009	TRUE	TRUE		3.4	9.1	6.8	51%	38%	74%		1.34	6.4	6.6									10,995	8,414	1,113				10,995	8,414	1,113
8/20/2009	TRUE	TRUE		3.6	8.9	6.9	52%	41%	78%		1.28	6.4	6.6	198			19	11,416				10,923	8,414	1,111	11,416		1,108	10,923	8,414	1,111
8/21/2009	TRUE	TRUE		3.0	8.7	6.9	44%	35%	80%		1.25	6.4	6.7	203								11,409	8,414	1,111	11,743			11,409	8,414	1,111
8/22/2009	TRUE	TRUE		3.0	9.5	6.8	44%	32%	72%		1.40	6.5	6.7									11,409	8,414	1,111				11,409	8,414	1,111
8/23/2009	TRUE	TRUE		2.8	9.6	6.9	40%	29%	72%		1.39	6.5	6.8									11,409	8,414	1,111				11,409	8,414	1,111
8/24/2009	TRUE	TRUE		3.2	9.3	7.1	45%	34%	76%		1.31	6.5	6.9	216				12,815				11,548	8,221	1,111	12,815			11,548	8,221	1,111
8/25/2009	FALSE	FALSE		3.5	9.4	7.1																								

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
9/6/2009	FALSE	FALSE		2.7	9.6	6.6	41%	28%	68%		1.46	6.8	7.0									12,088	8,686	1,357				12,088	8,686	1,357
9/7/2009	FALSE	FALSE		2.6	9.7	6.9	38%	27%	71%		1.41	6.8	7.0									12,088	8,686	1,357				12,088	8,686	1,357
9/8/2009	FALSE	FALSE		3.2	9.1	7.1	45%	35%	78%		1.28	6.8	6.9	207	161	0.78		12,292	9,560			12,100	8,811	1,357	12,292	9,560		12,100	8,811	1,357
9/9/2009	FALSE	FALSE		3.5	9.0	7.1	49%	39%	79%		1.26	6.9	7.0									12,100	8,811	1,357				12,100	8,811	1,357
9/10/2009	FALSE	FALSE		3.5	9.1	7.1	49%	38%	78%		1.28	6.9	7.0	228			22	13,501		1,274		12,344	8,811	1,341	13,501		1,274	12,344	8,811	1,341
9/11/2009	FALSE	FALSE		3.5	9.1	7.0	50%	38%	77%		1.30	6.9	7.0	216								12,395	9,090	1,341	12,610			12,395	9,090	1,341
9/12/2009	FALSE	FALSE		3.3	9.5	6.8	49%	35%	72%		1.40	6.9	6.9									12,395	9,090	1,341				12,395	9,090	1,341
9/13/2009	FALSE	FALSE		3.2	9.9	7.1	45%	32%	71%		1.40	6.9	7.0									12,354	9,092	1,387				12,354	9,092	1,387
9/14/2009	FALSE	FALSE		3.5	9.3	7.5	46%	37%	81%		1.23	6.9	7.1									12,325	9,092	1,387				12,325	9,092	1,387
9/15/2009	FALSE	FALSE		3.7	9.3	7.4	50%	40%	79%		1.26	7.0	7.1	237	201	0.85	19	14,619	12,398	1,189		12,469	9,643	1,348	14,619	12,398	1,189	12,469	9,643	1,348
9/16/2009	FALSE	FALSE		3.9	9.5	7.3	53%	41%	77%		1.30	7.0	7.2									12,469	9,643	1,348				12,469	9,643	1,348
9/17/2009	FALSE	FALSE		3.0	9.0	7.3	41%	33%	81%		1.23	7.0	7.2									12,652	9,643	1,348				12,652	9,643	1,348
9/18/2009	FALSE	FALSE		3.0	9.0	7.3	41%	33%	81%		1.23	7.0	7.2	242								12,805	10,032	1,348	14,733			12,805	10,032	1,348
9/19/2009	FALSE	FALSE		3.0	9.0	7.3	41%	33%	81%		1.23	7.1	7.2									12,805	10,032	1,348				12,805	10,032	1,348
9/20/2009	FALSE	FALSE		3.0	9.0	6.8	44%	33%	75%		1.33	7.1	7.2									12,905	10,032	1,408				12,905	10,032	1,408
9/21/2009	FALSE	FALSE		3.0	9.2	7.2	42%	33%	78%		1.28	7.1	7.3	215								12,992	10,032	1,408	12,971			12,992	10,032	1,408
9/22/2009	FALSE	FALSE		3.4	9.4	7.0	48%	36%	75%		1.33	7.1	7.2	220	181	0.82		12,891	10,606			12,986	10,128	1,408	12,891	10,606		12,986	10,128	1,408
9/23/2009	FALSE	FALSE		3.4	9.4	7.0	49%	36%	74%		1.34	7.1	7.2									12,986	10,128	1,408				12,986	10,128	1,408
9/24/2009	FALSE	FALSE		3.4	9.2	7.1	48%	37%	77%		1.30	7.1	7.1				22					12,998	10,128	1,383			1,285	12,998	10,128	1,383
9/25/2009	FALSE	FALSE		3.5	9.4	6.8	51%	37%	73%		1.37	7.1	7.1		188							13,041	10,462	1,383	10,712			13,041	10,462	1,383
9/26/2009	FALSE	FALSE		2.9	9.3	6.7	44%	32%	72%		1.40	7.1	7.0									13,041	10,462	1,383				13,041	10,462	1,383
9/27/2009	FALSE	FALSE		2.5	9.3	6.7	37%	27%	72%		1.39	7.0	6.9									13,079	10,462	1,427				13,079	10,462	1,427
9/28/2009	FALSE	FALSE		3.3	9.2	7.2	45%	35%	78%		1.29	7.0	7.0	195								12,954	10,462	1,427	11,641			12,954	10,462	1,427
9/29/2009	FALSE	FALSE		3.3	9.2	7.1	46%	36%	78%		1.29	7.1	7.0	165	126	0.76		9,834	7,509			12,714	10,040	1,427	9,834	7,509		12,714	10,040	1,427
9/30/2009	FALSE	FALSE		3.3	9.2	7.3	46%	36%	79%		1.26	7.1	7.0									12,714	10,040	1,427				12,714	10,040	1,427
10/1/2009	FALSE	FALSE		3.2	8.8	7.1	45%	36%	80%		1.25	7.1	7.0	288			24	17,025		1,438		12,961	10,040	1,429	17,025		1,438	12,961	10,040	1,429
10/2/2009	FALSE	FALSE		3.4	8.8	7.2	47%	39%	82%		1.22	7.1	7.0	208	170	0.82		12,466	10,188			13,068	10,217	1,429	12,466	10,188		13,068	10,217	1,429
10/3/2009	FALSE	FALSE		3.1	9.4	6.6	47%	33%	70%		1.43	7.1	7.0									13,068	10,217	1,429				13,068	10,217	1,429
10/4/2009	FALSE	FALSE		1.4	7.8	6.8	21%	19%	88%	MiniAvg	1.14	7.1	7.0									13,051	10,217	1,296				13,051	10,217	1,296
10/5/2009	FALSE	FALSE		2.8	9.4	7.0	40%	30%	75%		1.34	7.0	7.1	217								13,102	10,162	1,296	12,636			13,102	10,162	1,296
10/6/2009	FALSE	FALSE		3.1	9.0	7.2	43%	34%	79%		1.26	7.1	7.1	212	131	0.62		12,681	7,836			13,069	9,830	1,296	12,681	7,836		13,069	9,830	1,296
10/7/2009	FALSE	FALSE		3.1	9.0	7.1	44%	35%	79%		1.27	7.1	7.1				20					13,069	9,830	1,271			1,170	13,069	9,830	1,271
10/8/2009	FALSE	FALSE		3.3	9.4	7.2	46%	35%	77%		1.30	7.1	7.0	215								13,057	9,830	1,271	12,896			13,057	9,830	1,271
10/9/2009	FALSE	FALSE		3.3	9.2	7.0	46%	35%	76%		1.31	7.1	7.0	199								13,011	9,875	1,271	11,647			13,011	9,875	1,271
10/10/2009	FALSE	FALSE		3.3	9.8	6.8	48%	33%	70%		1.43	7.1	7.0									13,011	9,875	1,271				13,011	9,875	1,271
10/11/2009	FALSE	FALSE		2.7	9.3	6.8	39%	29%	74%		1.36	7.1	7.0									12,973	9,875	1,270				12,973	9,875	1,270
10/12/2009	FALSE	FALSE		3.0	9.6	7.4	40%	31%	77%		1.30	7.1	7.1	343								13,003	9,875	1,270	21,123			13,003	9,875	1,270
10/13/2009	FALSE	FALSE		3.4	10.0	8.3	41%	34%	83%		1.21	7.1	7.2	228	175	0.77		15,714	12,061			13,212	10,187	1,270	15,714	12,061		13,212	10,187	1,270
10/14/2009	FALSE	FALSE		4.2	9.8	8.3	51%	43%	85%		1.18	7.2	7.4									13,212	10,187	1,270				13,212	10,187	1,270
10/15/2009	FALSE	FALSE		4.1	9.6	7.6	54%	42%	79%		1.27	7.2	7.4	213			19	13,423		1,175		13,227	10,187	1,251	13,423		1,175	13,227	10,187	1,251
10/16/2009	FALSE	FALSE		3.7	8.9	7.4	50%	42%	83%		1.21	7.2	7.4	183	183	1.00		11,251	11,251			12,986	10,023	1,267	11,251	11,251		12,986	10,023	1,267
10/17/2009	FALSE	FALSE		3.5	9.4	7.1	49%	37%	76%		1.32	7.2	7.5									12,986	10,023	1,267				12,986	10,023	1,267
10/18/2009	FALSE	FALSE		3.3	10.0	7.4	44%	33%	74%		1.35	7.2	7.5									12,986	10,023	1,267				12,986	10,023	1,267
10/19/2009	FALSE	FALSE		3.3	9.6	6.8	48%	34%	71%		1.41	7.1	7.5	190								12,704	10,023	1,267	10,775			12,704	10,023	1,267
10/20/2009	FALSE	FALSE		3.5	9.4	6.2	57%	37%	66%		1.51	7.1	7.4	221	188	0.85		11,464	9,752			12,621	9,990	1,267	11,464	9,752		12,621	9,990	1,267
10/21/2009	FALSE	FALSE		3.3	9.6	7.0	47%	35%	73%		1.37	7.1	7.2				19					12,621	9,990	1,241			1,139	12,621	9,990	1,241
10/22/2009	FALSE	FALSE		3.4	9.5	7.0	48%	35%	74%		1.36	7.1	7.1									12,596	9,990	1,241				12,596	9,990	1,241
10/23/2009	FALSE	FALSE		3.4	9.3	7.0	49%	37%	75%		1.33	7.1	7.0	279	241	0.86		16,200	13,993			12,832	10,413	1,241	16,200	13,993		12,832	10,413	1,241
10/24/2009	FALSE	FALSE		3.2	9.2	6.9	46%	35%	75%		1.33	7.1	6.9									12,832	10,413	1,241				12,832	10,413	1,241
10/25/2009	FALSE	FALSE		3.0	9.4	6.9	43%	31%	73%		1.37	7.1	6.9									12,832	10,413	1,230				12,832	10,413	1,230
10/26/2009	FALSE	FALSE		3.2	9.5	7.2	44%	34%	76%		1.31	7.1	6.9	260								13,022	10,370	1,230	15,673			13,022	10,370	1,230
10/27/2009	FALSE	FALSE		3.5	9.7	7.6	46%	36%	79%		1.27	7.1	7.0	201								13,006	10,370	1,230	12,767			13,006	10,	

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
11/9/2009	FALSE	FALSE		2.8	8.8	7.2	39%	32%	82%		1.22	7.1	7.0	205				12,289				13,694	11,747	1,229	12,289			13,694	11,747	1,229
11/10/2009	FALSE	FALSE		2.8	9.4	6.9	41%	30%	73%		1.36	7.1	7.0	279	192	0.69	22	16,039	11,038	1,270		13,861	11,658	1,237	16,039	11,038	1,270	13,861	11,658	1,237
11/11/2009	FALSE	FALSE		3.3	9.7	7.3	46%	35%	75%		1.33	7.1	7.0									13,861	11,658	1,237				13,861	11,658	1,237
11/12/2009	FALSE	FALSE		3.4	10.4	6.3	53%	32%	61%		1.64	7.1	6.9									13,719	11,601	1,237				13,719	11,601	1,237
11/13/2009	FALSE	FALSE		3.4	8.8	6.6	51%	38%	75%		1.33	7.0	6.9									13,719	11,601	1,237				13,719	11,601	1,237
11/14/2009	FALSE	FALSE		2.8	9.6	6.8	41%	29%	71%		1.40	7.0	6.9									13,719	11,601	1,237				13,719	11,601	1,237
11/15/2009	FALSE	FALSE		2.6	9.3	6.9	39%	28%	74%		1.36	7.0	6.9									13,743	11,601	1,253				13,743	11,601	1,253
11/16/2009	FALSE	FALSE		3.0	8.9	7.1	42%	33%	79%		1.26	7.0	6.9	277	229	0.83		16,398	13,556			14,172	11,930	1,253	16,398	13,556		14,172	11,930	1,253
11/17/2009	FALSE	FALSE		3.0	9.3	7.3	42%	33%	78%		1.28	7.0	6.9									14,172	11,930	1,253				14,172	11,930	1,253
11/18/2009	FALSE	FALSE		3.3	9.2	7.4	45%	36%	81%		1.24	7.0	7.0									14,172	11,930	1,253				14,172	11,930	1,253
11/19/2009	FALSE	FALSE		3.2	8.9	7.2	44%	36%	81%		1.24	7.0	7.0	294			21	17,659		1,269		14,746	11,930	1,256	17,659		1,269	14,746	11,930	1,256
11/20/2009	FALSE	TRUE		3.3	9.4	7.3	46%	35%	77%		1.30	7.0	7.1	220				13,304				14,899	12,293	1,256	13,304			14,899	12,293	1,256
11/21/2009	FALSE	TRUE		3.4	9.5	6.9	49%	36%	73%		1.37	7.0	7.1									14,899	12,293	1,285				14,899	12,293	1,285
11/22/2009	FALSE	TRUE		3.2	8.9	6.7	47%	36%	75%		1.33	7.0	7.1									14,899	12,293	1,285				14,899	12,293	1,285
11/23/2009	FALSE	TRUE		2.9	8.6	6.9	43%	34%	80%		1.25	7.0	7.1	216				12,394				14,582	11,953	1,285	12,394			14,582	11,953	1,285
11/24/2009	FALSE	TRUE		3.1	8.3	6.6	48%	38%	79%		1.26	7.0	7.0	235	203	0.86	19	12,855	11,105	1,050		14,449	11,812	1,238	12,855	11,105	1,050	14,449	11,812	1,238
11/25/2009	TRUE	TRUE		3.2	8.6	6.6	48%	37%	77%		1.30	7.0	7.0									14,449	11,812	1,238				14,449	11,812	1,238
11/26/2009	TRUE	TRUE		2.9	8.8	5.7	50%	33%	65%		1.53	6.9	6.7									14,347	11,812	1,238				14,347	11,812	1,238
11/27/2009	TRUE	TRUE		3.2	8.3	6.2	52%	39%	74%		1.35	6.9	6.6									14,491	11,812	1,238				14,491	11,812	1,238
11/28/2009	TRUE	TRUE		2.8	9.0	5.9	48%	31%	65%		1.53	6.9	6.4									14,491	11,812	1,238				14,491	11,812	1,238
11/29/2009	TRUE	TRUE		2.8	9.1	7.1	40%	31%	78%		1.29	6.9	6.5									14,491	11,812	1,256				14,491	11,812	1,256
11/30/2009	TRUE	TRUE		2.8	9.0	7.1	40%	31%	78%		1.27	6.9	6.5									14,176	11,610	1,256				14,176	11,610	1,256
12/1/2009	FALSE	FALSE		3.2	9.1	7.0	45%	35%	78%		1.29	6.9	6.5	228	205	0.90		13,387	12,036			14,104	11,681	1,256	13,387	12,036		14,104	11,681	1,256
12/2/2009	FALSE	FALSE		3.1	9.6	7.5	41%	32%	78%		1.28	6.9	6.6				22					14,104	11,681	1,279				14,104	11,681	1,279
12/3/2009	FALSE	FALSE		3.1	9.6	6.9	45%	32%	72%		1.39	6.9	6.7	228				13,100				14,080	11,681	1,279	13,100			14,080	11,681	1,279
12/4/2009	FALSE	FALSE		3.1	8.9	6.9	45%	35%	77%		1.30	6.9	6.8	242	219	0.90		13,825	12,511			14,114	12,027	1,279	13,825	12,511		14,114	12,027	1,279
12/5/2009	FALSE	FALSE		3.2	9.7	6.8	47%	33%	70%		1.42	6.9	6.9									14,114	12,027	1,279				14,114	12,027	1,279
12/6/2009	FALSE	FALSE		3.1	10.1	6.8	46%	31%	67%		1.49	6.9	7.0									14,114	12,027	1,240				14,114	12,027	1,240
12/7/2009	FALSE	FALSE		3.0	8.9	7.2	41%	33%	81%		1.24	6.9	7.0	220				13,196				14,040	12,049	1,240	13,196			14,040	12,049	1,240
12/8/2009	FALSE	FALSE		3.2	8.5	7.0	46%	37%	82%		1.22	6.9	7.0	205	195	0.95		11,944	11,361			13,866	11,935	1,240	11,944	11,361		13,866	11,935	1,240
12/9/2009	FALSE	FALSE		3.3	8.7	7.2	47%	38%	82%		1.22	6.9	7.0									13,866	11,935	1,240				13,866	11,935	1,240
12/10/2009	FALSE	FALSE		3.4	8.6	7.1	47%	39%	82%		1.21	6.9	7.0	254			22	15,036		1,316		14,095	11,935	1,255	15,036		1,316	14,095	11,935	1,255
12/11/2009	FALSE	FALSE		3.4	8.7	7.7	44%	39%	89%		1.12	6.9	7.1	241				15,553				14,054	12,114	1,252	15,553			14,054	12,114	1,252
12/12/2009	FALSE	FALSE				6.5	0%				0.00	6.9	7.0									14,054	12,114	1,252				14,054	12,114	1,252
12/13/2009	FALSE	FALSE				7.6	0%				0.00	6.9	7.1									14,054	12,114	1,252				14,054	12,114	1,252
12/14/2009	FALSE	FALSE		4.3	9.9	8.3	51%	43%	84%		1.19	7.0	7.3	160				11,102				13,827	12,114	1,252	11,102			13,827	12,114	1,252
12/15/2009	FALSE	FALSE		4.3	9.5	7.7	56%	45%	81%		1.24	7.0	7.4	261	181	0.69		16,763	11,625			14,037	12,032	1,252	16,763	11,625		14,037	12,032	1,252
12/16/2009	FALSE	FALSE		4.5	10.1	8.4	54%	45%	83%		1.21	7.0	7.6									14,037	12,032	1,252				14,037	12,032	1,252
12/17/2009	FALSE	FALSE		4.2	9.9	8.1	53%	43%	82%		1.22	7.1	7.7	227			18	15,289		1,185		13,958	11,728	1,238	15,289		1,185	13,958	11,728	1,238
12/18/2009	TRUE	TRUE		4.1	9.3	7.5	55%	44%	80%		1.25	7.1	7.7	193	190	0.98		12,000	11,813			13,827	11,742	1,238	12,000	11,813		13,827	11,742	1,238
12/19/2009	TRUE	TRUE		3.6	9.5	6.9	52%	38%	73%		1.37	7.1	7.6									13,827	11,742	1,238				13,827	11,742	1,238
12/20/2009	TRUE	TRUE		3.4	9.1	6.7	51%	38%	74%		1.34	7.1	7.6	260				14,615				13,624	11,742	1,231	14,615			13,624	11,742	1,231
12/21/2009	TRUE	TRUE		3.5	9.2	7.3	49%	38%	79%		1.26	7.1	7.6									13,647	11,742	1,231				13,647	11,742	1,231
12/22/2009	TRUE	TRUE		3.7	9.0	7.0	52%	40%	78%		1.28	7.1	7.4	238			19	13,986		1,094		13,670	11,742	1,203	13,986		1,094	13,670	11,742	1,203
12/23/2009	TRUE	TRUE		3.5	8.7	7.1	49%	40%	82%		1.21	7.1	7.4	244	193	0.79		14,509	11,477			13,722	11,704	1,203	14,509	11,477		13,722	11,704	1,203
12/24/2009	TRUE	TRUE		3.3	10.0	5.9	56%	33%	59%		1.70	7.0	7.1									13,811	11,704	1,203				13,811	11,704	1,203
12/25/2009	TRUE	TRUE		2.5	8.5	5.4	47%	30%	64%		1.57	7.0	6.7									13,879	11,804	1,242				13,879	11,804	1,242
12/26/2009	TRUE	TRUE		2.8	10.1	5.7	50%	28%	57%		1.77	7.0	6.5									13,879	11,804	1,242				13,879	11,804	1,242
12/27/2009	TRUE	TRUE		3.0	8.1	6.5	47%	37%	80%		1.24	7.0	6.5									13,879	11,804	1,242				13,879	11,804	1,242
12/28/2009	TRUE	TRUE		3.1	8.1	6.6	47%	38%	81%		1.23	7.0	6.4									13,879	11,804	1,242				13,879	11,804	1,242
12/29/2009	TRUE	TRUE		3.4	7.8	6.7	50%	44%	86%		1.16	7.0	6.4		193			10,849				13,879	11,667	1,242	10,849			13,879	11,667	1,242
12/30/2009	TRUE	TRUE		3.6	8.3	6.7	54%	43%	80%		1.25	7.0	6.3	221				12,25												

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
1/12/2010	TRUE	TRUE	TRUE	4.2	8.7	7.8	54%	48%	90%		1.11	6.9	6.8	198	177	0.89		12,908	11,539			13,449	11,380	1,127	12,908	11,539		13,449	11,380	1,127
1/13/2010	TRUE	TRUE	TRUE	5.3	9.3	7.7	68%	57%	83%		1.20	6.9	6.9									13,449	11,380	1,127				13,449	11,380	1,127
1/14/2010	TRUE	TRUE	FALSE	4.4	9.1	7.5	59%	49%	83%		1.20	6.9	7.0	167	173	1.04		10,510	10,888			13,409	11,318	1,127	10,510	10,888		13,409	11,318	1,127
1/15/2010	TRUE	TRUE	FALSE	4.0	8.7	7.3	54%	46%	85%		1.18	6.8	7.1	228				13,936				13,221	11,274	1,127	13,936			13,221	11,274	1,127
1/16/2010	TRUE	TRUE	TRUE	3.8	9.3	6.9	55%	41%	74%		1.35	6.8	7.2									13,221	11,274	1,127				13,221	11,274	1,127
1/17/2010	TRUE	TRUE	TRUE	4.1	11.1	8.3	49%	37%	76%		1.32	6.8	7.4									13,073	11,274	1,113				13,073	11,274	1,113
1/18/2010	TRUE	TRUE	TRUE	6.4	14.0	11.1	57%	46%	80%		1.25	6.9	8.0									13,155	11,184	1,113				13,155	11,184	1,113
1/19/2010	TRUE	TRUE	TRUE	7.2	13.7	11.9	60%	53%	87%		1.14	7.1	8.6	258				25,670			TSS	13,155	11,184	1,113	25,670			13,155	11,184	1,113
1/20/2010	TRUE	TRUE	TRUE	8.5	14.6	12.4	69%	59%	85%		1.17	7.3	9.2	123				12,757				13,012	11,184	1,113	12,757			13,012	11,184	1,113
1/21/2010	TRUE	TRUE	TRUE	8.5	13.3	11.9	71%	64%	90%		1.12	7.4	9.7	114			11	11,297		1,061		12,890	11,184	1,103	11,297		1,061	12,890	11,184	1,103
1/22/2010	TRUE	TRUE	FALSE	7.7	13.3	10.8	71%	58%	81%		1.23	7.5	10.1	155	138	0.89		13,987	12,453			12,890	11,366	1,105	13,987	12,453		12,890	11,366	1,105
1/23/2010	TRUE	TRUE	TRUE	4.5	12.2	9.1	50%	37%	74%		1.35	7.6	10.3									12,765	11,347	1,105				12,765	11,347	1,105
1/24/2010	TRUE	TRUE	TRUE	5.5	12.0	9.2	59%	46%	77%		1.30	7.7	10.6									12,765	11,347	1,105				12,765	11,347	1,105
1/25/2010	TRUE	TRUE	TRUE	5.8	14.6	12.1	48%	40%	83%		1.21	7.9	11.1	190				19,197				13,225	11,347	1,105	19,197			13,225	11,347	1,105
1/26/2010	FALSE	FALSE	TRUE	8.7	13.7	11.5	76%	64%	84%		1.20	8.1	11.1	171	135	0.79		16,331	12,893			13,432	11,568	1,105	16,331	12,893		13,432	11,568	1,105
1/27/2010	FALSE	FALSE	FALSE	6.3	11.6	9.1	70%	54%	78%		1.28	8.2	10.8									13,432	11,568	1,105				13,432	11,568	1,105
1/28/2010	FALSE	FALSE	FALSE	6.0	11.7	9.9	61%	51%	84%		1.18	8.3	10.4				11	13,432		911		13,432	11,568	1,066			911	13,432	11,568	1,066
1/29/2010	FALSE	FALSE	FALSE	5.8	10.8	9.5	61%	54%	88%		1.14	8.4	10.1	223	176	0.79		17,622	13,908			13,694	12,005	1,066	17,622	13,908		13,694	12,005	1,066
1/30/2010	FALSE	FALSE	TRUE	5.8	11.7	9.4	62%	50%	80%		1.25	8.5	10.0									13,790	12,005	1,066				13,790	12,005	1,066
1/31/2010	FALSE	FALSE	FALSE	5.1	11.4	9.2	56%	45%	81%		1.24	8.6	10.0					19,425				13,830	12,005	1,074				13,830	12,005	1,074
2/1/2010	FALSE	FALSE	TRUE	5.2	10.7	9.1	58%	49%	85%		1.18	8.6	10.0	257				19,425				14,203	12,005	1,074	19,425			14,203	12,005	1,074
2/2/2010	FALSE	FALSE	TRUE	5.1	10.7	8.6	60%	48%	80%		1.25	8.7	9.5	165	178	1.08		11,786	12,715			14,052	12,094	1,074	14,052	12,715		14,052	12,094	1,074
2/3/2010	FALSE	FALSE	TRUE			7.4	0%				1.00	8.7	9.0									14,052	12,094	1,074				14,052	12,094	1,074
2/4/2010	FALSE	FALSE	TRUE	4.5	11.1	9.2	49%	41%	83%		1.20	8.8	9.0	197			15	15,101		1,153		14,181	12,094	1,090	15,101		1,153	14,181	12,094	1,090
2/5/2010	FALSE	FALSE	TRUE	6.9	14.6	10.3	67%	47%	71%		1.42	8.9	9.1	225	187	0.83		19,317	16,054			14,579	12,676	1,090	19,317	16,054		14,579	12,676	1,090
2/6/2010	FALSE	FALSE	TRUE	7.1	13.5	11.0	64%	52%	82%		1.23	9.1	9.3					14,579				14,579	12,676	1,090				14,579	12,676	1,090
2/7/2010	FALSE	FALSE	TRUE	6.8	12.1	10.0	68%	56%	83%		1.21	9.2	9.3					14,539				14,539	12,676	1,080				14,539	12,676	1,080
2/8/2010	FALSE	FALSE	TRUE	5.9	11.3	10.0	59%	52%	88%		1.13	9.3	9.4	159				13,261				14,566	12,921	1,080	13,261			14,566	12,921	1,080
2/9/2010	FALSE	FALSE	TRUE	4.9	14.0	9.3	52%	35%	67%		1.50	9.4	9.5	154	132	0.86		11,945	10,238			14,402	12,586	1,080	11,945	10,238		14,402	12,586	1,080
2/10/2010	FALSE	FALSE	FALSE	6.3	12.2	9.2	69%	52%	75%		1.33	9.5	9.6				9					14,402	12,586	995			657	14,402	12,586	995
2/11/2010	FALSE	FALSE	FALSE	4.7	12.0	9.1	51%	39%	76%		1.32	9.5	9.8	275	196	0.71		20,871	14,875			14,625	12,586	946	20,871	14,875		14,625	12,586	946
2/12/2010	FALSE	FALSE	TRUE	6.7	10.0	8.3	80%	67%	83%	MinMax	1.20	9.6	9.8	209				14,457				14,729	12,735	946	14,457			14,729	12,735	946
2/13/2010	FALSE	FALSE	FALSE	6.1	9.2	9.7	63%	66%	106%	MinMax	0.94	9.7	9.8									14,729	12,735	946				14,729	12,735	946
2/14/2010	FALSE	FALSE	FALSE	5.4	9.2	7.6	71%	59%	83%		1.21	9.7	9.2									15,030	13,043	946				15,030	13,043	946
2/15/2010	FALSE	FALSE	FALSE	4.6	10.1	6.8	68%	46%	68%		1.47	9.7	8.7									15,114	13,043	946				15,114	13,043	946
2/16/2010	FALSE	FALSE	FALSE	5.2	9.9	8.2	63%	53%	84%		1.20	9.7	8.4	193				13,270				14,982	13,043	946	13,270			14,982	13,043	946
2/17/2010	FALSE	FALSE	FALSE	4.9	9.5	7.0	69%	51%	74%		1.35	9.7	8.0									14,982	13,043	946				14,982	13,043	946
2/18/2010	FALSE	FALSE	FALSE	4.8	11.3	7.7	62%	43%	68%		1.46	9.5	7.7	308			14	19,841		923		15,306	13,043	941	19,841		923	15,306	13,043	941
2/19/2010	FALSE	FALSE	FALSE	2.7	8.5	7.7	35%	32%	91%		1.10	9.4	7.5	253	213	0.84		16,243	13,675			15,365	13,134	941	16,243	13,675		15,365	13,134	941
2/20/2010	FALSE	FALSE	TRUE	4.0	10.6	7.4	54%	38%	69%		1.44	9.2	7.5									15,539	13,134	941				15,539	13,134	941
2/21/2010	FALSE	FALSE	FALSE	3.7	9.8	7.7	48%	38%	78%		1.28	9.1	7.5									15,842	13,134	911				15,842	13,134	911
2/22/2010	FALSE	FALSE	FALSE	3.8	9.3	7.8	48%	41%	84%		1.19	9.0	7.5	194				12,649				15,746	13,247	911	12,649			15,746	13,247	911
2/23/2010	FALSE	FALSE	TRUE	3.7	9.1	8.6	42%	40%	94%		1.06	8.9	7.8	199	184	0.92		14,313	13,234			15,650	13,245	911	14,313	13,234		15,650	13,245	911
2/24/2010	FALSE	FALSE	TRUE	7.0	12.0	9.0	78%	59%	75%		1.33	8.9	7.9									15,650	13,245	911				15,650	13,245	911
2/25/2010	FALSE	FALSE	FALSE	6.5	11.8	8.3	79%	55%	70%		1.43	8.8	8.0	178			13	12,268		878		15,188	13,245	904	12,268		878	15,188	13,245	904
2/26/2010	FALSE	FALSE	TRUE	5.6	10.2	9.0	63%	55%	88%		1.14	8.7	8.2	157	148	0.94		11,732	11,060			14,882	12,983	904	11,732	11,060		14,882	12,983	904
2/27/2010	FALSE	FALSE	FALSE	6.0	9.6	8.6	70%	63%	90%		1.11	8.7	8.3									14,882	12,983	904				14,882	12,983	904
2/28/2010	FALSE	FALSE	FALSE	6.2	10.6	7.6	82%	58%	72%	MinAvg	1.39	8.7	8.4									14,882	12,983	903				14,882	12,983	903
3/1/2010	FALSE	FALSE	FALSE	6.3	10.2	8.2	77%	62%	80%		1.25	8.6	8.5	208				14,148				14,650	12,829	903	14,148			14,650	12,829	903
3/2/2010	FALSE	FALSE	TRUE	6.7	10.9	8.0	84%	61%	74%	MinAvg	1.36	8.6	8.6	186	143	0.77		12,432	9,558			14,512	12,362	903	12,432	9,558		14,512	12,362	903
3/3/2010	FALSE	FALSE	TRUE	6.7	11.2	8.4	80%	60%	75%		1.33	8.6	8.6				1													

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
3/17/2010	TRUE	TRUE	FALSE			7.2	0%				0.00	7.8	7.0									13,179	10,972	919				13,179	10,972	919
3/18/2010	TRUE	TRUE	FALSE			6.8	0%				0.00	7.8	7.0	109				6,209				12,792	10,972	919	6,209			12,792	10,972	919
3/19/2010	TRUE	TRUE	FALSE	2.7	8.0	6.1	44%	34%	76%		1.31	7.7	6.9	210			16	10,635		799		12,646	10,972	895	10,635		799	12,646	10,972	895
3/20/2010	TRUE	TRUE	FALSE	3.2	9.2	6.7	48%	35%	73%		1.37	7.7	6.7									12,646	10,972	895				12,646	10,972	895
3/21/2010	TRUE	TRUE	FALSE	3.2	8.9	6.8	46%	35%	77%		1.31	7.6	6.7									12,222	10,972	888				12,222	10,972	888
3/22/2010	TRUE	TRUE	FALSE	3.3	8.9	7.5	44%	37%	83%		1.20	7.6	6.8	265								12,236	10,522	888	16,483			12,236	10,522	888
3/23/2010	FALSE	FALSE	FALSE	3.4	9.0	6.8	50%	37%	75%		1.32	7.6	6.8	242	229	0.95		13,710	12,974			12,318	10,872	888	13,710	12,974		12,318	10,872	888
3/24/2010	FALSE	FALSE	TRUE			7.6	0%				0.00	7.6	6.9									12,318	10,872	888				12,318	10,872	888
3/25/2010	FALSE	FALSE	TRUE			7.5	0%				0.00	7.6	7.0	247			20	15,512		1,277		12,477	10,872	966	15,512		1,277	12,477	10,872	966
3/26/2010	FALSE	FALSE	FALSE	3.5	9.0	6.5	53%	38%	73%		1.38	7.5	6.9	212								11,524		966	11,524			12,322	10,478	966
3/27/2010	FALSE	FALSE	FALSE	3.1	9.4	7.0	44%	33%	74%		1.35	7.4	7.0									12,322	10,478	966				12,322	10,478	966
3/28/2010	FALSE	FALSE	FALSE	3.1	10.1	7.1	44%	31%	71%		1.41	7.4	7.1									12,326	10,478	988				12,326	10,478	988
3/29/2010	FALSE	FALSE	FALSE	3.3	9.4	7.2	46%	35%	76%		1.31	7.3	7.1									12,363	10,362	988				12,363	10,362	988
3/30/2010	FALSE	FALSE	FALSE	3.4	9.4	7.2	46%	36%	77%		1.29	7.3	7.1	356	239	0.67		21,451	14,401		TSS	12,363	10,362	988	21,451	14,401		12,363	10,362	988
3/31/2010	FALSE	FALSE	FALSE	3.3	9.4	7.1	47%	35%	76%		1.32	7.3	7.1									12,363	10,362	988				12,363	10,362	988
4/1/2010	FALSE	FALSE	FALSE	3.7	9.2	7.0	52%	40%	75%		1.33	7.2	7.1	221			21	12,821		1,225		12,280	10,362	1,035	12,821		1,225	12,280	10,362	1,035
4/2/2010	FALSE	FALSE	TRUE	3.4	10.4	7.2	48%	33%	69%		1.45	7.2	7.0	185	203	1.10		11,061	12,137			12,194	10,878	1,035	11,061	12,137		12,194	10,878	1,035
4/3/2010	FALSE	FALSE	FALSE	3.3	9.2	6.9	48%	36%	75%		1.33	7.2	7.1									12,194	10,878	1,067				12,194	10,878	1,067
4/4/2010	FALSE	FALSE	FALSE	5.0	11.5	7.2	69%	43%	63%		1.59	7.2	7.1									12,212	10,878	1,067				12,212	10,878	1,067
4/5/2010	FALSE	FALSE	FALSE	3.8	9.7	7.9	48%	40%	82%		1.22	7.2	7.2	237				15,712				12,423	10,878	1,067	15,712			12,423	10,878	1,067
4/6/2010	FALSE	FALSE	FALSE	3.7	9.4	7.7	48%	39%	82%		1.22	7.2	7.3	224	211	0.94		14,398	13,562			12,547	11,326	1,067	14,398	13,562		12,547	11,326	1,067
4/7/2010	FALSE	FALSE	FALSE	3.6	9.3	7.3	49%	39%	78%		1.28	7.1	7.3									12,547	11,326	1,067				12,547	11,326	1,067
4/8/2010	FALSE	FALSE	FALSE	3.7	9.0	7.5	48%	41%	84%		1.19	7.1	7.3	212			22	13,342		1,355		12,595	11,326	1,124	13,342		1,355	12,595	11,326	1,124
4/9/2010	FALSE	FALSE	FALSE	3.6	9.0	7.4	49%	40%	82%		1.21	7.1	7.4	203	203	1.00		12,562	12,562			12,718	11,928	1,124	12,562			12,718	11,928	1,124
4/10/2010	FALSE	FALSE	FALSE	3.7	9.2	7.1	52%	40%	77%		1.30	7.1	7.4									12,718	11,928	1,124				12,718	11,928	1,124
4/11/2010	FALSE	FALSE	TRUE	3.4	10.4	8.5	40%	33%	82%		1.22	7.1	7.6									12,607	11,928	1,164				12,607	11,928	1,164
4/12/2010	FALSE	FALSE	TRUE	5.6	11.8	10.0	56%	47%	85%		1.18	7.2	7.9	239				19,933				13,069	11,955	1,164	19,933			13,069	11,955	1,164
4/13/2010	FALSE	FALSE	TRUE	6.0	11.7	9.6	62%	51%	83%		1.21	7.3	8.1	218	159	0.73		17,543	12,795			13,349	12,095	1,164	17,543	12,795		13,349	12,095	1,164
4/14/2010	FALSE	FALSE	TRUE	5.0	11.5	9.2	55%	44%	80%		1.25	7.4	8.3									13,349	12,095	1,164				13,349	12,095	1,164
4/15/2010	FALSE	FALSE	FALSE	4.8	10.1	8.4	57%	47%	83%		1.21	7.4	8.5	206			14	14,383		1,003		13,492	12,095	1,132	14,383		1,003	13,492	12,095	1,132
4/16/2010	FALSE	FALSE	FALSE	4.4	9.9	7.9	56%	45%	80%		1.25	7.5	8.5	243	176	0.72		16,059	11,631			13,868	12,610	1,132	16,059	11,631		13,868	12,610	1,132
4/17/2010	FALSE	FALSE	FALSE	3.8	10.1	7.6	50%	38%	75%		1.33	7.5	8.5									13,868	12,610	1,132				13,868	12,610	1,132
4/18/2010	FALSE	FALSE	FALSE	3.9	10.1	8.3	47%	39%	82%		1.22	7.5	8.7									14,378	12,610	1,132				14,378	12,610	1,132
4/19/2010	FALSE	FALSE	FALSE	4.3	10.0	7.2	60%	43%	72%		1.40	7.6	8.5	190			18	11,346		1,069		14,426	12,610	1,186	11,346		1,069	14,426	12,610	1,186
4/20/2010	FALSE	FALSE	TRUE	4.4	10.2	9.4	47%	43%	92%		1.09	7.7	8.4	201				15,758				14,509	12,610	1,186	15,758			14,509	12,610	1,186
4/21/2010	FALSE	FALSE	TRUE	4.2	10.6	9.0	47%	40%	85%		1.18	7.7	8.4	220	162	0.74		16,477	12,133			14,625	12,542	1,186	16,477	12,133		14,625	12,542	1,186
4/22/2010	FALSE	FALSE	FALSE	4.8	10.1	8.8	54%	48%	87%		1.15	7.8	8.3									14,509	12,542	1,186				14,509	12,542	1,186
4/23/2010	FALSE	FALSE	FALSE	4.5	9.9	7.8	57%	45%	79%		1.27	7.8	8.2									14,562	12,470	1,186				14,562	12,470	1,186
4/24/2010	FALSE	FALSE	FALSE	3.9	10.0	7.5	52%	39%	75%		1.33	7.8	8.2									14,562	12,470	1,186				14,562	12,470	1,186
4/25/2010	FALSE	FALSE	FALSE	3.5	9.6	7.3	48%	37%	76%		1.31	7.8	8.2									14,494	12,470	1,163				14,494	12,470	1,163
4/26/2010	FALSE	FALSE	TRUE	3.7	9.3	7.7	48%	40%	83%		1.21	7.8	8.1	319				20,549			TSS	14,723	12,470	1,163	20,549			14,723	12,470	1,163
4/27/2010	FALSE	FALSE	TRUE	4.1	9.4	7.7	53%	44%	82%		1.21	7.9	8.2	221	166	0.75		14,262	10,713			14,690	12,219	1,163	14,262	10,713		14,690	12,219	1,163
4/28/2010	FALSE	FALSE	TRUE	4.1	9.7	8.0	51%	42%	83%		1.21	7.9	8.0									14,690	12,219	1,163				14,690	12,219	1,163
4/29/2010	FALSE	FALSE	TRUE			7.4	0%				0.00	7.9	7.8				35				NH3	14,690	12,219	1,163			2,121	14,690	12,219	1,163
4/30/2010	FALSE	FALSE	FALSE	4.6	8.9	7.3	63%	52%	82%		1.22	7.9	7.6	181				11,059				14,448	12,219	1,163	11,059			14,448	12,219	1,163
5/1/2010	FALSE	FALSE	FALSE	3.5	9.0	6.6	53%	39%	73%		1.37	7.9	7.4									14,448	12,219	1,163				14,448	12,219	1,163
5/2/2010	FALSE	FALSE	FALSE	3.2	8.2	6.5	49%	39%	79%		1.26	7.9	7.3									14,564	12,219	1,143				14,564	12,219	1,143
5/3/2010	FALSE	FALSE	FALSE	2.8	7.9	6.4	44%	35%	80%		1.24	7.8	7.2	173				9,162				14,428	12,233	1,143	9,162			14,428	12,233	1,143
5/4/2010	FALSE	FALSE	FALSE	2.5	9.1	6.4	40%	28%	71%		1.42	7.8	7.0									14,428	12,233	1,143				14,428	12,233	1,143
5/5/2010	FALSE	FALSE	FALSE	2.2	8.5	6.4	34%	26%	75%		1.33	7.8	6.9	195				10,408				14,160	12,233	1,143	10,408			14,160	12,233	1,143
5/6/2010	FALSE	FALSE	FALSE	2.1	9.7	6.4	33%	22%	66%		1.52	7.7	6.7	223			21	11,903		1,096		13,906	12,233	1,131	11,903		1,096	13,906	12,233	1,131
5/7/2010	FALSE	FALSE	FALSE	3.4	6.9	6.5	52%	49%	95%		1.05	7.7	6.6	235	1															

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
5/20/2010	FALSE	FALSE	FALSE									7.3		190								12,726	11,168	1,096				12,726	11,168	1,096
5/21/2010	FALSE	FALSE	FALSE									7.2		218								12,293	11,168	1,096				12,293	11,168	1,096
5/22/2010	FALSE	FALSE	FALSE									7.1										11,595	10,685	1,096				11,595	10,685	1,096
5/23/2010	FALSE	TRUE	FALSE									7.0										11,595	10,685	1,096				11,595	10,685	1,096
5/24/2010	FALSE	TRUE	FALSE									7.0		195								11,595	10,685	1,096				11,595	10,685	1,096
5/25/2010	FALSE	TRUE	TRUE									6.9		182	203	1.12						11,595	10,685	1,096				11,595	10,685	1,096
5/26/2010	FALSE	TRUE	FALSE									6.9										11,595	10,685	1,096				11,595	10,685	1,096
5/27/2010	FALSE	TRUE	TRUE									6.8		220			21					11,595	10,685	1,096				11,595	10,685	1,096
5/28/2010	TRUE	TRUE	TRUE			6.5	0%				0.00	6.7	6.5	270	261	0.97		14,524	14,040			11,639	12,349	1,096	14,524	14,040		11,639	12,349	1,096
5/29/2010	TRUE	TRUE	FALSE			6.2	0%				0.00	6.6	6.3									11,639	12,349	1,096				11,639	12,349	1,096
5/30/2010	TRUE	TRUE	FALSE			5.9	0%				0.00	6.4	6.2									11,639	12,349	1,096				11,639	12,349	1,096
5/31/2010	TRUE	TRUE	FALSE			6.2	0%				0.00	6.3	6.2									11,755	12,349	1,096				11,755	12,349	1,096
6/1/2010	TRUE	TRUE	FALSE			6.2	0%				0.00	6.3	6.2	184	183	0.99		9,438	9,386			11,369	11,361	1,096	9,438	9,386		11,369	11,361	1,096
6/2/2010	TRUE	TRUE	FALSE			6.3	0%				0.00	6.3	6.2									11,369	11,361	1,096				11,369	11,361	1,096
6/3/2010	TRUE	TRUE	FALSE			6.3	0%				0.00	6.3	6.2	188			20	9,831		1,046		11,480	11,361	1,071	9,831		1,046	11,480	11,361	1,071
6/4/2010	TRUE	TRUE	TRUE			6.2	0%				0.00	6.3	6.2	205	212	1.03		10,549	10,909			11,347	11,248	1,071	10,549	10,909		11,347	11,248	1,071
6/5/2010	TRUE	TRUE	FALSE			5.7	0%				0.00	6.2	6.1									11,504	11,248	1,071				11,504	11,248	1,071
6/6/2010	TRUE	TRUE	FALSE			6.0	0%				0.00	6.2	6.1									11,424	11,248	1,046				11,424	11,248	1,046
6/7/2010	TRUE	TRUE	FALSE			6.3	0%				0.00	6.2	6.1	163			20	8,592		1,076		10,587	11,445	1,061	8,592		1,076	10,587	11,445	1,061
6/8/2010	TRUE	TRUE	FALSE			6.3	0%				0.00	6.2	6.2	188				9,862				10,466	11,445	1,061	9,862			10,466	11,445	1,061
6/9/2010	TRUE	TRUE	FALSE			6.4	0%				0.00	6.2	6.2									10,466	11,445	1,061				10,466	11,445	1,061
6/10/2010	TRUE	TRUE	FALSE			6.2	0%				0.00	6.2	6.2	233				12,126				10,703	11,445	1,061	12,126			10,703	11,445	1,061
6/11/2010	TRUE	TRUE	FALSE			6.1	0%				0.00	6.2	6.2	229				11,707				10,829	11,445	1,061	11,707			10,829	11,445	1,061
6/12/2010	TRUE	TRUE	FALSE			5.9	0%				0.00	6.2	6.1									10,829	11,445	1,061				10,829	11,445	1,061
6/13/2010	TRUE	TRUE	FALSE	3.4	8.0	5.9	58%	43%	74%		1.35	6.1	6.1									10,829	11,445	1,061				10,829	11,445	1,061
6/14/2010	TRUE	TRUE	FALSE	3.5	7.9	6.2	56%	44%	78%		1.29	6.1	6.2	180				9,232				10,651	11,445	1,061	9,232			10,651	11,445	1,061
6/15/2010	TRUE	TRUE	FALSE	3.5	8.0	6.2	56%	43%	78%		1.28	6.1	6.1	215	183	0.85		11,153	9,493			10,701	10,957	1,061	11,153	9,493		10,701	10,957	1,061
6/16/2010	TRUE	TRUE	FALSE	3.5	8.0	6.3	56%	44%	78%		1.28	6.2	6.1									10,701	10,957	1,061				10,701	10,957	1,061
6/17/2010	TRUE	TRUE	FALSE	3.5	8.8	6.2	56%	40%	70%		1.42	6.2	6.1				21			1,059		10,701	10,957	1,060			1,059	10,701	10,957	1,060
6/18/2010	TRUE	TRUE	FALSE	3.5	9.1	5.4	64%	38%	59%		1.68	6.1	6.0	190	161	0.85		8,589	7,278			10,509	10,221	1,060	8,589	7,278		10,509	10,221	1,060
6/19/2010	TRUE	TRUE	FALSE			6.1	0%				0.00	6.1	6.0									10,509	10,221	1,060				10,509	10,221	1,060
6/20/2010	TRUE	TRUE	FALSE			6.1	0%				0.00	6.1	6.0									10,509	10,221	1,060				10,509	10,221	1,060
6/21/2010	TRUE	TRUE	FALSE			6.1	0%				0.00	6.1	6.1	186								10,509	10,221	1,060				10,509	10,221	1,060
6/22/2010	TRUE	TRUE	FALSE			6.1	0%				0.00	6.1	6.0	199			17					10,509	10,221	1,060				10,509	10,221	1,060
6/23/2010	TRUE	TRUE	FALSE			5.9	0%				0.00	6.1	5.9									10,509	10,221	1,060				10,509	10,221	1,060
6/24/2010	TRUE	TRUE	FALSE			5.9	0%				0.00	6.1	5.9									10,509	10,221	1,060				10,509	10,221	1,060
6/25/2010	TRUE	TRUE	FALSE	3.4	9.1	5.9	57%	37%	65%		1.54	6.1	5.8	212	185	0.87		10,432	9,103			10,503	10,035	1,060	10,432	9,103		10,503	10,035	1,060
6/26/2010	TRUE	TRUE	FALSE			5.7	0%				0.00	6.1	5.9									10,503	10,035	1,060				10,503	10,035	1,060
6/27/2010	TRUE	TRUE	FALSE	3.4	5.9	5.9	57%	56%	99%		1.01	6.1	5.9									10,503	10,035	1,060				10,503	10,035	1,060
6/28/2010	TRUE	TRUE	FALSE	3.4	6.2	6.2	54%	54%	101%	AvgMax	0.99	6.1	5.9	204				10,616				10,177	9,234	1,060	10,616			10,177	9,234	1,060
6/29/2010	TRUE	TRUE	FALSE	3.5	6.1	6.2	56%	56%	101%	AvgMax	0.99	6.1	5.9	86	104	1.21		4,447	5,378		TSS	10,177	9,234	1,060	4,447	5,378		10,177	9,234	1,060
6/30/2010	TRUE	TRUE	FALSE	3.4	6.3	6.2	55%	54%	99%		1.01	6.1	5.9									10,177	9,234	1,060				10,177	9,234	1,060
7/1/2010	TRUE	TRUE	FALSE	3.4	6.3	6.1	55%	53%	97%		1.03	6.1	6.0	172			20	8,779		1,027		10,070	9,234	1,052	8,779		1,027	10,070	9,234	1,052
7/2/2010	TRUE	TRUE	FALSE	3.4	9.4	6.0	56%	36%	64%		1.56	6.1	6.0	261	166	0.64		13,104	8,334			10,352	9,023	1,052	13,104	8,334		10,352	9,023	1,052
7/3/2010	TRUE	TRUE	FALSE	3.3	8.9	5.5	60%	37%	63%		1.60	6.0	5.9									10,352	9,023	1,052				10,352	9,023	1,052
7/4/2010	TRUE	TRUE	FALSE	3.2	8.1	5.2	61%	39%	64%		1.55	6.0	5.8									10,395	9,023	1,054				10,395	9,023	1,054
7/5/2010	TRUE	TRUE	FALSE	3.4	9.0	5.9	58%	38%	65%		1.53	6.0	5.8									10,381	8,552	1,054				10,381	8,552	1,054
7/6/2010	TRUE	TRUE	FALSE	3.4	9.0	6.1	55%	37%	67%		1.48	6.0	5.9	249	178	0.71		12,585	8,996			10,565	8,641	1,054	12,585	8,996		10,565	8,641	1,054
7/7/2010	TRUE	TRUE	FALSE	3.4	8.8	6.0	56%	38%	68%		1.46	6.0	5.9									10,565	8,641	1,054				10,565	8,641	1,054
7/8/2010	TRUE	TRUE	FALSE	3.4	8.8	6.2	55%	39%	70%		1.42	6.0	5.9	273			22	14,071		1,113		11,021	8,641	1,066	14,071		1,113	11,021	8,641	1,066
7/9/2010	TRUE	TRUE	FALSE	3.9	8.2	6.0	65%	48%	73%		1.37	6.0	5.9	245	201	0.82		12,260	10,058			11,221	8,877	1,066	12,260	10,058		11,221	8,877	1,066
7/10/2010	TRUE	TRUE	FALSE	3.5	9.3	5.8	60%	37%	62%		1.61	5.9	5.8									11,221	8,877	1,066				11,221	8,877	1,066
7/11/2010	TRUE	TRUE	FALSE	3.4	8.7	5.7	60%	39%	66%		1.53	5.9	5.9									11,139	8,877	1,066				11,139	8,877	1,066
7/12/2010	TRUE	TRUE	FALSE	3.4	8.8	6.1	56%	39%	69%		1.45	5.9	6.0	192				9,704				10,957	8,877	1,066	9,704			10,957	8,877	1,066
7/13/2010	TRUE	TRUE	FALSE																											

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
7/23/2010	TRUE	TRUE	FALSE	3.5	7.4	5.9	59%	47%	80%		1.25	5.9	5.9	219			21	10,813		1,023		10,865	9,657	1,072	10,813		1,023	10,865	9,657	1,072
7/24/2010	TRUE	TRUE	FALSE	3.6	7.8	5.8	63%	46%	74%		1.36	5.9	5.9									10,865	9,657	1,072				10,865	9,657	1,072
7/25/2010	TRUE	TRUE	FALSE	3.4	7.6	5.6	60%	44%	74%		1.35	5.9	5.9									10,865	9,657	1,072				10,865	9,657	1,072
7/26/2010	TRUE	TRUE	FALSE	3.4	8.1	6.1	56%	42%	75%		1.33	5.9	5.9	197				9,973				10,834	9,736	1,072	9,973			10,834	9,736	1,072
7/27/2010	TRUE	TRUE	FALSE	3.5	8.1	6.1	57%	42%	75%		1.34	5.9	5.9	201			22	10,159		1,107		10,792	9,736	1,079	10,159		1,107	10,792	9,736	1,079
7/28/2010	TRUE	TRUE	FALSE	3.4	8.5	6.0	57%	40%	71%		1.41	5.9	5.9	234				11,748				10,848	9,736	1,079	11,748			10,848	9,736	1,079
7/29/2010	TRUE	TRUE	FALSE	3.5	7.7	6.0	58%	45%	78%		1.28	5.9	5.9	233				11,718				10,913	9,736	1,079	11,718			10,913	9,736	1,079
7/30/2010	TRUE	TRUE	FALSE	3.5	6.3	6.0	57%	55%	95%		1.05	5.9	5.9	207	259	1.25		10,376	12,982			10,883	10,142	1,079	10,376	12,982		10,883	10,142	1,079
7/31/2010	TRUE	TRUE	FALSE	3.5	6.2	5.7	60%	56%	92%		1.08	5.9	5.9									10,883	10,142	1,079				10,883	10,142	1,079
8/1/2010	TRUE	TRUE	FALSE	3.3	8.4	5.7	58%	39%	68%		1.47	5.9	5.9									11,007	10,142	1,092				11,007	10,142	1,092
8/2/2010	TRUE	TRUE	FALSE	3.4	8.8	6.0	56%	38%	69%		1.46	5.9	6.0	188				9,455				10,792	10,400	1,092	9,455			10,792	10,400	1,092
8/3/2010	TRUE	TRUE	FALSE	3.5	8.1	6.1	58%	43%	75%		1.33	5.9	6.0	235	228	0.97		11,897	11,542			10,853	10,543	1,092	11,897	11,542		10,853	10,543	1,092
8/4/2010	TRUE	TRUE	FALSE	3.4	8.7	6.1	57%	40%	70%		1.43	5.9	6.0									10,853	10,543	1,092				10,853	10,543	1,092
8/5/2010	TRUE	TRUE	FALSE	3.4	8.6	6.0	56%	39%	70%		1.43	5.9	6.0	248	280	1.13		12,493	14,105			10,940	10,938	1,092	12,493	14,105		10,940	10,938	1,092
8/6/2010	TRUE	TRUE	FALSE	3.4	7.7	6.0	57%	44%	78%		1.29	5.9	6.0				21					10,848	11,181	1,085			1,058	10,848	11,181	1,085
8/7/2010	TRUE	TRUE	FALSE	4.1	8.0	5.8	70%	51%	72%		1.38	5.9	5.9							1,058		10,848	11,181	1,085				10,848	11,181	1,085
8/8/2010	TRUE	TRUE	FALSE	3.4	9.5	5.9	58%	36%	62%		1.62	5.9	6.0	218				10,654				10,659	11,181	1,078	10,654			10,659	11,181	1,078
8/9/2010	TRUE	TRUE	FALSE	3.3	8.7	6.2	53%	38%	71%		1.40	5.9	6.0	147				7,613				10,400	11,342	1,078	7,613			10,400	11,342	1,078
8/10/2010	TRUE	TRUE	FALSE	3.4	6.7	6.3	55%	52%	94%		1.06	5.9	6.0	128	181	1.41		6,693	9,465			10,205	11,107	1,078	6,693	9,465		10,205	11,107	1,078
8/11/2010	TRUE	TRUE	FALSE	3.3	6.7	6.3	53%	50%	95%		1.06	6.0	6.1									10,205	11,107	1,078				10,205	11,107	1,078
8/12/2010	TRUE	TRUE	FALSE	3.3	6.7	6.3	53%	50%	95%		1.06	6.0	6.1	136			20	7,168		1,062		10,072	11,107	1,075	7,168		1,062	10,072	11,107	1,075
8/13/2010	TRUE	TRUE	FALSE	3.4	8.2	6.0	56%	41%	74%		1.36	6.0	6.1	692	403	0.58		34,801	20,267		TSS	10,274	11,875	1,075	34,801	20,267		10,274	11,875	1,075
8/14/2010	TRUE	TRUE	FALSE	3.3	8.6	5.9	56%	38%	69%		1.45	6.0	6.1									10,274	11,875	1,075				10,274	11,875	1,075
8/15/2010	TRUE	TRUE	FALSE	3.3	8.6	6.1	54%	38%	71%		1.41	6.0	6.1									10,121	11,875	1,062				10,121	11,875	1,062
8/16/2010	TRUE	TRUE	FALSE	3.5	7.3	6.3	54%	47%	87%		1.15	6.0	6.2	168				8,883				9,870	12,376	1,062	8,883			9,870	12,376	1,062
8/17/2010	TRUE	TRUE	FALSE	3.3	8.6	6.3	53%	39%	74%		1.36	6.0	6.2	404	200	0.50		21,362	10,575		TSS	9,870	12,376	1,062	21,362	10,575		9,870	12,376	1,062
8/18/2010	TRUE	TRUE	FALSE	3.5	6.8	6.4	54%	51%	94%		1.06	6.0	6.2									9,870	12,376	1,062				9,870	12,376	1,062
8/19/2010	TRUE	TRUE	FALSE	3.4	8.2	6.4	53%	42%	78%		1.28	6.0	6.2	188			20	10,035		1,079		10,007	12,376	1,066	10,035		1,079	10,007	12,376	1,066
8/20/2010	TRUE	TRUE	FALSE	3.4	9.3	6.4	53%	37%	69%		1.45	6.1	6.2	223	124	0.56		11,940	6,639			10,121	11,815	1,066	11,940	6,639		10,121	11,815	1,066
8/21/2010	TRUE	TRUE	FALSE	3.4	10.2	6.3	54%	33%	62%		1.61	6.1	6.3									10,121	11,815	1,066				10,121	11,815	1,066
8/22/2010	TRUE	TRUE	FALSE	3.4	9.0	6.4	54%	38%	70%		1.42	6.1	6.3									10,101	10,947	1,066				10,101	10,947	1,066
8/23/2010	TRUE	TRUE	FALSE	3.4	6.9	6.5	52%	48%	93%		1.08	6.1	6.4	154				8,284				9,943	10,947	1,077	8,284			9,943	10,947	1,077
8/24/2010	FALSE	FALSE	FALSE	3.4	9.7	6.5	53%	35%	66%		1.51	6.1	6.4	171				9,199				9,899	10,947	1,077	9,199			9,899	10,947	1,077
8/25/2010	FALSE	FALSE	FALSE	3.3	9.8	6.6	51%	34%	67%		1.50	6.2	6.4									9,899	10,947	1,077				9,899	10,947	1,077
8/26/2010	FALSE	FALSE	FALSE	3.3	9.8	6.5	51%	34%	67%		1.50	6.2	6.4	184			21	10,021		1,153		9,902	10,947	1,092	10,021		1,153	9,902	10,947	1,092
8/27/2010	FALSE	FALSE	FALSE	3.5	6.7	5.1	69%	52%	75%		1.32	6.1	6.3	259				10,973				9,950	10,947	1,088	10,973			9,950	10,947	1,088
8/28/2010	FALSE	FALSE	FALSE			4.5	0%				0.00	6.1	6.0									9,838	10,947	1,088				9,838	10,947	1,088
8/29/2010	FALSE	FALSE	FALSE	3.0	6.3	4.4	68%	48%	70%		1.42	6.0	5.8									9,712	10,947	1,088				9,712	10,947	1,088
8/30/2010	FALSE	FALSE	FALSE	3.3	9.9	6.6	50%	33%	67%		1.50	6.1	5.8	160				8,767				9,605	10,438	1,088	8,767			9,605	10,438	1,088
8/31/2010	FALSE	FALSE	FALSE	3.4	8.1	6.5	51%	42%	81%		1.23	6.1	5.8	182				9,912				9,624	10,438	1,088	9,912			9,624	10,438	1,088
9/1/2010	FALSE	FALSE	FALSE	3.3	7.7	6.5	50%	42%	85%		1.18	6.1	5.8	190				10,300				9,664	10,438	1,088	10,300			9,664	10,438	1,088
9/2/2010	FALSE	FALSE	FALSE	3.4	6.4	6.7	50%	53%	105%	AvgMax	0.96	6.1	5.7	202			20	11,254		1,125		9,770	10,438	1,096	11,254		1,125	9,770	10,438	1,096
9/3/2010	FALSE	FALSE	FALSE	3.4	9.8	6.5	52%	35%	66%		1.50	6.1	5.7	221				12,036				9,778	10,070	1,096	12,036			9,778	10,070	1,096
9/4/2010	FALSE	FALSE	FALSE	3.4	10.1	6.3	54%	33%	62%		1.61	6.1	5.9									9,778	10,070	1,096				9,778	10,070	1,096
9/5/2010	FALSE	FALSE	FALSE	3.3	9.6	6.0	55%	34%	62%		1.61	6.1	6.1									9,608	8,052	1,096				9,608	8,052	1,096
9/6/2010	FALSE	FALSE	FALSE	3.2	9.5	7.9	40%	33%	84%		1.19	6.2	6.6									9,608	8,052	1,105				9,608	8,052	1,105
9/7/2010	FALSE	FALSE	FALSE	3.4	6.8	4.7	71%	50%	70%		1.44	6.2	6.3									9,608	8,052	1,105				9,608	8,052	1,105
9/8/2010	FALSE	FALSE	TRUE	3.3	9.4	7.2	46%	35%	77%		1.30	6.2	6.4	271				16,250				9,508	8,052	1,105	16,250			9,958	8,052	1,105
9/9/2010	FALSE	FALSE	TRUE	3.3	9.4	6.9	48%	36%	73%		1.36	6.2	6.5	243			20	13,963		1,166		10,355	8,052	1,117	13,963		1,166	10,355	8,052	1,117
9/10/2010	FALSE	FALSE	FALSE	3.4	10.0	6.8	50%	34%	68%		1.48	6.2	6.5	217	197	0.91		12,234	11,107			10,701	8,873	1,117	11,107			10,701	8,873	1,117
9/11/2010	FALSE	FALSE	FALSE	3.3	9.9	6.4	52%	34%	64%		1.56	6.2	6.5									10,701	8,873	1,117				10,701	8,873	1,117
9/12/2010	FALSE																													

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
9/25/2010	FALSE	FALSE	FALSE	3.4	9.3	6.2	55%	37%	67%		1.50	6.3	6.5									11,377	11,952	1,159				11,377	11,952	1,159
9/26/2010	FALSE	FALSE	FALSE	3.3	8.8	6.2	53%	38%	71%		1.42	6.3	6.5									11,462	11,952	1,160				11,462	11,952	1,160
9/27/2010	FALSE	FALSE	FALSE	3.4	9.2	6.5	52%	37%	71%		1.41	6.4	6.5	192				10,472				11,430	11,952	1,160	10,472			11,430	11,952	1,160
9/28/2010	FALSE	FALSE	FALSE	3.4	9.6	6.5	52%	35%	68%		1.46	6.4	6.5	236	194	0.82		12,872	10,581			11,515	11,678	1,160	12,872	10,581		11,515	11,678	1,160
9/29/2010	FALSE	FALSE	FALSE	3.4	9.5	6.5	52%	36%	69%		1.46	6.5	6.5									11,515	11,678	1,160				11,515	11,678	1,160
9/30/2010	FALSE	FALSE	FALSE	3.4	9.7	6.7	50%	34%	69%		1.45	6.5	6.5				24				1,334	11,687	11,678	1,195		1,334		11,687	11,678	1,195
10/1/2010	FALSE	FALSE	FALSE	3.4	9.7	6.4	53%	35%	66%		1.51	6.5	6.5	263				14,126				11,950	11,678	1,195	14,126			11,950	11,678	1,195
10/2/2010	FALSE	FALSE	FALSE	3.3	9.8	6.2	53%	34%	64%		1.57	6.5	6.4									12,060	11,678	1,195				12,060	11,678	1,195
10/3/2010	FALSE	FALSE	FALSE	3.3	9.8	6.4	52%	34%	65%		1.54	6.5	6.4									12,118	11,678	1,213				12,118	11,678	1,213
10/4/2010	FALSE	FALSE	FALSE	3.3	9.4	6.8	49%	35%	72%		1.39	6.5	6.5	181				10,235				11,989	11,678	1,213	10,235			11,989	11,678	1,213
10/5/2010	FALSE	FALSE	FALSE	3.4	9.4	7.7	44%	36%	82%		1.22	6.6	6.7	225				14,468				12,155	11,678	1,213	14,468			12,155	11,678	1,213
10/6/2010	FALSE	FALSE	TRUE	3.3	9.3	6.8	48%	35%	73%		1.37	6.6	6.7									12,155	11,678	1,213				12,155	11,678	1,213
10/7/2010	FALSE	FALSE	FALSE	3.4	9.4	6.7	51%	36%	71%		1.40	6.5	6.7	212			18	11,881			991	12,137	11,678	1,168	11,881		991	12,137	11,678	1,168
10/8/2010	FALSE	FALSE	FALSE	3.3	9.3	6.7	50%	35%	72%		1.40	6.6	6.7	216	211	0.98		11,980	11,702			12,128	11,682	1,168	11,980	11,702		12,128	11,682	1,168
10/9/2010	FALSE	FALSE	FALSE	3.4	9.5	6.4	53%	36%	68%		1.48	6.6	6.7									11,871	11,682	1,168				11,871	11,682	1,168
10/10/2010	FALSE	FALSE	FALSE	3.5	9.4	5.9	59%	37%	63%		1.58	6.5	6.7									11,731	11,682	1,169				11,731	11,682	1,169
10/11/2010	FALSE	FALSE	FALSE	3.4	9.4	6.7	51%	36%	72%		1.40	6.5	6.7	191			26	10,673			1,433	11,627	11,797	1,222	10,673		1,433	11,627	11,797	1,222
10/12/2010	FALSE	FALSE	FALSE	3.4	9.3	6.7	51%	37%	72%		1.39	6.6	6.7	198	232	1.17		11,047	12,944			11,591	11,988	1,222	11,047	12,944		11,591	11,988	1,222
10/13/2010	FALSE	FALSE	FALSE	3.4	9.3	6.7	51%	37%	72%		1.39	6.6	6.6									11,591	11,988	1,222				11,591	11,988	1,222
10/14/2010	FALSE	FALSE	FALSE	3.5	9.4	6.7	52%	37%	72%		1.39	6.6	6.6	230				12,929				11,756	11,988	1,222	12,929			11,756	11,988	1,222
10/15/2010	FALSE	FALSE	FALSE	3.4	9.4	6.7	51%	36%	71%		1.41	6.6	6.6	256				14,219				11,901	11,988	1,222	14,219			11,901	11,988	1,222
10/16/2010	FALSE	FALSE	FALSE	3.3	10.0	6.4	52%	34%	64%		1.55	6.6	6.5									11,722	11,988	1,222				11,722	11,988	1,222
10/17/2010	FALSE	FALSE	TRUE	3.4	10.6	6.7	51%	32%	63%		1.59	6.6	6.6									11,722	11,988	1,215				11,722	11,988	1,215
10/18/2010	FALSE	FALSE	FALSE	3.4	9.9	6.9	50%	34%	69%		1.44	6.6	6.7	219				12,511				11,737	11,580	1,215	12,511			11,737	11,580	1,215
10/19/2010	FALSE	FALSE	FALSE	3.4	10.4	6.8	50%	32%	65%		1.53	6.6	6.7	246	230	0.93		13,869	12,967			11,862	11,812	1,215	13,869	12,967		11,862	11,812	1,215
10/20/2010	FALSE	FALSE	FALSE	3.4	9.8	6.7	50%	34%	69%		1.46	6.6	6.7									11,862	11,812	1,215				11,862	11,812	1,215
10/21/2010	FALSE	FALSE	FALSE	3.4	10.0	7.3	46%	34%	73%		1.37	6.6	6.8	261			24	15,890			1,439	12,327	11,812	1,260	15,890		1,439	12,327	11,812	1,260
10/22/2010	FALSE	FALSE	TRUE	3.4	10.0	6.6	51%	34%	67%		1.50	6.6	6.8	245	225	0.92		13,568	12,460			12,423	12,178	1,260	13,568	12,460		12,423	12,178	1,260
10/23/2010	FALSE	FALSE	TRUE	3.5	11.1	6.9	51%	32%	62%		1.60	6.6	6.8									12,423	12,178	1,260				12,423	12,178	1,260
10/24/2010	FALSE	FALSE	TRUE	3.5	12.9	8.4	42%	27%	65%		1.53	6.7	7.0									12,470	12,178	1,299				12,470	12,178	1,299
10/25/2010	FALSE	FALSE	FALSE	3.7	11.3	7.7	47%	32%	68%		1.47	6.7	7.2									12,716	12,131	1,299				12,716	12,131	1,299
10/26/2010	FALSE	FALSE	FALSE	3.5	10.5	7.3	49%	34%	69%		1.44	6.8	7.2	199	201	1.01		12,049	12,170			12,674	12,138	1,299	12,049	12,170		12,674	12,138	1,299
10/27/2010	FALSE	FALSE	TRUE	3.4	10.7	7.4	46%	32%	69%		1.44	6.8	7.3									12,674	12,138	1,299				12,674	12,138	1,299
10/28/2010	FALSE	FALSE	FALSE	3.4	10.2	7.0	49%	34%	69%		1.46	6.8	7.3	242			27	14,148			1,553	12,904	12,138	1,350	14,148		1,553	12,904	12,138	1,350
10/29/2010	FALSE	FALSE	TRUE	3.6	10.2	7.2	50%	35%	70%		1.42	6.8	7.3	177				10,643				12,765	12,449	1,350	10,643			12,765	12,449	1,350
10/30/2010	FALSE	FALSE	TRUE	3.6	10.3	7.2	50%	35%	70%		1.43	6.9	7.4									12,765	12,449	1,350				12,765	12,449	1,350
10/31/2010	FALSE	FALSE	FALSE	3.4	11.0	6.8	50%	31%	62%		1.60	6.9	7.4									12,765	12,449	1,354				12,765	12,449	1,354
11/1/2010	FALSE	FALSE	FALSE	3.4	10.0	6.9	49%	34%	69%		1.45	6.9	7.2	138				7,941				12,378	12,449	1,354	7,941			12,378	12,449	1,354
11/2/2010	FALSE	FALSE	FALSE	3.4	10.0	6.9	49%	34%	69%		1.45	6.9	7.1	238	200	0.84		13,597	11,426			12,450	12,278	1,354	13,597	11,426		12,450	12,278	1,354
11/3/2010	FALSE	FALSE	FALSE	3.4	9.8	6.8	51%	35%	69%		1.44	6.9	7.0									12,450	12,278	1,354				12,450	12,278	1,354
11/4/2010	FALSE	FALSE	FALSE	3.4	10.1	6.8	51%	34%	67%		1.49	6.9	7.0	224			25	12,647			1,425	12,592	12,278	1,368	12,647		1,425	12,592	12,278	1,368
11/5/2010	FALSE	FALSE	FALSE	3.4	9.8	6.7	51%	35%	68%		1.47	6.9	6.9	236	208	0.88		13,128	11,571			12,513	12,177	1,368	13,128	11,571		12,513	12,177	1,368
11/6/2010	FALSE	FALSE	FALSE	3.4	9.8	7.7	44%	35%	79%		1.27	6.9	7.0									12,513	12,177	1,368				12,513	12,177	1,368
11/7/2010	FALSE	FALSE	TRUE	3.6	10.8	7.5	47%	33%	70%		1.44	6.9	7.0									12,552	12,177	1,462				12,552	12,177	1,462
11/8/2010	FALSE	FALSE	TRUE	3.5	11.4	7.4	47%	31%	65%		1.53	7.0	7.1	209			20				1,255	12,611	12,256	1,421	12,916		1,255	12,611	12,256	1,421
11/9/2010	FALSE	FALSE	TRUE	3.5	11.0	7.2	49%	32%	65%		1.54	7.0	7.1	213	177	0.83		12,755	10,599			12,619	12,020	1,421	12,755	10,599		12,619	12,020	1,421
11/10/2010	FALSE	FALSE	TRUE	3.4	10.4	6.8	50%	33%	65%		1.54	7.0	7.1									12,619	12,020	1,421				12,619	12,020	1,421
11/11/2010	FALSE	FALSE	FALSE	3.3	10.1	6.8	49%	33%	67%		1.48	7.0	7.1									12,741	12,020	1,418				12,741	12,020	1,418
11/12/2010	FALSE	FALSE	FALSE	3.4	6.4	6.6	52%	53%	103%	AvgMax	0.97	7.0	7.2	224				12,274				12,818	11,865	1,418	12,274			12,818	11,865	1,418
11/13/2010	FALSE	FALSE	FALSE	3.5	10.3	6.4	54%	34%	62%		1.62	7.0	7.1									12,818	11,865	1,418				12,818	11,865	1,418
11/14/2010	FALSE	FALSE	FALSE	3.3	10.4	6.5	51%	32%	62%		1.61	7.0	6.9									12,810	11,865							

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
11/28/2010	TRUE	TRUE	TRUE	3.4	10.5	6.8	51%	33%	64%		1.56	6.8	6.5									11,798	11,411	1,252				11,798	11,411	1,252
11/29/2010	TRUE	TRUE	FALSE	3.4	9.8	6.9	50%	35%	70%		1.44	6.8	6.4	160	143	0.89		9,141	8,169			11,697	10,871	1,252	9,141	8,169		11,697	10,871	1,252
11/30/2010	FALSE	FALSE	FALSE	3.5	10.2	6.9	51%	34%	67%		1.49	6.7	6.5	240	195	0.81		13,791	11,205			11,828	10,918	1,252	13,791	11,205		11,828	10,918	1,252
12/1/2010	FALSE	FALSE	FALSE	3.4	9.9	6.8	50%	34%	68%		1.47	6.7	6.5									11,828	10,918	1,252				11,828	10,918	1,252
12/2/2010	FALSE	FALSE	TRUE	3.4	9.8	6.9	50%	35%	70%		1.42	6.7	6.5	267			26	15,343		1,511		12,291	10,918	1,317	15,343		1,511	12,291	10,918	1,317
12/3/2010	FALSE	FALSE	TRUE	3.5	10.6	7.4	47%	33%	69%		1.44	6.8	6.8	264	200	0.76		16,183	12,260			12,452	11,038	1,317	16,183	12,260		12,452	11,038	1,317
12/4/2010	FALSE	FALSE	TRUE	3.6	11.0	7.2	50%	33%	65%		1.53	6.8	6.9									12,452	11,038	1,317				12,452	11,038	1,317
12/5/2010	FALSE	FALSE	TRUE	3.8	12.6	8.8	42%	30%	70%		1.43	6.8	7.2									12,439	11,038	1,281				12,439	11,038	1,281
12/6/2010	FALSE	FALSE	TRUE	2.8	13.1	9.3	30%	21%	71%	MinAvg	1.41	6.8	7.2									12,390	10,949	1,281				12,390	10,949	1,281
12/7/2010	FALSE	FALSE	FALSE	4.1	11.8	7.9	52%	35%	67%		1.49	6.9	7.4	191	170	0.89	22	12,584	11,201	1,419		12,403	10,985	1,315	12,584	11,201	1,419	12,403	10,985	1,315
12/8/2010	FALSE	FALSE	TRUE	4.0	11.6	8.3	49%	35%	71%		1.40	6.9	7.6									12,403	10,985	1,315				12,403	10,985	1,315
12/9/2010	FALSE	FALSE	TRUE	4.0	11.8	8.1	49%	34%	68%		1.46	6.9	7.8	198								12,434	10,985	1,336	13,376			12,434	10,985	1,336
12/10/2010	FALSE	FALSE	FALSE	3.8	11.1	7.7	49%	34%	69%		1.44	6.9	7.9	164	196	1.20						12,288	11,276	1,336	10,573	12,636		12,288	11,276	1,336
12/11/2010	FALSE	FALSE	FALSE	3.7	11.5	7.3	50%	32%	64%		1.57	6.9	7.9									12,288	11,276	1,336				12,288	11,276	1,336
12/12/2010	FALSE	FALSE	FALSE	3.6	11.1	7.2	49%	32%	65%		1.55	7.0	7.9									12,288	11,276	1,336				12,288	11,276	1,336
12/13/2010	FALSE	FALSE	TRUE	3.6	10.3	7.2	50%	35%	70%		1.44	7.0	7.7	139								12,026	11,276	1,336	8,335			12,026	11,276	1,336
12/14/2010	FALSE	FALSE	TRUE	3.7	10.7	7.5	49%	35%	71%		1.42	7.0	7.7	186	206	1.11		11,696	12,954			12,005	11,485	1,336	11,696	12,954		12,005	11,485	1,336
12/15/2010	FALSE	FALSE	FALSE	3.6	10.7	7.4	48%	34%	69%		1.44	7.0	7.6									12,005	11,485	1,336				12,005	11,485	1,336
12/16/2010	FALSE	FALSE	FALSE	3.5	10.3	7.2	49%	34%	70%		1.43	7.1	7.5				24			1,457		12,080	11,485	1,366			1,457	12,080	11,485	1,366
12/17/2010	TRUE	TRUE	TRUE	3.5	10.5	7.5	47%	33%	71%		1.40	7.1	7.4	211				13,180				12,149	11,485	1,366	13,180			12,149	11,485	1,366
12/18/2010	TRUE	TRUE	TRUE	3.9	12.3	7.9	49%	32%	64%		1.56	7.1	7.4									12,087	11,399	1,366				12,087	11,399	1,366
12/19/2010	TRUE	TRUE	TRUE	4.1	13.0	8.3	49%	31%	64%		1.57	7.2	7.5									12,031	11,399	1,366				12,031	11,399	1,366
12/20/2010	TRUE	TRUE	TRUE	6.4	10.7	8.3	77%	60%	78%		1.29	7.3	7.7	150				10,383				11,949	11,399	1,366	10,383			11,949	11,399	1,366
12/21/2010	TRUE	TRUE	TRUE	6.3	11.7	9.0	70%	54%	77%		1.30	7.3	7.9	151			10	11,271				11,904	11,399	1,240	11,271		735	11,904	11,399	1,240
12/22/2010	TRUE	TRUE	TRUE	6.4	14.3	9.9	65%	45%	69%		1.45	7.4	8.2	145	143	0.99		11,972	11,807			11,908	11,450	1,240	11,972	11,807		11,908	11,450	1,240
12/23/2010	TRUE	TRUE	TRUE	5.9	13.9	8.5	69%	42%	61%		1.64	7.5	8.3									11,964	11,450	1,280				11,964	11,450	1,280
12/24/2010	TRUE	TRUE	FALSE	4.0	8.6	7.6	52%	46%	89%		1.13	7.5	8.4									12,043	11,450	1,280				12,043	11,450	1,280
12/25/2010	TRUE	TRUE	TRUE	3.8	8.7	8.3	45%	43%	95%		1.05	7.6	8.5									12,141	11,462	1,280				12,141	11,462	1,280
12/26/2010	TRUE	TRUE	FALSE	4.4	12.5	8.8	50%	35%	70%		1.42	7.7	8.6									12,141	11,462	1,280				12,141	11,462	1,280
12/27/2010	TRUE	TRUE	FALSE	4.9	8.8	8.5	58%	56%	96%		1.04	7.8	8.6	139				9,807				11,974	11,462	1,280	9,807			11,974	11,462	1,280
12/28/2010	TRUE	TRUE	TRUE	3.9	15.3	9.7	40%	25%	63%		1.58	7.9	8.8	152								11,995	11,462	1,280	12,284			11,995	11,462	1,280
12/29/2010	TRUE	TRUE	FALSE	6.7	14.1	10.1	67%	48%	71%		1.40	8.0	8.9	154	143	0.93		12,934	12,010			12,053	11,530	1,280	12,934	12,010		12,053	11,530	1,280
12/30/2010	TRUE	TRUE	FALSE	4.9	12.5	8.8	56%	39%	70%		1.42	8.0	8.8	150			11	10,984				12,168	12,010	1,181	10,984		782	12,168	12,010	1,181
12/31/2010	TRUE	TRUE	FALSE	4.9	12.6	7.8	63%	39%	62%		1.61	8.1	8.7									12,060	12,144	1,181				12,060	12,144	1,181
1/1/2011	TRUE	TRUE	FALSE	4.4	12.2	8.0	55%	36%	66%		1.52	8.1	8.7									12,060	12,144	1,181				12,060	12,144	1,181
1/2/2011	TRUE	TRUE	FALSE	4.4	13.0	8.9	50%	34%	68%		1.47	8.2	8.8									11,826	12,144	1,098				11,826	12,144	1,098
1/3/2011	TRUE	TRUE	FALSE	4.5	11.7	8.5	53%	38%	73%		1.38	8.2	8.8	168				11,867				11,518	12,121	1,098	11,867			11,518	12,121	1,098
1/4/2011	TRUE	TRUE	FALSE	4.5	10.9	8.0	55%	41%	74%		1.36	8.2	8.7	175			17	11,734		1,152		11,532	12,121	1,109	11,734		1,152	11,532	12,121	1,109
1/5/2011	TRUE	TRUE	FALSE	3.7	11.0	7.6	48%	33%	70%		1.44	8.2	8.5	185								11,548	12,121	1,109	11,788			11,548	12,121	1,109
1/6/2011	TRUE	TRUE	TRUE	3.9	10.9	7.6	52%	36%	70%		1.44	8.2	8.1	174	200	1.15		10,971	12,610			11,514	12,203	1,109	10,971	12,610		11,514	12,203	1,109
1/7/2011	TRUE	TRUE	TRUE	3.8	10.7	7.3	52%	36%	68%		1.47	8.2	8.0	162								11,354	12,403	1,032	9,863			11,354	12,403	1,032
1/8/2011	TRUE	TRUE	TRUE	3.7	11.4	7.1	52%	32%	62%		1.61	8.1	7.9									11,354	12,403	1,032				11,354	12,403	1,032
1/9/2011	TRUE	TRUE	FALSE	3.5	10.9	7.1	50%	32%	65%		1.54	8.1	7.8									11,228	12,403	1,032				11,228	12,403	1,032
1/10/2011	TRUE	TRUE	FALSE	3.6	10.2	7.1	50%	35%	69%		1.44	8.1	7.5	225								11,396	12,345	1,032	13,267			11,396	12,345	1,032
1/11/2011	TRUE	TRUE	TRUE	3.7	10.2	7.0	52%	36%	69%		1.46	8.1	7.4									11,396	12,345	1,032				11,396	12,345	1,032
1/12/2011	TRUE	TRUE	FALSE	3.9	10.1	7.0	56%	39%	69%		1.44	8.0	7.2	213				12,417				11,456	12,345	1,032	12,417			11,456	12,345	1,032
1/13/2011	TRUE	TRUE	TRUE	3.9	11.0	7.6	51%	35%	69%		1.44	8.1	7.2	209	268	1.28		13,247	16,987			11,745	13,274	1,032	13,247	16,987		11,745	13,274	1,032
1/14/2011	TRUE	TRUE	TRUE	4.0	10.3	7.3	54%	38%	70%		1.42	8.1	7.2	202			15	12,248			902	11,778	13,353	1,006	12,248		902	11,778	13,353	1,006
1/15/2011	TRUE	TRUE	FALSE	3.7	11.3	7.1	52%	33%	63%		1.59	8.0	7.2									11,778	13,353	1,006				11,778	13,353	1,006
1/16/2011	TRUE	TRUE	FALSE	3.6	10.7	6.9	52%	33%	64%		1.56	8.0	7.1									11,778	13,353	893				11,778	13,353	893
1/17/2011	TRUE	TRUE	TRUE	3.6	11.2	7.3	49%	32%	65%		1.54	8.0	7.1									11,690	13,353	893						

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
1/31/2011	FALSE	FALSE	FALSE	3.6	11.2	7.1	51%	32%	63%		1.58	7.3	7.0	176				10,436				11,920	15,153	1,124	10,436			11,920	15,153	1,124
2/1/2011	FALSE	FALSE	FALSE	3.6	11.0	7.0	51%	33%	64%		1.56	7.2	7.0	200	286	1.43		11,726	16,768			11,909	15,384	1,124	11,726	16,768		11,909	15,384	1,124
2/2/2011	FALSE	FALSE	FALSE	3.5	7.5	7.0	50%	47%	93%		1.08	7.2	7.0									11,909	15,384	1,124			11,909	15,384	1,124	
2/3/2011	FALSE	FALSE	FALSE	3.7	10.6	7.1	52%	35%	67%		1.49	7.1	7.0	255			17	15,142		1,027		12,101	15,384	1,105	15,142		1,027	12,101	15,384	1,105
2/4/2011	FALSE	FALSE	FALSE	3.6	11.9	6.8	53%	30%	57%		1.76	7.1	7.0	297	344	1.16		16,720				12,394	15,882	1,093	16,720	19,365		12,394	15,882	1,093
2/5/2011	FALSE	FALSE	FALSE	3.4	10.7	6.6	52%	32%	62%		1.62	7.1	7.0									12,432	15,882	1,093			12,432	15,882	1,093	
2/6/2011	FALSE	FALSE	FALSE	3.3	7.6	6.5	51%	44%	86%		1.16	7.0	6.9									12,530	16,349	1,093			12,530	16,349	1,093	
2/7/2011	FALSE	FALSE	FALSE	3.3	6.6	6.6	50%	50%	100%	AvgMax	1.00	7.0	6.9	227				12,552				12,709	16,349	1,093	12,552		12,709	16,349	1,093	
2/8/2011	FALSE	FALSE	FALSE	3.4	6.9	6.7	51%	49%	96%		1.04	7.0	6.8	200				11,126				12,610	16,349	1,093	11,126		12,610	16,349	1,093	
2/9/2011	FALSE	FALSE	FALSE	3.3	6.7	6.5	51%	50%	98%		1.02	7.0	6.7	220	276	1.25		12,000	15,054			12,574	16,187	1,093	12,000	15,054		12,574	16,187	1,093
2/10/2011	FALSE	FALSE	FALSE	3.4	6.4	6.4	53%	52%	99%		1.01	7.0	6.7				22				1,154	12,531	16,187	1,105			1,154	12,531	16,187	1,105
2/11/2011	FALSE	FALSE	FALSE	3.5	9.9	6.4	54%	35%	65%		1.54	6.9	6.6	209	255	1.22		11,190	13,653			12,452	15,906	1,105	11,190	13,653		12,452	15,906	1,105
2/12/2011	FALSE	FALSE	FALSE	3.6	9.4	6.4	56%	38%	68%		1.47	6.9	6.5									12,454	15,906	1,105			12,454	15,906	1,105	
2/13/2011	FALSE	FALSE	FALSE	3.3	9.7	6.4	52%	34%	66%		1.52	6.9	6.5									12,401	15,771	1,105			12,401	15,771	1,105	
2/14/2011	FALSE	FALSE	TRUE	3.5	9.6	7.0	51%	37%	73%		1.37	6.9	6.5	222				12,905				12,445	15,771	1,156	12,905		12,445	15,771	1,156	
2/15/2011	FALSE	FALSE	TRUE	3.5	11.1	7.5	46%	32%	68%		1.47	6.9	6.7	217	285	1.31		13,610	17,874			12,518	16,004	1,156	13,610	17,874		12,518	16,004	1,156
2/16/2011	FALSE	FALSE	TRUE	3.9	11.7	8.4	46%	33%	72%		1.39	6.9	6.9									12,518	16,004	1,156			12,518	16,004	1,156	
2/17/2011	FALSE	FALSE	TRUE	4.2	13.8	10.0	42%	31%	73%		1.38	7.0	7.3	209			17	17,500			1,403	12,811	16,004	1,206	17,500		1,403	12,811	16,004	1,206
2/18/2011	FALSE	FALSE	TRUE	5.2	9.8	9.5	55%	53%	97%		1.03	7.1	7.7	234	237	1.01		18,540	18,778			13,175	16,255	1,206	18,540	18,778		13,175	16,255	1,206
2/19/2011	FALSE	FALSE	TRUE	4.7	11.5	9.6	49%	41%	83%		1.20	7.2	8.1									13,175	16,255	1,206			13,175	16,255	1,206	
2/20/2011	FALSE	FALSE	FALSE	4.4	9.8	8.5	52%	45%	87%		1.15	7.2	8.4									13,286	16,255	1,246			13,286	16,255	1,246	
2/21/2011	FALSE	FALSE	FALSE	5.3	12.6	8.6	62%	43%	68%		1.47	7.3	8.6									13,353	16,409	1,246			13,353	16,409	1,246	
2/22/2011	FALSE	FALSE	FALSE	4.7	10.2	8.1	58%	45%	79%		1.27	7.3	8.8	181	224	1.24		12,152	15,039			13,278	16,257	1,246	12,152	15,039		13,278	16,257	1,246
2/23/2011	FALSE	FALSE	FALSE	4.5	10.2	7.8	57%	44%	76%		1.31	7.4	8.8									13,278	16,257	1,246			13,278	16,257	1,246	
2/24/2011	FALSE	FALSE	TRUE	4.5	9.9	7.8	58%	45%	79%		1.27	7.4	8.7	190			17	12,296			1,105	13,284	16,257	1,217	12,296		1,105	13,284	16,257	1,217
2/25/2011	FALSE	FALSE	TRUE	4.0	13.4	9.4	42%	29%	70%		1.43	7.5	8.6	114	154	1.35		8,918	12,047			13,165	16,114	1,217	8,918	12,047		13,165	16,114	1,217
2/26/2011	FALSE	FALSE	FALSE	4.2	12.3	8.5	50%	34%	69%		1.45	7.5	8.5									13,165	16,114	1,217			13,165	16,114	1,217	
2/27/2011	FALSE	FALSE	FALSE	5.4	11.4	8.1	66%	47%	71%		1.40	7.5	8.3									13,165	16,114	1,172			13,165	16,114	1,172	
2/28/2011	FALSE	FALSE	FALSE	3.8	8.5	7.9	48%	45%	93%		1.08	7.6	8.2	171								13,003	16,072	1,172	11,238		13,003	16,072	1,172	
3/1/2011	FALSE	FALSE	TRUE	3.6	11.3	7.8	45%	32%	70%		1.44	7.6	8.2	174	249	1.43		11,363	16,260			12,907	16,093	1,172	11,363	16,260		12,907	16,093	1,172
3/2/2011	FALSE	FALSE	TRUE	3.8	12.1	8.7	44%	32%	72%		1.39	7.7	8.2									12,907	16,093	1,172			12,907	16,093	1,172	
3/3/2011	FALSE	FALSE	FALSE	4.2	11.5	8.4	49%	36%	73%		1.36	7.7	8.3	210				14,782				13,162	16,093	1,172	14,782		13,162	16,093	1,172	
3/4/2011	FALSE	FALSE	FALSE	4.1	10.8	8.2	50%	38%	75%		1.33	7.7	8.4	180	259	1.44	23	12,265	17,648	1,553		13,194	16,191	1,248	12,265	17,648	1,553	13,194	16,191	1,248
3/5/2011	FALSE	FALSE	TRUE	4.0	11.6	7.9	51%	35%	68%		1.47	7.8	8.2									13,194	16,191	1,248			13,194	16,191	1,248	
3/6/2011	FALSE	FALSE	TRUE	4.3	12.8	8.9	48%	34%	69%		1.45	7.8	8.2									13,072	16,191	1,304			13,072	16,191	1,304	
3/7/2011	FALSE	FALSE	FALSE	4.7	12.4	8.9	53%	38%	72%		1.40	7.9	8.3	114				8,433				12,554	15,794	1,304	8,433		12,554	15,794	1,304	
3/8/2011	FALSE	FALSE	FALSE	4.3	11.7	8.2	52%	36%	70%		1.42	8.0	8.4	177	254	1.44		12,119	17,392			12,529	15,972	1,304	12,119	17,392		12,529	15,972	1,304
3/9/2011	FALSE	FALSE	FALSE	4.0	11.5	7.9	50%	35%	69%		1.45	8.0	8.4									12,529	15,972	1,304			12,529	15,972	1,304	
3/10/2011	FALSE	FALSE	TRUE	3.9	11.7	8.0	48%	33%	68%		1.46	8.0	8.3	233			17	15,546			1,114	12,705	15,972	1,266	15,546		1,114	12,705	15,972	1,266
3/11/2011	TRUE	TRUE	FALSE	4.0	11.0	7.8	51%	36%	71%		1.41	8.0	8.2	199	285	1.43		12,912	18,492			12,810	16,224	1,266	12,912	18,492		12,810	16,224	1,266
3/12/2011	TRUE	TRUE	FALSE	3.9	10.9	7.2	54%	36%	66%		1.52	8.1	8.1									12,861	16,354	1,266			12,861	16,354	1,266	
3/13/2011	TRUE	TRUE	TRUE	3.9	10.9	7.0	56%	36%	64%		1.56	8.1	8.0									12,861	16,354	1,293			12,861	16,354	1,293	
3/14/2011	TRUE	TRUE	FALSE	4.1	11.0	7.2	57%	37%	66%		1.53	8.1	7.8	162				9,741				12,770	16,691	1,293	9,741		12,770	16,691	1,293	
3/15/2011	TRUE	TRUE	TRUE	4.4	7.9	7.7	57%	56%	97%		1.03	8.1	7.6	237				15,141				12,909	16,691	1,293	15,141		12,909	16,691	1,293	
3/16/2011	TRUE	TRUE	TRUE	4.1	8.5	8.0	52%	48%	94%		1.07	8.2	7.6	228	316	1.39		15,117	20,952		BOD	12,909	16,691	1,293	15,117	20,952		12,909	16,691	1,293
3/17/2011	TRUE	TRUE	TRUE	4.0	9.0	7.6	53%	44%	84%		1.19	8.2	7.5	217			14	13,664				12,954	16,691	1,214	13,664		12,954	16,691	1,214	
3/18/2011	FALSE	TRUE	TRUE	4.1	12.9	9.1	45%	32%	71%		1.42	8.3	7.7	198	230	1.16		14,994	17,417			13,036	16,634	1,214	14,994	17,417		13,036	16,634	1,214
3/19/2011	FALSE	TRUE	TRUE	4.8	12.7	9.9	48%	38%	78%		1.29	8.3	7.9									13,036	16,634	1,214			13,036	16,634	1,214	
3/20/2011	FALSE	TRUE	TRUE	6.9	11.4	10.5	66%	61%	92%		1.08	8.3	8.4									12,756	16,634	1,166			12,756	16,634	1,166	
3/21/2011	FALSE	TRUE	TRUE	5.7	10.1	9.9	57%	56%	98%		1.02	8.3	8.7	170				14,050				12,476	16,328	1,166	14,050		12,476	16,328	1,166	
3/22/2011	TRUE	FALSE	TRUE	5.4	9.6	9.5	57%	56%	99%		1.01	8.3	9.0	159	193	1.21		12,5												

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
4/5/2011	FALSE	FALSE	FALSE	4.5	10.0	7.7	58%	45%	77%		1.29	8.8	8.4	168	190	1.13	15	10,817	12,233	942		12,555	16,029	987	10,817	12,233	942	12,555	16,029	987
4/6/2011	FALSE	FALSE	FALSE	4.4	9.9	7.7	58%	45%	77%		1.29	8.8	8.2									12,555	16,029	987				12,555	16,029	987
4/7/2011	FALSE	FALSE	FALSE	4.3	9.8	7.6	57%	44%	78%		1.29	8.7	8.0									12,798	16,029	987				12,798	16,029	987
4/8/2011	FALSE	FALSE	FALSE	3.2	10.5	7.5	43%	30%	71%		1.41	8.7	7.9	189	198	1.05		11,790	12,352			12,778	15,309	987	11,790	12,352		12,778	15,309	987
4/9/2011	FALSE	FALSE	FALSE	3.6	11.0	7.3	49%	33%	66%		1.52	8.7	7.7									12,778	15,309	987				12,778	15,309	987
4/10/2011	FALSE	FALSE	FALSE	4.0	9.5	7.2	56%	42%	76%		1.32	8.7	7.6									12,605	15,309	955				12,605	15,309	955
4/11/2011	FALSE	FALSE	FALSE	4.1	9.3	7.3	56%	44%	78%		1.28	8.6	7.5	154				9,324				12,381	14,778	955	9,324			12,381	14,778	955
4/12/2011	FALSE	FALSE	FALSE	4.2	9.3	7.3	58%	45%	78%		1.28	8.6	7.4	206	210	1.02		12,473	12,715			12,387	14,484	955	12,473	12,715		12,387	14,484	955
4/13/2011	FALSE	FALSE	TRUE	4.3	9.1	7.2	60%	47%	79%		1.27	8.6	7.4									12,387	14,484	955				12,387	14,484	955
4/14/2011	FALSE	FALSE	FALSE	4.5	8.8	7.2	62%	51%	82%		1.22	8.6	7.3				21			1,231		12,552	14,484	1,011			1,231	12,552	14,484	1,011
4/15/2011	FALSE	FALSE	FALSE	3.8	9.4	7.0	54%	40%	74%		1.34	8.6	7.2	220	204	0.93		12,844	11,910			12,408	14,162	1,011	12,844	11,910		12,408	14,162	1,011
4/16/2011	FALSE	FALSE	FALSE	3.8	9.6	6.8	56%	40%	70%		1.42	8.6	7.1									12,408	14,162	1,011				12,408	14,162	1,011
4/17/2011	FALSE	FALSE	TRUE	3.9	8.9	6.9	56%	43%	77%		1.29	8.6	7.1									12,325	14,162	1,039				12,325	14,162	1,039
4/18/2011	FALSE	FALSE	TRUE	3.9	9.6	7.2	54%	41%	75%		1.33	8.5	7.1	226				13,552				12,229	13,697	1,039	13,552			12,229	13,697	1,039
4/19/2011	FALSE	FALSE	FALSE	3.8	9.1	7.0	54%	42%	77%		1.30	8.4	7.1	213	219	1.03		12,417	12,767			12,240	13,581	1,039	12,417	12,767		12,240	13,581	1,039
4/20/2011	FALSE	FALSE	FALSE	3.9	9.1	7.0	55%	43%	77%		1.29	8.3	7.0									12,240	13,581	1,039				12,240	13,581	1,039
4/21/2011	FALSE	FALSE	TRUE	3.9	9.2	6.9	56%	42%	75%		1.33	8.2	7.0				22					12,120	13,581	1,089				12,120	13,581	1,089
4/22/2011	FALSE	FALSE	FALSE	4.2	8.7	6.9	60%	48%	80%		1.25	8.1	7.0	238	259	1.09		13,716	14,926			12,195	13,537	1,089	13,716	14,926		12,195	13,537	1,089
4/23/2011	FALSE	FALSE	FALSE	4.0	9.3	6.6	60%	43%	71%		1.41	8.0	6.9									12,195	13,537	1,089				12,195	13,537	1,089
4/24/2011	FALSE	FALSE	FALSE		8.8	6.0	0%	0%	68%		1.46	7.8	6.8									12,398	13,537	1,089				12,398	13,537	1,089
4/25/2011	FALSE	FALSE	FALSE	3.8	8.8	7.2	53%	43%	81%		1.23	7.7	6.9	245				14,610				12,504	13,286	1,100	14,610			12,504	13,286	1,100
4/26/2011	FALSE	FALSE	FALSE	3.8	9.0	6.8	56%	42%	76%		1.32	7.6	6.8	270	233	0.86		15,335	13,233			12,693	13,280	1,100	15,335	13,233		12,693	13,280	1,100
4/27/2011	FALSE	FALSE	FALSE	3.9	9.5	6.8	58%	41%	71%		1.40	7.5	6.8									12,693	13,280	1,100				12,693	13,280	1,100
4/28/2011	FALSE	FALSE	FALSE	3.9	9.5	6.7	58%	41%	71%		1.41	7.4	6.7	313			34	17,542				12,996	13,280	1,260	17,542		1,897	12,996	13,280	1,260
4/29/2011	FALSE	FALSE	FALSE	3.7	13.9	6.8	54%	26%	49%		2.05	7.3	6.7	300	313	1.04		16,989	17,725			13,281	13,773	1,260	16,989	17,725		13,281	13,773	1,260
4/30/2011	FALSE	FALSE	FALSE	3.4	10.0	6.5	52%	34%	65%		1.53	7.2	6.7									13,281	13,773	1,260				13,281	13,773	1,260
5/1/2011	FALSE	FALSE	FALSE	3.7	11.4	6.5	56%	32%	57%		1.76	7.2	6.7									13,278	13,773	1,339				13,278	13,773	1,339
5/2/2011	FALSE	FALSE	FALSE	3.5	10.0	6.7	53%	35%	67%		1.49	7.1	6.7	225				12,573				13,242	13,483	1,339	12,573			13,242	13,483	1,339
5/3/2011	FALSE	FALSE	FALSE	3.5	10.1	6.6	53%	35%	66%		1.52	7.1	6.7	226	225	1.00		12,459	12,404			13,190	13,363	1,339	12,459	12,404		13,190	13,363	1,339
5/4/2011	FALSE	FALSE	FALSE	3.5	9.9	6.7	53%	36%	68%		1.48	7.0	6.7									13,190	13,363	1,339				13,190	13,363	1,339
5/5/2011	FALSE	FALSE	FALSE	3.6	10.0	6.6	54%	36%	66%		1.51	7.0	6.6	237			22	13,026				13,298	13,363	1,318	13,026		1,234	13,298	13,363	1,318
5/6/2011	FALSE	FALSE	FALSE	3.9	9.6	6.6	59%	41%	69%		1.45	6.9	6.6	231	221	0.96		12,734	12,183			13,426	13,357	1,412	12,734	12,183		13,426	13,357	1,412
5/7/2011	FALSE	FALSE	TRUE	3.8	8.8	6.5	59%	43%	73%		1.36	6.9	6.6									13,426	13,357	1,412				13,426	13,357	1,412
5/8/2011	FALSE	FALSE	TRUE	3.4	10.4	6.5	53%	33%	63%		1.60	6.9	6.6									13,426	13,357	1,412				13,426	13,357	1,412
5/9/2011	FALSE	FALSE	TRUE	3.4	10.7	6.9	49%	32%	64%		1.55	6.8	6.6	275				15,848				13,696	13,483	1,412	15,848			13,696	13,483	1,412
5/10/2011	FALSE	FALSE	FALSE	3.5	11.0	6.7	51%	31%	61%		1.64	6.8	6.6	257	266	1.04		14,404	14,908			13,740	13,641	1,412	14,404	14,908		13,740	13,641	1,412
5/11/2011	FALSE	FALSE	FALSE	3.6	9.7	6.7	53%	37%	69%		1.45	6.8	6.6				27					13,740	13,641	1,428				13,740	13,641	1,428
5/12/2011	FALSE	FALSE	FALSE	3.6	9.8	6.7	54%	37%	68%		1.47	6.8	6.6	270				15,042				14,098	13,641	1,428	15,042			14,098	13,641	1,428
5/13/2011	FALSE	FALSE	FALSE	3.7	10.6	6.6	55%	35%	63%		1.60	6.8	6.6	337	305	0.91		18,578	16,814			14,479	14,097	1,428	18,578	16,814		14,479	14,097	1,428
5/14/2011	FALSE	FALSE	FALSE	3.6	9.7	6.5	55%	37%	67%		1.49	6.7	6.6									14,479	14,097	1,428				14,479	14,097	1,428
5/15/2011	FALSE	FALSE	TRUE	3.9	9.6	6.8	57%	41%	71%		1.42	6.7	6.7									14,479	14,097	1,477				14,479	14,097	1,477
5/16/2011	FALSE	FALSE	TRUE	3.7	9.0	7.1	52%	41%	79%		1.26	6.7	6.8	242				14,411				14,577	14,370	1,477	14,411			14,577	14,370	1,477
5/17/2011	FALSE	FALSE	TRUE	4.2	9.9	7.7	54%	42%	77%		1.29	6.8	6.8	223	208	0.93		14,265	13,305			14,559	14,252	1,477	14,265	13,305		14,559	14,252	1,477
5/18/2011	FALSE	FALSE	TRUE	4.0	9.6	7.4	54%	41%	76%		1.31	6.8	6.9				18					14,559	14,252	1,403			1,104	14,559	14,252	1,403
5/19/2011	FALSE	FALSE	FALSE	3.9	9.3	7.1	55%	42%	77%		1.31	6.8	7.0	222				13,183				14,537	14,252	1,403	13,183			14,537	14,252	1,403
5/20/2011	FALSE	FALSE	FALSE	3.8	9.0	6.9	55%	42%	77%		1.31	6.8	7.0	220	241	1.10		12,660	13,869			14,551	14,374	1,403	12,660	13,869		14,551	14,374	1,403
5/21/2011	FALSE	FALSE	FALSE	3.8	9.6	6.7	56%	39%	70%		1.43	6.8	7.0									14,551	14,374	1,403				14,551	14,374	1,403
5/22/2011	FALSE	FALSE	TRUE	3.7	9.3	6.7	55%	40%	71%		1.40	6.8	7.0									14,551	14,374	1,431				14,551	14,374	1,431
5/23/2011	FALSE	FALSE	TRUE	3.9	8.4	6.9	57%	47%	82%		1.22	6.8	7.1	179			19	10,286				14,350	14,305	1,359	10,286		1,069	14,350	14,305	1,359
5/24/2011	FALSE	FALSE	TRUE	3.8	8.8	6.9	55%	43%	78%		1.27	6.8	7.0	261				14,976				14,384	14,305	1,359	14,976			14,384	14,305	1,359
5/25/2011	FALSE	FALSE	TRUE	4.3	10.9	8.5	51%	40%	78%		1.29	6.8	7.1									14,384</								

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
6/8/2011	TRUE	TRUE	FALSE	4.0	8.1	6.5	61%	49%	80%		1.24	6.8	6.5	249				13,519				13,528	12,987	1,157	13,519			13,528	12,987	1,157
6/9/2011	TRUE	TRUE	FALSE	3.9	8.0	6.4	61%	49%	80%		1.25	6.8	6.5	245			19	13,036		1,016		13,380	12,987	1,129	13,036		1,016	13,380	12,987	1,129
6/10/2011	TRUE	TRUE	FALSE	3.9	8.2	6.3	62%	47%	76%		1.31	6.8	6.4	204	243	1.19		10,651				13,183	12,669	1,129	10,651	12,687		13,183	12,669	1,129
6/11/2011	TRUE	TRUE	FALSE	3.8	8.3	6.1	62%	45%	73%		1.37	6.7	6.4									13,183	12,669	1,038				13,183	12,669	1,038
6/12/2011	TRUE	TRUE	FALSE	3.8	8.4	6.1	62%	45%	72%		1.38	6.7	6.4									13,080	12,669	1,038				13,080	12,669	1,038
6/13/2011	TRUE	TRUE	FALSE	3.8	8.1	6.3	59%	47%	79%		1.27	6.7	6.4	235				12,426				12,738	11,979	1,038	12,426			12,738	11,979	1,038
6/14/2011	TRUE	TRUE	FALSE	3.9	7.9	6.3	62%	50%	79%		1.26	6.7	6.3	234	218	0.93		12,256				12,712	11,899	1,038	12,256	11,418		12,712	11,899	1,038
6/15/2011	TRUE	TRUE	FALSE	3.7	8.3	6.2	60%	45%	75%		1.33	6.7	6.3									12,712	11,899	1,038				12,712	11,899	1,038
6/16/2011	TRUE	TRUE	FALSE	3.8	7.9	6.2	60%	48%	79%		1.26	6.7	6.2	272			22	14,110		1,138		12,697	11,899	1,058	14,110		1,138	12,697	11,899	1,058
6/17/2011	TRUE	TRUE	FALSE	3.9	7.9	6.2	63%	50%	78%		1.28	6.6	6.2	239	218	0.91		12,259				12,591	11,595	1,058	12,259	11,181		12,591	11,595	1,058
6/18/2011	TRUE	TRUE	FALSE	3.8	7.7	5.9	65%	50%	77%		1.31	6.6	6.2									12,591	11,595	1,047				12,591	11,595	1,047
6/19/2011	TRUE	TRUE	FALSE	3.6	7.9	5.9	61%	46%	75%		1.34	6.5	6.1									12,558	11,595	1,047				12,558	11,595	1,047
6/20/2011	TRUE	TRUE	FALSE	3.8	8.0	6.2	61%	47%	78%		1.29	6.5	6.1	291			22	15,047			1,129	12,691	11,216	1,063	15,047		1,129	12,691	11,216	1,063
6/21/2011	TRUE	TRUE	FALSE	3.6	7.6	6.0	60%	47%	79%		1.27	6.5	6.1	242	230	0.95		12,110				12,660	11,258	1,063	12,110	11,509		12,660	11,258	1,063
6/22/2011	TRUE	TRUE	FALSE	3.6	7.7	6.0	59%	46%	78%		1.28	6.5	6.1									12,660	11,258	1,063				12,660	11,258	1,063
6/23/2011	TRUE	TRUE	FALSE	3.6	7.3	6.0	60%	49%	82%		1.23	6.4	6.0	252				12,589				12,781	11,258	1,061	12,589			12,781	11,258	1,061
6/24/2011	TRUE	TRUE	FALSE	3.5	7.8	5.9	59%	44%	75%		1.33	6.4	6.0	244				12,006				12,625	11,258	1,061	12,006			12,625	11,258	1,061
6/25/2011	TRUE	TRUE	FALSE	3.5	7.9	5.7	61%	45%	73%		1.37	6.3	5.9									12,625	11,258	1,061				12,625	11,258	1,061
6/26/2011	TRUE	TRUE	FALSE	3.5	7.3	5.7	62%	48%	77%		1.29	6.3	5.9									12,717	11,415	1,061				12,717	11,415	1,061
6/27/2011	TRUE	TRUE	FALSE	3.6	7.4	6.0	59%	48%	81%		1.23	6.2	5.9	238				11,929				12,745	11,415	1,061	11,929			12,745	11,415	1,061
6/28/2011	TRUE	TRUE	TRUE	3.5	9.4	6.9	50%	37%	74%		1.35	6.3	6.0	308	216	0.70		17,827				13,012	11,570	1,061	17,827	12,502		13,012	11,570	1,061
6/29/2011	TRUE	TRUE	FALSE	4.0	7.6	6.8	58%	53%	90%		1.11	6.3	6.1									13,012	11,570	1,061				13,012	11,570	1,061
6/30/2011	TRUE	TRUE	FALSE	4.0	7.5	6.4	62%	53%	85%		1.18	6.3	6.2	268	224	0.84		14,282				13,076	11,616	1,061	14,282	11,938		13,076	11,616	1,061
7/1/2011	TRUE	TRUE	FALSE	3.7	7.9	6.1	60%	46%	77%		1.30	6.2	6.2	217			19	10,985			946	13,006	11,616	1,038	10,985		946	13,006	11,616	1,038
7/2/2011	TRUE	TRUE	FALSE	3.6	7.8	5.7	62%	45%	73%		1.37	6.2	6.2									13,115	11,770	1,038				13,115	11,770	1,038
7/3/2011	TRUE	TRUE	FALSE	3.5	7.5	5.5	64%	47%	73%		1.37	6.2	6.1									13,098	11,770	1,038				13,098	11,770	1,038
7/4/2011	TRUE	TRUE	FALSE	3.7	6.4	5.5	67%	58%	86%		1.16	6.2	6.1									12,997	11,770	1,057				12,997	11,770	1,057
7/5/2011	TRUE	TRUE	FALSE	3.5	7.6	6.1	58%	46%	79%		1.26	6.1	6.1	243	163	0.67		12,281		8,238		12,957	11,329	1,057	12,281	8,238		12,957	11,329	1,057
7/6/2011	TRUE	TRUE	FALSE	3.7	7.4	6.2	60%	50%	83%		1.20	6.1	6.0									12,957	11,329	1,057				12,957	11,329	1,057
7/7/2011	TRUE	TRUE	FALSE	3.6	7.9	6.1	60%	46%	77%		1.30	6.1	5.9	250				12,614			876	13,079	11,329	1,021	12,614		876	13,079	11,329	1,021
7/8/2011	TRUE	TRUE	FALSE	3.7	7.6	5.9	63%	49%	78%		1.28	6.1	5.9	214	191	0.89		10,566				12,805	11,113	1,021	10,566	9,430		12,805	11,113	1,021
7/9/2011	TRUE	TRUE	FALSE	3.6	7.6	5.8	63%	47%	76%		1.32	6.1	5.8									12,763	11,113	1,021				12,763	11,113	1,021
7/10/2011	TRUE	TRUE	FALSE	3.5	7.9	5.8	59%	44%	74%		1.36	6.1	5.8									12,746	11,113	1,022				12,746	11,113	1,022
7/11/2011	TRUE	TRUE	FALSE	3.5	8.7	6.1	57%	40%	70%		1.43	6.0	5.9									12,886	10,888	1,022				12,886	10,888	1,022
7/12/2011	TRUE	TRUE	FALSE	3.4	8.8	6.1	55%	38%	70%		1.43	6.0	6.0	311	208	0.67		15,926				13,076	10,858	1,022	15,926	10,651		13,076	10,858	1,022
7/13/2011	TRUE	TRUE	FALSE	3.3	8.9	6.1	54%	37%	68%		1.46	6.1	6.0									13,076	10,858	1,022				13,076	10,858	1,022
7/14/2011	TRUE	TRUE	FALSE	3.4	8.9	6.1	56%	38%	68%		1.47	6.0	6.0	245			20	12,403			1,020	13,074	10,858	1,022	12,403		1,020	13,074	10,858	1,022
7/15/2011	TRUE	TRUE	FALSE	3.8	7.5	6.0	64%	51%	80%		1.25	6.0	6.0	238	150	0.63		11,850		7,468		13,049	10,365	1,022	11,850	7,468		13,049	10,365	1,022
7/16/2011	TRUE	TRUE	FALSE	3.6	7.7	5.8	63%	47%	75%		1.34	6.0	6.0									13,049	10,365	1,022				13,049	10,365	1,022
7/17/2011	TRUE	TRUE	FALSE	3.5	7.4	5.8	61%	47%	78%		1.29	6.0	6.0									12,978	10,365	993				12,978	10,365	993
7/18/2011	TRUE	TRUE	FALSE	3.5	7.3	6.1	57%	47%	83%		1.20	6.0	6.0	246				12,433				12,990	10,248	993	12,433			12,990	10,248	993
7/19/2011	TRUE	TRUE	FALSE	3.6	7.6	6.1	59%	47%	80%		1.25	6.0	6.0	275	222	0.81		13,899				13,047	10,370	993	13,899	11,220		13,047	10,370	993
7/20/2011	TRUE	TRUE	FALSE	3.6	7.4	6.0	60%	49%	81%		1.24	6.0	6.0									13,047	10,370	993				13,047	10,370	993
7/21/2011	TRUE	TRUE	FALSE	3.5	7.6	6.0	58%	46%	79%		1.26	6.0	6.0	231			20	11,579			1,022	12,830	10,370	966	11,579		1,022	12,830	10,370	966
7/22/2011	TRUE	TRUE	FALSE	3.3	8.9	5.9	56%	37%	67%		1.50	6.0	5.9	254	224	0.88		12,562				12,858	10,316	966	12,562	11,078		12,858	10,316	966
7/23/2011	TRUE	TRUE	FALSE	3.3	8.8	5.7	58%	38%	65%		1.54	6.0	5.9									12,858	10,316	966				12,858	10,316	966
7/24/2011	TRUE	TRUE	FALSE	3.5	7.6	5.7	61%	46%	75%		1.33	6.0	5.9									12,876	10,316	966				12,876	10,316	966
7/25/2011	TRUE	TRUE	FALSE	3.3	8.6	6.0	55%	38%	69%		1.44	6.0	5.9	211				10,558				12,780	10,316	966	10,558			12,780	10,316	966
7/26/2011	TRUE	TRUE	FALSE	3.3	8.3	6.0	55%	40%	72%		1.39	6.0	5.9	253	146	0.58		12,576				12,767	9,976	966	12,576	7,257		12,767	9,976	966
7/27/2011	TRUE	TRUE	FALSE	3.6	7.4	6.0	60%	49%	81%		1.23	6.0	5.9	243								12,731	9,976	966	12,160			12,731	9,976	966
7/28/2011	TRUE	TRUE	FALSE	3.6	7.3	6.0	59%	49%	82%		1.22	6.0	5.9				18					12,781	9,976	954				12,781	9,976	954

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Flow, mgd	7-d Avg of Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
10/14/2011	FALSE	FALSE	FALSE	3.5	10.2	6.9	50%	34%	68%		1.47	6.9	7.3	217	207	0.95		12,524	11,947			12,373	10,548	1,114	12,524	11,947		12,373	10,548	1,114
10/15/2011	FALSE	FALSE	FALSE	3.4	10.0	6.7	51%	34%	67%		1.49	6.9	7.2									12,373	10,548	1,114				12,373	10,548	1,114
10/16/2011	FALSE	FALSE	FALSE	3.6	9.1	6.7	53%	39%	74%		1.35	6.9	7.2									12,373	10,548	1,114				12,373	10,548	1,114
10/17/2011	FALSE	FALSE	FALSE	3.6	9.2	6.9	53%	39%	75%		1.34	6.9	7.1	191				10,959				12,357	10,591	1,114	10,959			12,357	10,591	1,114
10/18/2011	FALSE	FALSE	FALSE	3.7	9.1	6.9	54%	41%	76%		1.32	6.9	7.0	204	178	0.87		11,654	10,169			12,316	10,538	1,114	11,654	10,169		12,316	10,538	1,114
10/19/2011	FALSE	FALSE	FALSE	3.7	9.0	6.8	55%	41%	75%		1.34	6.9	6.9									12,316	10,538	1,114				12,316	10,538	1,114
10/20/2011	FALSE	FALSE	FALSE	3.7	9.1	6.8	55%	41%	74%		1.35	6.9	6.8				22			1,251		12,412	10,538	1,141		1,251		12,412	10,538	1,141
10/21/2011	FALSE	FALSE	FALSE	3.6	8.3	6.7	53%	43%	81%		1.23	6.9	6.8	229				12,872				12,512	10,689	1,141	12,872			12,512	10,689	1,141
10/22/2011	FALSE	FALSE	FALSE	3.7	8.9	6.5	57%	42%	73%		1.37	6.9	6.7									12,512	10,689	1,141				12,512	10,689	1,141
10/23/2011	FALSE	FALSE	FALSE	3.3	9.7	6.6	50%	34%	68%		1.47	6.9	6.7									12,417	10,689	1,140				12,417	10,689	1,140
10/24/2011	FALSE	FALSE	FALSE	3.3	10.3	7.0	48%	32%	68%		1.47	7.0	6.8	269				15,749				12,625	10,689	1,140	15,749			12,625	10,689	1,140
10/25/2011	FALSE	FALSE	FALSE	3.4	10.0	6.8	50%	34%	68%		1.48	7.0	6.8	234	174	0.74		13,271	9,868			12,663	10,586	1,140	13,271	9,868		12,663	10,586	1,140
10/26/2011	FALSE	FALSE	FALSE	3.3	10.3	6.8	49%	32%	65%		1.53	7.0	6.7									12,663	10,586	1,140				12,663	10,586	1,140
10/27/2011	FALSE	FALSE	FALSE	3.3	9.8	6.8	49%	34%	69%		1.45	7.0	6.7	505			22	28,429		1,250	TSS	12,628	10,586	1,140	28,429		1,250	12,628	10,586	1,140
10/28/2011	FALSE	FALSE	FALSE	3.7	8.9	6.8	54%	41%	76%		1.32	7.0	6.7	235				13,308	12,685			12,763	10,976	1,140	13,308	12,685		12,763	10,976	1,140
10/29/2011	FALSE	FALSE	FALSE	3.7	9.4	6.7	55%	39%	72%		1.40	7.0	6.7									12,763	10,976	1,140				12,763	10,976	1,140
10/30/2011	FALSE	FALSE	FALSE	3.6	9.0	6.6	54%	40%	74%		1.36	7.0	6.8									12,752	10,976	1,110				12,752	10,976	1,110
10/31/2011	FALSE	FALSE	FALSE	3.7	8.4	6.5	57%	44%	78%		1.29	7.0	6.7	209				11,400				12,829	11,072	1,110	11,400			12,829	11,072	1,110
11/1/2011	FALSE	FALSE	FALSE	3.5	8.6	6.6	54%	41%	76%		1.31	7.0	6.7	271	238	0.88		14,894	13,081			12,958	11,324	1,110	14,894	13,081		12,958	11,324	1,110
11/2/2011	FALSE	FALSE	FALSE	3.8	8.8	6.8	56%	43%	77%		1.31	7.0	6.7									12,958	11,324	1,110				12,958	11,324	1,110
11/3/2011	FALSE	FALSE	TRUE	3.7	9.0	6.8	54%	41%	75%		1.33	7.0	6.7				21			1,160		13,007	11,324	1,123			1,160	13,007	11,324	1,123
11/4/2011	FALSE	FALSE	FALSE	3.4	9.8	6.7	50%	34%	68%		1.47	7.0	6.7	264	212	0.80		14,708	11,811			13,115	11,471	1,123	14,708	11,811		13,115	11,471	1,123
11/5/2011	FALSE	FALSE	TRUE	3.4	10.0	6.8	50%	34%	68%		1.47	6.9	6.7									13,115	11,471	1,123				13,115	11,471	1,123
11/6/2011	FALSE	FALSE	TRUE	3.8	9.3	6.8	56%	41%	74%		1.36	6.9	6.7									12,974	11,471	1,217				12,974	11,471	1,217
11/7/2011	FALSE	FALSE	FALSE	3.9	8.9	6.8	58%	44%	76%		1.31	6.9	6.7	308				17,442				13,336	11,625	1,217	17,442			13,336	11,625	1,217
11/8/2011	FALSE	FALSE	FALSE	3.3	10.2	6.7	49%	32%	66%		1.52	6.8	6.7	202				11,304				13,201	11,625	1,217	11,304			13,201	11,625	1,217
11/9/2011	FALSE	FALSE	FALSE	3.4	10.4	6.7	51%	33%	64%		1.56	6.8	6.8	186	180	0.97		10,393	10,058			13,025	11,429	1,217	10,393	10,058		13,025	11,429	1,217
11/10/2011	FALSE	FALSE	FALSE	3.3	9.6	6.6	50%	34%	69%		1.45	6.8	6.7	228			21	12,588		1,177		13,037	11,374	1,207	12,588		1,177	13,037	11,374	1,207
11/11/2011	FALSE	FALSE	FALSE	3.6	9.3	6.7	53%	38%	72%		1.38	6.8	6.7									12,979	11,374	1,196				12,979	11,374	1,196
11/12/2011	FALSE	FALSE	FALSE	3.6	8.9	6.4	56%	40%	72%		1.39	6.7	6.7									12,979	11,374	1,196				12,979	11,374	1,196
11/13/2011	FALSE	FALSE	FALSE	3.4	10.1	6.6	51%	33%	65%		1.53	6.7	6.7									13,076	11,374	1,196				13,076	11,374	1,196
11/14/2011	FALSE	FALSE	FALSE	3.4	9.8	6.7	51%	35%	68%		1.47	6.7	6.7	235				13,092				13,117	11,279	1,196	13,092			13,117	11,279	1,196
11/15/2011	FALSE	FALSE	FALSE	3.4	9.9	6.7	51%	34%	67%		1.49	6.7	6.6	218	188	0.86		12,109	10,442			13,050	11,159	1,196	12,109	10,442		13,050	11,159	1,196
11/16/2011	FALSE	FALSE	FALSE	3.4	9.9	6.7	50%	34%	68%		1.47	6.7	6.6									13,050	11,159	1,196				13,050	11,159	1,196
11/17/2011	FALSE	FALSE	FALSE	3.4	9.5	6.7	50%	35%	70%		1.42	6.7	6.6	210			21	11,769		1,169		13,104	11,159	1,189	11,769		1,169	13,104	11,159	1,189
11/18/2011	FALSE	TRUE	FALSE	3.4	6.5	6.5	53%	53%	100%	AvgMax	1.00	6.7	6.7	221	220	1.00		11,962	11,908			13,124	11,407	1,189	11,962	11,908		13,124	11,407	1,189
11/19/2011	FALSE	TRUE	TRUE	3.4	9.7	6.4	54%	35%	66%		1.52	6.7	6.6									13,124	11,407	1,189				13,124	11,407	1,189
11/20/2011	FALSE	TRUE	TRUE	3.4	9.6	6.5	52%	35%	68%		1.47	6.7	6.6									13,124	11,407	1,169				13,124	11,407	1,169
11/21/2011	FALSE	TRUE	FALSE	3.4	9.6	6.7	51%	35%	70%		1.43	6.7	6.6	167			18	9,318		1,028		12,887	11,407	1,133	9,318		1,028	12,887	11,407	1,133
11/22/2011	FALSE	TRUE	FALSE	3.9	8.8	6.6	59%	44%	75%		1.33	6.7	6.6									12,887	11,407	1,133				12,887	11,407	1,133
11/23/2011	TRUE	TRUE	TRUE	4.0	8.7	6.6	61%	46%	76%		1.32	6.7	6.6	219	196	0.89		12,055	10,789			12,835	11,330	1,133	12,055	10,789		12,835	11,330	1,133
11/24/2011	TRUE	TRUE	TRUE	4.1	9.3	6.1	67%	44%	66%		1.52	6.7	6.5									12,641	11,330	1,133				12,641	11,330	1,133
11/25/2011	TRUE	TRUE	TRUE	3.4	8.9	6.1	57%	38%	68%		1.47	6.6	6.4									12,596	11,539	1,133				12,596	11,539	1,133
11/26/2011	TRUE	TRUE	FALSE	3.4	9.6	6.1	56%	36%	64%		1.56	6.6	6.4									12,596	11,539	1,133				12,596	11,539	1,133
11/27/2011	TRUE	TRUE	TRUE	3.6	8.6	6.5	55%	42%	76%		1.32	6.6	6.4									12,596	11,539	1,133				12,596	11,539	1,133
11/28/2011	TRUE	TRUE	FALSE	3.6	8.6	6.7	53%	42%	79%		1.27	6.6	6.4	194				10,873				12,422	11,348	1,133	10,873			12,422	11,348	1,133
11/29/2011	FALSE	FALSE	TRUE	3.8	8.7	6.7	56%	43%	77%		1.30	6.6	6.4	235	216	0.92		13,053	11,998			12,464	11,441	1,133	13,053	11,998		12,464	11,441	1,133
11/30/2011	FALSE	FALSE	TRUE	3.6	8.9	6.8	52%	40%	76%		1.32	6.6	6.4									12,464	11,441	1,133				12,464	11,441	1,133
12/1/2011	FALSE	FALSE	FALSE	3.4	9.6	6.7	51%	36%	70%		1.44	6.6	6.5	195			26	10,864		1,425		12,428	11,441	1,192	10,864		1,425	12,428	11,441	1,192
12/2/2011	FALSE	FALSE	FALSE	3.8	8.5	6.6	57%	44%	78%		1.29	6.6	6.5	231	209	0.90		12,773	11,556			12,287	11,223	1,192	12,773	11,556		12,287	11,223	1,192
12/3/2011	FALSE	FALSE	FALSE	3.7	9.1	6.6	56%	40%	73%		1.38																			

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
12/17/2011	TRUE	TRUE	FALSE	3.3	9.9	6.4	52%	34%	65%		1.55	6.6	6.6									11,725	11,781	1,233				11,725	11,781	1,233
12/18/2011	TRUE	TRUE	FALSE	3.8	8.3	6.2	61%	46%	75%		1.33	6.6	6.6									11,721	11,781	1,249				11,721	11,781	1,249
12/19/2011	TRUE	TRUE	FALSE	3.7	8.1	6.3	59%	46%	78%		1.29	6.6	6.6	179				9,450				11,528	11,759	1,249	9,450			11,528	11,759	1,249
12/20/2011	TRUE	TRUE	FALSE	3.8	8.0	6.2	60%	47%	77%		1.29	6.6	6.5									11,528	11,759	1,249				11,528	11,759	1,249
12/21/2011	TRUE	TRUE	FALSE	3.4	8.5	6.0	56%	40%	71%		1.42	6.5	6.4	207			22	10,324		1,104		11,442	11,759	1,220	10,324		1,104	11,442	11,759	1,220
12/22/2011	TRUE	TRUE	FALSE	3.3	8.7	6.0	55%	38%	68%		1.46	6.5	6.3	233	239	1.03		11,601	11,900			11,605	11,779	1,268	11,601	11,900		11,605	11,779	1,268
12/23/2011	TRUE	TRUE	FALSE	3.6	8.5	6.2	58%	43%	73%		1.37	6.5	6.2									11,605	11,779	1,268				11,605	11,779	1,268
12/24/2011	TRUE	TRUE	FALSE	3.6	8.3	5.8	62%	43%	69%		1.45	6.5	6.1									11,571	11,944	1,268				11,571	11,944	1,268
12/25/2011	TRUE	TRUE	FALSE	3.4	6.6	5.2	66%	52%	79%		1.27	6.5	6.0									11,571	11,944	1,268				11,571	11,944	1,268
12/26/2011	TRUE	TRUE	FALSE	3.3	9.2	5.9	55%	36%	65%		1.54	6.4	5.9									11,571	11,944	1,268				11,571	11,944	1,268
12/27/2011	TRUE	TRUE	FALSE	3.4	9.0	6.1	55%	37%	68%		1.48	6.4	5.9	281	246	0.88		14,249	12,474			11,762	12,020	1,268	14,249	12,474		11,762	12,020	1,268
12/28/2011	TRUE	TRUE	FALSE	3.4	9.0	6.1	55%	37%	67%		1.48	6.4	5.9									11,762	12,020	1,268				11,762	12,020	1,268
12/29/2011	TRUE	TRUE	FALSE	3.4	10.3	6.1	55%	33%	60%		1.68	6.4	5.9	224			19	11,471		987		11,805	12,020	1,212	11,471		987	11,805	12,020	1,212
12/30/2011	TRUE	TRUE	FALSE	4.0	8.1	6.2	64%	49%	76%		1.32	6.4	5.9	270				13,849				11,861	12,024	1,212	13,849			11,861	12,024	1,212
12/31/2011	TRUE	TRUE	FALSE	3.7	8.0	6.1	60%	46%	77%		1.30	6.4	5.9									11,861	12,024	1,212				11,861	12,024	1,212
1/1/2012	TRUE	TRUE	FALSE	3.9	7.8	5.8	66%	49%	74%		1.34	6.3	5.9									11,938	12,024	1,159				11,938	12,024	1,159
1/2/2012	TRUE	TRUE	FALSE	3.9	7.7	6.3	62%	51%	81%		1.23	6.3	6.1									11,869	12,117	1,159				11,869	12,117	1,159
1/3/2012	TRUE	TRUE	FALSE	3.6	8.0	6.2	58%	45%	77%		1.29	6.3	6.1	236				12,183				11,893	12,117	1,159	12,183			11,893	12,117	1,159
1/4/2012	TRUE	TRUE	FALSE	3.6	8.0	6.3	58%	45%	78%		1.28	6.3	6.1					12,183				11,893	12,117	1,159				11,893	12,117	1,159
1/5/2012	TRUE	TRUE	FALSE	3.6	8.0	6.2	58%	45%	78%		1.28	6.3	6.1	261			21	13,561		1,093		11,903	12,117	1,146	13,561		1,093	11,903	12,117	1,146
1/6/2012	TRUE	TRUE	FALSE	3.3	8.8	6.2	54%	38%	70%		1.44	6.3	6.1	235	213	0.91		12,053	10,925			11,936	12,200	1,146	12,053	10,925		11,936	12,200	1,146
1/7/2012	TRUE	TRUE	FALSE	3.3	9.7	6.2	53%	34%	64%		1.57	6.3	6.2									11,936	12,200	1,146				11,936	12,200	1,146
1/8/2012	TRUE	TRUE	FALSE	3.4	8.4	6.2	55%	41%	74%		1.35	6.2	6.2									11,985	12,200	1,093				11,985	12,200	1,093
1/9/2012	TRUE	TRUE	FALSE	3.2	8.7	6.2	51%	36%	71%		1.41	6.2	6.2	227				11,700				11,963	12,200	1,093	11,700			11,963	12,200	1,093
1/10/2012	TRUE	TRUE	FALSE	3.4	11.2	6.1	55%	30%	55%		1.82	6.2	6.2	260	271	1.04		13,314	13,877			12,060	12,479	1,093	13,314	13,877		12,060	12,479	1,093
1/11/2012	TRUE	TRUE	FALSE	3.3	12.7	6.0	55%	26%	47%		2.12	6.2	6.2									12,060	12,479	1,093				12,060	12,479	1,093
1/12/2012	TRUE	TRUE	FALSE	3.3	8.7	6.0	56%	38%	68%		1.46	6.2	6.1				22			1,075		12,116	12,479	1,089			1,075	12,116	12,479	1,089
1/13/2012	TRUE	TRUE	FALSE	3.4	7.4	5.8	58%	46%	79%		1.26	6.1	6.1	276				13,420				12,293	12,528	1,089	13,420			12,293	12,528	1,089
1/14/2012	TRUE	TRUE	FALSE	3.4	8.2	5.8	58%	41%	71%		1.41	6.1	6.0									12,293	12,528	1,089				12,293	12,528	1,089
1/15/2012	TRUE	TRUE	FALSE	3.5	8.0	5.7	60%	43%	72%		1.40	6.1	6.0									12,293	12,528	1,065				12,293	12,528	1,065
1/16/2012	TRUE	TRUE	FALSE	3.4	8.6	6.2	55%	40%	72%		1.38	6.1	6.0									12,264	12,294	1,065				12,264	12,294	1,065
1/17/2012	TRUE	TRUE	FALSE	3.2	9.0	6.1	52%	36%	68%		1.47	6.1	6.0				23			1,197		12,264	12,294	1,091			1,197	12,264	12,294	1,091
1/18/2012	TRUE	TRUE	FALSE	3.3	9.0	6.2	54%	37%	69%		1.45	6.1	6.0									12,264	12,294	1,091				12,264	12,294	1,091
1/19/2012	TRUE	TRUE	TRUE	3.3	9.4	6.6	49%	35%	71%		1.42	6.1	6.1	261				14,410				12,678	12,294	1,091	14,410			12,678	12,294	1,091
1/20/2012	TRUE	TRUE	TRUE	3.9	12.6	9.2	43%	31%	73%		1.37	6.2	6.5	246	227	0.92		18,855	17,398			13,153	13,315	1,091	18,855	17,398		13,153	13,315	1,091
1/21/2012	TRUE	TRUE	TRUE	6.1	11.4	8.5	72%	53%	74%		1.34	6.2	6.8									13,389	13,315	1,088				13,389	13,315	1,088
1/22/2012	TRUE	TRUE	TRUE	4.5	12.0	9.7	46%	37%	81%		1.24	6.4	7.3									13,551	13,669	1,088				13,551	13,669	1,088
1/23/2012	TRUE	TRUE	TRUE	5.9	14.9	11.5	51%	39%	77%		1.30	6.5	8.0	188				17,953				13,918	13,669	1,088	17,953			13,918	13,669	1,088
1/24/2012	FALSE	FALSE	FALSE	4.8	11.1	8.7	55%	43%	78%		1.28	6.6	8.3	147	119	0.81		10,654	8,624			13,667	12,660	1,088	10,654	8,624		13,667	12,660	1,088
1/25/2012	FALSE	FALSE	TRUE	4.5	10.2	8.0	56%	44%	78%		1.28	6.7	8.5									13,667	12,660	1,088				13,667	12,660	1,088
1/26/2012	FALSE	FALSE	TRUE	4.5	9.6	7.7	58%	47%	81%		1.24	6.8	8.7				14			917		13,667	12,660	1,054			917	13,667	12,660	1,054
1/27/2012	FALSE	FALSE	FALSE	4.2	9.4	7.4	56%	44%	79%		1.27	6.8	8.8	188	177	0.94		11,634	10,953			13,466	12,356	1,054	11,634	10,953		13,466	12,356	1,054
1/28/2012	FALSE	FALSE	FALSE	3.9	9.9	7.2	54%	39%	73%		1.37	6.8	8.6									13,466	12,356	1,054				13,466	12,356	1,054
1/29/2012	FALSE	FALSE	FALSE	4.3	9.3	7.1	61%	46%	76%		1.31	6.9	8.4									13,632	12,356	1,070				13,632	12,356	1,070
1/30/2012	FALSE	FALSE	FALSE	4.0	8.7	7.0	57%	46%	81%		1.24	6.9	8.1	166								13,289	12,356	1,070	9,733			13,289	12,356	1,070
1/31/2012	FALSE	FALSE	FALSE	4.0	8.6	6.9	58%	46%	80%		1.25	6.9	7.5	209	183	0.88		12,045	10,546			13,193	12,054	1,070	12,045	10,546		13,193	12,054	1,070
2/1/2012	FALSE	FALSE	FALSE	4.0	8.7	6.8	59%	45%	77%		1.29	7.0	7.3									13,193	12,054	1,070				13,193	12,054	1,070
2/2/2012	FALSE	FALSE	FALSE	4.4	8.1	6.8	65%	54%	84%		1.19	7.0	7.1				32			1,788		13,193	12,054	1,214			1,788	13,193	12,054	1,214
2/3/2012	FALSE	FALSE	FALSE	3.3	10.0	6.7	49%	33%	67%		1.48	7.0	7.0	225				12,629				13,228	12,054	1,214	12,629			13,228	12,054	1,214
2/4/2012	FALSE	FALSE	FALSE	3.2	10.4	6.6	49%	31%	63%		1.58	7.0	6.9									13,228	12,054	1,214				13,228	12,054	1,214
2/5/2012	FALSE	FALSE	FALSE	3.3	10.4	6.4	51%	31%	62%		1.62	7.0	6.8									13,200	12,054	1,244				13,200	12,054	1,244
2/6/2012	FALSE	FALSE	FALSE	3.3	9.9	6.6	49%	33%	67%		1.49	7																		

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
2/19/2012	FALSE	FALSE	FALSE	3.2	10.1	6.4	51%	32%	63%		1.58	7.3	6.8									13,238	11,891	1,191				13,238	11,891	1,191
2/20/2012	FALSE	FALSE	FALSE	3.6	9.3	6.9	52%	39%	74%		1.36	7.2	6.8									12,837	11,104	1,191				12,837	11,104	1,191
2/21/2012	FALSE	FALSE	FALSE	3.4	10.1	6.7	50%	33%	66%		1.52	7.2	6.7	246	207	0.84		13,643	11,480			12,890	11,151	1,191	13,643	11,480		12,890	11,151	1,191
2/22/2012	FALSE	FALSE	FALSE	3.4	10.0	6.6	52%	34%	66%		1.52	7.1	6.7									12,890	11,151	1,191				12,890	11,151	1,191
2/23/2012	FALSE	FALSE	FALSE	3.4	10.0	6.6	52%	34%	66%		1.52	6.9	6.6	243			20	13,295		1,081		12,580	11,151	1,169	13,295		1,081	12,580	11,151	1,169
2/24/2012	FALSE	FALSE	FALSE	3.6	8.4	6.4	56%	43%	76%		1.31	6.8	6.6									12,717	11,512	1,169				12,717	11,512	1,169
2/25/2012	FALSE	FALSE	FALSE	3.5	9.0	6.3	55%	39%	70%		1.42	6.8	6.5									12,717	11,512	1,169				12,717	11,512	1,169
2/26/2012	FALSE	FALSE	FALSE	3.4	9.2	6.4	54%	37%	69%		1.44	6.7	6.5									12,717	11,512	1,232				12,717	11,512	1,232
2/27/2012	FALSE	FALSE	FALSE	3.4	8.5	6.5	52%	40%	76%		1.31	6.7	6.5									12,801	11,605	1,232				12,801	11,605	1,232
2/28/2012	FALSE	FALSE	FALSE	3.6	8.5	6.6	55%	42%	77%		1.29	6.7	6.5	239	216	0.90		13,175	11,908			12,828	11,648	1,232	13,175	11,908		12,828	11,648	1,232
2/29/2012	FALSE	FALSE	TRUE	3.7	8.5	6.7	55%	43%	79%		1.27	6.7	6.5									12,828	11,648	1,232				12,828	11,648	1,232
3/1/2012	FALSE	FALSE	TRUE	3.3	8.8	6.7	50%	38%	76%		1.32	6.7	6.5	230			21	12,756		1,172		13,044	11,648	1,220	12,756		1,172	13,044	11,648	1,220
3/1/2012	FALSE	FALSE	FALSE	3.5	8.7	6.6	53%	40%	75%		1.33	6.7	6.5	252	200	0.79		13,766	10,925			13,167	11,703	1,220	13,766	10,925		13,167	11,703	1,220
3/3/2012	FALSE	FALSE	FALSE	3.5	8.8	6.3	56%	40%	72%		1.40	6.6	6.5									13,167	11,703	1,220				13,167	11,703	1,220
3/4/2012	FALSE	FALSE	FALSE	3.3	9.0	6.3	52%	37%	70%		1.43	6.6	6.5									13,167	11,703	1,078				13,167	11,703	1,078
3/5/2012	FALSE	FALSE	FALSE	3.5	8.4	6.6	53%	42%	78%		1.28	6.6	6.5									13,208	11,703	1,078				13,208	11,703	1,078
3/6/2012	FALSE	FALSE	FALSE	3.6	8.3	6.5	55%	43%	79%		1.27	6.6	6.5	268	196	0.73		14,573	10,658			13,305	11,572	1,078	14,573	10,658		13,305	11,572	1,078
3/7/2012	FALSE	FALSE	FALSE	3.6	8.5	6.5	55%	42%	76%		1.31	6.6	6.5									13,305	11,572	1,078				13,305	11,572	1,078
3/8/2012	FALSE	FALSE	FALSE	3.5	8.6	6.4	55%	41%	74%		1.34	6.6	6.5				21			1,144		13,260	11,572	1,091			1,144	13,260	11,572	1,091
3/9/2012	FALSE	FALSE	FALSE	3.4	8.5	6.4	54%	40%	75%		1.33	6.6	6.4									13,319	11,521	1,091				13,319	11,521	1,091
3/10/2012	FALSE	FALSE	FALSE	3.4	8.7	6.1	56%	39%	70%		1.42	6.6	6.4									13,319	11,521	1,091				13,319	11,521	1,091
3/11/2012	FALSE	FALSE	FALSE	3.6	8.5	6.4	56%	42%	75%		1.33	6.6	6.4									13,388	11,521	1,095				13,388	11,521	1,095
3/12/2012	FALSE	FALSE	FALSE	3.6	7.7	6.5	56%	47%	84%		1.19	6.6	6.4	265				14,277				13,155	11,432	1,095	14,277			13,155	11,432	1,095
3/13/2012	FALSE	FALSE	TRUE	3.6	9.4	7.3	49%	38%	78%		1.28	6.6	6.5	238				14,450				13,263	11,432	1,095	14,450			13,263	11,432	1,095
3/14/2012	FALSE	FALSE	TRUE	4.8	11.1	8.9	54%	44%	80%		1.25	6.7	6.8	238	208	0.87		17,646	15,422			13,600	12,002	1,095	17,646	15,422		13,600	12,002	1,095
3/15/2012	FALSE	FALSE	TRUE	4.9	10.5	8.6	56%	46%	82%		1.22	6.7	7.1				14					13,618	12,002	1,070			967	13,618	12,002	1,070
3/16/2012	FALSE	TRUE	TRUE	5.4	11.3	8.6	63%	48%	76%		1.32	6.8	7.3	191	180	0.94		13,667	12,880			13,735	12,200	1,070	13,667	12,880		13,735	12,200	1,070
3/17/2012	FALSE	TRUE	FALSE	4.3	11.8	8.0	54%	37%	68%		1.47	6.8	7.5									13,735	12,200	1,070				13,735	12,200	1,070
3/18/2012	FALSE	FALSE	TRUE	3.8	12.7	8.1	47%	30%	63%		1.58	6.8	7.8									13,903	12,200	1,091				13,903	12,200	1,091
3/19/2012	FALSE	FALSE	FALSE	3.7	11.6	7.7	48%	32%	66%		1.51	6.9	8.0	203				13,070				14,029	12,212	1,091	13,070			14,029	12,212	1,091
3/20/2012	FALSE	FALSE	FALSE	3.6	10.0	7.1	50%	36%	71%		1.40	6.9	8.0	163	152	0.93		9,665	9,013			13,665	11,755	1,091	9,665	9,013		13,665	11,755	1,091
3/21/2012	FALSE	FALSE	FALSE	3.6	9.7	6.9	52%	37%	71%		1.41	6.9	8.0									13,665	11,755	1,091				13,665	11,755	1,091
3/22/2012	FALSE	FALSE	TRUE	3.4	9.6	6.7	51%	35%	70%		1.42	6.9	7.7	221			18	12,367		1,005		13,566	11,755	1,074	12,367		1,005	13,566	11,755	1,074
3/23/2012	FALSE	FALSE	FALSE	4.2	8.2	6.7	63%	51%	81%		1.23	6.9	7.5	216	198	0.92		11,998	10,998			13,439	11,686	1,074	11,998	10,998		13,439	11,686	1,074
3/24/2012	FALSE	FALSE	FALSE	4.1	8.2	6.6	62%	50%	81%		1.24	6.9	7.2									13,439	11,686	1,074				13,439	11,686	1,074
3/25/2012	FALSE	FALSE	TRUE	3.5	10.9	7.3	48%	32%	67%		1.50	6.9	7.1									13,451	11,686	1,072				13,451	11,686	1,072
3/26/2012	FALSE	FALSE	TRUE	3.7	9.8	7.3	50%	38%	75%		1.34	6.9	7.0	202				12,315				13,364	11,686	1,072	12,315			13,364	11,686	1,072
3/27/2012	FALSE	TRUE	TRUE	3.8	13.3	9.2	41%	28%	69%		1.45	7.0	7.2	181	183	1.01		13,933	14,087			13,404	11,986	1,072	13,933	14,087		13,404	11,986	1,072
3/28/2012	FALSE	TRUE	TRUE	5.6	14.3	11.0	51%	39%	77%		1.30	7.2	7.7									13,404	11,986	1,072				13,404	11,986	1,072
3/29/2012	FALSE	FALSE	TRUE	4.8	12.1	9.2	52%	39%	76%		1.32	7.3	8.0	178			9	13,643		711		13,420	11,986	1,000	13,643		711	13,420	11,986	1,000
3/30/2012	FALSE	FALSE	FALSE	4.2	12.3	8.6	49%	34%	70%		1.43	7.3	8.2	167	165	0.99		11,992	11,848			13,341	11,979	1,000	11,992	11,848		13,341	11,979	1,000
3/31/2012	FALSE	FALSE	TRUE	3.9	12.9	8.6	45%	30%	67%		1.50	7.4	8.5									13,341	11,979	1,000				13,341	11,979	1,000
4/1/2012	FALSE	FALSE	FALSE	4.3	10.9	8.0	53%	39%	74%		1.36	7.4	8.7									13,383	11,979	957				13,383	11,979	957
4/2/2012	FALSE	FALSE	FALSE	4.0	10.4	7.9	51%	38%	76%		1.31	7.5	8.7	186				12,270				13,276	12,129	957	12,270			13,276	12,129	957
4/3/2012	FALSE	FALSE	TRUE	4.2	10.0	7.7	55%	42%	77%		1.30	7.5	8.8	204	200	0.98		13,100	12,844			13,265	12,219	957	13,100	12,844		13,265	12,219	957
4/4/2012	FALSE	FALSE	FALSE	4.2	10.1	7.5	56%	42%	74%		1.34	7.6	8.6									13,265	12,219	957				13,265	12,219	957
4/5/2012	FALSE	FALSE	FALSE	3.7	9.6	7.3	51%	39%	76%		1.32	7.6	8.1				21			1,286		13,265	12,219	1,023			1,286	13,265	12,219	1,023
4/6/2012	FALSE	FALSE	FALSE	3.7	9.8	7.2	51%	37%	73%		1.37	7.6	7.9	209	212	1.01		12,463	12,642			13,124	12,467	1,023	12,463	12,642		13,124	12,467	1,023
4/7/2012	FALSE	FALSE	FALSE	3.4	9.7	6.7	51%	35%	70%		1.43	7.6	7.6									13,124	12,467	1,023				13,124	12,467	1,023
4/8/2012	FALSE	FALSE	FALSE	3.5	9.2	6.5	54%	38%	71%		1.42	7.6	7.4									13,124	12,467	992				13,124	12,467	992
4/9/2012	FALSE	FALSE	FALSE	3.5	9.7	7.0	50%	36%	72%		1.39	7.6	7.2	190				11,045				12,994	12,467	992	11,045			12,994	12,467	992

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Flow, mgd	7-d Avg of Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
4/23/2012	FALSE	FALSE	FALSE	3.4	9.2	6.8	50%	37%	74%		1.35	7.5	6.9	225				12,779				12,683	12,571	1,020	12,779			12,683	12,571	1,020
4/24/2012	FALSE	FALSE	FALSE	3.5	8.6	6.7	53%	41%	79%		1.27	7.5	6.9	273	193	0.71		15,323	10,833			12,838	12,378	1,020	15,323	10,833		12,838	12,378	1,020
4/25/2012	FALSE	FALSE	TRUE	3.6	9.2	6.9	52%	39%	75%		1.33	7.5	6.9									12,838	12,378	1,020				12,838	12,378	1,020
4/26/2012	FALSE	FALSE	TRUE	3.9	9.5	7.2	55%	41%	75%		1.33	7.5	6.9				32			1,897		12,871	12,378	1,195			1,897	12,871	12,378	1,195
4/27/2012	FALSE	FALSE	FALSE	3.6	10.0	7.0	51%	35%	70%		1.43	7.5	6.8	215	192	0.89		12,570	11,225			12,785	12,060	1,195	12,570	11,225		12,785	12,060	1,195
4/28/2012	FALSE	FALSE	FALSE	3.5	9.6	6.6	53%	36%	69%		1.45	7.3	6.8									12,785	12,060	1,195				12,785	12,060	1,195
4/29/2012	FALSE	FALSE	FALSE	3.4	9.0	6.5	53%	38%	72%		1.38	7.2	6.8									12,728	12,060	1,316				12,728	12,060	1,316
4/30/2012	FALSE	FALSE	FALSE	3.5	8.7	6.7	51%	40%	77%		1.29	7.2	6.8									12,781	12,086	1,316				12,781	12,086	1,316
5/1/2012	FALSE	FALSE	FALSE	3.6	8.8	6.8	53%	40%	77%		1.31	7.1	6.8	277	212	0.77		15,617	11,952			12,970	12,071	1,316	15,617	11,952		12,970	12,071	1,316
5/2/2012	FALSE	FALSE	FALSE	3.5	9.0	6.8	51%	39%	76%		1.32	7.1	6.8									12,970	12,071	1,316				12,970	12,071	1,316
5/3/2012	FALSE	FALSE	FALSE	3.6	8.8	6.8	53%	41%	77%		1.29	7.0	6.8	204			20	11,586		1,143		12,924	12,071	1,282	11,586		1,143	12,924	12,071	1,282
5/4/2012	FALSE	FALSE	FALSE	3.6	9.2	6.6	54%	39%	72%		1.39	7.0	6.7	286	199	0.70		15,838	11,020			13,107	11,868	1,282	15,838	11,020		13,107	11,868	1,282
5/5/2012	FALSE	FALSE	FALSE	3.4	9.6	6.7	51%	35%	69%		1.44	7.0	6.7									13,107	11,868	1,282				13,107	11,868	1,282
5/6/2012	FALSE	FALSE	FALSE	3.5	9.3	6.6	53%	38%	71%		1.40	7.0	6.7									13,107	11,868	1,281				13,107	11,868	1,281
5/7/2012	FALSE	FALSE	FALSE	3.5	8.8	6.8	52%	40%	76%		1.31	6.9	6.7	208				11,709				13,057	11,772	1,281	11,709			13,057	11,772	1,281
5/8/2012	FALSE	FALSE	FALSE	3.5	9.2	6.7	52%	38%	73%		1.37	6.9	6.7	232	202	0.87		13,002	11,321			13,053	11,722	1,281	13,002	11,321		13,053	11,722	1,281
5/9/2012	FALSE	FALSE	FALSE	3.6	9.0	6.6	53%	39%	74%		1.36	6.9	6.7									13,053	11,722	1,281				13,053	11,722	1,281
5/10/2012	FALSE	FALSE	FALSE	3.5	8.9	6.6	53%	39%	75%		1.33	6.9	6.7	122			22	6,756		1,236		12,785	11,722	1,272	6,756		1,236	12,785	11,722	1,272
5/11/2012	FALSE	FALSE	FALSE	3.6	8.6	6.6	54%	41%	77%		1.30	6.9	6.7	273	210	0.77		15,027	11,559			12,937	11,620	1,272	15,027	11,559		12,937	11,620	1,272
5/12/2012	FALSE	FALSE	FALSE	3.6	8.8	6.4	56%	40%	72%		1.38	6.9	6.6									12,937	11,620	1,272				12,937	11,620	1,272
5/13/2012	FALSE	FALSE	FALSE	3.5	9.1	6.5	54%	38%	72%		1.40	6.9	6.6									12,894	11,620	1,290				12,894	11,620	1,290
5/14/2012	FALSE	FALSE	FALSE	3.5	8.5	6.7	52%	41%	79%		1.27	6.8	6.6	212				11,811				12,770	11,397	1,290	11,811			12,770	11,397	1,290
5/15/2012	FALSE	FALSE	FALSE	3.6	8.9	6.7	53%	40%	75%		1.33	6.8	6.6	231	170	0.74		12,946	9,528			12,781	11,190	1,290	12,946	9,528		12,781	11,190	1,290
5/16/2012	FALSE	FALSE	FALSE	3.6	8.9	6.7	53%	40%	76%		1.32	6.8	6.6									12,781	11,190	1,290				12,781	11,190	1,290
5/17/2012	FALSE	FALSE	FALSE	3.6	8.7	6.7	54%	42%	78%		1.29	6.8	6.6	284			21	15,964		1,184		13,324	11,190	1,365	15,964		1,184	13,324	11,190	1,365
5/18/2012	FALSE	FALSE	FALSE	3.6	8.8	6.7	53%	41%	76%		1.32	6.7	6.6	241	185	0.77		13,366	10,260			13,415	11,006	1,365	13,366	10,260		13,415	11,006	1,365
5/19/2012	FALSE	FALSE	FALSE	3.6	8.8	6.5	55%	40%	73%		1.37	6.7	6.6									13,415	11,006	1,365				13,415	11,006	1,365
5/20/2012	FALSE	FALSE	FALSE	3.5	8.9	6.5	54%	40%	73%		1.37	6.7	6.6									13,150	11,006	1,365				13,150	11,006	1,365
5/21/2012	FALSE	FALSE	FALSE	3.6	8.2	6.5	55%	44%	80%		1.25	6.7	6.6	238				12,962				13,150	10,962	1,365	12,962			13,150	10,962	1,365
5/22/2012	FALSE	FALSE	FALSE			6.4	0%				0.00	6.7	6.6	218			21	11,672		1,113		13,058	10,962	1,315	11,672		1,113	13,058	10,962	1,315
5/23/2012	FALSE	FALSE	FALSE	3.6	8.3	6.4	56%	43%	77%		1.30	6.7	6.5									13,058	10,962	1,315				13,058	10,962	1,315
5/24/2012	FALSE	FALSE	FALSE	3.5	8.4	6.4	55%	42%	76%		1.31	6.7	6.5	225				12,085				13,015	10,962	1,315	12,085			13,015	10,962	1,315
5/25/2012	TRUE	FALSE	FALSE	3.8	8.0	6.3	60%	47%	79%		1.27	6.6	6.5	264	218	0.83		13,871	11,454			12,924	11,040	1,315	13,871	11,454		12,924	11,040	1,315
5/26/2012	TRUE	FALSE	TRUE	3.6	8.3	6.1	59%	43%	73%		1.37	6.6	6.4									12,924	11,040	1,315				12,924	11,040	1,315
5/27/2012	TRUE	TRUE	FALSE	3.6	8.1	5.8	62%	44%	72%		1.40	6.6	6.3									12,924	11,040	1,169				12,924	11,040	1,169
5/28/2012	TRUE	TRUE	FALSE	3.6	8.3	6.0	59%	43%	72%		1.38	6.5	6.2									12,948	11,014	1,169				12,948	11,014	1,169
5/29/2012	TRUE	TRUE	FALSE	3.5	9.6	6.1	57%	36%	64%		1.57	6.5	6.2	137	188	1.37		6,947	9,533			12,572	10,828	1,169	6,947	9,533		12,572	10,828	1,169
5/30/2012	TRUE	TRUE	FALSE	3.3	7.8	6.1	55%	43%	78%		1.28	6.5	6.1									12,572	10,828	1,169				12,572	10,828	1,169
5/31/2012	TRUE	TRUE	FALSE	3.6	7.8	6.1	59%	47%	79%		1.27	6.5	6.1	218			21	11,127		1,048		12,487	10,828	1,145	11,127		1,048	12,487	10,828	1,145
6/1/2012	TRUE	TRUE	FALSE	3.8	7.8	6.0	62%	48%	78%		1.29	6.5	6.1	149	178	1.19		7,506	8,967			12,010	10,455	1,145	7,506	8,967		12,010	10,455	1,145
6/2/2012	TRUE	TRUE	FALSE	3.6	8.1	5.9	61%	44%	73%		1.37	6.4	6.0									12,010	10,455	1,145				12,010	10,455	1,145
6/3/2012	TRUE	TRUE	FALSE	3.8	7.6	5.9	64%	50%	78%		1.28	6.4	6.0									12,037	10,455	1,145				12,037	10,455	1,145
6/4/2012	TRUE	TRUE	TRUE	3.9	7.9	6.3	62%	49%	80%		1.25	6.4	6.1	227				11,984				11,796	10,375	1,145	11,984			11,796	10,375	1,145
6/5/2012	TRUE	TRUE	FALSE	3.7	7.6	6.2	59%	48%	81%		1.23	6.4	6.1	220	185	0.84		11,302	9,504			11,767	10,266	1,145	11,302	9,504		11,767	10,266	1,145
6/6/2012	TRUE	TRUE	FALSE	3.7	7.4	6.1	61%	50%	82%		1.22	6.4	6.1									11,767	10,266	1,145				11,767	10,266	1,145
6/7/2012	TRUE	TRUE	FALSE	3.6	7.7	6.1	59%	47%	79%		1.26	6.3	6.1				19			980		11,771	10,266	1,112			980	11,771	10,266	1,112
6/8/2012	TRUE	TRUE	FALSE	3.6	7.9	6.0	60%	46%	76%		1.32	6.3	6.1	218	204	0.94		10,872	10,174			11,637	10,122	1,112	10,872	10,174		11,637	10,122	1,112
6/9/2012	TRUE	TRUE	FALSE	3.5	7.9	5.7	61%	44%	72%		1.38	6.3	6.0									11,637	10,122	1,112				11,637	10,122	1,112
6/10/2012	TRUE	TRUE	FALSE	3.6	7.6	5.8	62%	47%	75%		1.32	6.3	6.0									11,963	10,122	1,081				11,963	10,122	1,081
6/11/2012	TRUE	TRUE	FALSE	3.6	7.9	6.1	60%	46%	77%		1.30	6.2	6.0	243				12,302				11,781	9,917	1,081	12,302			11,781	9,917	1,081
6/12/2012	TRUE	TRUE	FALSE	3.6	7.7	6.1	60%	47%	78%		1.27	6.2	6.0	238	197	0.83		12,009	9,940											

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
6/26/2012	TRUE	TRUE	FALSE	3.2	7.3	5.8	56%	44%	79%		1.26	5.9	5.8	250	201	0.80		12,010	9,656			10,965	9,419	1,084	12,010	9,656		10,965	9,419	1,084
6/27/2012	TRUE	TRUE	FALSE	3.3	7.3	5.8	57%	45%	79%		1.27	5.9	5.8									10,965	9,419	1,084				10,965	9,419	1,084
6/28/2012	TRUE	TRUE	FALSE	3.2	7.5	5.8	56%	43%	77%		1.30	5.9	5.8	241			21	11,577		1,001		11,006	9,419	1,067	11,577		1,001	11,006	9,419	1,067
6/29/2012	TRUE	TRUE	FALSE	3.2	7.6	5.8	56%	43%	76%		1.32	5.9	5.7	250	201	0.80		11,989	9,639			11,342	9,430	1,067	11,989	9,639		11,342	9,430	1,067
6/30/2012	TRUE	TRUE	FALSE	3.3	7.3	5.5	59%	45%	75%		1.33	5.9	5.7									11,342	9,430	1,067				11,342	9,430	1,067
7/1/2012	TRUE	TRUE	FALSE	3.2	7.4	5.5	58%	43%	74%		1.35	5.9	5.7									11,357	9,430	1,072				11,357	9,430	1,072
7/2/2012	TRUE	TRUE	FALSE	3.3	7.5	5.8	58%	45%	77%		1.29	5.9	5.7	224				10,798				11,592	9,488	1,072	10,798			11,592	9,488	1,072
7/3/2012	TRUE	TRUE	FALSE	3.3	7.4	5.6	59%	45%	76%		1.32	5.9	5.7	239	207	0.87		11,182	9,685			11,565	9,510	1,072	11,182	9,685		11,565	9,510	1,072
7/4/2012	TRUE	TRUE	FALSE	3.3	7.7	5.3	62%	42%	69%		1.46	5.8	5.6									11,565	9,510	1,072				11,565	9,510	1,072
7/5/2012	TRUE	TRUE	FALSE	3.3	7.2	5.6	59%	46%	78%		1.28	5.8	5.6				18			848		11,535	9,510	1,027		848		11,535	9,510	1,027
7/6/2012	TRUE	TRUE	FALSE	3.3	7.4	5.6	59%	45%	76%		1.32	5.8	5.6	212	188	0.89		9,919	8,796			11,436	9,432	1,027	9,919	8,796		11,436	9,432	1,027
7/7/2012	TRUE	TRUE	FALSE	3.3	7.4	5.4	61%	45%	73%		1.36	5.8	5.5									11,436	9,432	1,027				11,436	9,432	1,027
7/8/2012	TRUE	TRUE	FALSE	3.3	7.4	5.5	59%	44%	74%		1.35	5.8	5.5									11,436	9,432	1,039				11,436	9,432	1,039
7/9/2012	TRUE	TRUE	FALSE	3.4	7.6	5.9	57%	45%	78%		1.28	5.8	5.6	220				10,789				11,430	9,339	1,039	10,789			11,430	9,339	1,039
7/10/2012	TRUE	TRUE	FALSE	3.4	7.3	5.8	58%	46%	79%		1.26	5.8	5.6	176	143	0.81		8,558	6,953			11,239	9,074	1,039	8,558	6,953		11,239	9,074	1,039
7/11/2012	TRUE	TRUE	FALSE	3.7	7.4	5.9	62%	49%	79%		1.26	5.8	5.6									11,239	9,074	1,039				11,239	9,074	1,039
7/12/2012	TRUE	TRUE	FALSE	3.4	7.4	5.9	59%	46%	79%		1.27	5.8	5.7				17			839		11,163	9,074	999		839		11,163	9,074	999
7/13/2012	TRUE	TRUE	FALSE	3.6	7.6	5.8	61%	47%	77%		1.30	5.8	5.7	212	112	0.53		10,326	5,455			11,043	8,575	999	10,326	5,455		11,043	8,575	999
7/14/2012	TRUE	TRUE	FALSE	3.4	7.6	5.7	60%	45%	75%		1.34	5.7	5.7									11,043	8,575	999				11,043	8,575	999
7/15/2012	TRUE	TRUE	FALSE	3.5	7.4	5.7	62%	47%	76%		1.31	5.7	5.8									11,043	8,575	953				11,043	8,575	953
7/16/2012	TRUE	TRUE	FALSE	3.4	7.7	6.0	57%	44%	78%		1.29	5.7	5.8	165			20	8,188		999		10,693	8,400	962	8,188	999		10,693	8,400	962
7/17/2012	TRUE	TRUE	FALSE	3.6	7.2	6.0	61%	50%	83%		1.21	5.7	5.8	237								10,764	8,400	962	11,761			10,764	8,400	962
7/18/2012	TRUE	TRUE	FALSE	3.5	7.3	5.9	59%	48%	81%		1.24	5.7	5.8									10,764	8,400	962				10,764	8,400	962
7/19/2012	TRUE	TRUE	FALSE	3.7	7.3	5.9	63%	51%	81%		1.24	5.7	5.8	253				12,407				10,867	8,400	962	12,407			10,867	8,400	962
7/20/2012	TRUE	TRUE	FALSE	2.8	7.5	5.8	48%	37%	78%		1.29	5.7	5.8	273								11,082	8,493	962	13,228			11,082	8,493	962
7/21/2012	TRUE	TRUE	FALSE	3.4	7.5	5.6	61%	45%	75%		1.34	5.7	5.8									11,082	8,493	921				11,082	8,493	921
7/22/2012	TRUE	TRUE	FALSE	3.4	7.0	5.5	61%	48%	79%		1.27	5.7	5.8									11,005	8,493	921				11,005	8,493	921
7/23/2012	TRUE	TRUE	FALSE	3.4	7.2	5.9	57%	47%	82%		1.22	5.7	5.8									11,023	8,364	921				11,023	8,364	921
7/24/2012	TRUE	TRUE	FALSE	3.7	7.5	5.9	62%	49%	78%		1.28	5.7	5.8	229				11,230				11,037	8,364	921	11,230			11,037	8,364	921
7/25/2012	TRUE	TRUE	FALSE	3.5	7.2	5.8	61%	49%	82%		1.23	5.7	5.8									11,037	8,364	921				11,037	8,364	921
7/26/2012	TRUE	TRUE	FALSE	3.4	7.3	5.9	58%	47%	80%		1.24	5.7	5.8	226			19	11,121		924		11,005	8,364	922	11,121		924	11,005	8,364	922
7/27/2012	TRUE	TRUE	FALSE	3.7	7.5	5.8	64%	49%	78%		1.29	5.7	5.8	253	182	0.72		12,323	8,864			11,026	8,232	922	12,323	8,864		11,026	8,232	922
7/28/2012	TRUE	TRUE	FALSE	3.5	7.1	5.5	64%	49%	77%		1.29	5.7	5.7									11,026	8,232	922				11,026	8,232	922
7/29/2012	TRUE	TRUE	FALSE	3.3	7.4	5.6	59%	45%	77%		1.31	5.7	5.8									10,987	8,232	902				10,987	8,232	902
7/30/2012	TRUE	TRUE	FALSE	3.4	7.3	5.9	57%	46%	81%		1.24	5.7	5.8	308				15,155				11,213	7,951	902	15,155			11,213	7,951	902
7/31/2012	TRUE	TRUE	FALSE	3.4	7.1	5.9	59%	48%	82%		1.21	5.7	5.8	218	171	0.78		10,636	8,343			11,175	8,016	902	10,636	8,343		11,175	8,016	902
8/1/2012	TRUE	TRUE	FALSE	3.5	11.3	5.9	59%	31%	52%		1.92	5.7	5.8									11,175	8,016	902				11,175	8,016	902
8/2/2012	TRUE	TRUE	FALSE	3.6	7.1	5.9	60%	50%	82%		1.21	5.8	5.8	250			19	12,281		938		11,273	8,016	909	12,281		938	11,273	8,016	909
8/3/2012	TRUE	TRUE	FALSE	3.6	7.9	5.9	61%	46%	74%		1.35	5.8	5.8	272				13,339				11,417	7,682	909	13,339			11,417	7,682	909
8/4/2012	TRUE	TRUE	FALSE	3.5	7.9	5.7	61%	44%	72%		1.38	5.8	5.8									11,417	7,682	909				11,417	7,682	909
8/5/2012	TRUE	TRUE	FALSE	3.6	7.5	5.8	62%	48%	77%		1.30	5.8	5.8									11,417	7,682	925				11,417	7,682	925
8/6/2012	TRUE	TRUE	FALSE	3.6	7.9	6.1	59%	46%	77%		1.30	5.8	5.9	220				11,137				11,498	7,404	925	11,137			11,498	7,404	925
8/7/2012	TRUE	TRUE	FALSE	3.6	7.9	6.0	60%	46%	75%		1.33	5.8	5.9	271	165	0.61		13,470	8,202			11,622	7,563	925	13,470	8,202		11,622	7,563	925
8/8/2012	TRUE	TRUE	FALSE	3.6	7.8	5.9	61%	46%	76%		1.32	5.8	5.9									11,622	7,563	925				11,622	7,563	925
8/9/2012	TRUE	TRUE	FALSE	3.6	7.3	5.9	61%	49%	81%		1.24	5.8	5.9	223			23	10,954		1,114		11,632	7,563	963	10,954		1,114	11,632	7,563	963
8/10/2012	TRUE	TRUE	FALSE	3.4	7.6	5.9	58%	45%	77%		1.29	5.8	5.9	222	186	0.84		10,831	9,075			11,774	7,988	963	10,831	9,075		11,774	7,988	963
8/11/2012	TRUE	TRUE	FALSE	3.4	7.5	5.6	60%	44%	75%		1.34	5.8	5.9									11,774	7,988	963				11,774	7,988	963
8/12/2012	TRUE	TRUE	FALSE	3.4	7.8	5.8	58%	43%	74%		1.35	5.8	5.9									11,774	7,988	994				11,774	7,988	994
8/13/2012	TRUE	TRUE	TRUE	3.3	7.7	6.0	55%	43%	79%		1.27	5.8	5.9	221				11,133				11,825	8,621	994	11,133			11,825	8,621	994
8/14/2012	TRUE	TRUE	FALSE	3.4	7.7	6.1	56%	44%	78%		1.28	5.8	5.9	219	178	0.81		11,087	9,011			11,781	8,699	994	11,087	9,011		11,781	8,699	994
8/15/2012	TRUE	TRUE	FALSE	3.3	7.6	6.0	54%	43%	79%		1.27	5.8	5.9									11,781	8,699	994				11,781	8,699	994
8/16/2012	TRUE	TRUE	FALSE	3.5	7.8	6.1	57%	45%	79%		1.27	5.9	5.9				21			1,095		12,006	8,699	1,018		1,095		12,006	8,699	1,018
8/1																														

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Flow, mgd	7-d Avg of Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
8/29/2012	FALSE	FALSE	FALSE	3.3	9.9	6.5	51%	33%	66%		1.53	6.1	6.4									11,586	8,943	1,049				11,586	8,943	1,049
8/30/2012	FALSE	FALSE	FALSE	3.5	8.7	6.5	54%	40%	75%		1.34	6.1	6.4									11,331	8,943	1,049				11,331	8,943	1,049
8/31/2012	FALSE	FALSE	FALSE	3.5	8.8	6.6	53%	39%	74%		1.35	6.1	6.4	247	185	0.75	19	13,493	10,106	1,011				13,493	10,106	1,011	11,535	9,195	1,040	
9/1/2012	FALSE	FALSE	FALSE	3.4	8.9	6.2	54%	38%	70%		1.42	6.1	6.4									11,535	9,195	1,040				11,535	9,195	1,040
9/2/2012	FALSE	FALSE	FALSE	3.4	8.7	6.0	56%	39%	69%		1.45	6.1	6.4									11,477	9,195	1,073				11,477	9,195	1,073
9/3/2012	FALSE	FALSE	FALSE	3.5	9.3	6.5	53%	37%	71%		1.42	6.2	6.4									11,322	9,195	1,073				11,322	9,195	1,073
9/4/2012	FALSE	FALSE	FALSE	3.5	8.6	6.4	54%	40%	75%		1.33	6.2	6.4	196	176	0.90		10,494	9,424			11,259	9,224	1,073	10,494	9,424		11,259	9,224	1,073
9/5/2012	FALSE	FALSE	FALSE	3.5	8.4	6.5	53%	41%	78%		1.28	6.2	6.4									11,259	9,224	1,073				11,259	9,224	1,073
9/6/2012	FALSE	FALSE	FALSE	3.5	8.5	6.5	54%	41%	76%		1.31	6.2	6.4	228			20	12,379		1,110		11,354	9,224	1,082	12,379		1,110	11,354	9,224	1,082
9/7/2012	FALSE	FALSE	FALSE	3.4	9.8	6.5	52%	34%	66%		1.51	6.2	6.4	240	181	0.75		12,910	9,737			11,311	9,415	1,082	12,910	9,737		11,311	9,415	1,082
9/8/2012	FALSE	FALSE	FALSE	3.4	9.6	6.3	53%	35%	65%		1.53	6.3	6.4									11,311	9,415	1,082				11,311	9,415	1,082
9/9/2012	FALSE	FALSE	FALSE	3.4	9.1	6.4	53%	37%	70%		1.43	6.3	6.4									11,341	9,415	1,072				11,341	9,415	1,072
9/10/2012	FALSE	FALSE	FALSE	3.4	8.7	6.5	52%	39%	75%		1.34	6.3	6.4	191				10,338				11,300	9,464	1,072	10,338			11,300	9,464	1,072
9/11/2012	FALSE	FALSE	FALSE	3.4	8.6	6.5	52%	39%	75%		1.34	6.3	6.4	213	172	0.81		11,476	9,267			11,313	9,439	1,072	11,476	9,267		11,313	9,439	1,072
9/12/2012	FALSE	FALSE	FALSE	3.4	8.6	6.5	53%	40%	75%		1.33	6.3	6.4									11,313	9,439	1,072				11,313	9,439	1,072
9/13/2012	FALSE	FALSE	FALSE	3.4	8.7	6.5	52%	39%	74%		1.34	6.3	6.4				19			1,048		11,328	9,439	1,066			1,048	11,328	9,439	1,066
9/14/2012	FALSE	FALSE	FALSE	3.6	8.2	6.4	55%	43%	78%		1.28	6.4	6.4	212	172	0.81		11,316	9,181			11,347	9,461	1,066	11,316	9,181		11,347	9,461	1,066
9/15/2012	FALSE	FALSE	FALSE	3.5	8.6	6.2	56%	40%	72%		1.40	6.4	6.4									11,347	9,461	1,066				11,347	9,461	1,066
9/16/2012	FALSE	FALSE	FALSE	3.2	9.1	6.3	51%	35%	69%		1.44	6.4	6.4									11,347	9,461	1,056				11,347	9,461	1,056
9/17/2012	FALSE	FALSE	FALSE	3.4	8.5	6.4	53%	40%	76%		1.32	6.4	6.4	217				11,655				11,366	9,565	1,056	11,655			11,366	9,565	1,056
9/18/2012	FALSE	FALSE	FALSE	3.5	8.4	6.4	54%	41%	77%		1.31	6.4	6.4	259	172	0.66		13,868	9,209			11,558	9,521	1,056	13,868	9,209		11,558	9,521	1,056
9/19/2012	FALSE	FALSE	FALSE	3.4	8.5	6.4	53%	40%	75%		1.33	6.4	6.4									11,558	9,521	1,056				11,558	9,521	1,056
9/20/2012	FALSE	FALSE	FALSE	3.1	8.6	6.3	49%	36%	73%		1.37	6.4	6.4	230			26	12,085		1,356		11,733	9,521	1,131	12,085		1,356	11,733	9,521	1,131
9/21/2012	FALSE	FALSE	FALSE	3.1	8.2	6.3	50%	38%	76%		1.31	6.4	6.3	241	189	0.78		12,582	9,867			11,974	9,500	1,131	12,582	9,867		11,974	9,500	1,131
9/22/2012	FALSE	FALSE	FALSE	3.2	8.5	5.9	54%	38%	70%		1.44	6.4	6.3									11,974	9,500	1,131				11,974	9,500	1,131
9/23/2012	FALSE	FALSE	FALSE	3.1	8.7	6.1	50%	35%	70%		1.43	6.4	6.3									11,974	9,500	1,131				11,974	9,500	1,131
9/24/2012	FALSE	FALSE	FALSE	3.3	8.9	6.4	52%	37%	72%		1.40	6.4	6.3	213				11,298				11,926	9,500	1,131	11,298			11,926	9,500	1,131
9/25/2012	FALSE	FALSE	FALSE	3.2	8.4	6.3	51%	38%	74%		1.35	6.4	6.2	220	181	0.82		11,486	9,450			11,897	9,495	1,131	11,486	9,450		11,897	9,495	1,131
9/26/2012	FALSE	FALSE	FALSE	3.2	8.5	6.3	51%	38%	74%		1.36	6.4	6.2									11,897	9,495	1,131				11,897	9,495	1,131
9/27/2012	FALSE	FALSE	FALSE	3.1	8.3	6.2	51%	38%	75%		1.34	6.4	6.2	224			22	11,601		1,139		11,822	9,495	1,133	11,601		1,139	11,822	9,495	1,133
9/28/2012	FALSE	FALSE	FALSE	3.2	8.1	6.1	53%	40%	75%		1.33	6.3	6.2	239	191	0.80		12,099	9,669			11,939	9,545	1,133	12,099	9,669		11,939	9,545	1,133
9/29/2012	FALSE	FALSE	FALSE	3.2	8.2	5.8	55%	39%	71%		1.40	6.3	6.1									11,939	9,545	1,133				11,939	9,545	1,133
9/30/2012	FALSE	FALSE	FALSE	3.1	8.3	6.0	52%	37%	71%		1.40	6.3	6.1									11,939	9,545	1,133				11,939	9,545	1,133
10/1/2012	FALSE	FALSE	FALSE	3.1	9.4	6.3	49%	33%	67%		1.49	6.3	6.2	274				14,351				11,996	9,475	1,163	14,351			11,996	9,475	1,163
10/2/2012	FALSE	FALSE	FALSE	3.1	8.4	6.3	50%	37%	75%		1.33	6.3	6.1	132	134	1.02		6,892	6,996			11,677	9,200	1,163	6,892	6,996		11,677	9,200	1,163
10/3/2012	FALSE	FALSE	FALSE	3.2	8.3	6.3	51%	39%	75%		1.33	6.3	6.1									11,677	9,200	1,163				11,677	9,200	1,163
10/4/2012	FALSE	FALSE	FALSE	3.3	8.5	6.3	52%	39%	74%		1.35	6.3	6.1				22			1,138		11,677	9,200	1,158			1,138	11,677	9,200	1,158
10/5/2012	FALSE	FALSE	FALSE	3.3	8.5	6.2	53%	39%	73%		1.36	6.3	6.1	239	206	0.86		12,438	10,721			11,798	9,344	1,158	12,438	10,721		11,798	9,344	1,158
10/6/2012	FALSE	FALSE	FALSE	3.2	8.7	6.1	53%	37%	70%		1.43	6.3	6.1									11,798	9,344	1,158				11,798	9,344	1,158
10/7/2012	FALSE	FALSE	FALSE	3.2	8.8	6.2	51%	36%	71%		1.41	6.3	6.2									11,760	9,344	1,170				11,760	9,344	1,170
10/8/2012	FALSE	FALSE	FALSE	3.1	9.6	6.4	49%	32%	66%		1.51	6.3	6.2	203				10,801				11,619	9,295	1,170	10,801			11,619	9,295	1,170
10/9/2012	FALSE	FALSE	FALSE	3.6	8.7	6.3	57%	41%	72%		1.38	6.3	6.3	211				11,086				11,586	9,295	1,170	11,086			11,586	9,295	1,170
10/10/2012	FALSE	FALSE	FALSE	3.3	8.2	6.3	53%	41%	76%		1.31	6.3	6.3									11,586	9,295	1,170				11,586	9,295	1,170
10/11/2012	FALSE	FALSE	FALSE	3.2	8.1	6.4	50%	40%	79%		1.27	6.3	6.3	231	216	0.94	22	12,330	11,529	1,162		11,710	9,543	1,169	12,330	11,529	1,162	11,710	9,543	1,169
10/12/2012	FALSE	FALSE	FALSE	3.1	9.5	6.3	49%	33%	67%		1.50	6.3	6.3									11,726	9,578	1,169				11,726	9,578	1,169
10/13/2012	FALSE	FALSE	FALSE	3.1	9.5	6.0	52%	33%	63%		1.59	6.2	6.2									11,726	9,578	1,169				11,726	9,578	1,169
10/14/2012	FALSE	FALSE	FALSE	3.9	9.5	6.1	63%	41%	65%		1.55	6.2	6.3									11,726	9,578	1,199				11,726	9,578	1,199
10/15/2012	FALSE	FALSE	FALSE	3.1	9.6	6.3	49%	32%	66%		1.52	6.2	6.3	184	220	1.20		9,683	11,578			11,617	9,877	1,199	9,683	11,578		11,617	9,877	1,199
10/16/2012	FALSE	FALSE	FALSE	3.2	9.6	6.3	50%	33%	66%		1.52	6.2	6.3	276				14,479				11,796	9,877	1,199	14,479			11,796	9,877	1,199
10/17/2012	FALSE	FALSE	FALSE	3.2	12.0	6.2	51%	26%	51%		1.95	6.2	6.2									11,796	9,877	1,199				11,796	9,877	1,199
10/18/2012	FALSE	FALSE	FALSE	3.2	9.0	6.2	52%	36%	69%		1.46	6.2	6.2				24			1,215		11,805	9,877	1,202			1,215	11,805	9,877	1,202
10/19/2012	FALSE	FALSE	FALSE	3.3	8.8	6.0																								

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
11/1/2012	FALSE	FALSE	FALSE	3.2	9.3	6.5	49%	34%	70%		1.43	6.3	6.3				23			1,264		11,545	10,286	1,198			1,264	11,545	10,286	1,198
11/2/2012	FALSE	FALSE	TRUE	3.2	9.4	6.4	50%	34%	69%		1.46	6.3	6.3	236				12,636				12,023	10,756	1,198	12,636			12,023	10,756	1,198
11/3/2012	FALSE	FALSE	FALSE	3.1	9.7	6.4	49%	32%	66%		1.52	6.3	6.3									12,023	10,756	1,213				12,023	10,756	1,213
11/4/2012	FALSE	FALSE	FALSE	3.2	9.5	6.2	52%	33%	65%		1.54	6.3	6.3									12,023	10,756	1,213				12,023	10,756	1,213
11/5/2012	FALSE	FALSE	FALSE	3.1	9.4	6.3	50%	33%	67%		1.49	6.3	6.3	197				10,384				11,852	10,762	1,213	10,384			11,852	10,762	1,213
11/6/2012	FALSE	FALSE	FALSE	3.2	8.6	6.1	52%	37%	71%		1.41	6.3	6.3	313	212	0.68		15,976	10,821			12,169	10,770	1,213	15,976	10,821		12,169	10,770	1,213
11/7/2012	FALSE	FALSE	FALSE	3.2	8.8	6.2	51%	36%	71%		1.42	6.3	6.3									12,169	10,770	1,213				12,169	10,770	1,213
11/8/2012	FALSE	FALSE	TRUE	3.1	9.6	6.2	51%	33%	65%		1.54	6.3	6.3	254	213	0.84		13,155	11,032			12,350	10,803	1,213	13,155	11,032		12,350	10,803	1,213
11/9/2012	FALSE	FALSE	FALSE	3.2	9.0	6.4	50%	36%	71%		1.41	6.3	6.3	243			24	13,011		1,295		12,498	10,803	1,230	13,011		1,295	12,498	10,803	1,230
11/10/2012	FALSE	FALSE	FALSE	3.1	9.2	6.0	53%	34%	65%		1.54	6.3	6.2									12,498	10,803	1,230				12,498	10,803	1,230
11/11/2012	FALSE	FALSE	FALSE	3.1	8.9	5.9	53%	35%	66%		1.51	6.2	6.2									12,513	10,699	1,247				12,513	10,699	1,247
11/12/2012	FALSE	FALSE	FALSE	3.1	8.9	6.3	49%	35%	71%		1.41	6.2	6.2									12,513	10,699	1,247				12,513	10,699	1,247
11/13/2012	FALSE	FALSE	FALSE	3.1	9.2	6.3	50%	34%	68%		1.46	6.3	6.2	222	199	0.90		11,572	10,373			12,440	10,658	1,247	11,572	10,373		12,440	10,658	1,247
11/14/2012	FALSE	FALSE	FALSE	3.1	9.3	6.2	50%	33%	67%		1.49	6.3	6.2									12,440	10,658	1,247				12,440	10,658	1,247
11/15/2012	FALSE	FALSE	FALSE	3.0	9.1	6.2	49%	34%	68%		1.47	6.2	6.2	227			23	11,662		1,157		12,592	10,527	1,229	11,662		1,157	12,592	10,527	1,229
11/16/2012	FALSE	FALSE	TRUE	3.1	9.1	6.2	50%	34%	69%		1.46	6.2	6.2									12,435	10,527	1,229				12,435	10,527	1,229
11/17/2012	FALSE	TRUE	TRUE	3.5	11.7	7.5	47%	30%	64%		1.55	6.3	6.3									12,435	10,527	1,229				12,435	10,527	1,229
11/18/2012	FALSE	TRUE	FALSE	3.4	10.0	6.6	52%	34%	66%		1.52	6.3	6.4									12,435	10,527	1,232				12,435	10,527	1,232
11/19/2012	FALSE	TRUE	FALSE	3.3	10.6	6.4	52%	31%	61%		1.65	6.3	6.5	180				9,668				12,332	10,622	1,232	9,668			12,332	10,622	1,232
11/20/2012	FALSE	TRUE	TRUE	3.5	8.7	6.6	52%	40%	77%		1.30	6.3	6.5	177			23	9,802		1,263		12,137	10,622	1,238	9,802		1,263	12,137	10,622	1,238
11/21/2012	TRUE	TRUE	FALSE	3.4	9.2	6.5	52%	37%	71%		1.41	6.4	6.5	243	189	0.78		13,234	10,293			12,216	10,575	1,238	13,234	10,293		12,216	10,575	1,238
11/22/2012	TRUE	TRUE	FALSE	3.5	9.5	6.0	59%	37%	63%		1.58	6.3	6.5									12,180	10,425	1,238				12,180	10,425	1,238
11/23/2012	TRUE	TRUE	FALSE	3.5	8.7	6.3	56%	41%	72%		1.38	6.3	6.5									12,220	10,425	1,238				12,220	10,425	1,238
11/24/2012	TRUE	TRUE	TRUE	3.5	9.4	6.4	54%	37%	68%		1.48	6.3	6.5									12,220	10,425	1,238				12,220	10,425	1,238
11/25/2012	TRUE	TRUE	FALSE	3.5	9.1	6.7	52%	39%	74%		1.36	6.3	6.4									12,220	10,425	1,245				12,220	10,425	1,245
11/26/2012	TRUE	TRUE	FALSE	3.5	9.5	6.7	52%	36%	70%		1.43	6.3	6.4	208				11,571				12,285	10,572	1,245	11,571			12,285	10,572	1,245
11/27/2012	FALSE	FALSE	FALSE	3.2	8.7	6.3	51%	37%	73%		1.38	6.3	6.4	210			23	11,086		1,199		12,193	10,572	1,236	11,086		1,199	12,193	10,572	1,236
11/28/2012	FALSE	FALSE	TRUE	3.4	9.7	7.1	49%	35%	73%		1.37	6.4	6.5	288				17,030				12,538	10,572	1,236	17,030			12,538	10,572	1,236
11/29/2012	FALSE	FALSE	TRUE	3.5	13.2	8.3	42%	26%	63%		1.58	6.4	6.7	314	225	0.72		21,788	15,612		TSS	12,538	10,572	1,236	21,788	15,612		12,538	10,572	1,236
11/30/2012	FALSE	FALSE	TRUE	5.7	13.8	10.9	52%	41%	79%		1.26	6.6	7.3	265				24,178				12,368	10,630	1,236	24,178			12,368	10,630	1,236
12/1/2012	FALSE	FALSE	TRUE	5.6	12.3	10.1	56%	46%	82%		1.22	6.7	7.8									12,368	10,630	1,236				12,368	10,630	1,236
12/2/2012	FALSE	FALSE	TRUE	7.6	15.8	11.7	65%	48%	74%		1.35	6.9	8.5									12,368	10,630	1,228				12,368	10,630	1,228
12/3/2012	FALSE	FALSE	TRUE	5.6	12.7	9.4	60%	44%	74%		1.35	7.0	8.8	154				12,060				12,324	10,630	1,228	12,060			12,324	10,630	1,228
12/4/2012	FALSE	FALSE	TRUE	4.9	12.3	9.8	50%	40%	79%		1.26	7.1	9.2	202	148	0.73		16,510	12,096			12,623	10,923	1,228	16,510	12,096		12,623	10,923	1,228
12/5/2012	FALSE	FALSE	TRUE	5.6	13.1	10.2	54%	42%	78%		1.28	7.2	9.7									12,623	10,923	1,228				12,623	10,923	1,228
12/6/2012	FALSE	FALSE	TRUE	5.0	11.4	9.0	56%	44%	78%		1.28	7.3	9.9	166			11	12,391		796		12,766	10,923	1,142	12,391		796	12,766	10,923	1,142
12/7/2012	FALSE	FALSE	FALSE	4.5	10.7	8.2	55%	42%	77%		1.30	7.4	9.9	171	141	0.82		11,723	9,666			12,462	10,692	1,142	11,723	9,666		12,462	10,692	1,142
12/8/2012	FALSE	FALSE	FALSE	3.7	10.7	7.6	49%	35%	70%		1.42	7.4	9.5									12,462	10,692	1,142				12,462	10,692	1,142
12/9/2012	FALSE	FALSE	FALSE	3.5	10.7	7.3	48%	33%	68%		1.48	7.4	9.1									12,409	10,607	1,142				12,409	10,607	1,142
12/10/2012	FALSE	FALSE	FALSE	3.6	9.6	7.2	50%	38%	75%		1.33	7.5	8.6	173				10,432				12,211	10,607	1,104	10,432			12,211	10,607	1,104
12/11/2012	FALSE	FALSE	FALSE	3.7	9.5	7.1	52%	39%	75%		1.33	7.5	8.3	237	178	0.75		14,073	10,570			12,344	10,600	1,104	14,073	10,570		12,344	10,600	1,104
12/12/2012	FALSE	FALSE	FALSE	3.6	9.6	7.0	52%	38%	73%		1.38	7.5	7.9									12,344	10,600	1,104				12,344	10,600	1,104
12/13/2012	FALSE	FALSE	FALSE	3.5	9.2	6.9	51%	38%	75%		1.34	7.6	7.5									12,344	10,600	1,139				12,344	10,600	1,139
12/14/2012	FALSE	FALSE	FALSE	3.5	9.0	6.8	51%	38%	75%		1.33	7.6	7.2	232	180	0.78		13,080	10,148			12,451	10,555	1,139	13,080	10,148		12,451	10,555	1,139
12/15/2012	FALSE	FALSE	TRUE	3.3	10.2	6.7	49%	32%	65%		1.53	7.6	7.1									12,451	10,555	1,139				12,451	10,555	1,139
12/16/2012	TRUE	FALSE	TRUE	3.4	10.3	7.0	49%	33%	68%		1.48	7.6	7.0									12,512	10,555	1,135				12,512	10,555	1,135
12/17/2012	TRUE	FALSE	TRUE	3.6	9.4	7.2	49%	38%	77%		1.31	7.7	7.0	117				7,026				12,120	10,555	1,135	7,026			12,120	10,555	1,135
12/18/2012	TRUE	FALSE	FALSE	3.5	10.2	7.1	49%	34%	70%		1.44	7.6	7.0	227	172	0.76		13,404	10,156			12,206	10,488	1,135	13,404	10,156		12,206	10,488	1,135
12/19/2012	TRUE	FALSE	FALSE	3.4	9.6	7.0	49%	36%	73%		1.37	7.7	6.9				19			1,135		12,206	10,488	1,135			1,135	12,206	10,488	1,135
12/20/2012	TRUE	FALSE	TRUE	3.5	9.3	7.1	50%	38%	77%		1.30	7.7	7.0	240			22	14,291		1,317		12,514	10,488	1,165	14,291		1,317	12,514	10,488	1,165
12/21/2012	TRUE	TRUE	TRUE	6.3	16.2	12.5	50%	39%	77%		1.30	7.9	7.7	154																

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
1/4/2013	TRUE	TRUE	FALSE	3.5	8.7	6.5	54%	40%	74%		1.35	7.9	7.0	226	187	0.83		12,176	10,075			11,473	10,371	1,018	12,176	10,075		11,473	10,371	1,018
1/5/2013	TRUE	TRUE	TRUE	3.5	9.1	6.3	56%	39%	70%		1.44	7.8	6.8									11,473	10,371	1,018				11,473	10,371	1,018
1/6/2013	TRUE	TRUE	TRUE	3.4	9.0	6.5	53%	38%	72%		1.39	7.7	6.6									11,403	10,371	1,063	11,189			11,403	10,371	1,063
1/7/2013	TRUE	TRUE	FALSE	3.5	8.5	6.5	53%	41%	76%		1.31	7.7	6.6	208				11,189				11,362	10,489	1,063	11,189			11,362	10,489	1,063
1/8/2013	TRUE	TRUE	FALSE	3.4	8.4	6.3	54%	41%	76%		1.32	7.6	6.5	173				9,119				11,201	10,489	1,063	9,119			11,201	10,489	1,063
1/9/2013	TRUE	TRUE	TRUE	3.4	8.4	6.3	54%	40%	75%		1.33	7.6	6.5	255	216	0.85		13,441	11,385			11,351	10,617	1,063	13,441	11,385		11,351	10,617	1,063
1/10/2013	TRUE	TRUE	TRUE	3.2	8.7	6.3	52%	37%	72%		1.39	7.6	6.4	228			21	11,885		1,072		11,448	10,617	1,064	11,885		1,072	11,448	10,617	1,064
1/11/2013	TRUE	TRUE	FALSE	3.4	8.6	6.1	56%	40%	71%		1.41	7.5	6.3	269	187	0.70		13,708	9,529			11,423	10,468	1,064	13,708	9,529		11,423	10,468	1,064
1/12/2013	TRUE	TRUE	FALSE	3.4	8.4	6.0	57%	40%	72%		1.40	7.5	6.3									11,423	10,468	1,064				11,423	10,468	1,064
1/13/2013	TRUE	TRUE	FALSE	3.2	8.7	6.1	53%	37%	70%		1.42	7.5	6.2									11,423	10,468	1,021				11,423	10,468	1,021
1/14/2013	TRUE	TRUE	FALSE	3.2	7.9	6.1	53%	41%	77%		1.30	7.5	6.2	184				9,392				11,177	10,522	1,021	9,392			11,177	10,522	1,021
1/15/2013	TRUE	TRUE	FALSE	3.3	8.7	6.1	54%	38%	70%		1.43	7.4	6.2	240				12,210				11,242	10,522	1,021	12,210			11,242	10,522	1,021
1/16/2013	TRUE	TRUE	FALSE	3.4	8.2	6.1	56%	42%	74%		1.35	7.4	6.1									11,242	10,522	1,021				11,242	10,522	1,021
1/17/2013	TRUE	TRUE	FALSE	3.3	8.0	6.1	54%	41%	76%		1.31	7.4	6.1	231			24	11,829		1,234		11,542	10,522	1,056	11,829		1,234	11,542	10,522	1,056
1/18/2013	TRUE	TRUE	FALSE	3.3	7.9	6.1	55%	42%	76%		1.31	7.3	6.1	313	189	0.60		15,793	9,536			11,691	10,418	1,056	15,793	9,536		11,691	10,418	1,056
1/19/2013	TRUE	TRUE	FALSE	3.2	8.6	6.0	54%	38%	70%		1.44	7.3	6.1									11,691	10,418	1,040				11,691	10,418	1,040
1/20/2013	TRUE	TRUE	FALSE	3.2	8.6	5.8	55%	37%	68%		1.48	7.3	6.0									11,518	10,418	971				11,518	10,418	971
1/21/2013	TRUE	TRUE	FALSE	3.3	8.7	6.3	52%	38%	73%		1.37	7.1	6.1									11,196	10,067	971				11,196	10,067	971
1/22/2013	TRUE	TRUE	FALSE	3.3	8.2	6.1	54%	40%	74%		1.35	6.9	6.1	373				18,945				11,712	10,067	971	18,945			11,712	10,067	971
1/23/2013	TRUE	TRUE	TRUE	3.3	8.2	6.3	52%	40%	77%		1.30	6.8	6.1									11,712	10,067	971				11,712	10,067	971
1/24/2013	FALSE	TRUE	TRUE	3.3	8.6	6.3	52%	38%	74%		1.36	6.7	6.1									11,712	10,067	971				11,712	10,067	971
1/25/2013	FALSE	TRUE	TRUE	3.3	8.6	6.3	53%	39%	74%		1.36	6.6	6.2	289	270	0.93	32	15,257	14,254	1,710		11,934	10,764	1,119	15,257	14,254	1,710	11,934	10,764	1,119
1/26/2013	FALSE	TRUE	TRUE	3.4	9.5	6.3	53%	36%	67%		1.50	6.5	6.2									11,934	10,764	1,119				11,934	10,764	1,119
1/27/2013	FALSE	TRUE	FALSE	3.4	9.4	6.6	52%	36%	70%		1.44	6.4	6.3									12,326	10,764	1,224				12,326	10,764	1,224
1/28/2013	FALSE	TRUE	FALSE	3.3	8.9	6.6	50%	37%	74%		1.35	6.4	6.4	222				12,164				12,393	10,956	1,224	12,164			12,393	10,956	1,224
1/29/2013	FALSE	FALSE	FALSE	3.4	8.7	6.5	52%	39%	74%		1.34	6.3	6.4	226	197	0.87		12,214	10,647			12,382	10,904	1,224	12,214	10,647		12,382	10,904	1,224
1/30/2013	FALSE	FALSE	FALSE	3.4	9.0	6.4	52%	37%	71%		1.40	6.3	6.4	268				14,282				12,494	10,904	1,224	14,282			12,494	10,904	1,224
1/31/2013	FALSE	FALSE	FALSE	3.4	8.8	6.4	52%	38%	72%		1.38	6.3	6.4				33	12,746		1,766		12,494	10,904	1,332			1,766	12,746	10,904	1,332
2/1/2013	FALSE	FALSE	FALSE	3.3	8.9	6.3	52%	37%	71%		1.40	6.3	6.4	351	249	0.71		18,530	13,145			13,086	11,224	1,332	18,530	13,145		13,086	11,224	1,332
2/2/2013	FALSE	FALSE	FALSE	3.4	9.5	6.3	53%	35%	66%		1.51	6.3	6.4									13,086	11,224	1,332				13,086	11,224	1,332
2/3/2013	FALSE	FALSE	FALSE	3.2	10.1	6.2	52%	32%	61%		1.64	6.3	6.4									13,258	11,224	1,332				13,258	11,224	1,332
2/4/2013	FALSE	FALSE	FALSE	3.3	9.3	6.4	51%	35%	69%		1.45	6.3	6.4	292				15,561				13,470	11,416	1,445	15,561			13,470	11,416	1,445
2/5/2013	FALSE	FALSE	FALSE	3.3	9.5	6.4	51%	34%	68%		1.47	6.3	6.4	304	226	0.74		16,302	12,120			13,636	11,517	1,445	16,302	12,120		13,636	11,517	1,445
2/6/2013	FALSE	FALSE	FALSE	3.2	9.6	6.4	50%	33%	67%		1.50	6.3	6.4									13,636	11,517	1,445				13,636	11,517	1,445
2/7/2013	FALSE	FALSE	TRUE	3.3	9.4	6.5	52%	36%	69%		1.45	6.3	6.4				31	13,789		1,652		13,789	11,517	1,487			1,652	13,789	11,517	1,487
2/8/2013	FALSE	FALSE	FALSE	3.4	8.3	6.3	54%	41%	76%		1.32	6.3	6.4	396	236	0.60		20,939	12,479		TSS	14,101	11,517	1,487	20,939	12,479		14,101	11,517	1,487
2/9/2013	FALSE	FALSE	FALSE	3.4	6.2	6.2	55%	100%		AvgMax	1.00	6.3	6.4									14,148	11,538	1,487				14,148	11,538	1,487
2/10/2013	FALSE	FALSE	FALSE	3.2	9.3	6.3	50%	34%	68%		1.48	6.3	6.4									14,322	11,538	1,591				14,322	11,538	1,591
2/11/2013	FALSE	FALSE	FALSE	3.3	8.8	6.3	53%	38%	72%		1.40	6.3	6.4	244				12,780				14,251	11,940	1,591	12,780			14,251	11,940	1,591
2/12/2013	FALSE	FALSE	FALSE	3.3	9.3	6.3	52%	35%	67%		1.49	6.3	6.4	306	230	0.75		16,001	12,027			14,376	11,955	1,591	16,001	12,027		14,376	11,955	1,591
2/13/2013	FALSE	FALSE	FALSE	3.3	8.5	6.3	52%	38%	74%		1.35	6.3	6.3									14,376	11,955	1,591				14,376	11,955	1,591
2/14/2013	FALSE	FALSE	FALSE	3.3	8.8	6.2	52%	37%	71%		1.41	6.3	6.3				24			1,266		14,759	11,955	1,526			1,266	14,759	11,955	1,526
2/15/2013	FALSE	FALSE	FALSE	3.3	9.4	6.3	52%	35%	67%		1.49	6.3	6.3	228				11,904				14,736	11,955	1,526	11,904			14,736	11,955	1,526
2/16/2013	FALSE	FALSE	FALSE	3.2	9.2	6.0	53%	35%	65%		1.53	6.3	6.2									14,736	11,955	1,526				14,736	11,955	1,526
2/17/2013	FALSE	FALSE	FALSE	3.2	9.3	6.0	53%	34%	65%		1.54	6.3	6.2									14,978	11,955	1,599				14,978	11,955	1,599
2/18/2013	FALSE	FALSE	FALSE	3.3	6.5	6.6	50%	101%		AvgMax	0.99	6.3	6.2									14,904	12,438	1,599				14,904	12,438	1,599
2/19/2013	FALSE	FALSE	TRUE	3.2	6.4	6.4	51%	100%		AvgMax	1.00	6.3	6.2	256	235	0.92		13,643	12,524			14,799	12,453	1,599	13,643	12,524		14,799	12,453	1,599
2/20/2013	FALSE	FALSE	TRUE	3.2	6.2	6.2	51%	101%		AvgMax	0.99	6.3	6.2									14,799	12,453	1,599				14,799	12,453	1,599
2/21/2013	FALSE	FALSE	FALSE	3.3	8.8	6.3	52%	37%	71%		1.40	6.3	6.2	240								14,624	12,453	1,551	12,530		1,358	14,624	12,453	1,551
2/22/2013	FALSE	FALSE	FALSE	3.3	8.6	6.2	53%	38%	72%		1.39	6.3	6.2	244	224	0.92						14,137	12,328	1,551	12,617	11,583		14,137	12,328	1,551
2/23/2013	FALSE	FALSE	FALSE	3.2	9.1	6.1	53%	35%	67%		1.50	6.3	6.1									14,137	12,328	1,551						

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
3/9/2013	FALSE	FALSE	FALSE	3.2	9.5	6.0	53%	34%	63%		1.59	6.2	6.2									12,288	11,351	1,337				12,288	11,351	1,337
3/10/2013	FALSE	FALSE	FALSE	3.3	8.7	6.1	54%	38%	70%		1.43	6.2	6.2									12,288	11,351	1,259				12,288	11,351	1,259
3/11/2013	FALSE	FALSE	FALSE	3.3	8.3	6.3	52%	39%	75%		1.33	6.2	6.3	211				10,998				12,202	11,351	1,259	10,998			12,202	11,351	1,259
3/12/2013	FALSE	FALSE	FALSE	3.2	8.9	6.2	52%	36%	70%		1.43	6.2	6.2	144	118	0.82		7,458	6,111			11,906	10,696	1,259	7,458	6,111		11,906	10,696	1,259
3/13/2013	FALSE	FALSE	FALSE	3.2	8.8	6.2	52%	37%	70%		1.43	6.2	6.2									11,906	10,696	1,259				11,906	10,696	1,259
3/14/2013	FALSE	FALSE	FALSE	3.2	8.9	6.3	52%	36%	71%		1.41	6.2	6.2	279			24	14,589		1,262		12,019	10,696	1,259	14,589		1,262	12,019	10,696	1,259
3/15/2013	TRUE	FALSE	FALSE	3.2	8.4	6.0	53%	38%	72%		1.39	6.2	6.2	254				12,795				11,818	10,506	1,259	12,795			11,818	10,506	1,259
3/16/2013	TRUE	FALSE	FALSE	3.1	8.3	5.6	56%	38%	68%		1.47	6.2	6.1									11,818	10,506	1,259				11,818	10,506	1,259
3/17/2013	TRUE	FALSE	FALSE	3.1	8.7	5.5	56%	35%	63%		1.58	6.1	6.0									11,818	10,506	1,258				11,818	10,506	1,258
3/18/2013	TRUE	FALSE	FALSE	3.1	8.5	5.6	56%	37%	66%		1.52	6.1	6.0	359				16,797				12,124	10,506	1,258	16,797			12,124	10,506	1,258
3/19/2013	TRUE	FALSE	TRUE	3.1	8.7	5.7	54%	36%	66%		1.51	6.1	5.9	269	223	0.83	23	12,877	10,675	1,085		12,169	10,527	1,223	12,877	10,675	1,085	12,169	10,527	1,223
3/20/2013	TRUE	FALSE	TRUE	3.1	8.4	5.8	54%	37%	69%		1.45	6.1	5.8									12,169	10,527	1,223				12,169	10,527	1,223
3/21/2013	TRUE	FALSE	FALSE	3.2	8.3	5.7	56%	38%	68%		1.46	6.1	5.8	267				12,626				12,194	10,527	1,223	12,626			12,194	10,527	1,223
3/22/2013	TRUE	FALSE	FALSE	3.2	8.3	5.7	56%	39%	69%		1.45	6.1	5.7	296	218	0.74		14,022	10,327			12,215	10,253	1,223	14,022	10,327		12,215	10,253	1,223
3/23/2013	TRUE	FALSE	FALSE	3.1	8.0	5.5	55%	38%	69%		1.44	6.1	5.6									12,215	10,253	1,223				12,215	10,253	1,223
3/24/2013	TRUE	FALSE	FALSE	3.1	8.8	5.9	53%	35%	67%		1.50	6.0	5.7									12,197	10,253	1,189				12,197	10,253	1,189
3/25/2013	TRUE	FALSE	FALSE	3.2	8.8	6.2	51%	36%	70%		1.43	6.0	5.8									12,170	10,063	1,189				12,170	10,063	1,189
3/26/2013	TRUE	FALSE	FALSE	3.3	8.7	6.2	53%	38%	71%		1.40	6.0	5.8	298	234	0.79		15,409	12,100			12,361	10,317	1,189	15,409	12,100		12,361	10,317	1,189
3/27/2013	FALSE	FALSE	FALSE	3.1	9.1	6.2	50%	34%	68%		1.46	6.0	5.9									12,361	10,317	1,189				12,361	10,317	1,189
3/28/2013	FALSE	FALSE	FALSE	3.1	9.3	6.2	50%	33%	67%		1.50	6.0	5.9	243			26	12,585		1,326		12,317	10,317	1,217	12,585		1,326	12,317	10,317	1,217
3/29/2013	FALSE	FALSE	FALSE	3.3	8.8	6.2	53%	37%	70%		1.42	6.0	6.0	251	211	0.84		12,937	10,875			12,353	10,155	1,217	12,937	10,875		12,353	10,155	1,217
3/30/2013	FALSE	FALSE	FALSE	3.2	9.4	6.0	54%	34%	64%		1.57	6.0	6.1									12,353	10,155	1,217				12,353	10,155	1,217
3/31/2013	FALSE	FALSE	TRUE	3.3	9.5	6.0	54%	35%	64%		1.57	6.0	6.1									12,264	10,155	1,244				12,264	10,155	1,244
4/1/2013	FALSE	FALSE	TRUE	3.4	9.9	6.7	51%	34%	67%		1.49	6.0	6.2	293				16,250				12,806	10,223	1,244	16,250			12,806	10,223	1,244
4/2/2013	FALSE	FALSE	FALSE	3.3	9.2	6.5	51%	36%	71%		1.42	6.1	6.3	239	206	0.86		12,976	11,184			12,816	10,343	1,244	12,976	11,184		12,816	10,343	1,244
4/3/2013	FALSE	FALSE	FALSE	3.3	6.4	6.4	51%	51%	99%		1.01	6.1	6.3									12,816	10,343	1,244				12,816	10,343	1,244
4/4/2013	FALSE	FALSE	TRUE	3.3	6.6	6.7	50%	51%	101%	AvgMax	0.99	6.1	6.3				25			1,388		13,251	10,343	1,273			1,388	13,251	10,343	1,273
4/5/2013	FALSE	FALSE	FALSE	3.2	9.4	6.4	50%	34%	69%		1.46	6.1	6.3	301	215	0.71		16,167	11,548			13,536	10,508	1,273	16,167	11,548		13,536	10,508	1,273
4/6/2013	FALSE	FALSE	FALSE	3.2	9.5	6.2	52%	34%	65%		1.54	6.1	6.3									13,536	10,508	1,273				13,536	10,508	1,273
4/7/2013	FALSE	FALSE	TRUE	3.3	9.5	6.3	53%	35%	66%		1.50	6.1	6.4									13,537	10,508	1,265				13,537	10,508	1,265
4/8/2013	FALSE	FALSE	TRUE	3.3	8.9	6.4	51%	37%	72%		1.38	6.1	6.4	245				13,098				13,439	10,403	1,265	13,098			13,439	10,403	1,265
4/9/2013	FALSE	FALSE	FALSE	3.3	8.6	6.2	53%	38%	73%		1.37	6.1	6.4	285	215	0.75		14,846	11,200			13,527	10,503	1,265	14,846	11,200		13,527	10,503	1,265
4/10/2013	FALSE	FALSE	FALSE	3.3	8.9	6.2	54%	38%	70%		1.43	6.1	6.3									13,527	10,503	1,265				13,527	10,503	1,265
4/11/2013	FALSE	FALSE	FALSE	3.3	9.0	6.3	53%	37%	70%		1.43	6.1	6.3	237			25	12,393		1,299		13,614	10,503	1,272	12,393		1,299	13,614	10,503	1,272
4/12/2013	FALSE	FALSE	FALSE	3.1	8.9	6.1	51%	35%	69%		1.46	6.1	6.3	259	194	0.75		13,241	9,918			13,976	10,978	1,272	13,241	9,918		13,976	10,978	1,272
4/13/2013	FALSE	FALSE	FALSE	3.2	9.0	6.0	54%	36%	67%		1.50	6.1	6.2									13,976	10,978	1,272				13,976	10,978	1,272
4/14/2013	FALSE	FALSE	FALSE	3.2	9.3	6.1	53%	35%	66%		1.52	6.1	6.2									13,935	10,978	1,274				13,935	10,978	1,274
4/15/2013	FALSE	FALSE	FALSE	3.3	8.9	6.2	53%	37%	70%		1.43	6.1	6.2	365				18,995				14,348	10,978	1,274	18,995			14,348	10,978	1,274
4/16/2013	FALSE	FALSE	FALSE	3.2	8.9	6.2	51%	36%	70%		1.43	6.1	6.2	221	203	0.92		11,464	10,531			14,168	10,929	1,274	11,464	10,531		14,168	10,929	1,274
4/17/2013	FALSE	FALSE	FALSE	3.3	8.7	6.3	53%	38%	72%		1.39	6.1	6.2				22			1,128		14,168	10,929	1,245			1,128	14,168	10,929	1,245
4/18/2013	FALSE	FALSE	FALSE	3.2	8.7	6.2	52%	37%	71%		1.41	6.1	6.2	225				11,616				13,844	10,929	1,245	11,616			13,844	10,929	1,245
4/19/2013	FALSE	FALSE	FALSE	3.2	8.7	6.1	53%	37%	70%		1.43	6.1	6.2	260								13,866	10,960	1,285	13,227			13,866	10,960	1,285
4/20/2013	FALSE	FALSE	FALSE	3.2	8.3	5.8	55%	38%	70%		1.43	6.1	6.1									13,866	10,960	1,285				13,866	10,960	1,285
4/21/2013	FALSE	FALSE	FALSE	3.2	8.8	6.0	53%	36%	68%		1.47	6.2	6.1									13,948	10,960	1,285				13,948	10,960	1,285
4/22/2013	FALSE	FALSE	FALSE	3.3	8.8	6.2	54%	38%	70%		1.42	6.2	6.1	174								13,612	11,051	1,285	8,968			13,612	11,051	1,285
4/23/2013	FALSE	FALSE	FALSE	3.3	8.7	6.2	52%	37%	71%		1.41	6.2	6.1	293	242	0.83		15,175	12,534			13,709	11,236	1,285	15,175	12,534		13,709	11,236	1,285
4/24/2013	FALSE	FALSE	FALSE	3.3	8.8	6.2	53%	37%	71%		1.42	6.2	6.1									13,709	11,236	1,285				13,709	11,236	1,285
4/25/2013	FALSE	FALSE	FALSE	3.2	9.1	6.2	52%	35%	68%		1.46	6.2	6.1	187			24	9,732		1,273		13,475	11,236	1,283	9,732		1,273	13,475	11,236	1,283
4/26/2013	FALSE	FALSE	FALSE	3.3	8.9	6.2	53%	37%	69%		1.45	6.2	6.1	209	190	0.91		10,720	9,745			13,199	10,942	1,283	10,720	9,745		13,199	10,942	1,283
4/27/2013	FALSE	FALSE	FALSE	3.3	9.0	5.9	56%	37%	66%		1.51	6.2	6.1									13,199	10,942	1,283				13,199	10,942	1,283
4/28/2013	FALSE	FALSE	FALSE	3.3	9.1	6.0	54%	36%	66%		1.52	6.2	6.1									13,								

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
5/12/2013	FALSE	FALSE	FALSE	3.3	8.6	5.9	56%	38%	69%		1.46	6.1	6.2									12,651	10,509	1,248				12,651	10,509	1,248
5/13/2013	FALSE	FALSE	FALSE	3.3	8.7	6.2	52%	37%	72%		1.40	6.1	6.2	251				13,021				12,638	10,593	1,248	13,021			12,638	10,593	1,248
5/14/2013	FALSE	FALSE	FALSE	3.4	9.0	6.2	54%	38%	70%		1.44	6.2	6.2	268	235	0.88		13,947	12,230			12,711	10,797	1,248	13,947	12,230		12,711	10,797	1,248
5/15/2013	FALSE	FALSE	FALSE	3.2	9.8	6.2	52%	33%	64%		1.57	6.2	6.2									12,711	10,797	1,248				12,711	10,797	1,248
5/16/2013	FALSE	FALSE	FALSE	3.4	9.3	6.3	54%	36%	67%		1.49	6.2	6.2	299			26	15,610		1,354		12,523	10,797	1,269	15,610		1,354	12,523	10,797	1,269
5/17/2013	FALSE	FALSE	FALSE	3.3	8.9	6.2	54%	38%	70%		1.43	6.2	6.2	315	208	0.66		16,314	10,773			12,792	10,828	1,269	16,314	10,773		12,792	10,828	1,269
5/18/2013	FALSE	FALSE	FALSE	3.3	8.7	5.9	55%	38%	68%		1.48	6.1	6.1									12,792	10,828	1,304				12,792	10,828	1,304
5/19/2013	FALSE	FALSE	FALSE	3.2	9.0	6.0	53%	35%	67%		1.49	6.1	6.1									12,862	10,828	1,304				12,862	10,828	1,304
5/20/2013	FALSE	FALSE	FALSE	3.3	8.8	6.2	53%	37%	70%		1.42	6.1	6.2	249				12,855				12,840	10,828	1,304	12,855			12,840	10,828	1,304
5/21/2013	FALSE	FALSE	FALSE	3.2	8.4	6.0	52%	37%	71%		1.40	6.1	6.1	238				11,949				12,790	10,828	1,304	11,949			12,790	10,828	1,304
5/22/2013	FALSE	FALSE	FALSE	3.2	9.0	6.2	51%	36%	70%		1.44	6.2	6.1									12,790	10,828	1,304				12,790	10,828	1,304
5/23/2013	FALSE	FALSE	FALSE	3.2	8.6	6.2	52%	37%	72%		1.39	6.2	6.1	257			24	13,289		1,238		13,030	10,828	1,291	13,289		1,238	13,030	10,828	1,291
5/24/2013	FALSE	FALSE	FALSE	3.3	8.8	6.3	53%	38%	71%		1.41	6.2	6.1	305	220	0.72		15,898	11,468			13,071	10,694	1,291	15,898	11,468		13,071	10,694	1,291
5/25/2013	FALSE	FALSE	FALSE	3.3	8.6	6.2	53%	38%	71%		1.40	6.2	6.1									13,071	10,694	1,291				13,071	10,694	1,291
5/26/2013	FALSE	TRUE	FALSE	3.2	9.2	5.7	55%	34%	62%		1.61	6.1	6.1									13,267	10,694	1,296				13,267	10,694	1,296
5/27/2013	FALSE	TRUE	TRUE	3.2	9.0	6.1	53%	36%	68%		1.48	6.1	6.1									13,426	10,830	1,296				13,426	10,830	1,296
5/28/2013	FALSE	TRUE	FALSE	3.2	8.9	6.0	54%	36%	67%		1.49	6.1	6.1	210	195	0.93		10,456	9,709			13,251	10,690	1,296	10,456	9,709		13,251	10,690	1,296
5/29/2013	FALSE	TRUE	FALSE	3.2	8.4	6.0	53%	38%	72%		1.39	6.1	6.1									13,251	10,690	1,296				13,251	10,690	1,296
5/30/2013	FALSE	TRUE	FALSE	3.2	8.3	5.8	55%	39%	70%		1.42	6.1	6.0	294			25	14,319		1,196		13,330	10,690	1,276	14,319		1,196	13,330	10,690	1,276
5/31/2013	TRUE	TRUE	FALSE	3.2	8.2	5.8	56%	39%	71%		1.41	6.1	6.0	275	235	0.85		13,302	11,367			13,409	10,747	1,276	13,302	11,367		13,409	10,747	1,276
6/1/2013	TRUE	TRUE	FALSE	3.3	7.9	5.6	59%	42%	71%		1.41	6.1	5.9									13,409	10,747	1,276				13,409	10,747	1,276
6/2/2013	TRUE	TRUE	FALSE	3.3	8.0	5.6	58%	40%	70%		1.43	6.1	5.8									13,394	10,747	1,248				13,394	10,747	1,248
6/3/2013	TRUE	TRUE	FALSE	3.2	9.1	5.9	55%	35%	64%		1.56	6.1	5.9	114				5,562				12,865	10,699	1,248	5,562			12,865	10,699	1,248
6/4/2013	TRUE	TRUE	FALSE	3.3	8.1	5.9	56%	41%	73%		1.37	6.1	5.8	296	225	0.76		14,614	11,109			12,968	10,751	1,248	14,614	11,109		12,968	10,751	1,248
6/5/2013	TRUE	TRUE	FALSE	3.4	8.1	5.9	57%	42%	73%		1.37	6.1	5.8									12,968	10,751	1,248				12,968	10,751	1,248
6/6/2013	TRUE	TRUE	FALSE	3.3	7.7	5.9	56%	43%	76%		1.31	6.0	5.8				20			1,000		13,050	10,751	1,198			1,000	13,050	10,751	1,198
6/7/2013	TRUE	TRUE	FALSE	3.3	7.7	5.8	57%	43%	75%		1.34	6.0	5.8	115	156	1.36		5,524	7,494			12,533	10,523	1,198	5,524	7,494		12,533	10,523	1,198
6/8/2013	TRUE	TRUE	FALSE	3.3	7.3	5.5	60%	45%	75%		1.33	6.0	5.8									12,533	10,523	1,198				12,533	10,523	1,198
6/9/2013	TRUE	TRUE	FALSE	3.1	8.7	5.6	56%	36%	65%		1.55	6.0	5.8									12,714	10,523	1,197				12,714	10,523	1,197
6/10/2013	TRUE	TRUE	TRUE	3.2	8.6	5.8	56%	38%	67%		1.49	6.0	5.8									12,619	10,593	1,197				12,619	10,593	1,197
6/11/2013	TRUE	TRUE	FALSE	3.2	8.3	5.7	56%	39%	69%		1.45	6.0	5.8									12,619	10,593	1,197				12,619	10,593	1,197
6/12/2013	TRUE	TRUE	FALSE	3.4	5.6	5.7	59%	60%	100%	AvgMax	1.00	6.0	5.7	316				14,890				12,770	10,593	1,197	14,890			12,770	10,593	1,197
6/13/2013	TRUE	TRUE	FALSE	3.2	8.1	5.6	57%	40%	69%		1.44	5.9	5.7	278			24	13,030		1,129		12,771	10,593	1,183	13,030		1,129	12,771	10,593	1,183
6/14/2013	TRUE	TRUE	FALSE	3.2	7.7	5.5	59%	42%	71%		1.41	5.9	5.6	275	191	0.69		12,568	8,729			12,679	10,093	1,183	12,568	8,729		12,679	10,093	1,183
6/15/2013	TRUE	TRUE	FALSE	3.3	7.6	5.3	63%	44%	69%		1.45	5.9	5.6									12,679	10,093	1,183				12,679	10,093	1,183
6/16/2013	TRUE	TRUE	FALSE	3.3	8.0	5.4	61%	41%	67%		1.49	5.9	5.6									12,469	10,093	1,141				12,469	10,093	1,141
6/17/2013	TRUE	TRUE	FALSE	3.3	7.7	5.6	59%	43%	73%		1.37	5.8	5.6									12,174	9,979	1,141				12,174	9,979	1,141
6/18/2013	TRUE	TRUE	FALSE	3.3	7.6	5.6	58%	43%	74%		1.35	5.8	5.5									12,174	9,979	1,141				12,174	9,979	1,141
6/19/2013	TRUE	TRUE	FALSE	3.3	7.9	5.7	59%	42%	72%		1.40	5.8	5.5									12,174	9,979	1,141				12,174	9,979	1,141
6/20/2013	TRUE	TRUE	FALSE	3.2	8.0	5.6	57%	40%	70%		1.43	5.8	5.5	375			21	17,514		968		12,532	9,979	1,106	17,514		968	12,532	9,979	1,106
6/21/2013	TRUE	TRUE	FALSE	3.3	7.9	5.5	60%	42%	69%		1.44	5.8	5.5	277	220	0.79		12,660	10,055			12,587	9,990	1,106	12,660	10,055		12,587	9,990	1,106
6/22/2013	TRUE	TRUE	FALSE	3.3	7.3	5.2	63%	45%	72%		1.40	5.7	5.5									12,587	9,990	1,106				12,587	9,990	1,106
6/23/2013	TRUE	TRUE	FALSE	3.3	7.5	5.4	61%	44%	72%		1.40	5.7	5.5									12,528	9,990	1,073				12,528	9,990	1,073
6/24/2013	TRUE	TRUE	TRUE	3.3	8.0	5.8	57%	41%	72%		1.39	5.7	5.5	298				14,291				12,394	9,744	1,073	14,291			12,394	9,744	1,073
6/25/2013	TRUE	TRUE	TRUE	3.3	8.2	5.8	58%	41%	71%		1.41	5.7	5.6	322				15,576				12,639	9,744	1,073	15,576			12,639	9,744	1,073
6/26/2013	TRUE	TRUE	FALSE	3.4	8.0	5.7	60%	43%	71%		1.41	5.7	5.6				21			1,014		12,639	9,744	1,061			1,014	12,639	9,744	1,061
6/27/2013	TRUE	TRUE	FALSE	3.2	7.8	5.8	56%	41%	74%		1.36	5.7	5.6	347				16,698				12,929	9,744	1,061	16,698			12,929	9,744	1,061
6/28/2013	TRUE	TRUE	FALSE	3.2	8.2	5.5	58%	39%	67%		1.48	5.7	5.6	321	185	0.58		14,751	8,501			13,236	9,543	1,061	14,751	8,501		13,236	9,543	1,061
6/29/2013	TRUE	TRUE	FALSE	3.4	8.0	5.4	63%	42%	67%		1.50	5.6	5.6									13,236	9,543	1,061				13,236	9,543	1,061
6/30/2013	TRUE	TRUE	FALSE	3.4	8.1	5.4	63%	42%	67%		1.49	5.6	5.6									13,152	9,543	1,028				13,152	9,543	1,028
7/1/2013	TRUE	TRUE	FALSE	3.3	7.9	5.6	59%	42%	71%		1.41	5.6	5.6									13,140	9,178	1,028				13,140	9,178	1,028
7/2/2013	TRUE	TRUE	FALSE	3.3	8.0</																									

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
7/15/2013	TRUE	TRUE	FALSE	3.4	7.3	5.7	59%	46%	77%		1.30	5.5	5.5									14,197	8,531	987				14,197	8,531	987
7/16/2013	TRUE	TRUE	FALSE	3.4	7.4	5.6	61%	46%	76%		1.32	5.5	5.6	287				13,380				14,134	8,531	987	13,380			14,134	8,531	987
7/17/2013	TRUE	TRUE	FALSE	3.3	7.2	5.6	60%	47%	77%		1.29	5.5	5.5									14,134	8,531	987				14,134	8,531	987
7/18/2013	TRUE	TRUE	FALSE	3.4	7.4	5.8	58%	46%	78%		1.28	5.5	5.6	210			21	10,071		996		13,844	8,531	989	10,071		996	13,844	8,531	989
7/19/2013	TRUE	TRUE	FALSE	3.4	7.5	5.6	60%	45%	75%		1.33	5.5	5.6	166	132	0.80		7,808	6,209			13,441	8,144	989	7,808	6,209		13,441	8,144	989
7/20/2013	TRUE	TRUE	FALSE	3.4	7.5	5.4	63%	45%	72%		1.38	5.5	5.5									13,441	8,144	989				13,441	8,144	989
7/21/2013	TRUE	TRUE	FALSE	3.4	7.4	5.5	61%	45%	74%		1.35	5.5	5.6									13,150	8,144	994				13,150	8,144	994
7/22/2013	TRUE	TRUE	FALSE	3.4	7.6	5.8	58%	44%	76%		1.32	5.5	5.6	218				10,509				12,997	7,762	994	10,509			12,997	7,762	994
7/23/2013	TRUE	TRUE	FALSE	3.4	7.6	5.8	58%	44%	76%		1.31	5.5	5.6	214	169	0.79		10,316	8,147			12,818	7,826	994	10,316	8,147		12,818	7,826	994
7/24/2013	TRUE	TRUE	FALSE	3.3	7.3	5.7	59%	46%	78%		1.28	5.6	5.6									12,818	7,826	994				12,818	7,826	994
7/25/2013	TRUE	TRUE	FALSE	3.4	7.4	5.7	60%	46%	77%		1.30	5.6	5.7	237			16	11,207		767		12,612	7,826	949	11,207		767	12,612	7,826	949
7/26/2013	TRUE	TRUE	FALSE	3.3	7.9	5.5	61%	42%	69%		1.45	5.5	5.6	225				10,246				12,257	7,826	949	10,246			12,257	7,826	949
7/27/2013	TRUE	TRUE	FALSE	3.4	7.4	5.3	64%	46%	71%		1.40	5.5	5.6									12,257	7,826	932				12,257	7,826	932
7/28/2013	TRUE	TRUE	FALSE	3.3	8.3	5.5	61%	40%	66%		1.51	5.5	5.6									11,940	7,826	932				11,940	7,826	932
7/29/2013	TRUE	TRUE	FALSE	3.3	7.5	5.6	59%	44%	75%		1.34	5.5	5.6	229				10,676				11,649	7,691	932	10,676			11,649	7,691	932
7/30/2013	TRUE	TRUE	FALSE	3.3	7.0	5.6	59%	47%	79%		1.26	5.5	5.6	211	166	0.79		9,767	7,684			11,523	7,690	932	9,767	7,684		11,523	7,690	932
7/31/2013	TRUE	TRUE	FALSE	3.4	7.4	5.6	61%	47%	76%		1.31	5.5	5.5									11,523	7,690	932				11,523	7,690	932
8/1/2013	TRUE	TRUE	FALSE	3.2	7.2	5.6	58%	45%	77%		1.29	5.5	5.5				23			1,098		11,523	7,690	965			1,098	11,523	7,690	965
8/2/2013	TRUE	TRUE	FALSE	3.4	7.4	5.6	60%	46%	76%		1.32	5.5	5.5	295	161	0.55		13,753	7,506			11,528	7,304	965	13,753	7,506		11,528	7,304	965
8/3/2013	TRUE	TRUE	FALSE	3.3	7.5	5.3	62%	43%	71%		1.42	5.5	5.5									11,528	7,304	995				11,528	7,304	995
8/4/2013	TRUE	TRUE	FALSE	3.3	7.2	5.4	62%	46%	74%		1.35	5.5	5.5									11,528	7,304	995				11,528	7,304	995
8/5/2013	TRUE	TRUE	FALSE	3.2	7.4	5.7	56%	43%	76%		1.31	5.5	5.5	245				11,565				11,550	7,363	995	11,565			11,550	7,363	995
8/6/2013	TRUE	TRUE	FALSE	3.2	7.4	5.7	57%	44%	77%		1.30	5.6	5.6	230	175	0.76		10,895	8,290			11,509	7,517	995	10,895	8,290		11,509	7,517	995
8/7/2013	TRUE	TRUE	FALSE	3.2	18.6	6.9	47%	17%	37%	AvgMax	2.71	5.6	5.6									11,509	7,517	995				11,509	7,517	995
8/8/2013	TRUE	TRUE	FALSE	3.3	8.2	6.2	54%	41%	76%		1.32	5.6	5.6	230			20	11,835		1,045		11,556	7,517	1,005	11,835		1,045	11,556	7,517	1,005
8/9/2013	TRUE	TRUE	FALSE	3.1	7.5	5.6	56%	42%	75%		1.34	5.6	5.6	234				10,890				11,340	7,567	1,005	10,890			11,340	7,567	1,005
8/10/2013	TRUE	TRUE	FALSE	3.2	7.5	5.4	60%	43%	71%		1.40	5.6	5.6									11,340	7,567	1,005				11,340	7,567	1,005
8/11/2013	TRUE	TRUE	FALSE	3.3	7.5	5.5	60%	44%	73%		1.37	5.6	5.6									11,082	7,567	976				11,082	7,567	976
8/12/2013	TRUE	TRUE	FALSE	3.3	7.4	5.7	58%	44%	77%		1.30	5.6	5.7	227				10,791				10,914	7,567	976	10,791			10,914	7,567	976
8/13/2013	TRUE	TRUE	FALSE	3.2	7.4	5.7	56%	43%	77%		1.30	5.6	5.7	256	185	0.72		12,106	8,748			10,988	7,764	976	12,106	8,748		10,988	7,764	976
8/14/2013	TRUE	TRUE	FALSE	3.3	7.3	5.7	58%	45%	78%		1.29	5.6	5.7									10,988	7,764	976				10,988	7,764	976
8/15/2013	TRUE	TRUE	FALSE	3.3	7.5	5.8	58%	44%	77%		1.30	5.6	5.7	223			23	10,731		1,113		10,973	7,764	1,004	10,731		1,113	10,973	7,764	1,004
8/16/2013	TRUE	TRUE	FALSE	3.2	7.8	5.7	56%	41%	73%		1.36	5.6	5.6	234								10,843	7,764	1,004	10,843			10,843	7,764	1,004
8/17/2013	TRUE	TRUE	FALSE	3.3	7.8	5.6	59%	42%	71%		1.40	5.6	5.6									10,843	7,764	1,004				10,843	7,764	1,004
8/18/2013	TRUE	TRUE	FALSE	3.3	8.2	5.8	57%	40%	70%		1.42	5.6	5.7									10,891	7,764	1,006				10,891	7,764	1,006
8/19/2013	TRUE	TRUE	FALSE	3.3	10.2	6.1	54%	32%	60%		1.67	5.6	5.7	274				13,939				11,274	8,075	1,006	13,939			11,274	8,075	1,006
8/20/2013	TRUE	TRUE	FALSE	3.3	8.4	6.1	54%	39%	73%		1.38	5.6	5.8	242	177	0.73		12,312	9,005			11,335	8,230	1,006	12,312	9,005		11,335	8,230	1,006
8/21/2013	TRUE	TRUE	FALSE	3.5	8.4	6.1	57%	42%	73%		1.37	5.7	5.9									11,335	8,230	1,006				11,335	8,230	1,006
8/22/2013	TRUE	TRUE	FALSE	3.3	8.5	6.1	54%	39%	72%		1.39	5.7	5.9	245			25	12,505		1,272		11,453	8,230	1,059	12,505		1,272	11,453	8,230	1,059
8/23/2013	TRUE	TRUE	FALSE	3.4	8.3	6.1	56%	41%	73%		1.38	5.7	5.9	249				12,585				11,586	8,246	1,059	12,585			11,586	8,246	1,059
8/24/2013	TRUE	TRUE	FALSE	3.3	8.9	5.9	56%	37%	66%		1.51	5.7	6.0									11,586	8,246	1,059				11,586	8,246	1,059
8/25/2013	TRUE	TRUE	FALSE	3.3	9.0	6.2	54%	37%	69%		1.45	5.7	6.1									11,610	8,246	1,132				11,610	8,246	1,132
8/26/2013	TRUE	TRUE	FALSE	3.3	8.9	6.3	52%	37%	70%		1.42	5.7	6.1	126				6,589				11,381	8,246	1,132	6,589			11,381	8,246	1,132
8/27/2013	FALSE	FALSE	FALSE	3.2	9.1	6.2	52%	36%	68%		1.46	5.8	6.1	202	163	0.81		10,479	8,456			11,328	8,281	1,132	10,479	8,456		11,328	8,281	1,132
8/28/2013	FALSE	FALSE	FALSE	3.4	9.2	6.4	54%	37%	69%		1.44	5.8	6.2									11,328	8,281	1,132				11,328	8,281	1,132
8/29/2013	FALSE	FALSE	FALSE	3.3	9.5	6.3	52%	34%	66%		1.51	5.8	6.2	204			23	10,736		1,210		11,332	8,281	1,147	10,736		1,210	11,332	8,281	1,147
8/30/2013	FALSE	FALSE	FALSE	3.2	9.6	6.2	52%	33%	65%		1.55	5.8	6.2	170				8,790				11,274	8,401	1,147	8,790			11,274	8,401	1,147
8/31/2013	FALSE	FALSE	FALSE			5.8	0%				0.00	5.8	6.2									11,274	8,401	1,147				11,274	8,401	1,147
9/1/2013	FALSE	FALSE	FALSE	3.2	8.6	5.8	56%	37%	67%		1.49	5.9	6.1									11,274	8,401	1,160				11,274	8,401	1,160
9/2/2013	FALSE	FALSE	FALSE	3.2	8.6	5.8	55%	37%	67%		1.48	5.9	6.1									11,119	8,625	1,160				11,119	8,625	1,160
9/3/2013	FALSE	FALSE	FALSE	3.3	9.4	6.3	53%	35%	66%		1.50	5.9	6.1	195				10,164				11,063	8,625	1,160	10,164			11,063	8,625	1,160
9/4/2013	FALSE	FALSE	FALSE	3.2	9.2	6.3	52%	35%	68%		1.46	5.9	6.1									11,063	8,625	1,160				11,063	8,625	1,160
9/5/2013	FALSE	FALSE																												

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
9/17/2013	FALSE	FALSE	FALSE	3.5	8.9	6.2	55%	39%	70%		1.43	6.2	6.3	231	142	0.61		12,002	7,378			11,334	7,926	1,291	12,002	7,378		11,334	7,926	1,291
9/18/2013	FALSE	FALSE	FALSE	3.4	9.2	6.3	53%	37%	69%		1.45	6.2	6.4									11,377	7,926	1,291				11,377	7,926	1,291
9/19/2013	FALSE	FALSE	FALSE	3.4	8.8	6.3	54%	38%	71%		1.41	6.2	6.3	280			22	14,595		1,147		11,377	7,926	1,262	14,595		1,147	11,377	7,926	1,262
9/20/2013	FALSE	FALSE	FALSE	3.3	8.9	6.1	54%	37%	69%		1.46	6.2	6.2	223	160	0.72		11,326	8,126			11,312	7,780	1,262	11,326	8,126		11,312	7,780	1,262
9/21/2013	FALSE	FALSE	TRUE	3.3	10.0	6.6	51%	33%	66%		1.52	6.2	6.3									11,312	7,780	1,262				11,312	7,780	1,262
9/22/2013	FALSE	FALSE	TRUE	3.3	9.8	6.6	51%	34%	67%		1.49	6.2	6.3									11,226	7,780	1,260				11,226	7,780	1,260
9/23/2013	FALSE	FALSE	FALSE	3.3	9.0	6.5	52%	37%	72%		1.40	6.2	6.4	254				13,663				11,304	7,780	1,260	13,663			11,304	7,780	1,260
9/24/2013	FALSE	FALSE	TRUE	3.3	10.1	6.5	51%	33%	64%		1.55	6.2	6.4	222	172	0.77		12,053	9,338			11,354	8,003	1,260	12,053	9,338		11,354	8,003	1,260
9/25/2013	FALSE	FALSE	TRUE	3.4	9.5	6.5	52%	35%	68%		1.47	6.3	6.4									11,354	8,003	1,260				11,354	8,003	1,260
9/26/2013	FALSE	FALSE	FALSE	3.3	9.2	6.5	51%	36%	71%		1.41	6.3	6.4	235			23	12,700		1,254		11,761	8,003	1,259	12,700		1,254	11,761	8,003	1,259
9/27/2013	FALSE	FALSE	FALSE	3.3	8.7	6.2	53%	38%	71%		1.41	6.3	6.4	247				12,710				11,910	7,927	1,259	12,710			11,910	7,927	1,259
9/28/2013	FALSE	FALSE	FALSE	3.2	9.1	6.1	53%	36%	67%		1.48	6.3	6.4									11,910	7,927	1,259				11,910	7,927	1,259
9/29/2013	FALSE	FALSE	FALSE	3.3	10.5	6.3	52%	31%	60%		1.66	6.3	6.4									11,994	7,927	1,271				11,994	7,927	1,271
9/30/2013	FALSE	FALSE	FALSE	3.3	9.0	6.2	53%	37%	69%		1.45	6.3	6.3	212				10,980				12,150	7,927	1,271	10,980			12,150	7,927	1,271
10/1/2013	FALSE	FALSE	FALSE	3.2	8.9	6.2	53%	36%	69%		1.45	6.3	6.3	231	181	0.78		11,867	9,299			12,131	8,123	1,271	11,867	9,299		12,131	8,123	1,271
10/2/2013	FALSE	FALSE	FALSE	3.2	9.0	6.1	52%	36%	68%		1.47	6.3	6.3									12,131	8,123	1,271				12,131	8,123	1,271
10/3/2013	FALSE	FALSE	FALSE	3.3	9.1	6.2	53%	36%	69%		1.46	6.3	6.2	223			24	11,605		1,252		12,098	8,123	1,267	11,605		1,252	12,098	8,123	1,267
10/4/2013	FALSE	FALSE	FALSE	3.3	8.6	6.1	54%	38%	71%		1.41	6.3	6.2	246	157	0.64		12,515	7,987			12,245	8,106	1,267	12,515	7,987		12,245	8,106	1,267
10/5/2013	FALSE	FALSE	FALSE	3.2	9.2	6.1	53%	35%	67%		1.50	6.3	6.2									12,245	8,106	1,267				12,245	8,106	1,267
10/6/2013	FALSE	FALSE	FALSE	3.3	8.9	6.1	54%	37%	69%		1.46	6.3	6.2									12,245	8,106	1,238				12,245	8,106	1,238
10/7/2013	FALSE	FALSE	FALSE	3.3	8.7	6.2	53%	38%	71%		1.40	6.3	6.2	279				14,473				12,391	7,970	1,238	14,473			12,391	7,970	1,238
10/8/2013	FALSE	FALSE	FALSE	3.3	9.0	6.2	54%	37%	69%		1.45	6.3	6.2	192	157	0.82		9,912	8,105			12,245	7,987	1,238	9,912	8,105		12,245	7,987	1,238
10/9/2013	FALSE	FALSE	FALSE	3.3	9.1	6.2	54%	37%	69%		1.46	6.3	6.2									12,245	7,987	1,238				12,245	7,987	1,238
10/10/2013	FALSE	FALSE	FALSE	3.3	8.7	6.3	53%	38%	72%		1.39	6.3	6.2	270			34	14,096		1,777		12,399	7,987	1,358	14,096		1,777	12,399	7,987	1,358
10/11/2013	FALSE	FALSE	FALSE	3.2	8.7	6.2	52%	37%	71%		1.41	6.3	6.2	209	177	0.85		10,737	9,093			12,302	8,036	1,358	10,737	9,093		12,302	8,036	1,358
10/12/2013	FALSE	FALSE	TRUE	3.3	9.1	6.0	55%	36%	66%		1.51	6.3	6.2									12,302	8,036	1,358				12,302	8,036	1,358
10/13/2013	FALSE	FALSE	FALSE	3.3	9.5	6.0	54%	34%	63%		1.58	6.2	6.2									12,281	8,036	1,358				12,281	8,036	1,358
10/14/2013	FALSE	FALSE	FALSE	3.3	8.7	6.2	53%	37%	71%		1.42	6.2	6.2	232				11,919				12,260	8,475	1,358	11,919			12,260	8,475	1,358
10/15/2013	FALSE	FALSE	FALSE	3.3	8.7	6.2	53%	37%	71%		1.41	6.2	6.2	231	200	0.87		11,867	10,275			12,238	8,700	1,358	11,867	10,275		12,238	8,700	1,358
10/16/2013	FALSE	FALSE	FALSE	3.2	8.8	6.2	52%	37%	70%		1.43	6.2	6.1									12,238	8,700	1,358				12,238	8,700	1,358
10/17/2013	FALSE	FALSE	FALSE	3.3	8.9	6.2	53%	37%	70%		1.44	6.2	6.1	251			29	13,021		1,490		12,336	8,700	1,384	13,021		1,490	12,336	8,700	1,384
10/18/2013	FALSE	FALSE	FALSE	3.3	8.8	6.1	55%	38%	69%		1.45	6.2	6.1	242	192	0.79		12,312	9,768			12,353	8,999	1,384	12,312	9,768		12,353	8,999	1,384
10/19/2013	FALSE	FALSE	FALSE	3.3	9.0	6.0	55%	37%	67%		1.50	6.2	6.1									12,353	8,999	1,384				12,353	8,999	1,384
10/20/2013	FALSE	FALSE	FALSE	3.2	9.1	6.0	54%	35%	66%		1.51	6.2	6.1									12,221	8,999	1,443				12,221	8,999	1,443
10/21/2013	FALSE	FALSE	FALSE	3.2	8.8	6.3	51%	37%	72%		1.38	6.2	6.1	225				11,897				12,255	9,124	1,443	11,897			12,255	9,124	1,443
10/22/2013	FALSE	FALSE	FALSE	3.3	8.5	6.1	53%	38%	72%		1.39	6.2	6.1	248	164	0.66		12,679	8,384			12,278	9,031	1,443	12,679	8,384		12,278	9,031	1,443
10/23/2013	FALSE	FALSE	FALSE	3.2	8.4	6.2	52%	38%	73%		1.37	6.2	6.1									12,278	9,031	1,443				12,278	9,031	1,443
10/24/2013	FALSE	FALSE	FALSE	3.3	12.3	6.6	49%	27%	54%		1.85	6.2	6.2	158			30	8,736		1,673		12,004	9,031	1,489	8,736		1,673	12,004	9,031	1,489
10/25/2013	FALSE	FALSE	FALSE	3.4	8.4	6.1	55%	40%	73%		1.37	6.2	6.2	158	141	0.89		8,064	7,197			11,783	8,764	1,489	8,064	7,197		11,783	8,764	1,489
10/26/2013	FALSE	FALSE	FALSE	3.4	9.0	5.9	57%	38%	66%		1.51	6.2	6.2									11,783	8,764	1,489				11,783	8,764	1,489
10/27/2013	FALSE	FALSE	TRUE	3.3	8.7	6.0	54%	37%	69%		1.44	6.2	6.2									11,729	8,764	1,548				11,729	8,764	1,548
10/28/2013	FALSE	FALSE	TRUE	3.3	8.6	6.2	53%	38%	72%		1.38	6.2	6.2	220				11,412				11,653	8,764	1,548	11,412			11,653	8,764	1,548
10/29/2013	FALSE	FALSE	FALSE	3.2	9.2	6.1	52%	35%	67%		1.50	6.2	6.2	249	193	0.78		12,668	9,819			11,709	8,881	1,548	12,668	9,819		11,709	8,881	1,548
10/30/2013	FALSE	FALSE	FALSE		8.2	5.6	0%	0%	68%		1.47	6.1	6.1									11,709	8,881	1,548				11,709	8,881	1,548
10/31/2013	FALSE	FALSE	FALSE	3.5	8.2	6.1	57%	42%	75%		1.34	6.1	6.1	272			25	13,838		1,266		11,868	8,881	1,492	13,838		1,266	11,868	8,881	1,492
11/1/2013	FALSE	FALSE	FALSE	3.4	8.1	6.2	55%	42%	76%		1.31	6.1	6.0	242	201	0.83		12,433	10,326			11,899	8,995	1,492	12,433	10,326		11,899	8,995	1,492
11/2/2013	FALSE	FALSE	FALSE	3.3	8.6	6.2	54%	38%	72%		1.40	6.1	6.0									11,899	8,995	1,492				11,899	8,995	1,492
11/3/2013	FALSE	FALSE	FALSE	3.3	9.1	6.2	53%	36%	68%		1.48	6.1	6.1									11,916	8,995	1,552				11,916	8,995	1,552
11/4/2013	FALSE	FALSE	FALSE	3.3	9.2	6.6	50%	36%	72%		1.39	6.1	6.1	222				12,257				11,901	9,121	1,552	12,257			11,901	9,121	1,552
11/5/2013	FALSE	FALSE	FALSE	6.4	12.4	9.7	66%	52%	78%		1.28	6.3	6.6	217	196	0.90		17,573	15,872			12,216	9,871	1,552	17,573	15,872		12,216	9,871	1,552
11/6/2013	FALSE	FALSE	FALSE	3.4	11.8	6.7	51%	29%	56%		1.77	6.3	6.6																	

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
11/20/2013	FALSE	FALSE	TRUE	3.5	9.8	6.9	51%	36%	71%		1.41	6.4	6.4				20			1,172		12,253	10,803	1,404			1,172	12,253	10,803	1,404
11/21/2013	FALSE	FALSE	FALSE	3.6	9.5	6.8	52%	37%	72%		1.40	6.4	6.5	217				12,288				12,276	10,803	1,404	12,288			12,276	10,803	1,404
11/22/2013	FALSE	TRUE	FALSE	3.3	9.0	6.4	52%	37%	71%		1.41	6.4	6.5									12,250	11,105	1,404				12,250	11,105	1,404
11/23/2013	FALSE	TRUE	FALSE	3.2	9.4	6.0	54%	34%	63%		1.58	6.4	6.5									12,250	11,105	1,404				12,250	11,105	1,404
11/24/2013	FALSE	TRUE	FALSE	3.2	9.1	5.9	55%	36%	65%		1.54	6.3	6.4									12,485	11,105	1,337				12,485	11,105	1,337
11/25/2013	FALSE	TRUE	FALSE	3.2	8.8	6.0	54%	37%	68%		1.47	6.3	6.4	232								11,571	11,664	1,337	11,571			12,718	11,664	1,337
11/26/2013	FALSE	TRUE	FALSE	3.2	8.4	6.0	54%	38%	71%		1.41	6.3	6.4	210								10,438	11,664	1,337	10,438			12,576	11,664	1,337
11/27/2013	TRUE	TRUE	FALSE	3.2	8.6	5.9	54%	37%	69%		1.46	6.3	6.2				23			1,145		12,576	11,664	1,298		1,145		12,576	11,664	1,298
11/28/2013	TRUE	TRUE	FALSE	3.2	9.3	5.3	60%	34%	57%		1.75	6.3	6.0									12,653	11,664	1,298				12,653	11,664	1,298
11/29/2013	TRUE	TRUE	FALSE	3.3	8.0	5.4	60%	41%	68%		1.48	6.3	5.9									12,652	11,971	1,298				12,652	11,971	1,298
11/30/2013	TRUE	TRUE	FALSE	3.3	8.3	5.5	59%	40%	67%		1.50	6.3	5.7									12,652	11,971	1,298				12,652	11,971	1,298
12/1/2013	TRUE	TRUE	FALSE	3.3	8.8	6.0	54%	37%	68%		1.47	6.3	5.8									12,561	11,971	1,307				12,561	11,971	1,307
12/2/2013	TRUE	TRUE	FALSE	3.3	8.8	6.2	53%	37%	71%		1.42	6.3	5.8	297				15,456				12,794	12,300	1,307	15,456			12,794	12,300	1,307
12/3/2013	FALSE	FALSE	FALSE	3.3	9.0	6.2	53%	37%	69%		1.44	6.3	5.8	230	257	1.12		11,931	13,332			12,732	12,472	1,307	11,931	13,332		12,732	12,472	1,307
12/4/2013	FALSE	FALSE	FALSE	3.3	9.3	6.3	51%	35%	68%		1.47	6.3	5.9									12,732	12,472	1,307				12,732	12,472	1,307
12/5/2013	FALSE	FALSE	FALSE	3.3	9.2	6.2	53%	36%	67%		1.49	6.3	5.9				24			1,234		12,769	12,472	1,292			1,234	12,769	12,472	1,292
12/6/2013	FALSE	FALSE	TRUE	3.3	9.2	6.4	51%	36%	70%		1.42	6.2	6.0	320	537	1.68		17,160	28,797		BOD	12,369	11,792	1,292	17,160	28,797		12,369	11,792	1,292
12/7/2013	FALSE	FALSE	FALSE	3.4	9.7	6.3	53%	35%	65%		1.54	6.2	6.2									12,369	11,792	1,292				12,369	11,792	1,292
12/8/2013	FALSE	FALSE	FALSE	3.4	8.8	4.9	68%	39%	56%		1.77	6.1	6.1									12,279	11,792	1,246				12,279	11,792	1,246
12/9/2013	FALSE	FALSE	FALSE	3.4	9.3	6.4	53%	37%	69%		1.45	6.1	6.1	237				12,650				12,144	12,252	1,246	12,650			12,144	12,252	1,246
12/10/2013	FALSE	FALSE	FALSE	3.3	9.1	6.3	52%	36%	69%		1.45	6.1	6.1	239				12,478				12,172	12,252	1,246	12,478			12,172	12,252	1,246
12/11/2013	FALSE	FALSE	FALSE	3.2	9.4	6.3	51%	34%	67%		1.49	6.2	6.1									12,172	12,252	1,246				12,172	12,252	1,246
12/12/2013	FALSE	FALSE	FALSE	3.3	9.1	6.3	52%	36%	69%		1.45	6.2	6.1	345			29	17,983		1,537		12,619	12,252	1,304	17,983		1,537	12,619	12,252	1,304
12/13/2013	FALSE	FALSE	FALSE	3.3	9.1	6.3	53%	36%	69%		1.46	6.1	6.1	225	429	1.91		11,728	22,362		BOD	12,697	12,582	1,304	11,728	22,362		12,697	12,582	1,304
12/14/2013	FALSE	FALSE	FALSE	3.3	9.6	6.1	54%	34%	64%		1.56	6.1	6.1									12,697	12,582	1,304				12,697	12,582	1,304
12/15/2013	FALSE	FALSE	FALSE	3.2	9.4	6.2	53%	34%	65%		1.53	6.1	6.1									12,729	12,582	1,272				12,729	12,582	1,272
12/16/2013	FALSE	FALSE	FALSE	3.2	9.2	6.3	51%	35%	68%		1.47	6.1	6.2	277				14,439				12,625	12,222	1,272	14,439			12,625	12,222	1,272
12/17/2013	FALSE	FALSE	FALSE	3.3	8.8	6.2	52%	37%	70%		1.42	6.1	6.2	236								12,591	12,222	1,272	12,223			12,591	12,222	1,272
12/18/2013	FALSE	FALSE	FALSE	3.3	9.1	6.2	53%	36%	68%		1.47	6.1	6.2									12,591	12,222	1,272				12,591	12,222	1,272
12/19/2013	FALSE	FALSE	FALSE	3.3	8.9	6.1	53%	37%	69%		1.45	6.1	6.2	248	241	0.97		12,699	12,341			12,949	12,262	1,272	12,699	12,341		12,949	12,262	1,272
12/20/2013	TRUE	TRUE	FALSE	3.2	8.9	6.0	53%	36%	68%		1.48	6.1	6.2	270			24	13,601		1,223		13,146	12,836	1,262	13,601		1,223	13,146	12,836	1,262
12/21/2013	TRUE	TRUE	FALSE	3.2	9.2	5.8	55%	35%	63%		1.60	6.1	6.1									13,146	12,836	1,285				13,146	12,836	1,285
12/22/2013	TRUE	TRUE	FALSE	3.1	8.7	5.6	56%	36%	64%		1.57	6.0	6.0									13,224	12,836	1,285				13,224	12,836	1,285
12/23/2013	TRUE	TRUE	FALSE	3.2	8.7	5.7	56%	37%	65%		1.53	6.0	6.0									13,224	12,836	1,285				13,224	12,836	1,285
12/24/2013	TRUE	TRUE	FALSE	3.2	8.8	5.4	59%	36%	61%		1.63	6.0	5.9									13,224	12,836	1,285				13,224	12,836	1,285
12/25/2013	TRUE	TRUE	FALSE	3.1	7.1	4.8	65%	44%	67%		1.49	6.0	5.7									13,224	12,836	1,285				13,224	12,836	1,285
12/26/2013	TRUE	TRUE	FALSE	3.1	8.1	5.4	57%	38%	67%		1.50	5.9	5.6	74	91	1.23		3,339	4,106		TSS	13,390	12,836	1,285	3,339	4,106		13,390	12,836	1,285
12/27/2013	TRUE	TRUE	FALSE	3.2	8.8	5.5	58%	36%	62%		1.61	5.9	5.5	280			23	12,820		1,056		13,628	12,836	1,239	12,820		1,056	13,628	12,836	1,239
12/28/2013	TRUE	TRUE	FALSE	3.2	8.3	5.4	60%	38%	64%		1.55	5.9	5.4									13,628	12,836	1,262				13,628	12,836	1,262
12/29/2013	TRUE	TRUE	FALSE	3.1	8.2	5.3	59%	38%	64%		1.55	5.9	5.4									13,628	12,836	1,262				13,628	12,836	1,262
12/30/2013	TRUE	TRUE	FALSE	3.1	8.1	5.5	57%	39%	68%		1.47	5.9	5.4	244				11,233				13,410	12,836	1,262	11,233			13,410	12,836	1,262
12/31/2013	TRUE	TRUE	FALSE	3.2	8.4	5.6	57%	38%	66%		1.51	5.9	5.3	317				14,752				13,522	12,836	1,262	14,752			13,522	12,836	1,262
1/1/2014	TRUE	TRUE	FALSE	3.2	8.0	5.2	61%	40%	66%		1.53	5.9	5.3				26	12,059		1,218		13,522	12,836	1,262				13,522	12,836	1,262
1/2/2014	TRUE	TRUE	FALSE	3.2	8.3	5.5	58%	39%	67%		1.49	5.9	5.4	261								13,239	12,836	1,254	12,059		1,218	13,239	12,836	1,254
1/3/2014	TRUE	TRUE	FALSE	3.2	8.1	5.6	57%	40%	69%		1.45	5.8	5.4	221	272	1.23		10,266	12,635			13,100	12,488	1,254	10,266	12,635		13,100	12,488	1,254
1/4/2014	TRUE	TRUE	FALSE	3.1	8.5	5.5	56%	36%	65%		1.54	5.8	5.5									13,100	12,488	1,254				13,100	12,488	1,254
1/5/2014	TRUE	TRUE	FALSE	3.0	8.5	5.6	54%	35%	66%		1.52	5.8	5.5									13,100	12,488	1,258				13,100	12,488	1,258
1/6/2014	TRUE	TRUE	FALSE	3.1	8.4	5.7	54%	37%	68%		1.47	5.8	5.5	311				14,810				13,232	12,488	1,258	14,810			13,232	12,488	1,258
1/7/2014	TRUE	TRUE	FALSE	3.1	8.3	5.7	54%	38%	69%		1.45	5.7	5.6	360	442	1.23		17,144	21,049		BOD	13,232	12,488	1,258	17,144	21,049		13,232	12,488	1,258
1/8/2014	TRUE	TRUE	FALSE	3.1	8.5	5.7	54%	37%	68%		1.48	5.8	5.6									13,232	12,488	1,258				13,232	12,488	1,258
1/9/2014	TRUE	TRUE	FALSE	3.1	8.3	5.7	55%	37%	68%		1.47	5.7	5.6	257			24	12,132		1,123		13,192	12,488	1,231	12,132		1,123	13,192	12,488	1,231
1/10/2014	TRUE	TRUE	FALSE	3.1																										

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
1/23/2014	TRUE	FALSE	FALSE	3.1	8.9	6.0	52%	35%	68%		1.48	5.6	5.8	293			24	14,637		1,217		13,285	12,099	1,127	14,637		1,217	13,285	12,099	1,127
1/24/2014	TRUE	FALSE	FALSE	3.1	8.7	6.0	52%	36%	68%		1.46	5.6	5.9	261	222	0.85		12,952	11,016			13,261	11,918	1,127	12,952	11,016		13,261	11,918	1,127
1/25/2014	TRUE	FALSE	FALSE	3.1	9.3	5.8	54%	33%	62%		1.61	5.7	5.9									13,261	11,918	1,127				13,261	11,918	1,127
1/26/2014	TRUE	FALSE	FALSE	3.1	9.4	5.9	52%	33%	63%		1.59	5.7	5.9									13,261	11,918	1,127				13,261	11,918	1,127
1/27/2014	TRUE	FALSE	FALSE	3.1	9.0	6.0	53%	35%	67%		1.50	5.7	5.9	248				12,369				13,229	11,918	1,145	12,369			13,229	11,918	1,145
1/28/2014	FALSE	FALSE	FALSE	3.2	8.8	5.9	54%	36%	67%		1.50	5.7	5.9	242	221	0.91		11,928	10,893			13,142	11,772	1,145	11,928	10,893		13,142	11,772	1,145
1/29/2014	FALSE	FALSE	TRUE	3.2	8.9	6.1	53%	36%	68%		1.47	5.7	5.9									13,142	11,772	1,145				13,142	11,772	1,145
1/30/2014	FALSE	FALSE	TRUE	3.2	9.0	6.1	52%	36%	68%		1.47	5.7	6.0	259			25	13,198		1,285		13,273	11,772	1,173	13,198		1,285	13,273	11,772	1,173
1/31/2014	FALSE	FALSE	FALSE	3.2	9.0	6.1	52%	36%	69%		1.46	5.8	6.0	222	229	1.03		11,368	11,727			13,048	11,766	1,173	13,368	11,727		13,048	11,766	1,173
2/1/2014	FALSE	FALSE	FALSE	3.1	9.7	6.0	51%	32%	62%		1.62	5.8	6.0									13,048	11,766	1,173				13,048	11,766	1,173
2/2/2014	FALSE	FALSE	FALSE	3.1	10.3	5.9	52%	30%	58%		1.73	5.8	6.0									13,118	11,766	1,161				13,118	11,766	1,161
2/3/2014	FALSE	FALSE	FALSE	3.2	9.1	6.1	52%	35%	66%		1.51	5.8	6.0	300				15,162				13,468	11,642	1,161	15,162			13,468	11,642	1,161
2/4/2014	FALSE	FALSE	FALSE	3.2	9.1	6.0	52%	35%	66%		1.51	5.8	6.0	232				11,687				13,349	11,642	1,161	11,687			13,349	11,642	1,161
2/5/2014	FALSE	FALSE	TRUE	3.2	9.6	6.1	52%	34%	64%		1.56	5.9	6.1									13,349	11,642	1,161				13,349	11,642	1,161
2/6/2014	FALSE	FALSE	TRUE	3.3	9.2	6.2	53%	35%	67%		1.49	5.9	6.1	247			25	12,751		1,306		13,212	11,642	1,190	12,751		1,306	13,212	11,642	1,190
2/7/2014	FALSE	FALSE	TRUE	3.2	9.4	6.5	50%	35%	69%		1.45	5.9	6.1	274	229	0.84		14,762	12,338			13,309	11,729	1,190	14,762	12,338		13,309	11,729	1,190
2/8/2014	FALSE	FALSE	TRUE	3.7	12.6	7.9	47%	29%	62%		1.60	6.0	6.3									13,309	11,729	1,190				13,309	11,729	1,190
2/9/2014	FALSE	FALSE	TRUE	4.3	12.5	8.4	52%	35%	67%		1.49	6.1	6.6									13,387	11,729	1,207				13,387	11,729	1,207
2/10/2014	FALSE	FALSE	TRUE	6.6	14.0	9.9	67%	47%	70%		1.42	6.2	7.1	194				15,953				13,633	11,435	1,207	15,953			13,633	11,435	1,207
2/11/2014	FALSE	FALSE	FALSE	3.7	11.2	7.7	48%	33%	68%		1.46	6.3	7.3	168				10,719				13,451	11,435	1,207	10,719			13,451	11,435	1,207
2/12/2014	FALSE	FALSE	FALSE	3.5	10.4	7.1	50%	34%	68%		1.47	6.3	7.4	225				13,229				13,438	11,435	1,207	13,229			13,438	11,435	1,207
2/13/2014	FALSE	FALSE	FALSE	3.4	10.1	6.7	51%	34%	67%		1.50	6.3	7.5				23			1,277		13,438	11,435	1,221			1,277	13,438	11,435	1,221
2/14/2014	FALSE	FALSE	FALSE	3.4	10.0	6.8	50%	34%	68%		1.48	6.4	7.6	301	231	0.77		16,970	13,023			13,653	11,137	1,221	16,970	13,023		13,653	11,137	1,221
2/15/2014	FALSE	FALSE	FALSE	3.3	10.0	6.4	52%	33%	64%		1.57	6.4	7.6									13,653	11,137	1,221				13,653	11,137	1,221
2/16/2014	FALSE	FALSE	FALSE	3.3	10.0	6.4	52%	33%	64%		1.57	6.4	7.4									13,682	11,137	1,271				13,682	11,137	1,271
2/17/2014	FALSE	FALSE	FALSE	3.3	10.0	6.5	50%	33%	65%		1.54	6.4	7.2									13,693	11,263	1,271				13,693	11,263	1,271
2/18/2014	FALSE	FALSE	FALSE	3.2	9.4	6.3	51%	34%	67%		1.49	6.5	6.7	230	218	0.95		12,123	11,491			13,595	11,295	1,271	12,123	11,491		13,595	11,295	1,271
2/19/2014	FALSE	FALSE	FALSE	3.3	9.7	6.3	52%	34%	65%		1.53	6.5	6.5									13,595	11,295	1,271				13,595	11,295	1,271
2/20/2014	FALSE	FALSE	FALSE	3.2	9.4	6.3	51%	34%	67%		1.50	6.5	6.4				25			1,287		13,595	11,295	1,274			1,287	13,595	11,295	1,274
2/21/2014	FALSE	FALSE	FALSE	3.2	9.5	6.3	52%	34%	66%		1.51	6.5	6.4	304			20	15,846		1,024		13,478	11,748	1,233	15,846		1,024	13,478	11,748	1,233
2/22/2014	FALSE	FALSE	FALSE	3.2	9.5	6.0	54%	34%	63%		1.59	6.5	6.3									13,478	11,748	1,233				13,478	11,748	1,233
2/23/2014	FALSE	FALSE	FALSE	3.2	9.4	5.9	54%	34%	63%		1.58	6.5	6.2									13,401	11,748	1,236				13,401	11,748	1,236
2/24/2014	FALSE	FALSE	FALSE	3.2	9.2	6.1	53%	35%	66%		1.51	6.5	6.2	228				11,580				13,310	11,894	1,236	11,580			13,310	11,894	1,236
2/25/2014	FALSE	FALSE	FALSE	3.2	9.3	6.1	52%	34%	66%		1.52	6.5	6.2	277	282	1.02		14,092	14,346			13,359	12,303	1,236	14,092	14,346		13,359	12,303	1,236
2/26/2014	FALSE	FALSE	TRUE	3.2	10.0	6.3	51%	32%	63%		1.58	6.5	6.2									13,359	12,303	1,236				13,359	12,303	1,236
2/27/2014	FALSE	FALSE	TRUE	3.5	9.9	6.8	51%	35%	69%		1.45	6.5	6.2	272			19	15,494		1,097		13,554	12,303	1,213	15,494		1,097	13,554	12,303	1,213
2/28/2014	FALSE	FALSE	TRUE	3.5	10.2	7.1	48%	34%	70%		1.43	6.6	6.3	232	243	1.05		13,776	14,430			13,669	12,892	1,213	13,776	14,430		13,669	12,892	1,213
3/1/2014	FALSE	FALSE	TRUE	3.8	11.3	7.6	51%	34%	67%		1.50	6.6	6.5									13,669	12,892	1,213				13,669	12,892	1,213
3/2/2014	FALSE	FALSE	TRUE	3.6	10.9	7.0	51%	33%	64%		1.56	6.7	6.6									13,701	12,892	1,198				13,701	12,892	1,198
3/3/2014	FALSE	FALSE	TRUE	3.5	12.8	7.7	45%	27%	60%		1.66	6.7	6.8	216				13,925				13,871	13,126	1,198	13,925			13,871	13,126	1,198
3/4/2014	FALSE	FALSE	TRUE	5.7	12.7	9.3	61%	45%	73%		1.36	6.8	7.2									13,871	13,126	1,198				13,871	13,126	1,198
3/5/2014	FALSE	FALSE	TRUE	4.1	11.7	8.3	50%	35%	71%		1.42	6.9	7.5	192	139	0.72		13,259	9,599			13,833	12,538	1,198	13,259	9,599		13,833	12,538	1,198
3/6/2014	FALSE	FALSE	TRUE	4.8	12.2	8.7	55%	39%	71%		1.41	7.0	7.8									13,744	12,538	1,198				13,744	12,538	1,198
3/7/2014	FALSE	FALSE	FALSE	3.9	11.1	7.8	50%	35%	70%		1.42	7.0	7.9	195			16	12,701		1,044		13,812	12,538	1,173	12,701		1,044	13,812	12,538	1,173
3/8/2014	FALSE	FALSE	FALSE	3.7	10.9	7.2	51%	34%	66%		1.51	7.1	7.9									13,812	12,538	1,173				13,812	12,538	1,173
3/9/2014	FALSE	FALSE	TRUE	3.5	10.8	7.1	50%	32%	65%		1.53	7.1	7.9									13,888	12,538	1,146				13,888	12,538	1,146
3/10/2014	FALSE	FALSE	TRUE	4.1	12.7	8.9	45%	32%	70%		1.43	7.2	8.1	209				15,583				13,946	12,578	1,146	15,583			13,946	12,578	1,146
3/11/2014	FALSE	FALSE	FALSE	4.1	11.8	8.1	51%	35%	68%		1.47	7.2	8.2	237	165	0.70		15,931	11,091			14,079	12,330	1,146	15,931	11,091		14,079	12,330	1,146
3/12/2014	FALSE	FALSE	FALSE	3.7	10.7	7.5	50%	35%	70%		1.43	7.2	7.9									14,079	12,330	1,146				14,079	12,330	1,146
3/13/2014	FALSE	FALSE	FALSE	3.5	10.4	7.2	49%	34%	69%		1.45	7.1	7.8	192			16	11,497		956		13,782	12,330	1,114	11,497		956	13,782	12,330	1,114
3/14/2014	TRUE	TRUE	FALSE	3.6	9.8	6.8	52%	37%	70%		1.43	7.0	7.6	220	177	0.														

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
3/28/2014	FALSE	FALSE	TRUE	3.4	9.6	6.7	51%	36%	70%		1.43	6.9	6.3	223	205	0.92		12,498	11,489			13,085	11,120	1,085	12,498	11,489		13,085	11,120	1,085
3/29/2014	FALSE	FALSE	TRUE	3.4	11.3	7.2	48%	30%	64%		1.57	7.0	6.4									13,085	11,120	1,085				13,085	11,120	1,085
3/30/2014	FALSE	FALSE	TRUE	4.1	11.7	7.9	52%	35%	68%		1.48	7.0	6.7									12,934	11,120	1,082				12,934	11,120	1,082
3/31/2014	FALSE	FALSE	TRUE	3.7	10.5	7.7	48%	35%	73%		1.37	7.0	7.0	223				14,283				12,966	10,568	1,082	14,283			12,966	10,568	1,082
4/1/2014	FALSE	FALSE	TRUE	3.6	10.6	7.6	47%	34%	72%		1.39	7.0	7.1	209	182	0.87		12,483				12,985	10,711	1,082	13,282	11,566		12,985	10,711	1,082
4/2/2014	FALSE	FALSE	FALSE	3.6	11.0	7.4	49%	33%	67%		1.50	7.0	7.3									12,985	10,711	1,082				12,985	10,711	1,082
4/3/2014	FALSE	FALSE	FALSE	3.5	10.4	7.2	49%	34%	69%		1.44	7.0	7.3	92			23	5,517		1,399		12,490	10,711	1,145	5,517		1,399	12,490	10,711	1,145
4/4/2014	FALSE	FALSE	TRUE	3.5	9.9	6.9	51%	36%	70%		1.43	6.9	7.3	219	176	0.80		12,676				12,500	10,645	1,145	12,676	10,187		12,500	10,645	1,145
4/5/2014	FALSE	FALSE	FALSE	3.4	10.3	6.6	52%	33%	65%		1.54	6.9	7.3									12,456	10,795	1,145				12,456	10,795	1,145
4/6/2014	FALSE	FALSE	FALSE	3.4	10.2	6.6	51%	33%	64%		1.56	6.8	7.2									12,456	10,795	1,145				12,456	10,795	1,145
4/7/2014	FALSE	FALSE	FALSE	3.4	9.6	6.5	52%	35%	67%		1.48	6.8	7.1	214				11,547				12,388	10,795	1,171	11,547			12,388	10,795	1,171
4/8/2014	FALSE	FALSE	FALSE	3.4	9.5	6.4	53%	36%	67%		1.49	6.7	6.9	191	193	1.01		10,115				12,262	10,723	1,171	10,115	10,221		12,262	10,723	1,171
4/9/2014	FALSE	FALSE	FALSE	3.4	9.6	6.3	53%	35%	65%		1.53	6.7	6.7									12,262	10,723	1,171				12,262	10,723	1,171
4/10/2014	FALSE	FALSE	FALSE	3.4	9.4	6.3	54%	36%	67%		1.48	6.6	6.6	196			22	10,347		1,151		11,971	10,723	1,167	10,347		1,151	11,971	10,723	1,167
4/11/2014	FALSE	FALSE	FALSE	3.4	9.3	6.3	54%	37%	68%		1.47	6.6	6.5	189	188	0.99		9,946		9,894		11,638	10,573	1,167	9,946	9,894		11,638	10,573	1,167
4/12/2014	FALSE	FALSE	FALSE	3.3	9.4	6.1	55%	36%	65%		1.54	6.5	6.4									11,638	10,573	1,167				11,638	10,573	1,167
4/13/2014	FALSE	FALSE	FALSE	3.3	9.6	6.1	54%	34%	64%		1.57	6.5	6.3									11,646	10,573	1,219				11,646	10,573	1,219
4/14/2014	FALSE	FALSE	FALSE	3.4	9.3	6.2	54%	36%	67%		1.50	6.5	6.3	202				10,411				11,523	10,645	1,219	10,411			11,523	10,645	1,219
4/15/2014	FALSE	FALSE	FALSE	3.3	9.1	6.1	54%	36%	66%		1.50	6.5	6.2	232				11,745				11,535	10,645	1,219	11,745			11,535	10,645	1,219
4/16/2014	FALSE	FALSE	FALSE	3.3	9.2	6.1	54%	36%	66%		1.50	6.5	6.2									11,535	10,645	1,219				11,535	10,645	1,219
4/17/2014	FALSE	FALSE	FALSE	3.3	9.2	6.2	54%	36%	68%		1.48	6.5	6.2	325			22	16,832		1,162		11,785	10,645	1,259	16,832		1,162	11,785	10,645	1,259
4/18/2014	FALSE	FALSE	FALSE	3.3	9.5	6.1	54%	34%	64%		1.56	6.5	6.2	302	252	0.83		15,414				12,038	11,115	1,259	15,414	12,862		12,038	11,115	1,259
4/19/2014	FALSE	FALSE	FALSE	3.3	9.4	5.8	56%	35%	62%		1.62	6.5	6.1									12,038	11,115	1,259				12,038	11,115	1,259
4/20/2014	FALSE	FALSE	FALSE	3.3	9.1	5.6	59%	36%	61%		1.64	6.5	6.0									12,062	11,115	1,259				12,062	11,115	1,259
4/21/2014	FALSE	FALSE	FALSE	3.3	9.2	6.2	54%	36%	67%		1.49	6.5	6.0	256				13,152				12,167	11,115	1,259	13,152			12,167	11,115	1,259
4/22/2014	FALSE	FALSE	FALSE	3.2	9.3	6.1	53%	34%	65%		1.53	6.5	6.0	276	242	0.88	24	13,972		1,215		12,267	11,257	1,250	13,972	12,251	1,215	12,267	11,257	1,250
4/23/2014	FALSE	FALSE	FALSE	3.2	9.4	6.1	53%	35%	66%		1.53	6.5	6.0									12,267	11,257	1,250				12,267	11,257	1,250
4/24/2014	FALSE	FALSE	FALSE	3.2	9.3	6.1	53%	35%	66%		1.51	6.5	6.0	254				12,986				12,409	11,257	1,250	12,986			12,409	11,257	1,250
4/25/2014	FALSE	FALSE	TRUE	3.3	9.9	6.6	50%	33%	66%		1.51	6.5	6.1	245	213	0.87		13,445		11,689		12,379	11,270	1,232	13,445	11,689		12,379	11,270	1,232
4/26/2014	FALSE	FALSE	FALSE	3.3	9.9	6.3	52%	33%	64%		1.57	6.5	6.1									12,379	11,270	1,232				12,379	11,270	1,232
4/27/2014	FALSE	FALSE	FALSE	3.2	9.8	6.2	52%	33%	63%		1.59	6.5	6.1									12,245	11,270	1,232				12,245	11,270	1,232
4/28/2014	FALSE	FALSE	FALSE	3.3	9.3	6.2	53%	35%	66%		1.50	6.5	6.2	234				12,080				12,221	11,239	1,232	12,080			12,221	11,239	1,232
4/29/2014	FALSE	FALSE	FALSE	3.3	9.2	6.2	53%	35%	67%		1.50	6.4	6.2	224	211	0.94		11,508		10,840		12,181	11,189	1,232	11,508	10,840		12,181	11,189	1,232
4/30/2014	FALSE	FALSE	FALSE	3.2	9.4	6.1	52%	34%	66%		1.53	6.4	6.2									12,181	11,189	1,232				12,181	11,189	1,232
5/1/2014	FALSE	FALSE	FALSE	3.3	9.2	6.0	54%	36%	66%		1.51	6.3	6.2	288			25	14,508				12,194	11,189	1,240	14,508		1,273	12,194	11,189	1,240
5/2/2014	FALSE	FALSE	FALSE	3.3	9.2	6.0	55%	36%	66%		1.53	6.3	6.2	269	213	0.79		13,550		10,730		12,208	11,084	1,240	13,550	10,730		12,208	11,084	1,240
5/3/2014	FALSE	FALSE	FALSE	3.3	9.3	6.0	55%	35%	65%		1.54	6.2	6.1									12,208	11,084	1,240				12,208	11,084	1,240
5/4/2014	FALSE	FALSE	FALSE	3.4	9.6	6.2	55%	35%	64%		1.57	6.2	6.1									12,602	11,084	1,200				12,602	11,084	1,200
5/5/2014	FALSE	FALSE	FALSE	3.6	9.3	6.4	56%	38%	68%		1.47	6.2	6.1	170				9,017				12,387	11,212	1,200	9,017			12,387	11,212	1,200
5/6/2014	FALSE	FALSE	FALSE	3.6	9.3	6.2	58%	39%	67%		1.49	6.2	6.1	570	270	0.47		29,521		13,984		12,387	11,212	1,200	29,521	13,984		12,387	11,212	1,200
5/7/2014	FALSE	FALSE	FALSE	3.5	9.4	6.2	56%	37%	66%		1.51	6.2	6.1									12,387	11,212	1,200				12,387	11,212	1,200
5/8/2014	FALSE	FALSE	FALSE	3.6	9.4	6.3	57%	38%	67%		1.48	6.2	6.2	236			25	12,420		1,313		12,438	11,212	1,223	12,420		1,313	12,438	11,212	1,223
5/9/2014	FALSE	FALSE	FALSE	3.6	9.1	6.3	57%	39%	69%		1.45	6.2	6.2	272				14,178		11,051		12,677	11,331	1,223	14,178	11,051		12,677	11,331	1,223
5/10/2014	FALSE	FALSE	FALSE	3.5	9.5	6.0	58%	37%	64%		1.57	6.1	6.2									12,677	11,331	1,223				12,677	11,331	1,223
5/11/2014	FALSE	FALSE	FALSE	3.5	9.5	5.9	59%	37%	63%		1.59	6.1	6.2									12,823	11,331	1,241				12,823	11,331	1,241
5/12/2014	FALSE	FALSE	FALSE	3.6	9.2	6.1	59%	39%	67%		1.50	6.1	6.2	257				13,160				13,024	11,570	1,241	13,160			13,024	11,570	1,241
5/13/2014	FALSE	FALSE	FALSE	3.5	8.9	6.1	57%	39%	69%		1.46	6.1	6.2	301	176	0.58		15,363		8,983		13,161	11,201	1,241	15,363	8,983		13,161	11,201	1,241
5/14/2014	FALSE	FALSE	FALSE	3.6	9.1	6.2	58%	39%	68%		1.48	6.1	6.1									13,161	11,201	1,241				13,161	11,201	1,241
5/15/2014	FALSE	FALSE	FALSE	3.6	9.4	6.2	58%	38%	66%		1.52	6.1	6.1	296	184	0.62		15,256		9,484		13,446	10,986	1,254	15,256	9,484		13,446	10,986	1,254
5/16/2014	FALSE	FALSE	FALSE	3.6	9.2	6.2	59%	40%	68%		1.47	6.1	6.1	246			25	12,761				13,506	10,986	1,254	12,761		1,305	13,506	10,986	1,254
5/17/2014	FALSE	FALSE	FALSE	3.6	8.8	6.0	60%	41%	68%		1.47																			

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
5/31/2014	TRUE	TRUE	FALSE	3.5	8.5	5.5	64%	42%	65%		1.53	6.0	5.6									12,441	9,970	1,216				12,441	9,970	1,216
6/1/2014	TRUE	TRUE	FALSE	3.5	8.5	5.5	63%	41%	65%		1.54	6.0	5.6									12,303	9,970	1,201				12,303	9,970	1,201
6/2/2014	TRUE	TRUE	FALSE	3.5	8.2	5.8	61%	43%	71%		1.41	6.0	5.7	194				9,384				12,025	9,818	1,201	9,384			12,025	9,818	1,201
6/3/2014	TRUE	TRUE	FALSE	3.5	8.1	5.8	61%	43%	71%		1.41	5.9	5.7	175	171	0.98		8,392	8,200			11,798	9,548	1,201	8,392	8,200		11,798	9,548	1,201
6/4/2014	TRUE	TRUE	FALSE	3.5	8.2	5.8	61%	43%	71%		1.41	5.9	5.7									11,798	9,548	1,201				11,798	9,548	1,201
6/5/2014	TRUE	TRUE	FALSE	3.5	7.9	5.8	61%	45%	74%		1.36	5.9	5.7	195			25	9,433		1,193		11,824	9,548	1,200	9,433		1,193	11,824	9,548	1,200
6/6/2014	TRUE	TRUE	FALSE	3.5	7.7	5.6	62%	45%	73%		1.37	5.9	5.7	296	177	0.60		13,898	8,311			11,946	9,372	1,200	13,898	8,311		11,946	9,372	1,200
6/7/2014	TRUE	TRUE	FALSE	3.5	8.0	5.4	64%	43%	68%		1.47	5.9	5.7									11,946	9,372	1,200				11,946	9,372	1,200
6/8/2014	TRUE	TRUE	FALSE	3.4	7.6	5.3	64%	45%	70%		1.43	5.8	5.6									11,917	9,372	1,171				11,917	9,372	1,171
6/9/2014	TRUE	TRUE	FALSE	3.5	7.6	5.6	62%	46%	74%		1.36	5.8	5.6	248								11,750	9,092	1,171	11,521			11,750	9,092	1,171
6/10/2014	TRUE	TRUE	FALSE	3.4	7.6	5.6	62%	45%	73%		1.37	5.8	5.6	225	215	0.96		10,452	9,988			11,674	9,220	1,171	10,452	9,988		11,674	9,220	1,171
6/11/2014	TRUE	TRUE	FALSE	3.5	7.8	5.7	61%	44%	73%		1.36	5.8	5.6									11,674	9,220	1,171				11,674	9,220	1,171
6/12/2014	TRUE	TRUE	FALSE	3.5	7.7	5.7	61%	45%	73%		1.36	5.8	5.6	206			22	9,758		1,041		11,474	9,220	1,145	9,758		1,041	11,474	9,220	1,145
6/13/2014	TRUE	TRUE	FALSE	3.5	13.7	5.6	62%	25%	41%	AvgMax	2.44	5.8	5.6	265	174	0.66		12,421	8,156			11,301	9,102	1,145	12,421	8,156		11,301	9,102	1,145
6/14/2014	TRUE	TRUE	FALSE	3.5	8.2	5.4	64%	42%	66%		1.52	5.7	5.5									11,301	9,102	1,145				11,301	9,102	1,145
6/15/2014	TRUE	TRUE	FALSE	3.5	7.9	5.3	65%	44%	67%		1.49	5.7	5.5									11,054	9,038	1,145				11,054	9,038	1,145
6/16/2014	TRUE	TRUE	FALSE	3.5	8.0	5.7	61%	43%	71%		1.41	5.7	5.6	246				11,592				10,981	9,038	1,105	11,592			10,981	9,038	1,105
6/17/2014	TRUE	TRUE	FALSE	3.5	7.9	5.6	63%	44%	71%		1.41	5.7	5.6	243	192	0.79		11,349	8,967			11,002	9,028	1,105	11,349	8,967		11,002	9,028	1,105
6/18/2014	TRUE	TRUE	FALSE	3.5	7.9	5.7	62%	45%	72%		1.38	5.7	5.6									11,002	9,028	1,105				11,002	9,028	1,105
6/19/2014	TRUE	TRUE	FALSE	3.6	8.1	5.7	63%	44%	71%		1.42	5.7	5.6	228			23	10,820		1,103		11,061	9,028	1,105	10,820		1,103	11,061	9,028	1,105
6/20/2014	TRUE	TRUE	FALSE	3.5	7.7	5.6	64%	46%	72%		1.38	5.7	5.6	195	161	0.83		9,042	7,466			11,148	8,832	1,105	9,042	7,466		11,148	8,832	1,105
6/21/2014	TRUE	TRUE	FALSE	3.5	8.0	5.4	65%	44%	68%		1.47	5.6	5.5									11,148	8,832	1,105				11,148	8,832	1,105
6/22/2014	TRUE	TRUE	FALSE	3.4	8.0	5.4	64%	43%	67%		1.50	5.6	5.5									11,377	8,832	1,116				11,377	8,832	1,116
6/23/2014	TRUE	TRUE	FALSE	3.5	7.8	5.5	63%	45%	71%		1.40	5.6	5.6	217				10,008				11,186	8,776	1,116	10,008			11,186	8,776	1,116
6/24/2014	TRUE	TRUE	FALSE	3.5	7.7	5.5	63%	45%	72%		1.39	5.6	5.5	238	190	0.80		10,937	8,731			11,171	8,771	1,116	10,937	8,731		11,171	8,771	1,116
6/25/2014	TRUE	TRUE	FALSE	3.5	7.8	5.7	61%	45%	73%		1.38	5.6	5.6									11,171	8,771	1,116				11,171	8,771	1,116
6/26/2014	TRUE	TRUE	FALSE	3.5	7.9	5.7	62%	44%	72%		1.39	5.6	5.6	266			24	12,601		1,156		11,250	8,771	1,124	12,601		1,156	11,250	8,771	1,124
6/27/2014	TRUE	TRUE	FALSE	3.5	8.0	5.6	63%	44%	70%		1.43	5.6	5.5	452	243	0.54		21,223	11,410		TSS	11,193	8,771	1,124	21,223	11,410		11,193	8,771	1,124
6/28/2014	TRUE	TRUE	FALSE	3.5	7.8	5.5	64%	45%	70%		1.43	5.6	5.5									11,193	8,771	1,124				11,193	8,771	1,124
6/29/2014	TRUE	TRUE	FALSE	3.5	8.2	5.4	65%	43%	66%		1.51	5.6	5.5									10,867	8,771	1,123				10,867	8,771	1,123
6/30/2014	TRUE	TRUE	FALSE	3.6	7.9	5.6	64%	46%	72%		1.39	5.6	5.6	217				10,207				10,738	8,545	1,123	10,207			10,738	8,545	1,123
7/1/2014	TRUE	TRUE	FALSE	3.6	7.9	5.7	63%	45%	72%		1.39	5.6	5.6									10,738	8,545	1,123				10,738	8,545	1,123
7/2/2014	TRUE	TRUE	FALSE	3.6	7.8	5.7	63%	46%	72%		1.38	5.6	5.6	213	179	0.84		10,037	8,435			10,697	8,532	1,123	10,037	8,435		10,697	8,532	1,123
7/3/2014	TRUE	TRUE	FALSE	3.6	7.8	5.6	64%	46%	72%		1.39	5.6	5.6	250			25	11,676		1,179		10,832	8,532	1,134	11,676		1,179	10,832	8,532	1,134
7/4/2014	TRUE	TRUE	FALSE	3.6	5.1	5.1	70%	70%	100%	1.00	5.6	5.6										10,984	8,579	1,134				10,984	8,579	1,134
7/5/2014	TRUE	TRUE	FALSE	3.5	7.1	5.0	71%	50%	70%		1.43	5.5	5.5									10,984	8,579	1,134				10,984	8,579	1,134
7/6/2014	TRUE	TRUE	FALSE	3.5	7.4	5.2	66%	47%	71%		1.41	5.5	5.4									11,088	8,579	1,120				11,088	8,579	1,120
7/7/2014	TRUE	TRUE	FALSE	3.5	7.9	5.6	63%	45%	72%		1.40	5.5	5.5	160				7,499				10,661	8,624	1,120	7,499			10,661	8,624	1,120
7/8/2014	TRUE	TRUE	FALSE	3.5	7.7	5.6	63%	46%	72%		1.39	5.5	5.5									10,661	8,624	1,120				10,661	8,624	1,120
7/9/2014	TRUE	TRUE	FALSE	3.6	7.8	5.7	62%	46%	73%		1.37	5.5	5.5	107				5,113				10,315	8,624	1,120	5,113			10,315	8,624	1,120
7/10/2014	TRUE	TRUE	FALSE	3.6	7.9	5.8	63%	46%	74%		1.36	5.5	5.5	313			21	15,088		1,011		10,538	8,624	1,098	15,088		1,011	10,538	8,624	1,098
7/11/2014	TRUE	TRUE	TRUE	3.6	8.1	5.7	63%	44%	70%		1.42	5.6	5.5	238	178	0.75		11,274	8,432			10,589	8,364	1,098	11,274	8,432		10,589	8,364	1,098
7/12/2014	TRUE	TRUE	FALSE	3.5	8.0	5.4	65%	44%	68%		1.48	5.5	5.5									10,589	8,364	1,098				10,589	8,364	1,098
7/13/2014	TRUE	TRUE	FALSE	3.4	7.9	5.4	64%	44%	68%		1.46	5.5	5.5									10,644	8,364	1,112				10,644	8,364	1,112
7/14/2014	TRUE	TRUE	FALSE	3.6	7.7	5.6	64%	47%	73%		1.38	5.5	5.6	207				9,616				10,457	8,406	1,112	9,616			10,457	8,406	1,112
7/15/2014	TRUE	TRUE	FALSE	3.5	7.7	5.6	63%	46%	73%		1.37	5.5	5.6	243	192	0.79		11,369	8,983			10,514	8,502	1,112	11,369	8,983		10,514	8,502	1,112
7/16/2014	TRUE	TRUE	FALSE	3.6	7.8	5.6	63%	46%	72%		1.38	5.5	5.6									10,514	8,502	1,112				10,514	8,502	1,112
7/17/2014	TRUE	TRUE	FALSE	3.5	7.9	5.7	62%	45%	72%		1.40	5.5	5.6	244			35	11,498		1,645		10,508	8,502	1,219	11,498		1,645	10,508	8,502	1,219
7/18/2014	TRUE	TRUE	FALSE	3.5	7.8	5.6	62%	45%	72%		1.39	5.5	5.6	271	283	1.04		12,634	13,194			10,589	9,207	1,219	12,634	13,194		10,589	9,207	1,219
7/19/2014	TRUE	TRUE	FALSE	3.5	7.9	5.4	65%	44%	68%		1.47	5.5	5.5									10,589	9,207	1,219				10,589	9,207	1,219
7/20/2014	TRUE	TRUE	FALSE	3.4	7.9	5.4	63%	43%	68%		1.46	5.5	5.5									10,573	9,207	1,248				10,573	9,207	1,248
7/21/2014	TRUE	TRUE																												

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Flow, mgd	7-d Avg of Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
8/3/2014	TRUE	TRUE	FALSE	3.5	7.8	5.4	65%	45%	69%		1.44	5.5	5.5									11,291	9,236	1,217				11,291	9,236	1,217
8/4/2014	TRUE	TRUE	TRUE	2.0	7.5	5.5	37%	27%	72%		1.38	5.5	5.5	220				10,000				11,215	9,236	1,217	10,000			11,215	9,236	1,217
8/5/2014	TRUE	TRUE	TRUE	3.2	8.3	5.8	55%	38%	69%		1.44	5.5	5.5	231	163	0.71		11,116	7,844			11,210	9,037	1,217	10,000	7,844		11,210	9,037	1,217
8/6/2014	TRUE	TRUE	FALSE	3.2	8.3	5.8	55%	38%	70%		1.44	5.6	5.6									11,210	9,037	1,217				11,210	9,037	1,217
8/7/2014	TRUE	TRUE	FALSE	3.3	8.4	5.7	57%	39%	68%		1.47	5.6	5.6	236			21	11,239		996		11,418	9,037	1,173	11,239		996	11,418	9,037	1,173
8/8/2014	TRUE	TRUE	FALSE	3.2	7.8	5.4	59%	41%	70%		1.43	5.6	5.6	230	177	0.77		10,416	8,016			11,365	8,909	1,173	10,416	8,016		11,365	8,909	1,173
8/9/2014	TRUE	TRUE	FALSE	3.2	7.8	5.2	61%	40%	66%		1.51	5.5	5.5									11,712	8,909	1,173				11,712	8,909	1,173
8/10/2014	TRUE	TRUE	FALSE	3.1	7.9	5.3	59%	39%	66%		1.51	5.5	5.5									11,514	8,909	1,214				11,514	8,909	1,214
8/11/2014	TRUE	TRUE	FALSE	3.2	8.3	5.5	57%	38%	67%		1.50	5.5	5.5	221				10,211				11,451	8,978	1,214	10,211			11,451	8,978	1,214
8/12/2014	TRUE	TRUE	FALSE	3.2	7.8	5.5	57%	41%	71%		1.41	5.5	5.5	170	150	0.88		7,826	6,906			11,250	8,719	1,214	7,826	6,906		11,250	8,719	1,214
8/13/2014	TRUE	TRUE	FALSE	3.2	7.7	5.5	57%	41%	72%		1.38	5.5	5.5									11,250	8,719	1,214				11,250	8,719	1,214
8/14/2014	TRUE	TRUE	FALSE	3.2	7.8	5.6	57%	41%	72%		1.40	5.5	5.5	191			23	8,889		1,082		11,209	8,719	1,187	8,889		1,082	11,209	8,719	1,187
8/15/2014	TRUE	TRUE	FALSE	3.2	7.8	5.5	58%	41%	71%		1.41	5.5	5.5	291				13,445				11,325	8,681	1,187	13,445			11,325	8,681	1,187
8/16/2014	TRUE	TRUE	FALSE	3.2	8.1	5.3	60%	40%	66%		1.51	5.5	5.4									11,325	8,681	1,187				11,325	8,681	1,187
8/17/2014	TRUE	TRUE	FALSE	3.1	8.4	5.5	58%	37%	65%		1.55	5.5	5.5									11,314	8,681	1,073				11,314	8,681	1,073
8/18/2014	TRUE	TRUE	FALSE	3.2	8.2	5.7	56%	39%	70%		1.43	5.5	5.5	238				11,354				11,239	7,929	1,073	11,354			11,239	7,929	1,073
8/19/2014	TRUE	TRUE	FALSE	3.2	8.3	5.6	57%	38%	67%		1.49	5.5	5.5	207	161	0.78		9,581	7,452			11,147	7,861	1,073	9,581	7,452		11,147	7,861	1,073
8/20/2014	TRUE	TRUE	FALSE	3.1	8.4	5.8	54%	37%	69%		1.44	5.5	5.6									11,147	7,861	1,073				11,147	7,861	1,073
8/21/2014	TRUE	TRUE	FALSE	3.1	8.5	5.9	53%	37%	69%		1.44	5.5	5.6	332			26	16,336		1,285		11,425	7,861	1,115	16,336		1,285	11,425	7,861	1,115
8/22/2014	TRUE	TRUE	FALSE	3.2	8.3	5.9	54%	38%	70%		1.42	5.5	5.7	281	226	0.80		13,757	11,064			11,482	8,207	1,115	13,757	11,064		11,482	8,207	1,115
8/23/2014	TRUE	TRUE	FALSE	3.2	8.9	5.9	54%	36%	66%		1.53	5.6	5.7									11,482	8,207	1,115				11,482	8,207	1,115
8/24/2014	TRUE	TRUE	FALSE	3.1	9.1	5.9	53%	34%	64%		1.56	5.6	5.8									11,552	8,207	1,124				11,552	8,207	1,124
8/25/2014	TRUE	TRUE	FALSE	3.1	9.4	6.1	51%	33%	65%		1.54	5.6	5.8	182				9,274				11,262	8,207	1,124	9,274			11,262	8,207	1,124
8/26/2014	FALSE	FALSE	FALSE	3.1	9.0	6.0	52%	35%	67%		1.50	5.6	5.9	269	195	0.72		13,393	9,709			11,380	8,395	1,124	13,393	9,709		11,380	8,395	1,124
8/27/2014	FALSE	FALSE	FALSE	3.2	9.0	6.0	53%	35%	66%		1.51	5.6	5.9									11,380	8,395	1,124				11,380	8,395	1,124
8/28/2014	FALSE	FALSE	FALSE	3.3	9.0	6.0	54%	36%	67%		1.49	5.6	5.9	223			23	11,178		1,175		11,259	8,395	1,135	11,178		1,175	11,259	8,395	1,135
8/29/2014	FALSE	FALSE	FALSE	3.2	8.7	6.1	52%	37%	70%		1.42	5.7	6.0	243	179	0.74		12,342	9,092			11,349	8,541	1,135	12,342	9,092		11,349	8,541	1,135
8/30/2014	FALSE	FALSE	FALSE	3.2	9.0	5.7	56%	35%	63%		1.59	5.7	5.9									11,349	8,541	1,135				11,349	8,541	1,135
8/31/2014	FALSE	FALSE	FALSE	3.2	8.5	5.5	57%	37%	64%		1.55	5.7	5.9									11,345	8,541	1,134				11,345	8,541	1,134
9/1/2014	FALSE	FALSE	FALSE	3.2	9.3	5.9	55%	35%	63%		1.58	5.7	5.9									11,272	8,583	1,134				11,272	8,583	1,134
9/2/2014	FALSE	FALSE	FALSE	3.1	8.6	5.9	53%	37%	69%		1.44	5.7	5.9	255				12,633				11,352	8,583	1,134	12,633			11,352	8,583	1,134
9/3/2014	FALSE	FALSE	FALSE	3.2	9.0	6.0	54%	36%	66%		1.51	5.7	5.9									11,352	8,583	1,134				11,352	8,583	1,134
9/4/2014	FALSE	FALSE	FALSE	3.2	8.8	6.0	53%	36%	68%		1.48	5.7	5.9	259			23	12,896		1,168		11,523	8,583	1,141	12,896		1,168	11,523	8,583	1,141
9/5/2014	FALSE	FALSE	FALSE	3.2	8.9	6.0	53%	36%	68%		1.47	5.7	5.9	246	190	0.77		12,371	9,555			11,597	8,828	1,141	12,371	9,555		11,597	8,828	1,141
9/6/2014	FALSE	FALSE	FALSE	3.2	9.1	5.8	56%	36%	64%		1.56	5.7	5.8									11,597	8,828	1,141				11,597	8,828	1,141
9/7/2014	FALSE	FALSE	FALSE	3.1	9.1	5.9	53%	34%	65%		1.55	5.7	5.9									11,619	8,828	1,177				11,619	8,828	1,177
9/8/2014	FALSE	FALSE	FALSE	3.2	8.9	6.0	53%	36%	68%		1.48	5.8	5.9	213			24	10,676		1,202		11,635	8,963	1,182	10,676		1,202	11,635	8,963	1,182
9/9/2014	FALSE	FALSE	FALSE	3.2	9.0	6.0	54%	36%	66%		1.51	5.8	5.9	247				12,319				11,675	8,963	1,182	12,319			11,675	8,963	1,182
9/10/2014	FALSE	FALSE	FALSE	3.2	9.1	6.0	53%	35%	66%		1.51	5.8	6.0									11,675	8,963	1,182				11,675	8,963	1,182
9/11/2014	FALSE	FALSE	FALSE	3.2	9.1	6.0	54%	35%	66%		1.52	5.8	6.0									11,767	8,963	1,182				11,767	8,963	1,182
9/12/2014	FALSE	FALSE	FALSE	3.2	8.6	5.9	55%	38%	69%		1.45	5.8	6.0	264	170	0.64		13,034	8,393			12,092	9,211	1,182	13,034	8,393		12,092	9,211	1,182
9/13/2014	FALSE	FALSE	FALSE	3.1	8.8	5.7	56%	36%	64%		1.56	5.8	5.9									12,092	9,211	1,182				12,092	9,211	1,182
9/14/2014	FALSE	FALSE	FALSE	3.1	9.0	5.8	54%	35%	64%		1.56	5.8	5.9									12,306	9,211	1,207				12,306	9,211	1,207
9/15/2014	FALSE	FALSE	FALSE	3.2	8.7	5.9	54%	36%	68%		1.48	5.8	5.9	249				12,232				12,225	9,211	1,207	12,232			12,225	9,211	1,207
9/16/2014	FALSE	FALSE	FALSE	3.1	8.9	5.9	53%	35%	66%		1.51	5.9	5.9	238	169	0.71		11,612	8,245			12,187	9,073	1,207	11,612	8,245		12,187	9,073	1,207
9/17/2014	FALSE	FALSE	FALSE	3.1	8.9	6.0	53%	35%	67%		1.48	5.9	5.9									12,187	9,073	1,207				12,187	9,073	1,207
9/18/2014	FALSE	FALSE	FALSE	3.2	8.9	6.0	53%	36%	67%		1.48	5.9	5.9	265			25	13,238		1,231		12,305	9,073	1,212	13,238		1,231	12,305	9,073	1,212
9/19/2014	FALSE	FALSE	FALSE	3.2	8.7	6.0	54%	37%	69%		1.46	5.9	5.9	231	164	0.71		11,521	8,179			12,426	9,177	1,212	11,521	8,179		12,426	9,177	1,212
9/20/2014	FALSE	FALSE	FALSE	3.2	9.0	5.8	56%	36%	65%		1.55	5.9	5.9									12,426	9,177	1,212				12,426	9,177	1,212
9/21/2014	FALSE	FALSE	FALSE	3.2	9.1	5.8	55%	35%	64%		1.55	5.9	5.9									12,165	9,177	1,194				12,165	9,177	1,194
9/22/2014	FALSE	FALSE	FALSE	3.2	9.0	6.0	53%	35%	67%		1.49	5.9	5.9	236				11,868				12,039	8,862	1,194	11,868			12,039	8,862	1,194
9/23/2014	FALSE	FALSE	FALSE	3.2	8.8																									

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
10/6/2014	FALSE	FALSE	FALSE	3.2	9.5	5.9	53%	33%	62%		1.60	5.9	5.9	244				12,027				12,078	9,047	1,281	12,027			12,078	9,047	1,281
10/7/2014	FALSE	FALSE	FALSE	3.2	9.3	6.0	53%	34%	65%		1.55	5.9	5.9	242	189	0.78		12,110	9,458			12,080	9,098	1,281	12,110	9,458		12,080	9,098	1,281
10/8/2014	FALSE	FALSE	FALSE	3.1	9.6	6.0	53%	33%	62%		1.61	5.9	5.9									12,080	9,098	1,281				12,080	9,098	1,281
10/9/2014	FALSE	FALSE	FALSE	3.1	9.3	6.0	53%	34%	64%		1.55	5.9	5.9	224			25	11,153		1,232		12,108	9,098	1,289	11,153		1,232	12,108	9,098	1,289
10/10/2014	FALSE	FALSE	FALSE	3.1	9.0	6.0	52%	35%	66%		1.51	5.9	5.9	238	181	0.76		11,850	9,012			12,081	9,089	1,289	11,850	9,012		12,081	9,089	1,289
10/11/2014	FALSE	FALSE	FALSE	3.2	9.4	5.8	55%	34%	61%		1.63	5.9	5.9									12,081	9,089	1,289				12,081	9,089	1,289
10/12/2014	FALSE	FALSE	FALSE	3.1	9.0	5.7	54%	34%	63%		1.58	5.9	5.9									12,081	9,089	1,289				12,081	9,089	1,289
10/13/2014	FALSE	FALSE	FALSE	3.0	9.1	5.9	51%	33%	65%		1.55	5.9	5.9	236				11,632				11,998	9,176	1,289	11,632			11,998	9,176	1,289
10/14/2014	FALSE	FALSE	FALSE	3.1	9.5	6.1	51%	33%	64%		1.56	5.9	5.9									11,998	9,176	1,289				11,998	9,176	1,289
10/15/2014	FALSE	FALSE	TRUE	3.2	9.3	6.1	52%	34%	65%		1.53	5.9	5.9	264	177	0.67		13,387	8,975			12,075	9,153	1,289	13,387	8,975		12,075	9,153	1,289
10/16/2014	FALSE	FALSE	FALSE	3.2	9.3	6.1	52%	34%	66%		1.51	5.9	6.0				26	12,066	9,153	1,301		12,066	9,153	1,301			1,346	12,066	9,153	1,301
10/17/2014	FALSE	FALSE	FALSE	3.2	9.3	6.2	51%	34%	67%		1.50	6.0	6.0	256				13,173				12,158	9,267	1,301	13,173			12,158	9,267	1,301
10/18/2014	FALSE	FALSE	FALSE	3.2	9.6	5.9	54%	33%	61%		1.63	6.0	6.0									12,158	9,267	1,301				12,158	9,267	1,301
10/19/2014	FALSE	FALSE	FALSE	3.3	9.6	5.9	55%	34%	62%		1.63	6.0	6.0									12,090	9,267	1,318				12,090	9,267	1,318
10/20/2014	FALSE	FALSE	TRUE	3.1	9.4	6.1	51%	33%	65%		1.55	6.0	6.0	238				12,088				12,126	9,422	1,318	12,088			12,126	9,422	1,318
10/21/2014	FALSE	FALSE	FALSE	3.1	13.5	6.0	52%	23%	44%		2.25	6.0	6.0					12,126	9,422			12,126	9,422	1,318				12,126	9,422	1,318
10/22/2014	FALSE	FALSE	FALSE	3.1	9.3	6.1	52%	33%	65%		1.54	6.0	6.0	237				11,958				12,116	9,422	1,318	11,958			12,116	9,422	1,318
10/23/2014	FALSE	FALSE	FALSE	3.1	9.3	6.0	52%	34%	65%		1.54	6.0	6.0				29	12,132	9,422	1,341		12,132	9,422	1,341			1,432	12,132	9,422	1,341
10/24/2014	FALSE	FALSE	FALSE	3.1	8.9	5.9	53%	35%	66%		1.51	6.0	6.0	276				13,581				12,283	9,462	1,341	13,581			12,283	9,462	1,341
10/25/2014	FALSE	FALSE	TRUE	3.1	9.7	5.9	53%	32%	61%		1.63	6.0	6.0					12,283	9,462	1,341		12,283	9,462	1,341				12,283	9,462	1,341
10/26/2014	FALSE	FALSE	FALSE	3.1	9.3	5.9	52%	33%	63%		1.58	6.0	6.0					12,100	9,462	1,308		12,100	9,462	1,308				12,100	9,462	1,308
10/27/2014	FALSE	FALSE	FALSE	3.1	8.8	5.9	52%	36%	68%		1.47	5.9	6.0	214				10,601				12,033	9,535	1,308	10,601			12,033	9,535	1,308
10/28/2014	FALSE	FALSE	FALSE	3.1	14.6	6.0	51%	21%	41%	AvgMax	2.45	5.9	6.0					12,033	9,535	1,308		12,033	9,535	1,308				12,033	9,535	1,308
10/29/2014	FALSE	FALSE	FALSE	3.2	9.3	5.8	55%	34%	62%		1.62	5.9	5.9	280	216	0.77		13,427	10,358			12,121	9,672	1,308	13,427	10,358		12,121	9,672	1,308
10/30/2014	FALSE	FALSE	FALSE	3.4	8.2	6.1	56%	42%	75%		1.34	6.0	5.9				28	12,225	9,672	1,337		12,225	9,672	1,337			1,453	12,225	9,672	1,337
10/31/2014	FALSE	FALSE	TRUE	3.5	8.9	6.4	55%	39%	72%		1.39	6.0	6.0	257				13,718				12,349	9,668	1,337	13,718			12,349	9,668	1,337
11/1/2014	FALSE	FALSE	FALSE	3.6	9.2	6.2	58%	39%	68%		1.47	6.0	6.0					12,349	9,668	1,337		12,349	9,668	1,337				12,349	9,668	1,337
11/2/2014	FALSE	FALSE	FALSE	3.3	9.2	6.2	54%	36%	68%		1.48	6.0	6.1	204				12,284	9,668	1,366		12,284	9,668	1,366				12,284	9,668	1,366
11/3/2014	FALSE	FALSE	FALSE	3.3	9.2	6.2	54%	36%	68%		1.48	6.0	6.1	204				10,548				12,232	9,451	1,366	10,548			12,232	9,451	1,366
11/4/2014	FALSE	FALSE	FALSE	3.4	8.5	6.1	56%	40%	71%		1.40	6.0	6.1					12,232	9,451	1,366		12,232	9,451	1,366				12,232	9,451	1,366
11/5/2014	FALSE	FALSE	FALSE	3.4	8.8	6.1	56%	39%	69%		1.44	6.0	6.1	230	195	0.85		11,720	9,937			12,198	9,548	1,366	11,720	9,937		12,198	9,548	1,366
11/6/2014	FALSE	FALSE	FALSE	3.3	8.5	6.1	55%	39%	72%		1.39	6.0	6.2				29	12,211	9,548	1,384		12,211	9,548	1,384			1,456	12,211	9,548	1,384
11/7/2014	FALSE	FALSE	FALSE	3.4	8.4	6.1	56%	40%	72%		1.39	6.0	6.2	284				14,330				12,369	9,571	1,384	14,330			12,369	9,571	1,384
11/8/2014	FALSE	FALSE	FALSE	3.3	8.3	5.8	56%	39%	70%		1.44	6.0	6.1					12,369	9,571	1,384		12,369	9,571	1,384				12,369	9,571	1,384
11/9/2014	FALSE	FALSE	FALSE	3.3	8.4	5.9	56%	39%	69%		1.44	6.0	6.1					12,463	9,571	1,422		12,463	9,571	1,422				12,463	9,571	1,422
11/10/2014	FALSE	FALSE	FALSE	3.3	8.1	5.9	56%	41%	73%		1.37	6.0	6.0	284				13,951				12,624	9,757	1,422	13,951			12,624	9,757	1,422
11/11/2014	FALSE	FALSE	FALSE	3.4	8.5	6.0	55%	40%	71%		1.40	6.0	6.0					12,624	9,757	1,422		12,624	9,757	1,422				12,624	9,757	1,422
11/12/2014	FALSE	FALSE	FALSE	3.4	8.2	5.9	57%	41%	73%		1.37	6.0	6.0					12,624	9,757	1,422		12,624	9,757	1,422				12,624	9,757	1,422
11/13/2014	FALSE	FALSE	TRUE	3.4	8.1	6.1	55%	41%	75%		1.34	6.0	6.0				27	12,707	9,757	1,410		12,707	9,757	1,410			1,362	12,707	9,757	1,410
11/14/2014	FALSE	FALSE	FALSE	3.4	8.2	6.0	56%	41%	74%		1.36	6.0	6.0	271	234	0.86		13,606	11,748			12,776	10,255	1,410	13,606	11,748		12,776	10,255	1,410
11/15/2014	FALSE	FALSE	FALSE	3.3	8.4	5.9	57%	40%	70%		1.43	6.0	5.9					12,725	10,681	1,410		12,725	10,681	1,410				12,725	10,681	1,410
11/16/2014	FALSE	FALSE	FALSE	3.2	8.6	5.9	54%	37%	69%		1.45	6.0	6.0					12,725	10,681	1,426		12,725	10,681	1,426				12,725	10,681	1,426
11/17/2014	FALSE	FALSE	FALSE	3.3	8.2	6.0	54%	40%	74%		1.36	6.0	6.0	215				10,794				12,527	10,681	1,426	10,794			12,527	10,681	1,426
11/18/2014	FALSE	FALSE	FALSE	3.3	8.2	6.1	54%	40%	74%		1.35	6.0	6.0					12,527	10,681	1,426		12,527	10,681	1,426				12,527	10,681	1,426
11/19/2014	FALSE	FALSE	TRUE	3.3	8.4	6.3	52%	39%	74%		1.35	6.0	6.0	200	208	1.04		10,442	10,859			12,367	10,726	1,426	10,442	10,859		12,367	10,726	1,426
11/20/2014	FALSE	FALSE	TRUE	3.5	8.7	6.4	54%	40%	73%		1.36	6.0	6.1	268			26	12,390	10,726	1,418		12,390	10,726	1,418			1,388	12,390	10,726	1,418
11/21/2014	FALSE	TRUE	TRUE	3.5	8.4	6.3	56%	42%	75%		1.33	6.0	6.1	268				14,059				12,518	10,726	1,418	14,059			12,518	10,726	1,418
11/22/2014	FALSE	TRUE	TRUE	3.7	8.9	6.2	60%	42%	69%		1.44	6.0	6.1					12,565	10,726	1,418		12,565	10,726	1,418				12,565	10,726	1,418
11/23/2014	FALSE	TRUE	TRUE	3.3	8.5	5.9	57%	39%	69%		1.45	6.0	6.1					12,565	10,726	1,415		12,565	10,726	1,415				12,565	10,726	1,415
11/24/2014	FALSE	TRUE	FALSE	3.4	7.7	5.8	59%	45%	76%		1.32	6.0	6.1					12,472	10,726	1,415		12,472	10,726	1,415						

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Flow, mgd	7-d Avg of Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
12/9/2014	FALSE	FALSE	FALSE	3.5	10.6	6.7	53%	33%	63%		1.58	6.3	7.4									12,378	11,619	1,220				12,378	11,619	1,220
12/10/2014	FALSE	FALSE	TRUE	3.4	11.2	6.7	51%	31%	60%		1.67	6.4	7.4	364	243	0.67		20,400	13,619			13,180	12,019	1,220	20,400	13,619		13,180	12,019	1,220
12/11/2014	FALSE	FALSE	TRUE	5.2	18.9	12.9	40%	28%	68%		1.46	6.6	7.9				22			2,371	NH3	13,094	12,019	1,220			2,371	13,094	12,019	1,220
12/12/2014	FALSE	FALSE	TRUE	8.9	18.8	11.8	76%	47%	62%		1.60	6.8	8.5									13,094	12,019	1,220				13,094	12,019	1,220
12/13/2014	FALSE	FALSE	FALSE	5.1	14.1	9.0	57%	36%	64%		1.56	6.9	8.7									13,094	12,019	1,220				13,094	12,019	1,220
12/14/2014	FALSE	FALSE	FALSE	4.1	12.9	8.0	51%	31%	62%		1.62	6.9	8.6									13,094	12,019	1,172				13,094	12,019	1,172
12/15/2014	FALSE	FALSE	TRUE	3.7	15.7	8.9	42%	24%	57%		1.76	7.0	8.9	169				12,530				12,975	12,086	1,172	12,530			12,975	12,086	1,172
12/16/2014	FALSE	FALSE	TRUE	6.6	17.4	10.9	60%	38%	63%		1.59	7.2	9.4				9			816		12,975	12,086	1,083			816	12,975	12,086	1,083
12/17/2014	FALSE	FALSE	TRUE	6.6	15.4	10.9	60%	43%	71%		1.41	7.4	9.9	112	116	1.04		10,219	10,584			12,699	11,786	1,083	10,219	10,584		12,699	11,786	1,083
12/18/2014	FALSE	FALSE	TRUE	5.4	15.0	9.9	54%	36%	66%		1.51	7.5	10.3									12,911	11,786	1,083				12,911	11,786	1,083
12/19/2014	TRUE	TRUE	TRUE	5.3	15.7	10.5	51%	34%	67%		1.50	7.7	10.0	168								13,085	11,786	1,083	14,656			13,085	11,786	1,083
12/20/2014	TRUE	TRUE	TRUE	5.0	15.2	9.2	55%	33%	60%		1.66	7.7	9.7									13,379	12,017	1,083				13,379	12,017	1,083
12/21/2014	TRUE	TRUE	FALSE	4.1	12.8	8.0	51%	32%	63%		1.60	7.8	9.5									13,379	12,017	981				13,379	12,017	981
12/22/2014	TRUE	TRUE	FALSE	4.0	13.6	7.6	53%	29%	55%		1.80	7.8	9.5	134				8,438				12,754	12,017	981	8,438			12,754	12,017	981
12/23/2014	TRUE	TRUE	FALSE	3.8	11.5	7.2	53%	33%	63%		1.59	7.9	9.3				13			763		12,754	12,017	927			763	12,754	12,017	927
12/24/2014	TRUE	TRUE	FALSE	3.6	11.0	6.8	53%	33%	62%		1.61	7.9	8.8									12,754	12,017	927				12,754	12,017	927
12/25/2014	TRUE	TRUE	FALSE	3.4	9.1	5.8	59%	37%	63%		1.58	7.9	8.1									12,754	12,017	927				12,754	12,017	927
12/26/2014	TRUE	TRUE	FALSE	3.4	10.2	6.0	56%	33%	58%		1.71	7.9	7.6	338	193	0.57		16,857	9,626			13,165	11,539	808	16,857	9,626		13,165	11,539	808
12/27/2014	TRUE	TRUE	FALSE	3.3	9.9	5.9	55%	33%	60%		1.66	7.9	7.0									13,461	11,763	808				13,461	11,763	808
12/28/2014	TRUE	TRUE	FALSE	3.2	9.8	5.8	56%	33%	59%		1.70	7.9	6.6									13,461	11,763	808				13,461	11,763	808
12/29/2014	TRUE	TRUE	FALSE	3.2	9.6	5.9	54%	33%	61%		1.63	8.0	6.4	239								13,291	11,763	808	11,760			13,291	11,763	808
12/30/2014	TRUE	TRUE	FALSE	3.2	9.6	5.8	54%	33%	61%		1.64	8.0	6.1				21			1,002		13,291	11,763	857			1,002	13,291	11,763	857
12/31/2014	TRUE	TRUE	FALSE	3.1	9.6	5.9	53%	33%	61%		1.64	7.9	6.0	226	182	0.81		11,083	8,925			13,090	11,196	857	11,083	8,925		13,090	11,196	857
1/1/2015	TRUE	TRUE	FALSE	3.2	9.1	5.3	60%	35%	59%		1.71	7.9	5.8									13,470	11,196	857				13,470	11,196	857
1/2/2015	TRUE	TRUE	FALSE	3.1	9.3	5.6	56%	34%	60%		1.68	7.8	5.8	246								13,280	11,196	857	11,387			13,280	11,196	857
1/3/2015	TRUE	TRUE	FALSE	3.2	9.7	5.7	56%	33%	59%		1.70	7.7	5.7									13,280	11,196	857				13,280	11,196	857
1/4/2015	TRUE	TRUE	FALSE	3.1	9.8	5.7	54%	32%	59%		1.71	7.7	5.7									13,280	11,196	860				13,280	11,196	860
1/5/2015	TRUE	TRUE	FALSE	3.1	9.2	5.7	55%	34%	62%		1.61	7.6	5.7	202				9,586				12,836	10,688	860	9,586			12,836	10,688	860
1/6/2015	TRUE	TRUE	FALSE		9.1	5.6	0%	0%	62%		1.61	7.5	5.7				25			1,166		12,836	10,688	937			1,166	12,836	10,688	937
1/7/2015	TRUE	TRUE	FALSE	3.1	9.2	5.7	55%	34%	62%		1.62	7.5	5.6	219	182	0.83		10,374	8,622			12,631	10,275	937	10,374	8,622		12,631	10,275	937
1/8/2015	TRUE	TRUE	FALSE	3.2	9.0	5.7	55%	35%	63%		1.58	7.5	5.6									12,481	10,275	937				12,481	10,275	937
1/9/2015	TRUE	TRUE	FALSE	3.2	9.0	5.6	56%	35%	62%		1.60	7.4	5.7	258								12,450	10,275	937	12,114			12,450	10,275	937
1/10/2015	TRUE	TRUE	FALSE	3.2	10.0	5.7	56%	32%	57%		1.77	7.4	5.7									11,728	9,439	937				11,728	9,439	937
1/11/2015	TRUE	TRUE	FALSE	3.1	9.7	5.6	56%	32%	58%		1.73	7.1	5.7									11,728	9,439	937				11,728	9,439	937
1/12/2015	TRUE	TRUE	FALSE	3.1	8.9	5.7	56%	35%	63%		1.58	6.9	5.7									11,728	9,439	937				11,728	9,439	937
1/13/2015	TRUE	TRUE	FALSE	3.1	9.2	5.7	54%	33%	62%		1.62	6.8	5.7	246			24			1,112		11,716	9,439	972	11,592		1,112	11,716	9,439	972
1/14/2015	TRUE	TRUE	FALSE	3.1	9.4	5.7	55%	33%	60%		1.66	6.8	5.7									11,716	9,439	972				11,716	9,439	972
1/15/2015	TRUE	TRUE	FALSE	3.2	9.2	5.7	55%	34%	62%		1.62	6.7	5.7	275	255	0.93		13,050	12,101			11,760	9,971	972	13,050	12,101		11,760	9,971	972
1/16/2015	TRUE	TRUE	TRUE	3.2	9.1	5.7	56%	36%	63%		1.58	6.5	5.7	281								11,890	9,971	1,011	13,452			11,890	9,971	1,011
1/17/2015	TRUE	TRUE	FALSE	3.2	9.6	5.7	55%	33%	59%		1.68	6.3	5.7									12,029	9,818	1,011				12,029	9,818	1,011
1/18/2015	TRUE	TRUE	FALSE	3.1	10.0	5.6	56%	32%	56%		1.77	6.2	5.7									12,029	9,818	1,011				12,029	9,818	1,011
1/19/2015	TRUE	TRUE	FALSE	3.2	10.3	6.0	53%	31%	58%		1.71	6.0	5.7									11,790	9,818	1,011				11,790	9,818	1,011
1/20/2015	TRUE	FALSE	TRUE	3.2	10.1	5.9	53%	31%	59%		1.70	5.9	5.7	272			25	13,407		1,232		11,925	9,818	1,055	13,407		1,232	11,925	9,818	1,055
1/21/2015	TRUE	FALSE	TRUE	3.1	10.0	6.0	52%	31%	60%		1.67	5.9	5.8	314	138	0.44		15,686	6,894			12,214	9,233	1,055	15,686	6,894		12,214	9,233	1,055
1/22/2015	TRUE	FALSE	FALSE	3.1	9.8	6.0	52%	32%	61%		1.63	5.8	5.8									12,529	9,233	1,055				12,529	9,233	1,055
1/23/2015	TRUE	FALSE	TRUE	3.1	9.8	6.0	52%	32%	61%		1.65	5.8	5.9	225								12,427	9,233	1,128	11,203			12,427	9,233	1,128
1/24/2015	TRUE	FALSE	FALSE	3.2	10.3	5.9	54%	31%	57%		1.75	5.8	5.9									12,427	9,233	1,128				12,427	9,233	1,128
1/25/2015	TRUE	FALSE	FALSE	3.1	10.7	6.0	52%	29%	56%		1.78	5.8	5.9									12,427	9,233	1,128				12,427	9,233	1,128
1/26/2015	TRUE	FALSE	FALSE	3.1	10.0	5.9	52%	31%	59%		1.69	5.8	6.0	175				8,640				11,795	9,135	1,128	8,640			11,795	9,135	1,128
1/27/2015	FALSE	FALSE	FALSE	3.1	9.8	6.0	53%	32%	61%		1.65	5.8	5.9				26			1,282		11,795	9,135	1,159			1,282	11,795	9,135	1,159
1/28/2015	FALSE	FALSE	FALSE	3.1	9.8	5.9	52%	31%	61%		1.65	5.8	5.9	264	184	0.70						11,883	9,125	1,159	13,034	9,085		11,883	9,125	1,159
1/29/2015	FALSE	FALSE	FALSE	3.1	9.8	5.9	53%	31%	60%		1.67	5.8	5.9									11,893	9,125	1,159				11,893	9,125	1,159
1/30/2015	FALSE	FALSE	FALSE	3.1	9.7																									

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
2/11/2015	FALSE	FALSE	FALSE	3.4	11.7	7.1	48%	29%	61%		1.65	6.3	7.4									12,577	9,737	1,173				12,577	9,737	1,173
2/12/2015	FALSE	FALSE	FALSE	3.3	10.9	6.9	49%	31%	63%		1.60	6.3	7.5									12,577	9,737	1,173				12,577	9,737	1,173
2/13/2015	FALSE	FALSE	FALSE	3.3	10.8	6.7	50%	31%	62%		1.60	6.3	7.6	225	209	0.93		12,610	11,713			12,655	10,132	1,188	12,610	11,713		12,655	10,132	1,188
2/14/2015	FALSE	FALSE	FALSE	3.3	11.0	6.4	52%	30%	58%		1.72	6.3	7.5									12,655	10,132	1,188				12,655	10,132	1,188
2/15/2015	FALSE	FALSE	FALSE	3.3	11.1	6.2	53%	30%	56%		1.78	6.4	7.2									12,622	9,640	1,188				12,622	9,640	1,188
2/16/2015	FALSE	FALSE	FALSE	3.2	10.9	6.5	50%	29%	59%		1.69	6.4	7.0									12,547	9,640	1,188				12,547	9,640	1,188
2/17/2015	FALSE	FALSE	FALSE	3.3	10.3	6.4	51%	31%	62%		1.62	6.4	6.7									12,547	9,640	1,188				12,547	9,640	1,188
2/18/2015	FALSE	FALSE	FALSE	3.2	10.4	6.3	51%	31%	60%		1.65	6.4	6.6	259	219	0.85		13,587	11,488			12,634	10,010	1,188	13,587	11,488		12,634	10,010	1,188
2/19/2015	FALSE	FALSE	TRUE	3.2	10.1	6.3	50%	31%	62%		1.60	6.4	6.5				19			1,006		12,634	10,010	1,152			1,006	12,634	10,010	1,152
2/20/2015	FALSE	FALSE	TRUE	3.2	10.2	6.2	51%	31%	61%		1.64	6.4	6.4	241								12,555	10,010	1,131	12,462			12,555	10,010	1,131
2/21/2015	FALSE	FALSE	FALSE	3.1	10.3	6.1	52%	30%	59%		1.70	6.5	6.3									12,270	10,788	1,131				12,270	10,788	1,131
2/22/2015	FALSE	FALSE	FALSE	3.2	10.4	6.0	52%	30%	58%		1.73	6.5	6.2									12,270	10,788	1,131				12,270	10,788	1,131
2/23/2015	FALSE	FALSE	FALSE	3.2	10.3	6.1	52%	31%	59%		1.70	6.5	6.2	230				11,701				12,315	10,788	1,131	11,701			12,315	10,788	1,131
2/24/2015	FALSE	FALSE	FALSE	3.1	10.1	6.1	51%	31%	60%		1.66	6.5	6.2				19			966		12,315	10,788	1,098			966	12,315	10,788	1,098
2/25/2015	FALSE	FALSE	FALSE	3.1	10.5	6.1	51%	30%	58%		1.72	6.5	6.1	263	231	0.88		13,358	11,733			12,402	10,977	1,098	13,358	11,733		12,402	10,977	1,098
2/26/2015	FALSE	FALSE	FALSE	3.2	10.2	6.1	52%	31%	59%		1.68	6.5	6.1									12,744	10,977	1,098				12,744	10,977	1,098
2/27/2015	FALSE	FALSE	TRUE	3.2	10.2	6.2	52%	31%	60%		1.65	6.5	6.1	264								12,811	10,977	1,052	13,541			12,811	10,977	1,052
2/28/2015	FALSE	FALSE	FALSE	3.2	10.7	6.0	52%	29%	56%		1.79	6.5	6.1									12,790	11,450	1,052				12,790	11,450	1,052
3/1/2015	FALSE	FALSE	FALSE	3.1	10.5	6.0	52%	29%	57%		1.77	6.5	6.1									12,790	11,450	1,052				12,790	11,450	1,052
3/2/2015	FALSE	FALSE	FALSE	3.2	10.1	6.1	53%	31%	60%		1.67	6.5	6.1	281				14,178				13,375	11,450	1,052	14,178			13,375	11,450	1,052
3/3/2015	FALSE	FALSE	FALSE	3.2	10.5	6.1	52%	30%	58%		1.73	6.5	6.1				23			1,182		13,375	11,450	1,078			1,182	13,375	11,450	1,078
3/4/2015	FALSE	FALSE	FALSE	3.2	10.3	6.1	52%	31%	59%		1.69	6.5	6.1	234	257	1.10		11,826	12,989			13,246	11,758	1,078	11,826	12,989		13,246	11,758	1,078
3/5/2015	FALSE	FALSE	FALSE	3.2	10.1	6.0	53%	32%	60%		1.67	6.5	6.1									13,415	11,758	1,078				13,415	11,758	1,078
3/6/2015	FALSE	FALSE	FALSE	3.1	9.8	6.0	52%	32%	61%		1.64	6.5	6.0	268				13,411				13,415	11,758	1,010	13,411			13,415	11,758	1,010
3/7/2015	FALSE	FALSE	FALSE	3.2	10.2	5.9	54%	31%	58%		1.71	6.5	6.0									13,299	11,981	1,010				13,299	11,981	1,010
3/8/2015	FALSE	FALSE	FALSE	3.2	10.5	5.9	53%	30%	57%		1.76	6.5	6.0									13,299	11,981	1,010				13,299	11,981	1,010
3/9/2015	FALSE	FALSE	FALSE	3.1	10.3	6.0	52%	30%	58%		1.73	6.5	6.0	177				8,813				12,489	11,981	1,010	8,813			12,489	11,981	1,010
3/10/2015	FALSE	FALSE	FALSE	3.2	9.6	6.0	53%	33%	63%		1.60	6.4	6.0				25			1,257		12,489	11,981	1,059			1,257	12,489	11,981	1,059
3/11/2015	FALSE	FALSE	TRUE	3.2	9.9	6.0	53%	32%	61%		1.64	6.3	6.0	263	269	1.02		13,226	13,528			12,551	12,290	1,059	13,226	13,528		12,551	12,290	1,059
3/12/2015	FALSE	FALSE	FALSE	3.2	10.0	6.1	52%	32%	61%		1.64	6.2	6.0									12,610	12,290	1,059				12,610	12,290	1,059
3/13/2015	FALSE	FALSE	TRUE	3.0	9.6	6.0	51%	32%	62%		1.61	6.2	6.0	186				9,230				12,329	12,290	1,102	9,230			12,329	12,290	1,102
3/14/2015	FALSE	FALSE	FALSE	3.2	9.5	5.5	58%	34%	58%		1.72	6.1	5.9									12,329	12,290	1,102				12,329	12,290	1,102
3/15/2015	FALSE	FALSE	TRUE	3.2	9.6	5.4	59%	33%	56%		1.79	6.1	5.9									12,329	12,290	1,102				12,329	12,290	1,102
3/16/2015	FALSE	FALSE	TRUE	3.1	9.1	5.5	57%	35%	61%		1.65	6.0	5.8	223				10,210				12,129	12,435	1,102	10,210			12,129	12,435	1,102
3/17/2015	FALSE	FALSE	TRUE	3.2	8.9	5.4	59%	35%	60%		1.66	6.0	5.7				25			1,120		12,129	12,435	1,106			1,120	12,129	12,435	1,106
3/18/2015	TRUE	TRUE	FALSE	3.2	8.5	5.4	59%	38%	64%		1.57	6.0	5.7	256	215	0.84		11,529	9,683			12,082	11,884	1,106	11,529	9,683		12,082	11,884	1,106
3/19/2015	TRUE	TRUE	FALSE	3.2	8.0	5.4	59%	40%	67%		1.50	6.0	5.6									12,082	11,884	1,106				12,082	11,884	1,106
3/20/2015	TRUE	TRUE	FALSE	3.3	7.4	5.4	60%	44%	73%		1.37	5.9	5.5	256								12,049	11,884	1,106	11,615			12,049	11,884	1,106
3/21/2015	TRUE	TRUE	FALSE	3.2	7.8	5.4	60%	41%	69%		1.44	5.9	5.4									11,931	11,983	1,106				11,931	11,983	1,106
3/22/2015	TRUE	TRUE	TRUE	3.2	8.1	5.7	57%	40%	70%		1.43	5.9	5.4									11,931	11,983	1,131				11,931	11,983	1,131
3/23/2015	TRUE	TRUE	TRUE	3.2	8.0	5.9	54%	40%	73%		1.37	5.9	5.5	235				11,544				11,860	11,983	1,131	11,544			11,860	11,983	1,131
3/24/2015	TRUE	FALSE	TRUE	3.2	8.5	5.9	55%	38%	69%		1.44	5.9	5.5	257	228	0.89	25			1,210		11,860	11,983	1,147			1,210	11,860	11,983	1,147
3/25/2015	FALSE	FALSE	FALSE	3.2	8.3	5.9	54%	38%	71%		1.42	5.8	5.6	257				12,560	11,143			11,910	11,815	1,147	12,560	11,143		11,910	11,815	1,147
3/26/2015	FALSE	FALSE	FALSE	3.3	8.1	5.9	55%	40%	72%		1.38	5.8	5.7									11,926	11,815	1,147				11,926	11,815	1,147
3/27/2015	FALSE	FALSE	FALSE	3.2	8.4	5.9	55%	39%	71%		1.41	5.8	5.7	272	211	0.78		13,475	10,453			12,037	11,588	1,192	13,475	10,453		12,037	11,588	1,192
3/28/2015	FALSE	FALSE	FALSE	3.2	8.7	5.8	56%	37%	66%		1.51	5.8	5.8									11,935	11,559	1,192				11,935	11,559	1,192
3/29/2015	FALSE	FALSE	FALSE	3.2	9.0	5.7	57%	36%	63%		1.58	5.8	5.8									11,935	11,559	1,192				11,935	11,559	1,192
3/30/2015	FALSE	FALSE	FALSE	3.3	8.4	5.9	56%	39%	71%		1.42	5.8	5.9	224				11,041				11,743	11,559	1,192	11,041			11,743	11,559	1,192
3/31/2015	FALSE	FALSE	FALSE	3.2	8.0	6.0	54%	40%	74%		1.35	5.8	5.9				26			1,293		11,743	11,559	1,212			1,293	11,743	11,559	1,212
4/1/2015	FALSE	FALSE	FALSE	3.2	8.2	5.8	55%	39%	71%		1.40	5.8	5.9	294	285	0.97		14,319	13,881			11,927	11,946	1,212	14,319	13,881		11,927	11,946	1,212
4/2/2015	FALSE	FALSE	FALSE	3.2	8.3	5.8	55%	39%	71%		1.41	5.8	5.9									11,754	11,946	1,212				11,754	11,946	1,212
4/3/2015	FALSE	FALSE	FALSE	3.2	8.2	5.8	55%	39%	71%		1.42																			

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
4/16/2015	FALSE	FALSE	FALSE	3.4	8.2	5.9	58%	42%	72%		1.39	5.8	5.9									13,104	11,113	1,205				13,104	11,113	1,205
4/17/2015	FALSE	FALSE	FALSE	3.5	7.9	5.9	59%	44%	74%		1.35	5.8	5.9	267				13,093				13,103	11,113	1,226	13,093			13,103	11,113	1,226
4/18/2015	FALSE	FALSE	FALSE	3.5	8.3	5.7	61%	42%	68%		1.46	5.8	5.8									13,234	11,399	1,226				13,234	11,399	1,226
4/19/2015	FALSE	FALSE	FALSE	3.3	8.8	5.6	59%	38%	64%		1.57	5.8	5.8									13,234	11,399	1,226				13,234	11,399	1,226
4/20/2015	FALSE	FALSE	FALSE	3.2	9.1	5.8	54%	35%	64%		1.57	5.8	5.8									13,381	11,399	1,226				13,381	11,399	1,226
4/21/2015	FALSE	FALSE	FALSE	3.4	16.7	5.9	56%	20%	36%	AvgMax	2.81	5.8	5.8				25			1,246		13,381	11,399	1,230			1,246	13,381	11,399	1,230
4/22/2015	FALSE	FALSE	FALSE	3.4	8.1	5.9	57%	42%	73%		1.37	5.8	5.8	296	258	0.87		14,491	12,631			13,474	11,604	1,230	14,491	12,631		13,474	11,604	1,230
4/23/2015	FALSE	FALSE	TRUE	3.4	8.1	5.9	57%	42%	73%		1.37	5.8	5.8									13,649	11,604	1,230				13,649	11,604	1,230
4/24/2015	FALSE	FALSE	TRUE	3.4	8.0	6.0	57%	43%	75%		1.34	5.8	5.8									13,649	11,604	1,235				13,649	11,604	1,235
4/25/2015	FALSE	FALSE	TRUE	3.5	8.4	6.0	59%	42%	71%		1.41	5.8	5.8									13,758	11,697	1,235				13,758	11,697	1,235
4/26/2015	FALSE	FALSE	FALSE	3.4	8.2	5.8	58%	41%	71%		1.41	5.8	5.8									13,758	11,697	1,235				13,758	11,697	1,235
4/27/2015	FALSE	FALSE	FALSE	3.4	8.4	6.0	56%	40%	72%		1.39	5.8	5.9									13,790	12,008	1,235				13,790	12,008	1,235
4/28/2015	FALSE	FALSE	FALSE	3.4	8.1	5.9	59%	42%	73%		1.38	5.8	5.9				23			1,137		13,790	12,008	1,215			1,137	13,790	12,008	1,215
4/29/2015	FALSE	FALSE	FALSE	3.4	8.0	5.8	58%	42%	73%		1.38	5.9	5.9	333	248	0.74		16,191	12,058			14,030	12,018	1,215	16,191	12,058		14,030	12,018	1,215
4/30/2015	FALSE	FALSE	FALSE	3.3	8.0	5.8	58%	42%	73%		1.37	5.8	5.9									14,362	12,018	1,215				14,362	12,018	1,215
5/1/2015	FALSE	FALSE	FALSE	3.5	7.9	5.9	59%	44%	74%		1.34	5.8	5.9									14,362	12,018	1,196				14,362	12,018	1,196
5/2/2015	FALSE	FALSE	FALSE	3.4	7.9	5.7	61%	43%	72%		1.40	5.8	5.9									14,367	11,552	1,196				14,367	11,552	1,196
5/3/2015	FALSE	FALSE	FALSE	3.3	8.0	5.6	60%	42%	70%		1.43	5.8	5.8									14,367	11,552	1,196				14,367	11,552	1,196
5/4/2015	FALSE	FALSE	FALSE	3.3	7.9	5.8	58%	42%	73%		1.36	5.8	5.8									14,385	11,552	1,196				14,385	11,552	1,196
5/5/2015	FALSE	FALSE	FALSE	3.3	8.0	5.8	57%	41%	73%		1.37	5.8	5.8									14,385	11,552	1,196				14,385	11,552	1,196
5/6/2015	FALSE	FALSE	FALSE	3.4	8.1	5.8	58%	42%	72%		1.39	5.8	5.8	265	252	0.95		12,819	12,190			14,189	11,680	1,196	12,819	12,190		14,189	11,680	1,196
5/7/2015	FALSE	FALSE	FALSE	3.4	7.8	5.8	58%	43%	74%		1.35	5.9	5.8									13,685	11,680	1,196				13,685	11,680	1,196
5/8/2015	FALSE	FALSE	FALSE	3.4	7.7	5.8	59%	45%	75%		1.33	5.9	5.8									13,685	11,680	1,175				13,685	11,680	1,175
5/9/2015	FALSE	FALSE	FALSE	3.4	7.9	5.5	61%	42%	70%		1.43	5.8	5.7									13,733	11,868	1,175				13,733	11,868	1,175
5/10/2015	FALSE	FALSE	FALSE	3.3	8.2	5.5	60%	40%	67%		1.49	5.8	5.7									13,733	11,868	1,175				13,733	11,868	1,175
5/11/2015	FALSE	FALSE	FALSE	3.3	8.0	5.8	57%	41%	72%		1.38	5.8	5.7									13,733	11,868	1,175				13,733	11,868	1,175
5/12/2015	FALSE	FALSE	FALSE	3.3	7.9	5.7	58%	42%	73%		1.37	5.8	5.7				24			1,168		13,733	11,868	1,173			1,168	13,733	11,868	1,173
5/13/2015	FALSE	FALSE	FALSE	3.4	8.0	5.8	58%	42%	73%		1.37	5.8	5.7	287	229	0.80		13,883	11,077			13,754	11,710	1,173	13,883	11,077		13,754	11,710	1,173
5/14/2015	FALSE	FALSE	FALSE	3.3	7.8	5.8	56%	42%	74%		1.34	5.8	5.7									14,084	11,710	1,173				14,084	11,710	1,173
5/15/2015	FALSE	FALSE	FALSE	3.5	8.0	6.0	58%	43%	74%		1.35	5.8	5.7									14,084	11,710	1,184				14,084	11,710	1,184
5/16/2015	FALSE	FALSE	FALSE	3.4	8.0	5.7	61%	43%	70%		1.42	5.8	5.7									14,095	11,989	1,184				14,095	11,989	1,184
5/17/2015	FALSE	TRUE	FALSE	3.4	7.9	5.6	60%	42%	70%		1.42	5.8	5.7									14,095	11,989	1,184				14,095	11,989	1,184
5/18/2015	FALSE	TRUE	FALSE	3.4	8.2	5.6	61%	41%	67%		1.48	5.8	5.7									14,346	11,989	1,184				14,346	11,989	1,184
5/19/2015	FALSE	TRUE	FALSE	3.4	7.1	5.5	62%	48%	78%		1.29	5.8	5.7				26			1,195		14,346	11,989	1,187			1,195	14,346	11,989	1,187
5/20/2015	FALSE	TRUE	FALSE	3.4	7.2	5.5	62%	48%	77%		1.31	5.8	5.7	259	278	1.07		11,880	12,752			13,853	12,142	1,187	11,880	12,752		13,853	12,142	1,187
5/21/2015	FALSE	TRUE	FALSE	3.4	7.2	5.5	61%	47%	77%		1.30	5.8	5.6									13,853	12,142	1,187				13,853	12,142	1,187
5/22/2015	FALSE	TRUE	FALSE	3.4	6.9	5.4	63%	50%	79%		1.27	5.7	5.6									13,853	12,142	1,167				13,853	12,142	1,167
5/23/2015	FALSE	TRUE	FALSE	3.4	7.5	5.2	65%	46%	70%		1.42	5.7	5.5									13,693	12,019	1,167				13,693	12,019	1,167
5/24/2015	FALSE	TRUE	FALSE	3.4	7.1	5.0	68%	48%	70%		1.42	5.7	5.4									13,693	12,019	1,167				13,693	12,019	1,167
5/25/2015	FALSE	TRUE	FALSE	3.3	7.4	5.2	65%	45%	70%		1.43	5.7	5.4									13,693	12,019	1,167				13,693	12,019	1,167
5/26/2015	FALSE	TRUE	FALSE	3.4	7.0	5.4	63%	48%	76%		1.31	5.6	5.3									13,693	12,019	1,167				13,693	12,019	1,167
5/27/2015	FALSE	TRUE	FALSE	3.4	7.1	5.4	63%	48%	76%		1.31	5.6	5.3	276	201	0.73		12,453	9,069			13,445	11,429	1,167	12,453	9,069		13,445	11,429	1,167
5/28/2015	FALSE	TRUE	FALSE	3.4	6.9	5.3	65%	50%	76%		1.31	5.6	5.3									13,445	11,429	1,167				13,445	11,429	1,167
5/29/2015	TRUE	TRUE	FALSE	3.4	7.0	5.3	64%	49%	76%		1.31	5.6	5.3				23			1,039		13,445	11,429	1,134			1,039	13,445	11,429	1,134
5/30/2015	TRUE	TRUE	FALSE	3.4	7.2	5.1	67%	48%	72%		1.39	5.6	5.2									12,759	11,272	1,134				12,759	11,272	1,134
5/31/2015	TRUE	TRUE	FALSE	3.3	7.0	5.1	65%	48%	73%		1.37	5.5	5.2									12,759	11,272	1,134				12,759	11,272	1,134
6/1/2015	TRUE	TRUE	FALSE	3.3	7.0	5.1	65%	48%	73%		1.37	5.5	5.2									12,759	11,272	1,134				12,759	11,272	1,134
6/2/2015	TRUE	TRUE	FALSE	2.0	6.9	5.3	38%	29%	77%		1.30	5.5	5.2				24			1,076		12,759	11,272	1,120			1,076	12,759	11,272	1,120
6/3/2015	TRUE	TRUE	FALSE	3.4	6.8	5.3	64%	50%	78%		1.28	5.5	5.2	278	259	0.93		12,311	11,470			12,669	11,312	1,120	12,311	11,470		12,669	11,312	1,120
6/4/2015	TRUE	TRUE	FALSE	3.4	6.7	5.3	63%	50%	79%		1.27	5.5	5.2									12,669	11,312	1,120				12,669	11,312	1,120
6/5/2015	TRUE	TRUE	TRUE	3.5	6.5	5.2	67%	53%	80%		1.25	5.5	5.2									12,669	11,312	1,120				12,669	11,312	1,120
6/6/2015	TRUE	TRUE	FALSE	3.4	7.0	5.1	67%	49%	73%		1.36	5.4	5.2									12,632	11,092	1,120				12,632	11,092	1,120
6/7/2015	TRUE	TRUE	FALSE	3.4	6.7	5.0	68%	51%	75%		1.34	5.4	5.2									12								

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
6/19/2015	TRUE	TRUE	FALSE	3.5	6.3	5.2	67%	55%	82%		1.22	5.2	5.1									11,082	9,603	1,104				11,082	9,603	1,104
6/20/2015	TRUE	TRUE	FALSE	3.5	6.5	5.0	69%	53%	77%		1.29	5.2	5.1									10,882	8,816	1,104				10,882	8,816	1,104
6/21/2015	TRUE	TRUE	FALSE	3.4	6.5	5.0	68%	52%	76%		1.31	5.2	5.1									10,882	8,816	1,104				10,882	8,816	1,104
6/22/2015	TRUE	TRUE	FALSE	3.5	6.6	5.2	66%	53%	80%		1.25	5.2	5.2				28			1,218		10,882	8,816	1,127			1,218	10,882	8,816	1,127
6/23/2015	TRUE	TRUE	FALSE	3.5	6.5	5.2	67%	54%	81%		1.24	5.2	5.2									10,882	8,816	1,127				10,882	8,816	1,127
6/24/2015	TRUE	TRUE	FALSE	3.5	6.7	5.3	67%	52%	78%		1.28	5.2	5.2	301	252	0.84		13,204	11,055			11,346	9,264	1,127	13,204	11,055		11,346	9,264	1,127
6/25/2015	TRUE	TRUE	FALSE	3.5	6.5	5.3	67%	54%	81%		1.24	5.2	5.2									11,346	9,264	1,127				11,346	9,264	1,127
6/26/2015	TRUE	TRUE	FALSE	3.5	6.5	5.2	68%	54%	79%		1.26	5.2	5.2									11,346	9,264	1,127				11,346	9,264	1,127
6/27/2015	TRUE	TRUE	FALSE	3.5	6.5	5.1	69%	54%	78%		1.28	5.2	5.2									11,070	9,312	1,127				11,070	9,312	1,127
6/28/2015	TRUE	TRUE	FALSE	3.5	6.6	5.0	69%	52%	75%		1.33	5.2	5.1									11,070	9,312	1,127				11,070	9,312	1,127
6/29/2015	TRUE	TRUE	FALSE	3.5	6.3	5.1	67%	55%	81%		1.23	5.1	5.2				26			1,090		11,070	9,312	1,137			1,090	11,070	9,312	1,137
6/30/2015	TRUE	TRUE	FALSE	3.4	6.3	5.1	67%	54%	81%		1.23	5.1	5.1									11,070	9,312	1,137				11,070	9,312	1,137
7/1/2015	TRUE	TRUE	FALSE	3.6	6.6	5.2	68%	54%	79%		1.26	5.1	5.1	255	178	0.70		11,038	7,705			11,063	8,991	1,137	11,038	7,705		11,063	8,991	1,137
7/2/2015	TRUE	TRUE	FALSE	3.4	6.5	5.1	67%	53%	79%		1.27	5.1	5.1									11,063	8,991	1,137				11,063	8,991	1,137
7/3/2015	TRUE	TRUE	FALSE	3.5	6.9	5.1	68%	50%	74%		1.36	5.1	5.1									11,063	8,991	1,152				11,063	8,991	1,152
7/4/2015	TRUE	TRUE	FALSE	3.4	6.1	4.7	73%	56%	77%		1.30	5.1	5.0									10,751	8,371	1,152				10,751	8,371	1,152
7/5/2015	TRUE	TRUE	FALSE	3.3	6.2	4.8	70%	54%	77%		1.30	5.1	5.0									10,751	8,371	1,152				10,751	8,371	1,152
7/6/2015	TRUE	TRUE	FALSE	3.4	6.6	5.2	65%	52%	80%		1.26	5.1	5.0									10,751	8,371	1,152				10,751	8,371	1,152
7/7/2015	TRUE	TRUE	FALSE	3.2	6.5	5.2	62%	50%	80%		1.25	5.1	5.0									10,751	8,371	1,152				10,751	8,371	1,152
7/8/2015	TRUE	TRUE	FALSE	3.4	6.5	5.2	65%	52%	80%		1.25	5.1	5.1	248	193	0.78		10,776	8,386			10,756	8,374	1,152	10,776	8,386		10,756	8,374	1,152
7/9/2015	TRUE	TRUE	TRUE	3.3	6.8	5.3	64%	49%	77%		1.29	5.1	5.1				30			1,333		10,756	8,374	1,189			1,333	10,756	8,374	1,189
7/10/2015	TRUE	TRUE	FALSE	3.3	6.9	5.2	63%	48%	76%		1.32	5.1	5.1									10,756	8,374	1,189				10,756	8,374	1,189
7/11/2015	TRUE	TRUE	FALSE	3.4	6.6	5.0	69%	52%	76%		1.31	5.1	5.1									11,486	9,146	1,189				11,486	9,146	1,189
7/12/2015	TRUE	TRUE	FALSE	3.4	6.5	4.9	69%	53%	76%		1.32	5.1	5.1									11,486	9,146	1,190				11,486	9,146	1,190
7/13/2015	TRUE	TRUE	FALSE	2.2	6.5	5.1	43%	34%	79%		1.26	5.1	5.1									11,486	9,146	1,190				11,486	9,146	1,190
7/14/2015	TRUE	TRUE	FALSE	3.3	6.5	5.2	63%	50%	79%		1.27	5.1	5.1									11,486	9,146	1,190				11,486	9,146	1,190
7/15/2015	TRUE	TRUE	FALSE	3.3	6.4	5.2	63%	51%	81%		1.24	5.1	5.1	272	225	0.83		11,751	9,720			11,539	9,261	1,190	11,751	9,720		11,539	9,261	1,190
7/16/2015	TRUE	TRUE	FALSE	3.4	6.4	5.1	67%	53%	80%		1.25	5.1	5.1									11,539	9,261	1,183			1,152	11,539	9,261	1,183
7/17/2015	TRUE	TRUE	FALSE	3.5	6.6	5.1	67%	53%	78%		1.28	5.1	5.1									11,539	9,261	1,183				11,539	9,261	1,183
7/18/2015	TRUE	TRUE	FALSE	3.4	6.4	4.9	70%	53%	76%		1.32	5.1	5.1									11,692	9,216	1,183				11,692	9,216	1,183
7/19/2015	TRUE	TRUE	FALSE	3.3	6.2	4.9	69%	54%	78%		1.28	5.1	5.1									11,692	9,216	1,198				11,692	9,216	1,198
7/20/2015	TRUE	TRUE	FALSE	3.4	6.2	5.1	66%	54%	81%		1.23	5.1	5.1									11,692	9,216	1,198				11,692	9,216	1,198
7/21/2015	TRUE	TRUE	FALSE	3.5	6.5	5.1	69%	54%	79%		1.27	5.1	5.1									11,692	9,216	1,198				11,692	9,216	1,198
7/22/2015	TRUE	TRUE	FALSE	3.6	6.5	5.2	69%	55%	80%		1.24	5.1	5.1	259	208	0.80		11,211	9,003			11,596	9,174	1,198	11,211	9,003		11,596	9,174	1,198
7/23/2015	TRUE	TRUE	FALSE	3.6	6.2	5.1	71%	58%	81%		1.23	5.1	5.0				28			1,158		11,596	9,174	1,183			1,158	11,596	9,174	1,183
7/24/2015	TRUE	TRUE	FALSE	3.3	6.9	5.1	65%	48%	75%		1.34	5.1	5.0									11,596	9,174	1,183				11,596	9,174	1,183
7/25/2015	TRUE	TRUE	FALSE	3.4	6.6	4.9	69%	51%	74%		1.34	5.1	5.0									11,194	8,704	1,183				11,194	8,704	1,183
7/26/2015	TRUE	TRUE	FALSE	3.3	6.3	4.8	68%	52%	77%		1.30	5.1	5.0									11,194	8,704	1,183				11,194	8,704	1,183
7/27/2015	TRUE	TRUE	FALSE	3.3	6.4	5.0	66%	52%	78%		1.28	5.1	5.0									11,194	8,704	1,183				11,194	8,704	1,183
7/28/2015	TRUE	TRUE	FALSE	3.3	6.4	5.0	67%	52%	78%		1.29	5.1	5.0									11,194	8,704	1,183				11,194	8,704	1,183
7/29/2015	TRUE	TRUE	FALSE	3.5	6.4	5.0	69%	54%	79%		1.26	5.1	5.0	260	239	0.92		10,929	10,046			11,141	8,972	1,183	10,929	10,046		11,141	8,972	1,183
7/30/2015	TRUE	TRUE	FALSE	3.4	6.8	5.1	66%	50%	76%		1.32	5.1	5.0				26			1,112		11,141	8,972	1,189			1,112	11,141	8,972	1,189
7/31/2015	TRUE	TRUE	FALSE	3.5	6.7	5.2	67%	52%	78%		1.28	5.1	5.0									11,141	8,972	1,189				11,141	8,972	1,189
8/1/2015	TRUE	TRUE	FALSE	3.4	6.5	5.0	69%	52%	76%		1.32	5.1	5.0									11,167	9,289	1,189				11,167	9,289	1,189
8/2/2015	TRUE	TRUE	FALSE	3.3	6.8	5.0	67%	49%	74%		1.36	5.0	5.0									11,167	9,289	1,189				11,167	9,289	1,189
8/3/2015	TRUE	TRUE	FALSE	3.4	6.8	5.2	65%	50%	76%		1.31	5.1	5.1									11,167	9,289	1,189				11,167	9,289	1,189
8/4/2015	TRUE	TRUE	FALSE	3.4	6.8	5.2	65%	50%	77%		1.29	5.1	5.1									11,167	9,289	1,189				11,167	9,289	1,189
8/5/2015	TRUE	TRUE	FALSE	3.4	6.5	5.2	66%	53%	80%		1.25	5.1	5.1	277	212	0.77		11,897	9,106			11,313	9,252	1,189	11,897	9,106		11,313	9,252	1,189
8/6/2015	TRUE	TRUE	FALSE	3.5	6.7	5.2	66%	52%	78%		1.28	5.1	5.1				32			1,392		11,313	9,252	1,229			1,392	11,313	9,252	1,229
8/7/2015	TRUE	TRUE	FALSE	3.4	6.7	5.2	66%	51%	77%		1.30	5.1	5.1									11,313	9,252	1,229				11,313	9,252	1,229
8/8/2015	TRUE	TRUE	FALSE	3.4	6.8	5.0	68%	50%	74%		1.34	5.1	5.1									11,447	9,469	1,229				11,447	9,469	1,229
8/9/2015	TRUE	TRUE	FALSE	3.3	6.6	5.0	67%	50%	75%		1.33	5.1	5.1									11,447	9,469	1,204				11,447	9,469	1,204
8/10/2015	TRUE	TRUE	FALSE	3.4	6.8	5.3	65%	50%	77%		1.29	5.1	5.1									11,447	9,469	1,204				11,447	9,469	1,204
8/11/2015	TRUE	TRUE	FALSE	3.4	7.4	5.3																								

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
10/25/2015	FALSE	FALSE	FALSE	3.4	8.6	5.6	60%	39%	65%		1.55	5.6	5.7									12,506	11,794	1,470				12,506	11,794	1,470
10/26/2015	FALSE	FALSE	FALSE	3.3	8.4	5.7	59%	40%	68%		1.47	5.6	5.7									12,506	11,794	1,470				12,506	11,794	1,470
10/27/2015	FALSE	FALSE	FALSE	3.4	8.2	5.7	59%	41%	70%		1.44	5.6	5.7									12,506	11,794	1,470				12,506	11,794	1,470
10/28/2015	FALSE	FALSE	TRUE	3.4	8.5	5.7	59%	40%	67%		1.49	5.6	5.7	296	238	0.80		14,047	11,294			12,814	11,694	1,470	14,047	11,294		12,814	11,694	1,470
10/29/2015	FALSE	FALSE	FALSE	3.3	8.2	5.8	58%	41%	70%		1.43	5.7	5.7				32				1,537	12,814	11,694	1,487			1,537	12,814	11,694	1,487
10/30/2015	FALSE	FALSE	FALSE	3.4	8.2	5.8	58%	41%	71%		1.41	5.7	5.7									12,814	11,694	1,466				12,814	11,694	1,466
10/31/2015	FALSE	FALSE	FALSE	3.4	9.2	5.8	59%	37%	62%		1.60	5.7	5.7									12,814	11,694	1,466				12,814	11,694	1,466
11/1/2015	FALSE	FALSE	TRUE	3.4	8.9	5.7	58%	38%	64%		1.56	5.7	5.7									12,814	11,694	1,466				12,814	11,694	1,466
11/2/2015	FALSE	FALSE	TRUE	3.4	9.1	6.0	57%	38%	66%		1.51	5.7	5.8									12,986	10,467	1,466				12,986	10,467	1,466
11/3/2015	FALSE	FALSE	FALSE	3.3	9.1	6.0	54%	36%	67%		1.50	5.7	5.8									12,986	10,467	1,466				12,986	10,467	1,466
11/4/2015	FALSE	FALSE	TRUE	3.4	9.0	5.9	57%	38%	65%		1.53	5.7	5.8				32				1,569	12,986	10,467	1,492			1,569	12,986	10,467	1,492
11/5/2015	FALSE	FALSE	FALSE	3.4	8.6	5.8	59%	40%	68%		1.48	5.7	5.8	266	267	1.00		12,934	12,982			12,976	10,970	1,492	12,934	12,982		12,976	10,970	1,492
11/6/2015	FALSE	FALSE	FALSE	3.5	8.7	5.8	60%	40%	67%		1.49	5.7	5.9									12,976	10,970	1,492				12,976	10,970	1,492
11/7/2015	FALSE	FALSE	FALSE	3.4	8.7	5.6	61%	39%	65%		1.54	5.7	5.8									12,904	10,955	1,492				12,904	10,955	1,492
11/8/2015	FALSE	FALSE	TRUE	3.4	9.1	5.8	59%	37%	63%		1.58	5.7	5.8									12,904	10,955	1,541				12,904	10,955	1,541
11/9/2015	FALSE	FALSE	TRUE	3.4	8.8	6.0	57%	39%	68%		1.47	5.7	5.9									12,904	10,955	1,541				12,904	10,955	1,541
11/10/2015	FALSE	FALSE	TRUE	3.5	8.7	5.8	59%	40%	67%		1.49	5.7	5.8									12,904	10,955	1,541				12,904	10,955	1,541
11/11/2015	FALSE	FALSE	FALSE	3.5	8.8	5.9	59%	40%	67%		1.50	5.7	5.8									12,904	10,955	1,541				12,904	10,955	1,541
11/12/2015	FALSE	FALSE	FALSE	3.4	8.3	5.7	60%	41%	69%		1.45	5.7	5.8				28				1,360	12,904	10,955	1,496			1,360	12,904	10,955	1,496
11/13/2015	FALSE	FALSE	FALSE	3.4	9.6	5.8	59%	36%	61%		1.65	5.7	5.8	284	190	0.67		13,809	9,238			13,085	10,612	1,496	13,809	9,238		13,085	10,612	1,496
11/14/2015	FALSE	FALSE	FALSE	3.5	9.0	5.7	60%	39%	64%		1.56	5.7	5.8									13,566	11,208	1,496				13,566	11,208	1,496
11/15/2015	FALSE	FALSE	TRUE	3.4	9.7	6.1	57%	35%	63%		1.60	5.8	5.8									13,566	11,208	1,489				13,566	11,208	1,489
11/16/2015	FALSE	FALSE	FALSE		8.7	6.0	0%	0%	69%		1.44	5.8	5.9									13,566	11,208	1,489				13,566	11,208	1,489
11/17/2015	FALSE	FALSE	FALSE	3.5	8.6	6.0	58%	40%	70%		1.43	5.8	5.9									13,566	11,208	1,489				13,566	11,208	1,489
11/18/2015	FALSE	FALSE	FALSE	3.4	8.9	5.9	58%	39%	67%		1.50	5.8	5.9	257	231	0.90		12,646	11,367			13,382	11,240	1,489	12,646	11,367		13,382	11,240	1,489
11/19/2015	FALSE	FALSE	FALSE	3.5	16.2	5.9	59%	21%	36%	AvgMax	2.76	5.8	5.9				27				1,346	13,382	11,240	1,453			1,346	13,382	11,240	1,453
11/20/2015	FALSE	TRUE	FALSE	3.4	8.2	5.7	59%	41%	70%		1.44	5.8	5.9									13,382	11,240	1,453				13,382	11,240	1,453
11/21/2015	FALSE	TRUE	FALSE	3.4	8.7	5.5	62%	39%	64%		1.57	5.8	5.8									13,359	11,220	1,453				13,359	11,220	1,453
11/22/2015	FALSE	TRUE	FALSE	3.4	11.3	5.3	64%	30%	47%		2.12	5.8	5.8									13,359	11,220	1,453				13,359	11,220	1,453
11/23/2015	FALSE	TRUE	FALSE	3.4	10.7	5.4	64%	32%	51%		1.98	5.8	5.7									13,359	11,220	1,453				13,359	11,220	1,453
11/24/2015	FALSE	TRUE	FALSE	3.5	7.5	5.4	64%	46%	72%		1.39	5.8	5.6									13,359	11,220	1,453				13,359	11,220	1,453
11/25/2015	TRUE	TRUE	FALSE	3.4	8.1	5.5	62%	42%	68%		1.47	5.8	5.5	283	241	0.85		12,958	11,035			13,278	11,183	1,453	12,958	11,035		13,278	11,183	1,453
11/26/2015	TRUE	TRUE	FALSE	3.4	8.4	5.1	67%	41%	61%		1.65	5.7	5.4									13,278	11,183	1,453				13,278	11,183	1,453
11/27/2015	TRUE	TRUE	FALSE	3.4	7.5	5.0	69%	46%	66%		1.51	5.7	5.4									13,278	11,183	1,453				13,278	11,183	1,453
11/28/2015	TRUE	TRUE	FALSE	3.4	7.8	5.2	65%	43%	66%		1.51	5.7	5.3									13,086	11,155	1,453				13,086	11,155	1,453
11/29/2015	TRUE	TRUE	FALSE	3.3	8.5	5.5	61%	39%	64%		1.55	5.7	5.3									13,086	11,155	1,425				13,086	11,155	1,425
11/30/2015	TRUE	TRUE	FALSE	3.4	8.3	5.7	59%	41%	69%		1.45	5.7	5.3									13,086	11,155	1,425				13,086	11,155	1,425
12/1/2015	FALSE	FALSE	FALSE	3.4	8.3	5.7	60%	41%	69%		1.45	5.7	5.4									13,086	11,155	1,425				13,086	11,155	1,425
12/2/2015	FALSE	FALSE	FALSE	3.4	8.1	5.7	60%	43%	71%		1.41	5.7	5.4	299	265	0.89		14,239	12,620			13,317	11,448	1,425	14,239	12,620		13,317	11,448	1,425
12/3/2015	FALSE	FALSE	TRUE	3.5	8.2	5.8	59%	42%	70%		1.42	5.7	5.5				33				1,596	13,317	11,448	1,468			1,596	13,317	11,448	1,468
12/4/2015	FALSE	FALSE	FALSE	3.5	8.2	5.8	60%	42%	70%		1.42	5.7	5.5									13,317	11,448	1,468				13,317	11,448	1,468
12/5/2015	FALSE	FALSE	FALSE	3.4	8.8	5.7	60%	39%	64%		1.55	5.7	5.6									13,317	11,448	1,434				13,317	11,448	1,434
12/6/2015	FALSE	FALSE	TRUE	3.4	9.1	5.8	60%	38%	64%		1.57	5.7	5.7									13,413	11,065	1,434				13,413	11,065	1,434
12/7/2015	FALSE	FALSE	TRUE	3.4	8.3	5.8	59%	41%	70%		1.43	5.7	5.8									13,413	11,065	1,434				13,413	11,065	1,434
12/8/2015	FALSE	FALSE	TRUE	3.4	8.0	5.8	59%	43%	72%		1.38	5.7	5.8									13,413	11,065	1,434				13,413	11,065	1,434
12/9/2015	FALSE	FALSE	TRUE	3.4	8.3	5.9	57%	41%	71%		1.40	5.7	5.8	318	216	0.68		15,594	10,592			13,849	10,970	1,434	15,594	10,592		13,849	10,970	1,434
12/10/2015	FALSE	FALSE	TRUE	3.4	8.4	6.0	57%	40%	71%		1.40	5.7	5.8				30				1,491	13,849	10,970	1,448			1,491	13,849	10,970	1,448
12/11/2015	FALSE	FALSE	FALSE	3.5	8.3	5.9	59%	42%	71%		1.41	5.7	5.8									13,849	10,970	1,448				13,849	10,970	1,448
12/12/2015	FALSE	FALSE	FALSE	3.4	9.1	5.8	59%	37%	63%		1.58	5.7	5.8									13,849	10,970	1,448				13,849	10,970	1,448
12/13/2015	FALSE	FALSE	TRUE	3.4	9.7	6.0	57%	35%	62%		1.61	5.7	5.9									13,849	10,970	1,478				13,849	10,970	1,478
12/14/2015	FALSE	FALSE	FALSE	3.5	8.7	6.1	57%	40%	70%		1.42	5.7	5.9									13,859	11,403	1,478				13,859	11,403	1,478
12/15/2015	FALSE	FALSE	FALSE	3.5	8.6	6.0	57%	40%	70%		1.43	5.7	5.9									13,859	11,403	1,478				13,859	11,403	1,478
12/16/2015	FALSE	FALSE	FALSE	3.5	8.4	5.9	59%	41%	70%		1.43	5.7	5.9	618																

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
12/28/2015	TRUE	TRUE	TRUE	3.5	8.1	5.5	63%	43%	68%		1.47	5.9	5.8									13,472	10,634	1,352				13,472	10,634	1,352
12/29/2015	TRUE	TRUE	FALSE	3.5	7.8	5.5	64%	45%	70%		1.43	5.9	5.6									13,472	10,634	1,352				13,472	10,634	1,352
12/30/2015	TRUE	TRUE	FALSE	3.4	7.7	5.3	64%	45%	70%		1.43	5.9	5.5	287	253	0.88		12,782	11,268					12,782	11,268		13,299	10,793	1,352	
12/31/2015	TRUE	TRUE	FALSE	3.4	8.1	5.5	62%	42%	67%		1.48	5.9	5.4				28			1,273		13,299	10,793	1,336			1,273	13,299	10,793	1,336
1/1/2016	TRUE	TRUE	FALSE	3.4	7.4	5.0	68%	46%	67%		1.48	5.8	5.3									13,299	10,793	1,336				13,299	10,793	1,336
1/2/2016	TRUE	TRUE	FALSE	3.4	8.1	5.2	65%	42%	64%		1.57	5.8	5.3									12,986	10,184	1,336				12,986	10,184	1,336
1/3/2016	TRUE	TRUE	FALSE	3.3	8.2	5.5	61%	40%	66%		1.51	5.8	5.3									12,986	10,184	1,271				12,986	10,184	1,271
1/4/2016	TRUE	TRUE	TRUE	3.2	7.7	5.4	60%	42%	71%		1.42	5.8	5.3									12,986	10,184	1,271				12,986	10,184	1,271
1/5/2016	TRUE	TRUE	TRUE	3.5	10.8	7.5	46%	32%	70%		1.43	5.8	5.6									12,986	10,184	1,271				12,986	10,184	1,271
1/6/2016	TRUE	TRUE	TRUE	3.9	11.4	8.4	47%	35%	74%		1.35	5.9	6.0	224	183	0.82		15,693	12,820			13,663	10,843	1,271	15,693	12,820		13,663	10,843	1,271
1/7/2016	TRUE	TRUE	TRUE	5.1	10.8	8.2	62%	47%	76%		1.32	6.0	6.3				11			740		13,663	10,843	1,165			740	13,663	10,843	1,165
1/8/2016	TRUE	TRUE	FALSE	3.9	18.5	6.9	56%	21%	37%	AvgMax	2.68	6.0	6.4									13,663	10,843	1,165				13,663	10,843	1,165
1/9/2016	TRUE	TRUE	TRUE	3.6	10.1	6.4	55%	35%	64%		1.57	6.0	6.7									13,019	10,926	1,165				13,019	10,926	1,165
1/10/2016	TRUE	TRUE	FALSE	3.4	9.3	6.1	55%	36%	66%		1.53	6.0	6.8									13,019	10,926	1,084				13,019	10,926	1,084
1/11/2016	TRUE	TRUE	FALSE	3.4	8.9	6.2	54%	38%	69%		1.44	6.1	6.9									13,019	10,926	1,084				13,019	10,926	1,084
1/12/2016	TRUE	TRUE	FALSE	3.3	8.5	5.9	55%	39%	70%		1.44	6.1	7.0									13,019	10,926	1,084				13,019	10,926	1,084
1/13/2016	TRUE	TRUE	TRUE	3.6	9.8	6.8	53%	36%	69%		1.45	6.1	6.9	229	230	1.00		12,987	13,044			13,011	11,456	1,084	12,987	13,044		13,011	11,456	1,084
1/14/2016	TRUE	TRUE	TRUE	3.5	9.9	6.7	52%	36%	68%		1.47	6.1	6.6				15			866		13,011	11,456	1,040			866	13,011	11,456	1,040
1/15/2016	TRUE	TRUE	TRUE	3.8	9.8	6.9	55%	39%	71%		1.42	6.1	6.4									13,011	11,456	1,040				13,011	11,456	1,040
1/16/2016	TRUE	TRUE	TRUE	3.8	11.1	7.2	53%	34%	65%		1.54	6.2	6.5									13,011	11,456	1,040				13,011	11,456	1,040
1/17/2016	TRUE	TRUE	TRUE	3.9	13.4	8.6	45%	29%	64%		1.56	6.3	6.8									13,011	11,456	951				13,011	11,456	951
1/18/2016	TRUE	TRUE	TRUE	8.2	13.6	10.9	76%	60%	80%		1.25	6.4	7.4									13,011	11,456	951				13,011	11,456	951
1/19/2016	TRUE	TRUE	TRUE	5.2	13.8	10.1	52%	38%	73%		1.37	6.5	7.9									13,011	11,456	951				13,011	11,456	951
1/20/2016	TRUE	TRUE	FALSE	5.4	11.4	8.7	62%	47%	76%		1.31	6.6	8.2									13,011	11,456	951				13,011	11,456	951
1/21/2016	TRUE	TRUE	TRUE	4.3	10.5	7.7	55%	40%	74%		1.36	6.6	8.4				16			1,020		13,011	11,456	965			1,020	13,011	11,456	965
1/22/2016	TRUE	TRUE	TRUE	4.1	10.6	8.1	50%	38%	76%		1.31	6.7	8.5	204	180	0.88		13,747	12,130			13,158	11,590	975	13,747	12,130		13,158	11,590	975
1/23/2016	TRUE	TRUE	TRUE	5.7	11.9	9.0	63%	48%	75%		1.33	6.8	8.8									13,802	12,315	975				13,802	12,315	975
1/24/2016	TRUE	TRUE	TRUE	4.3	11.0	8.1	53%	40%	74%		1.35	6.9	8.9									13,802	12,315	975				13,802	12,315	975
1/25/2016	TRUE	TRUE	TRUE	3.9	10.9	7.7	51%	36%	70%		1.42	7.0	8.8									13,802	12,315	975				13,802	12,315	975
1/26/2016	FALSE	FALSE	FALSE	3.8	10.7	7.4	51%	35%	69%		1.45	7.0	8.3									13,802	12,315	975				13,802	12,315	975
1/27/2016	FALSE	FALSE	FALSE	3.6	10.4	7.0	51%	34%	67%		1.49	7.1	8.0	213	229	1.08		12,346	13,274			13,511	12,507	975	12,346	13,274		13,511	12,507	975
1/28/2016	FALSE	FALSE	TRUE	3.5	9.9	6.8	52%	36%	69%		1.46	7.1	7.7				21			1,197		13,511	12,507	1,019			1,197	13,511	12,507	1,019
1/29/2016	FALSE	FALSE	TRUE	3.5	9.6	6.8	52%	37%	71%		1.40	7.2	7.6									13,511	12,507	1,019				13,511	12,507	1,019
1/30/2016	FALSE	FALSE	TRUE	3.7	10.4	7.1	52%	35%	68%		1.47	7.2	7.5									13,693	12,817	1,019				13,693	12,817	1,019
1/31/2016	FALSE	FALSE	TRUE	3.5	10.9	6.9	50%	32%	63%		1.58	7.3	7.2									13,693	12,817	956				13,693	12,817	956
2/1/2016	FALSE	FALSE	FALSE	3.4	10.1	6.8	50%	34%	67%		1.49	7.3	7.0									13,693	12,817	956				13,693	12,817	956
2/2/2016	FALSE	FALSE	FALSE	3.4	9.6	6.5	52%	36%	68%		1.46	7.4	6.9									13,693	12,817	956				13,693	12,817	956
2/3/2016	FALSE	FALSE	FALSE	3.4	9.4	6.4	53%	36%	68%		1.46	7.4	6.8									13,693	12,817	956				13,693	12,817	956
2/4/2016	FALSE	FALSE	FALSE	3.3	9.4	6.3	53%	35%	67%		1.48	7.4	6.7	261	302	1.16		13,735	15,893			13,702	13,432	956	13,735	15,893		13,702	13,432	956
2/5/2016	FALSE	FALSE	FALSE	3.2	9.2	6.2	52%	35%	68%		1.48	7.4	6.6									13,702	13,432	956				13,702	13,432	956
2/6/2016	FALSE	FALSE	FALSE	3.2	9.6	6.1	54%	34%	63%		1.59	7.3	6.5									13,204	13,585	956				13,204	13,585	956
2/7/2016	FALSE	FALSE	FALSE	3.2	10.0	5.9	55%	32%	59%		1.69	7.2	6.4									13,204	13,585	1,027				13,204	13,585	1,027
2/8/2016	FALSE	FALSE	FALSE	3.2	8.9	6.0	52%	35%	67%		1.49	7.2	6.3									13,204	13,585	1,027				13,204	13,585	1,027
2/9/2016	FALSE	FALSE	FALSE	3.2	8.9	6.0	53%	36%	68%		1.47	7.2	6.2									13,204	13,585	1,027				13,204	13,585	1,027
2/10/2016	FALSE	FALSE	FALSE	3.2	8.7	5.9	54%	37%	68%		1.47	7.2	6.1	226	141	0.62		11,158	6,962			12,795	12,260	1,027	11,158	6,962		12,795	12,260	1,027
2/11/2016	FALSE	FALSE	FALSE	3.2	8.8	5.9	55%	36%	67%		1.50	7.2	6.0									12,795	12,260	1,027				12,795	12,260	1,027
2/12/2016	FALSE	FALSE	FALSE	3.2	9.0	5.9	54%	36%	66%		1.52	7.2	6.0									12,795	12,260	1,027				12,795	12,260	1,027
2/13/2016	FALSE	FALSE	FALSE	3.2	9.3	5.7	56%	34%	61%		1.64	7.1	5.9									12,747	12,064	1,027				12,747	12,064	1,027
2/14/2016	FALSE	FALSE	FALSE	3.1	9.0	5.6	56%	35%	62%		1.61	7.1	5.9									12,747	12,064	1,108				12,747	12,064	1,108
2/15/2016	FALSE	FALSE	FALSE	3.1	8.9	5.8	54%	35%	65%		1.53	7.1	5.8									12,747	12,064	1,108				12,747	12,064	1,108
2/16/2016	FALSE	FALSE	FALSE	3.2	8.6	5.8	55%	37%	67%		1.49	7.0	5.8									12,747	12,064	1,108				12,747	12,064	1,108
2/17/2016	FALSE	FALSE	TRUE	3.1	9.5	5.9	53%	33%	62%		1.61	6.9	5.8	274	327	1.19		13,460	16,063			12,889	12,864	1,108	13,460	16,063		12,889	12,864	1,108
2/18/2016	FALSE	FALSE	TRUE	3.3	9.4	6.1	53%	35%	65%		1.53	6.8	5.8									12,889	12,864	1,108				12,889	12,864	1,108

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd	
3/1/2016	FALSE	FALSE	FALSE	3.1	8.3	5.7	55%	38%	68%		1.47	6.0	5.8									12,501	12,124				12,501	12,124			
3/2/2016	FALSE	FALSE	FALSE	3.1	8.6	5.8	54%	37%	67%		1.48	6.0	5.8	319	239	0.75		15,324	11,481			13,066	11,995		15,324	11,481		13,066	11,995		
3/3/2016	FALSE	FALSE	TRUE	3.2	8.4	5.8	55%	37%	68%		1.46	5.9	5.7				29			1,396		13,066	11,995	1,396			1,396		13,996	11,995	1,396
3/4/2016	FALSE	FALSE	TRUE	3.2	8.4	5.8	54%	38%	69%		1.44	5.9	5.7									13,066	11,995	1,396			1,396		13,996	11,995	1,396
3/5/2016	FALSE	FALSE	TRUE	3.3	10.7	6.6	49%	31%	62%		1.62	5.9	5.8									13,066	11,995	1,396			1,396		13,996	11,995	1,396
3/6/2016	FALSE	FALSE	TRUE	5.3	11.8	9.2	57%	44%	77%		1.29	6.0	6.3									12,899	11,021	1,396			1,396		12,899	11,021	1,396
3/7/2016	FALSE	FALSE	TRUE	8.8	16.7	12.8	69%	53%	77%		1.31	6.2	7.2									12,899	11,021	1,396			1,396		12,899	11,021	1,396
3/8/2016	FALSE	FALSE	FALSE	6.2	13.3	9.8	63%	47%	74%		1.35	6.3	7.7									12,899	11,021	1,396			1,396		12,899	11,021	1,396
3/9/2016	FALSE	FALSE	TRUE	4.8	11.5	8.6	57%	42%	74%		1.35	6.4	8.0									12,899	11,021	1,396			1,396		12,899	11,021	1,396
3/10/2016	FALSE	FALSE	TRUE	4.4	15.1	10.2	43%	29%	68%		1.48	6.6	8.6				26			2,239	NH3	12,899	11,021	1,396			2,239		12,899	11,021	1,396
3/11/2016	FALSE	TRUE	TRUE	9.0	16.2	12.9	70%	56%	80%		1.25	6.8	9.5									12,899	11,021	1,396			1,396		12,899	11,021	1,396
3/12/2016	FALSE	TRUE	TRUE	6.9	13.9	11.1	62%	50%	80%		1.25	6.9	10.1									13,479	12,374	1,396			1,396		13,479	12,374	1,396
3/13/2016	FALSE	TRUE	TRUE	7.6	13.4	10.7	71%	57%	80%		1.25	7.1	10.7									13,479	12,374	1,396			1,396		13,479	12,374	1,396
3/14/2016	FALSE	TRUE	FALSE	6.4	12.2	9.7	66%	53%	80%		1.25	7.2	10.7									13,479	12,374	1,396			1,396		13,479	12,374	1,396
3/15/2016	FALSE	TRUE	FALSE	5.5	10.8	8.6	63%	51%	80%		1.25	7.3	10.2									13,479	12,374	1,396			1,396		13,479	12,374	1,396
3/16/2016	FALSE	TRUE	FALSE	4.8	10.3	7.9	61%	47%	77%		1.31	7.4	10.0	175	159	0.91		11,559	10,502			12,999	11,906	1,396	11,559	10,502		12,999	11,906	1,396	
3/17/2016	FALSE	TRUE	FALSE	4.4	10.3	7.5	59%	43%	73%		1.37	7.4	9.8				16			1,027		12,999	11,906	1,211			1,027		12,999	11,906	1,211
3/18/2016	TRUE	TRUE	FALSE	4.0	9.8	7.1	56%	41%	73%		1.38	7.5	9.5									12,999	11,906	1,211			1,211		12,999	11,906	1,211
3/19/2016	TRUE	TRUE	FALSE	3.7	9.5	6.7	55%	39%	70%		1.43	7.5	8.7									12,845	10,521	1,211			1,211		12,845	10,521	1,211
3/20/2016	TRUE	TRUE	TRUE		10.2	6.8	0%	0%	67%		1.50	7.5	8.1									12,845	10,521	1,211			1,211		12,845	10,521	1,211
3/21/2016	TRUE	TRUE	TRUE	3.6	10.4	7.2	50%	35%	69%		1.44	7.6	7.7									12,845	10,521	1,211			1,211		12,845	10,521	1,211
3/22/2016	TRUE	FALSE	FALSE	3.7	10.3	7.2	52%	36%	70%		1.43	7.6	7.4									12,845	10,521	1,211			1,211		12,845	10,521	1,211
3/23/2016	TRUE	FALSE	FALSE	3.5	10.3	7.0	51%	35%	68%		1.47	7.7	7.2				27			1,593		12,845	10,521	1,338			1,593		12,845	10,521	1,338
3/24/2016	TRUE	FALSE	FALSE	3.5	9.9	6.8	51%	35%	69%		1.46	7.7	7.0	224	196	0.88		12,722	11,132			12,814	10,673	1,338	12,722	11,132		12,814	10,673	1,338	
3/25/2016	TRUE	FALSE	FALSE	3.5	9.9	6.7	52%	35%	68%		1.48	7.7	6.9									12,814	10,673	1,338			1,338		12,814	10,673	1,338
3/26/2016	FALSE	FALSE	FALSE	3.4	9.9	6.4	53%	34%	64%		1.55	7.7	6.8									13,202	11,038	1,338			1,338		13,202	11,038	1,338
3/27/2016	FALSE	FALSE	FALSE	3.4	9.6	6.1	55%	35%	63%		1.58	7.7	6.8									13,202	11,038	1,338			1,338		13,202	11,038	1,338
3/28/2016	FALSE	FALSE	FALSE	3.3	9.8	6.4	51%	33%	65%		1.55	7.7	6.7									13,202	11,038	1,338			1,338		13,202	11,038	1,338
3/29/2016	FALSE	FALSE	FALSE	3.4	9.4	6.3	53%	36%	67%		1.49	7.8	6.6									13,202	11,038	1,338			1,338		13,202	11,038	1,338
3/30/2016	FALSE	FALSE	FALSE	3.3	9.2	6.2	53%	35%	67%		1.49	7.8	6.5	256	316	1.23		13,237	16,340			13,211	12,364	1,338	13,237	16,340		13,211	12,364	1,338	
3/31/2016	FALSE	FALSE	FALSE	3.4	9.2	6.1	55%	36%	67%		1.50	7.8	6.4				30			1,531		13,211	12,364	1,387			1,531		13,211	12,364	1,387
4/1/2016	FALSE	FALSE	FALSE	3.3	9.1	6.1	54%	36%	67%		1.50	7.8	6.3									13,211	12,364	1,387			1,387		13,211	12,364	1,387
4/2/2016	FALSE	FALSE	FALSE	3.2	8.9	5.8	55%	36%	65%		1.53	7.8	6.2									12,506	12,658	1,387			1,387		12,506	12,658	1,387
4/3/2016	FALSE	FALSE	FALSE	3.3	9.2	5.9	56%	35%	64%		1.57	7.8	6.1									12,506	12,658	1,384			1,384		12,506	12,658	1,384
4/4/2016	FALSE	FALSE	FALSE	3.2	8.9	6.0	53%	36%	68%		1.47	7.8	6.1									12,506	12,658	1,384			1,384		12,506	12,658	1,384
4/5/2016	FALSE	FALSE	FALSE	3.2	8.8	6.0	53%	36%	68%		1.46	7.8	6.1									12,506	12,658	1,384			1,384		12,506	12,658	1,384
4/6/2016	FALSE	FALSE	FALSE	3.4	8.8	6.0	57%	39%	68%		1.46	7.7	6.0	248	179	0.72		12,389	8,942			12,477	11,729	1,384	12,389	8,942		12,477	11,729	1,384	
4/7/2016	FALSE	FALSE	FALSE	3.4	8.9	6.0	57%	38%	68%		1.47	7.5	6.0				28			1,418		12,477	11,729	1,392			1,418		12,477	11,729	1,392
4/8/2016	FALSE	FALSE	FALSE	3.4	8.8	6.0	57%	39%	68%		1.47	7.4	6.0									12,477	11,729	1,392			1,392		12,477	11,729	1,392
4/9/2016	FALSE	FALSE	TRUE	3.4	9.1	6.0	56%	37%	66%		1.52	7.3	6.0									12,477	11,729	1,392			1,392		12,477	11,729	1,392
4/10/2016	FALSE	FALSE	TRUE	3.4	9.3	6.0	56%	36%	65%		1.55	7.1	6.0									12,477	11,729	1,392			1,392		12,477	11,729	1,392
4/11/2016	FALSE	FALSE	FALSE	3.4	8.4	5.9	57%	40%	71%		1.41	6.9	6.0									12,477	11,729	1,392			1,392		12,477	11,729	1,392
4/12/2016	FALSE	FALSE	FALSE	3.4	8.6	5.9	58%	40%	69%		1.44	6.7	6.0									12,477	11,729	1,392			1,392		12,477	11,729	1,392
4/13/2016	FALSE	FALSE	FALSE	3.4	8.4	5.9	57%	40%	71%		1.41	6.6	6.0	277	217	0.78		13,722	10,750			12,726	11,533	1,392	13,722	10,750		12,726	11,533	1,392	
4/14/2016	FALSE	FALSE	FALSE	3.4	8.7	6.0	57%	39%	69%		1.45	6.5	6.0				32			1,591		12,726	11,533	1,432			1,591		12,726	11,533	1,432
4/15/2016	FALSE	FALSE	FALSE	3.3	8.5	5.9	56%	39%	70%		1.44	6.4	6.0									12,726	11,533	1,432			1,432		12,726	11,533	1,432
4/16/2016	FALSE	FALSE	FALSE	3.3	8.8	5.7	59%	38%	65%		1.54	6.3	5.9									13,018	11,791	1,432			1,432		13,018	11,791	1,432
4/17/2016	FALSE	FALSE	FALSE	3.4	8.6	5.7	60%	39%	66%		1.52	6.3	5.9									13,018	11,791	1,533			1,533		13,018	11,791	1,533
4/18/2016	FALSE	FALSE	FALSE	3.4	8.5	5.9	58%	40%	69%		1.45	6.2	5.9									13,018	11,791	1,533			1,533		13,018	11,791	1,533
4/19/2016	FALSE	FALSE	FALSE	3.4	8.4	5.9	58%	41%	70%		1.42	6.2	5.9									13,018	11,791	1,533			1,533		13,018	11,791	1,533
4/20/2016	FALSE	FALSE	FALSE	3.4	8.6	5.9	58%	40%	69%		1.46	6.2	5.9	316				15,470				13,508	11,791	1,533	15,470			13,508	11,791	1,533	
4/21/20																															

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
5/4/2016	FALSE	FALSE	FALSE	3.4	8.4	5.9	58%	41%	70%		1.43	5.9	5.9	252	195	0.77		12,400	9,595			13,426	9,702	1,589	12,400	9,595		13,426	9,702	1,589
5/5/2016	FALSE	FALSE	TRUE	3.4	8.7	6.2	55%	39%	71%		1.40	5.9	5.9				32		1,667				13,426	9,702	1,609		1,667	13,426	9,702	1,609
5/6/2016	FALSE	FALSE	TRUE	3.4	8.3	5.9	58%	42%	72%		1.40	5.9	5.9									13,426	9,702	1,609			13,426	9,702	1,609	
5/7/2016	FALSE	FALSE	TRUE	3.4	9.4	5.9	58%	37%	63%		1.60	5.9	5.9									13,685	9,955	1,609			13,685	9,955	1,609	
5/8/2016	FALSE	FALSE	TRUE	3.4	8.9	5.7	59%	38%	64%		1.56	5.9	5.9									13,685	9,955	1,672			13,685	9,955	1,672	
5/9/2016	FALSE	FALSE	FALSE	3.4	8.4	6.0	57%	41%	71%		1.40	5.9	5.9									13,685	9,955	1,672			13,685	9,955	1,672	
5/10/2016	FALSE	FALSE	FALSE	3.4	8.4	5.9	58%	41%	71%		1.42	5.9	5.9									13,685	9,955	1,672			13,685	9,955	1,672	
5/11/2016	FALSE	FALSE	FALSE	3.5	8.3	5.8	60%	42%	70%		1.42	5.9	5.9	202	203	1.00		9,831	9,870			12,914	9,934	1,672	9,831	9,870	12,914	9,934	1,672	
5/12/2016	FALSE	FALSE	FALSE	3.4	8.4	5.8	59%	41%	69%		1.44	5.9	5.9									12,914	9,934	1,672			12,914	9,934	1,672	
5/13/2016	FALSE	FALSE	FALSE	3.4	8.8	5.8	59%	39%	66%		1.51	5.9	5.9									12,914	9,934	1,672			12,914	9,934	1,672	
5/14/2016	FALSE	FALSE	FALSE	3.3	8.6	5.7	59%	39%	66%		1.51	5.9	5.8									12,712	9,662	1,672			12,712	9,662	1,672	
5/15/2016	FALSE	FALSE	FALSE	3.3	8.8	5.7	59%	38%	64%		1.56	5.9	5.8									12,712	9,662	1,713			12,712	9,662	1,713	
5/16/2016	FALSE	FALSE	FALSE	3.3	8.3	5.8	57%	40%	70%		1.43	5.9	5.8									12,712	9,662	1,713			12,712	9,662	1,713	
5/17/2016	FALSE	FALSE	FALSE	3.4	8.6	5.8	59%	39%	67%		1.48	5.9	5.8									12,712	9,662	1,713			12,712	9,662	1,713	
5/18/2016	FALSE	FALSE	FALSE	3.4	8.5	5.8	58%	40%	69%		1.46	5.9	5.8	299				14,563				13,082	9,662	1,713	14,563		13,082	9,662	1,713	
5/19/2016	FALSE	FALSE	FALSE	3.4	8.4	5.8	58%	40%	69%		1.45	5.9	5.8									13,082	9,662	1,713			13,082	9,662	1,713	
5/20/2016	FALSE	FALSE	TRUE	3.4	8.2	5.8	58%	41%	71%		1.41	5.9	5.8									13,082	9,662	1,713			13,082	9,662	1,713	
5/21/2016	FALSE	FALSE	FALSE	3.4	8.9	5.8	59%	38%	65%		1.53	5.9	5.8									12,485	9,662	1,713			12,485	9,662	1,713	
5/22/2016	FALSE	TRUE	FALSE	3.4	8.4	5.7	60%	41%	67%		1.49	5.9	5.8									12,485	9,662	1,667			12,485	9,662	1,667	
5/23/2016	FALSE	TRUE	FALSE	3.4	8.0	5.6	61%	43%	70%		1.43	5.9	5.8									12,485	9,662	1,667			12,485	9,662	1,667	
5/24/2016	FALSE	TRUE	FALSE	3.4	7.7	5.5	63%	45%	71%		1.40	5.8	5.7									12,485	9,662	1,667			12,485	9,662	1,667	
5/25/2016	FALSE	TRUE	FALSE	3.4	7.7	5.5	62%	44%	71%		1.40	5.8	5.7									12,485	9,662	1,667			12,485	9,662	1,667	
5/26/2016	FALSE	TRUE	FALSE	3.5	7.6	5.5	63%	45%	72%		1.39	5.8	5.7									12,485	9,662	1,667			12,485	9,662	1,667	
5/27/2016	TRUE	TRUE	FALSE	3.5	7.8	5.4	64%	45%	70%		1.42	5.8	5.6	315	237	0.75		14,291	10,753			12,847	9,935	1,667	14,291	10,753	12,847	9,935	1,667	
5/28/2016	TRUE	TRUE	FALSE	3.4	7.9	5.2	66%	43%	65%		1.53	5.8	5.5									12,771	10,073	1,667			12,771	10,073	1,667	
5/29/2016	TRUE	TRUE	FALSE	3.5	7.5	5.0	69%	46%	67%		1.49	5.7	5.4									12,771	10,073	1,667			12,771	10,073	1,667	
5/30/2016	TRUE	TRUE	FALSE	3.4	8.0	5.2	66%	43%	65%		1.54	5.7	5.4									12,771	10,073	1,667			12,771	10,073	1,667	
5/31/2016	TRUE	TRUE	FALSE	3.5	7.5	5.3	65%	46%	71%		1.41	5.7	5.3									12,771	10,073	1,667			12,771	10,073	1,667	
6/1/2016	TRUE	TRUE	FALSE	3.5	7.4	5.4	66%	48%	73%		1.38	5.7	5.3	357	186	0.52		15,952	8,315			13,408	9,633	1,667	15,952	8,315	13,408	9,633	1,667	
6/2/2016	TRUE	TRUE	FALSE	3.5	7.6	5.4	64%	46%	71%		1.40	5.7	5.3				30		1,351				13,408	9,633	1,509		1,351	13,408	9,633	1,509
6/3/2016	TRUE	TRUE	FALSE	3.5	7.3	5.4	65%	48%	74%		1.36	5.7	5.3									13,408	9,633	1,509			13,408	9,633	1,509	
6/4/2016	TRUE	TRUE	FALSE	3.5	8.0	5.3	66%	44%	66%		1.51	5.6	5.3									13,659	9,646	1,509			13,659	9,646	1,509	
6/5/2016	TRUE	TRUE	FALSE	3.5	7.7	5.2	67%	45%	68%		1.48	5.6	5.3									13,659	9,646	1,351			13,659	9,646	1,351	
6/6/2016	TRUE	TRUE	FALSE	3.4	7.2	5.3	65%	48%	73%		1.36	5.6	5.3									13,659	9,646	1,351			13,659	9,646	1,351	
6/7/2016	TRUE	TRUE	FALSE	3.5	7.5	5.3	66%	47%	71%		1.40	5.6	5.3									13,659	9,646	1,351			13,659	9,646	1,351	
6/8/2016	TRUE	TRUE	FALSE	3.5	7.6	5.4	65%	46%	71%		1.42	5.6	5.3	135	97	0.72		6,044	4,352			12,136	8,322	1,351	6,044	4,352	12,136	8,322	1,351	
6/9/2016	TRUE	TRUE	FALSE	3.5	7.3	5.3	65%	48%	73%		1.37	5.5	5.3									12,136	8,322	1,351			12,136	8,322	1,351	
6/10/2016	TRUE	TRUE	FALSE	3.4	7.6	5.3	64%	45%	70%		1.44	5.5	5.3	289	229	0.79		12,750	10,103			12,239	8,679	1,351	12,750	10,103	12,239	8,679	1,351	
6/11/2016	TRUE	TRUE	FALSE	3.4	7.7	5.1	67%	44%	66%		1.52	5.5	5.3									12,720	8,381	1,351			12,720	8,381	1,351	
6/12/2016	TRUE	TRUE	FALSE	3.4	7.7	5.1	67%	44%	66%		1.52	5.5	5.3									12,720	8,381	1,351			12,720	8,381	1,351	
6/13/2016	TRUE	TRUE	FALSE	3.4	7.4	5.3	64%	46%	72%		1.39	5.5	5.3									12,720	8,381	1,351			12,720	8,381	1,351	
6/14/2016	TRUE	TRUE	FALSE	3.4	7.1	5.3	65%	48%	74%		1.34	5.4	5.3									12,720	8,381	1,351			12,720	8,381	1,351	
6/15/2016	TRUE	TRUE	FALSE	3.4	7.4	5.4	63%	46%	73%		1.37	5.4	5.3	280	246	0.88		12,675	11,120			12,713	8,929	1,351	12,675	11,120	12,713	8,929	1,351	
6/16/2016	TRUE	TRUE	FALSE	3.5	7.4	5.4	64%	47%	73%		1.37	5.4	5.3									12,713	8,929	1,351			12,713	8,929	1,351	
6/17/2016	TRUE	TRUE	TRUE	3.4	7.6	5.4	63%	45%	71%		1.41	5.4	5.3	278	247	0.89		12,483	11,083			12,680	9,288	1,351	12,483	11,083	12,680	9,288	1,351	
6/18/2016	TRUE	TRUE	TRUE	3.5	8.0	5.3	67%	44%	66%		1.51	5.4	5.3									12,366	9,288	1,351			12,366	9,288	1,351	
6/19/2016	TRUE	TRUE	FALSE	3.4	7.5	5.1	67%	45%	67%		1.49	5.4	5.3									12,366	9,288	1,351			12,366	9,288	1,351	
6/20/2016	TRUE	TRUE	FALSE	3.4	7.2	5.2	65%	47%	72%		1.40	5.3	5.3				30		1,294				12,366	9,288	1,322		1,294	12,366	9,288	1,322
6/21/2016	TRUE	TRUE	FALSE	3.4	7.2	5.3	65%	48%	74%		1.35	5.3	5.3									12,366	9,288	1,322			12,366	9,288	1,322	
6/22/2016	TRUE	TRUE	FALSE	3.4	7.3	5.3	65%	47%	73%		1.38	5.3	5.3	270	201	0.74		11,907	8,851			12,300	9,225	1,322	11,907	8,851	12,300	9,225	1,322	
6/23/2016	TRUE	TRUE	FALSE	3.4	7.4	5.2	64%	46%	71%		1.40	5.3	5.3									12,300	9,225	1,322			12,300	9,225	1,322	
6/24/2016	TRUE	TRUE	FALSE	3.4	7.2	5.3	66%	48%	73%		1.38	5.3	5.2	349	310	0.89		15,263	13,573			12,671	9,769	1,322	15,263	13,573	12,671	9,769	1,322	
6/25/2016	TRUE	TRUE	FALSE	3.5	7.3	5.0	69%	47%	69%		1.45	5.3	5.2									12,671	9,769	1,322			12,671	9,769	1,322	
6/26/2016	TRUE	TRUE	FALSE	3.4	7.4	5.0	68%	47%	68%		1.46	5.3	5.2									12,671	9,76							

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
7/7/2016	TRUE	TRUE	FALSE	3.5	7.2	5.7	62%	48%	78%		1.28	5.2	5.1									11,879	9,412	1,294				11,879	9,412	1,294
7/8/2016	TRUE	TRUE	FALSE	3.4	7.7	5.3	64%	45%	70%		1.43	5.2	5.2									11,879	9,412	1,294				11,879	9,412	1,294
7/9/2016	TRUE	TRUE	FALSE	3.4	7.7	5.2	66%	45%	67%		1.49	5.2	5.2									12,608	10,044	1,294				12,608	10,044	1,294
7/10/2016	TRUE	TRUE	FALSE	3.4	7.6	5.1	66%	44%	67%		1.50	5.2	5.2									12,608	10,044	1,294				12,608	10,044	1,294
7/11/2016	TRUE	TRUE	FALSE	3.3	7.2	5.2	64%	46%	72%		1.39	5.2	5.2									12,588	10,036	1,294				12,588	10,036	1,294
7/12/2016	TRUE	TRUE	FALSE	3.4	7.5	5.3	64%	45%	70%		1.42	5.2	5.2									12,588	10,036	1,294				12,588	10,036	1,294
7/13/2016	TRUE	TRUE	FALSE	3.4	7.2	5.3	64%	48%	74%		1.35	5.2	5.2									12,588	10,036	1,294				12,588	10,036	1,294
7/14/2016	TRUE	TRUE	FALSE	3.5	7.3	5.3	65%	47%	73%		1.38	5.2	5.3									12,588	10,036	1,294				12,588	10,036	1,294
7/15/2016	TRUE	TRUE	FALSE	3.4	7.2	5.3	65%	47%	73%		1.38	5.2	5.2	276	205	0.74		12,067	8,976			12,523	9,904	1,294	12,067	8,976		12,523	9,904	1,294
7/16/2016	TRUE	TRUE	FALSE	3.4	7.3	5.1	67%	46%	70%		1.44	5.2	5.2									12,501	9,730	1,294				12,501	9,730	1,294
7/17/2016	TRUE	TRUE	FALSE	3.4	7.3	5.1	66%	46%	70%		1.43	5.2	5.2									12,501	9,730	1,294				12,501	9,730	1,294
7/18/2016	TRUE	TRUE	FALSE	3.4	7.5	5.3	64%	45%	70%		1.42	5.2	5.2									12,504	9,504	1,294				12,504	9,504	1,294
7/19/2016	TRUE	TRUE	FALSE	3.4	7.4	5.4	64%	46%	72%		1.39	5.2	5.2									12,504	9,504	1,294				12,504	9,504	1,294
7/20/2016	TRUE	TRUE	FALSE	3.4	7.2	5.3	64%	47%	74%		1.35	5.2	5.2	271				11,979				12,429	9,504	1,294	11,979			12,429	9,504	1,294
7/21/2016	TRUE	TRUE	FALSE	3.5	7.6	5.3	65%	46%	70%		1.43	5.2	5.2									12,429	9,504					12,429	9,504	
7/22/2016	TRUE	TRUE	FALSE	3.5	6.9	5.2	67%	51%	76%		1.31	5.2	5.2	251	183	0.73		10,923	7,967			12,241	9,285		10,923	7,967		12,241	9,285	
7/23/2016	TRUE	TRUE	FALSE	3.4	7.6	5.0	69%	45%	66%		1.51	5.2	5.2									12,289	9,357					12,289	9,357	
7/24/2016	TRUE	TRUE	FALSE	3.4	7.3	5.0	69%	47%	68%		1.47	5.2	5.2									12,289	9,357					12,289	9,357	
7/25/2016	TRUE	TRUE	FALSE	3.4	7.6	5.2	65%	45%	69%		1.44	5.2	5.2									11,793	8,514					11,793	8,514	
7/26/2016	TRUE	TRUE	FALSE	3.5	7.1	5.2	66%	49%	73%		1.37	5.2	5.2									11,793	8,514					11,793	8,514	
7/27/2016	TRUE	TRUE	FALSE	3.5	7.2	5.3	65%	48%	74%		1.35	5.2	5.2	258	202	0.78		11,434	8,946			11,742	8,586		11,434	8,946		11,742	8,586	
7/28/2016	TRUE	TRUE	FALSE	3.5	7.5	5.3	66%	47%	71%		1.42	5.2	5.2									11,742	8,586					11,742	8,586	
7/29/2016	TRUE	TRUE	FALSE	3.5	7.5	5.3	66%	46%	70%		1.43	5.2	5.2	250	177	0.71		10,946	7,750			11,642	8,466		10,946	7,750		11,642	8,466	
7/30/2016	TRUE	TRUE	FALSE	3.5	7.3	5.1	69%	48%	70%		1.43	5.2	5.2									11,642	8,466					11,642	8,466	
7/31/2016	TRUE	TRUE	FALSE	3.4	7.4	5.1	68%	47%	69%		1.45	5.2	5.2									11,533	8,540					11,533	8,540	
8/1/2016	TRUE	TRUE	FALSE	3.5	7.5	5.3	66%	46%	70%		1.42	5.2	5.2									11,554	8,370					11,554	8,370	
8/2/2016	TRUE	TRUE	FALSE	3.5	7.1	5.3	66%	49%	74%		1.36	5.2	5.2									11,554	8,370					11,554	8,370	
8/3/2016	TRUE	TRUE	FALSE	3.5	7.4	5.3	65%	47%	72%		1.38	5.2	5.2									11,554	8,370					11,554	8,370	
8/4/2016	TRUE	TRUE	FALSE	3.6	7.2	5.3	67%	49%	74%		1.36	5.2	5.2	288	173	0.60		12,778	7,676			11,729	8,255		12,778	7,676		11,729	8,255	
8/5/2016	TRUE	TRUE	FALSE	3.4	7.5	5.3	65%	45%	70%		1.43	5.2	5.2	264	170	0.64		11,634	7,486			11,717	8,145		11,634	7,486		11,717	8,145	
8/6/2016	TRUE	TRUE	FALSE	3.5	7.5	5.2	67%	46%	69%		1.45	5.2	5.2									11,680	8,133					11,680	8,133	
8/7/2016	TRUE	TRUE	FALSE	3.4	7.7	5.2	65%	44%	68%		1.48	5.2	5.2									11,680	8,133					11,680	8,133	
8/8/2016	TRUE	TRUE	FALSE	3.5	7.6	5.4	65%	46%	71%		1.41	5.2	5.3									11,680	8,133					11,680	8,133	
8/9/2016	TRUE	TRUE	FALSE	3.5	7.5	5.4	65%	47%	72%		1.38	5.2	5.3									11,680	8,133					11,680	8,133	
8/10/2016	TRUE	TRUE	FALSE	3.5	7.6	5.5	63%	46%	73%		1.38	5.2	5.3	246	123	0.50		11,273	5,632			11,629	7,776		11,273	5,632		11,629	7,776	
8/11/2016	TRUE	TRUE	FALSE	3.5	7.6	5.4	64%	46%	71%		1.40	5.2	5.3									11,629	7,776					11,629	7,776	
8/12/2016	TRUE	TRUE	FALSE	3.3	7.9	5.4	61%	42%	68%		1.46	5.3	5.3									11,629	7,776					11,629	7,776	
8/13/2016	TRUE	TRUE	FALSE	3.5	8.2	5.3	66%	43%	65%		1.54	5.3	5.3									11,629	7,776					11,629	7,776	
8/14/2016	TRUE	TRUE	FALSE	3.4	7.9	5.3	65%	43%	67%		1.50	5.3	5.4									11,629	7,776					11,629	7,776	
8/15/2016	TRUE	TRUE	FALSE	3.4	13.2	5.6	62%	26%	43%	AvgMax	2.35	5.3	5.4									11,567	7,576					11,567	7,576	
8/16/2016	TRUE	TRUE	FALSE	3.4	7.9	5.7	60%	43%	72%		1.39	5.3	5.4									11,567	7,576					11,567	7,576	
8/17/2016	TRUE	TRUE	FALSE	3.5	8.1	5.7	61%	43%	70%		1.42	5.3	5.5	285	190	0.67		13,501	9,001			11,809	7,780		13,501	9,001		11,809	7,780	
8/18/2016	TRUE	TRUE	FALSE	3.5	8.5	5.7	60%	41%	68%		1.48	5.3	5.5				29			1,383		11,809	7,780	1,383			1,383	11,809	7,780	1,383
8/19/2016	TRUE	TRUE	FALSE	3.4	8.0	5.8	60%	43%	72%		1.39	5.3	5.5	255	167	0.65		12,250	8,022			11,858	7,810	1,383	12,250	8,022	1,383	11,858	7,810	1,383
8/20/2016	TRUE	TRUE	FALSE	3.5	8.9	5.7	60%	39%	65%		1.55	5.3	5.6									11,842	7,810	1,383				11,842	7,810	1,383
8/21/2016	TRUE	TRUE	FALSE	3.5	9.1	5.9	59%	38%	64%		1.56	5.4	5.7									11,842	7,810	1,383				11,842	7,810	1,383
8/22/2016	TRUE	TRUE	FALSE	3.5	8.8	5.8	59%	39%	66%		1.51	5.4	5.7									11,974	7,787	1,383				11,974	7,787	1,383
8/23/2016	FALSE	FALSE	FALSE	3.5	8.6	5.8	59%	40%	67%		1.48	5.4	5.8									11,974	7,787	1,383				11,974	7,787	1,383
8/24/2016	FALSE	FALSE	FALSE	3.4	8.7	5.9	58%	40%	68%		1.48	5.4	5.8	265				12,973				12,099	7,787	1,383	12,973			12,099	7,787	1,383
8/25/2016	FALSE	FALSE	FALSE	3.5	8.7	5.8	60%	40%	67%		1.50	5.4	5.8									12,099	7,787	1,383				12,099	7,787	1,383
8/26/2016	FALSE	FALSE	FALSE	3.5	8.4	5.9	60%	42%	70%		1.43	5.5	5.8	232	211	0.91		11,358	10,330			12,016	8,105	1,383	11,358	10,330		12,016	8,105	1,383
8/27/2016	FALSE	FALSE	FALSE	3.5	9.0	5.7	61%	39%	63%		1.58	5.5	5.8									12,089	7,985	1,383				12,089	7,985	1,383
8/28/2016	FALSE	FALSE	FALSE	3.4	9.0	5.8	58%	38%	65%		1.54	5.5	5.8									12,089	7,985	1,383				12,089	7,985	1,383
8/29/2016	FALSE	FALSE	FALSE	3.5	8.8	5.9	59%	40%	68%		1.48	5.5	5.8									12,252	8,024	1,383				12,252	8,024	1,383
8/30/2016	FALSE	FALSE	FALSE	3.4	8.6	5.9	57%	40%	69%																					

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
9/9/2016	FALSE	FALSE	FALSE	3.4	8.5	6.0	57%	40%	70%		1.42	5.8	5.8	273	174	0.64		13,628	8,692			12,544	8,518	1,383	13,628	8,692		12,544	8,518	1,383
9/10/2016	FALSE	FALSE	FALSE	3.6	8.9	5.9	60%	40%	66%		1.52	5.8	5.8									12,726	9,095	1,383				12,726	9,095	1,383
9/11/2016	FALSE	FALSE	FALSE	3.5	9.0	5.9	59%	38%	65%		1.54	5.8	5.9									12,726	9,095	1,383				12,726	9,095	1,383
9/12/2016	FALSE	FALSE	FALSE	3.5	8.5	6.0	58%	41%	71%		1.41	5.8	5.9									12,726	9,095	1,383				12,726	9,095	1,383
9/13/2016	FALSE	FALSE	FALSE	3.5	8.8	6.0	59%	40%	68%		1.47	5.8	6.0									12,726	9,095	1,383				12,726	9,095	1,383
9/14/2016	FALSE	FALSE	FALSE	3.5	9.0	5.9	59%	39%	66%		1.51	5.8	6.0	167				8,273				12,169	9,095	1,383	8,273			12,169	9,095	1,383
9/15/2016	FALSE	FALSE	FALSE	3.5	8.8	5.9	59%	40%	68%		1.48	5.8	5.9									12,169	9,095	1,383				12,169	9,095	1,383
9/16/2016	FALSE	FALSE	FALSE	3.5	17.5	5.9	59%	20%	34%	AvgMax	2.96	5.9	5.9	245	176	0.72		12,056	8,675			12,157	9,025	1,383	12,056	8,675		12,157	9,025	1,383
9/17/2016	FALSE	FALSE	FALSE	3.6	8.0	5.7	63%	45%	72%		1.40	5.9	5.9									11,989	9,030	1,383				11,989	9,030	1,383
9/18/2016	FALSE	FALSE	FALSE	3.5	8.0	5.8	61%	44%	72%		1.39	5.9	5.9									11,989	9,030					11,989	9,030	
9/19/2016	FALSE	FALSE	FALSE	3.5	8.7	5.9	60%	41%	68%		1.47	5.9	5.9									11,951	9,282					11,951	9,282	
9/20/2016	FALSE	FALSE	FALSE	3.5	8.7	5.9	60%	40%	67%		1.48	5.9	5.9									11,951	9,282					11,951	9,282	
9/21/2016	FALSE	FALSE	FALSE	3.5	8.7	5.9	59%	40%	68%		1.47	5.9	5.9	251	169	0.67		12,326	8,316			11,998	9,089		12,326	8,316		11,998	9,089	
9/22/2016	FALSE	FALSE	FALSE	3.6	8.6	5.9	60%	42%	69%		1.44	5.9	5.9									11,998	9,089	1,444			1,444	11,998	9,089	1,444
9/23/2016	FALSE	FALSE	FALSE	3.5	8.3	5.9	59%	42%	71%		1.40	5.9	5.9	273	228	0.84		13,418	11,219		1,444	12,156	9,444	1,444	13,418	11,219		12,156	9,444	1,444
9/24/2016	FALSE	FALSE	FALSE	3.6	8.4	5.8	62%	43%	69%		1.44	5.9	5.8									12,054	9,444	1,444				12,054	9,444	1,444
9/25/2016	FALSE	FALSE	FALSE	3.5	8.1	5.7	61%	43%	70%		1.42	5.9	5.8									12,054	9,444	1,444				12,054	9,444	1,444
9/26/2016	FALSE	FALSE	FALSE	3.6	7.8	5.9	61%	46%	75%		1.33	5.9	5.9									12,153	9,266	1,444				12,153	9,266	1,444
9/27/2016	FALSE	FALSE	FALSE	3.5	8.1	6.0	59%	44%	74%		1.35	5.9	5.9									12,153	9,266	1,444				12,153	9,266	1,444
9/28/2016	FALSE	FALSE	FALSE	3.5	8.2	6.0	59%	43%	73%		1.37	5.9	5.9									12,153	9,266	1,444				12,153	9,266	1,444
9/29/2016	FALSE	FALSE	FALSE	3.6	8.2	6.0	60%	44%	73%		1.36	5.9	5.9									12,153	9,266	1,444				12,153	9,266	1,444
9/30/2016	FALSE	FALSE	FALSE	3.6	8.4	6.1	59%	43%	73%		1.37	5.9	5.9	239	191	0.80		12,114	9,701			12,148	9,339	1,444	12,114	9,701		12,148	9,339	1,444
10/1/2016	FALSE	FALSE	FALSE	3.5	8.4	5.8	61%	42%	69%		1.45	5.9	5.9									12,148	9,339	1,444				12,148	9,339	1,444
10/2/2016	FALSE	FALSE	TRUE	3.4	9.1	6.2	56%	38%	67%		1.48	5.9	5.9									12,148	9,339	1,444				12,148	9,339	1,444
10/3/2016	FALSE	FALSE	TRUE	3.6	8.7	6.4	56%	41%	73%		1.37	5.9	6.0									12,064	9,321	1,444				12,064	9,321	1,444
10/4/2016	FALSE	FALSE	FALSE	3.6	8.6	6.2	59%	42%	71%		1.40	5.9	6.1									12,064	9,321	1,444				12,064	9,321	1,444
10/5/2016	FALSE	FALSE	FALSE	3.5	8.1	6.0	59%	44%	74%		1.36	5.9	6.1	329	219	0.67		16,436	10,940			12,610	9,591	1,444	16,436	10,940		12,610	9,591	1,444
10/6/2016	FALSE	FALSE	FALSE	3.6	7.8	5.8	61%	46%	75%		1.34	5.9	6.0									12,610	9,591	1,444				12,610	9,591	1,444
10/7/2016	FALSE	FALSE	FALSE	3.3	7.8	5.8	56%	42%	75%		1.34	5.9	6.0	277	184	0.66		13,491	8,962			12,708	9,501	1,444	13,491	8,962		12,708	9,501	1,444
10/8/2016	FALSE	FALSE	FALSE	3.3	8.5	5.6	59%	39%	66%		1.52	5.9	6.0									12,718	9,501	1,444				12,718	9,501	1,444
10/9/2016	FALSE	FALSE	FALSE	3.2	8.0	5.5	58%	40%	69%		1.46	5.9	5.9									12,718	9,501	1,444				12,718	9,501	1,444
10/10/2016	FALSE	FALSE	FALSE	3.2	8.3	5.9	54%	39%	71%		1.40	5.9	5.9									12,588	9,636	1,444				12,588	9,636	1,444
10/11/2016	FALSE	FALSE	FALSE	3.2	7.9	5.7	57%	41%	72%		1.39	5.9	5.8									12,588	9,636	1,444				12,588	9,636	1,444
10/12/2016	FALSE	FALSE	FALSE	3.2	8.0	5.7	56%	40%	72%		1.39	5.9	5.8	308	202	0.66		14,667	9,620			12,848	9,633	1,444	14,667	9,620		12,848	9,633	1,444
10/13/2016	FALSE	FALSE	FALSE	3.3	7.8	5.7	57%	42%	74%		1.35	5.9	5.7									12,848	9,633	1,444				12,848	9,633	1,444
10/14/2016	FALSE	FALSE	TRUE	3.2	8.8	6.1	53%	36%	69%		1.44	5.9	5.8	343	269	0.78		17,421	13,663			13,356	10,137	1,444	17,421	13,663		13,356	10,137	1,444
10/15/2016	FALSE	FALSE	TRUE	3.3	8.9	6.0	55%	37%	68%		1.48	5.9	5.8									13,991	10,137	1,444				13,991	10,137	1,444
10/16/2016	FALSE	FALSE	TRUE	3.3	8.7	6.0	54%	37%	69%		1.45	5.9	5.8									13,991	10,137	1,444				13,991	10,137	1,444
10/17/2016	FALSE	FALSE	FALSE	2.4	8.3	6.1	39%	29%	73%		1.37	5.9	5.9									14,268	10,346	1,444				14,268	10,346	1,444
10/18/2016	FALSE	FALSE	FALSE	3.3	8.1	6.0	56%	41%	74%		1.36	5.9	5.9									14,268	10,346	1,444				14,268	10,346	1,444
10/19/2016	FALSE	FALSE	FALSE	3.3	8.0	5.9	56%	41%	73%		1.37	5.9	5.9	274				13,391				14,158	10,346	1,444	13,391			14,158	10,346	1,444
10/20/2016	FALSE	FALSE	FALSE	3.3	8.2	5.8	57%	40%	70%		1.42	5.9	5.9									14,158	10,346	1,444				14,158	10,346	1,444
10/21/2016	FALSE	FALSE	FALSE	3.3	8.3	5.7	57%	39%	69%		1.44	5.9	5.9	296	238	0.80		14,170	11,393			14,159	10,477	1,444	14,170	11,393		14,159	10,477	1,444
10/22/2016	FALSE	FALSE	FALSE	3.3	8.6	5.6	58%	38%	65%		1.53	5.9	5.9									14,389	10,785	1,444				14,389	10,785	1,444
10/23/2016	FALSE	FALSE	FALSE	3.2	8.2	5.6	57%	39%	68%		1.46	5.9	5.8									14,389	10,785					14,389	10,785	
10/24/2016	FALSE	FALSE	TRUE	3.2	8.5	6.0	53%	38%	71%		1.41	5.9	5.8									14,527	10,713					14,527	10,713	
10/25/2016	FALSE	FALSE	TRUE	4.6	18.6	8.9	52%	25%	48%		2.08	6.0	6.2									14,527	10,713					14,527	10,713	
10/26/2016	FALSE	FALSE	FALSE	4.0	10.8	7.3	55%	37%	68%		1.48	6.0	6.4	206	197	0.96		12,576	12,027			14,283	10,901		12,576	12,027		14,283	10,901	
10/27/2016	FALSE	FALSE	TRUE	3.5	9.4	6.6	52%	37%	71%		1.41	6.1	6.5									14,283	10,901					14,283	10,901	
10/28/2016	FALSE	FALSE	TRUE	3.6	14.9	7.0	52%	24%	47%		2.13	6.1	6.6	244	199	0.82		14,184	11,568			14,272	10,984		14,184	11,568		14,272	10,984	
10/29/2016	FALSE	FALSE	TRUE	4.0	15.9	7.3	55%	25%	46%		2.19	6.1	6.8									14,272	10,984					14,272	10,984	
10/30/2016	FALSE	FALSE	TRUE	3.7	10.0	6.9	53%	36%	69%		1.45	6.2	7.0									14,272	10,984					14,272	10,984	
10/31/2016	FALSE	FALSE	TRUE	3.5	9.5	6.8	52%	37%	71%		1.41	6.2	7.1									14,542	11,167					14,		

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Flow, mgd	7-d Avg of Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
11/12/2016	FALSE	FALSE	FALSE	3.3	7.5	5.6	58%	44%	75%		1.34	6.3	5.9									12,097	10,275				12,097	10,275		
11/13/2016	FALSE	FALSE	FALSE	3.2	8.0	5.7	56%	40%	71%		1.40	6.3	5.8									12,097	10,275				12,097	10,275		
11/14/2016	FALSE	FALSE	FALSE	3.2	8.0	5.8	56%	40%	73%		1.38	6.2	5.8									11,431	9,791				11,431	9,791		
11/15/2016	FALSE	FALSE	FALSE	3.4	8.3	5.9	57%	41%	72%		1.39	6.2	5.8									11,431	9,791				11,431	9,791		
11/16/2016	FALSE	FALSE	FALSE	3.3	8.4	5.9	56%	39%	70%		1.43	6.2	5.8	291	225	0.77		14,246	11,015			11,744	9,944		14,246	11,015		11,744	9,944	
11/17/2016	FALSE	FALSE	FALSE	3.3	8.0	5.8	56%	41%	73%		1.36	6.2	5.8									11,744	9,944				11,744	9,944		
11/18/2016	FALSE	TRUE	FALSE	3.2	7.9	5.7	56%	41%	73%		1.37	6.2	5.8	256	246	0.96		12,255	11,776			11,795	10,148		12,255	11,776		11,795	10,148	
11/19/2016	FALSE	TRUE	TRUE	3.3	12.9	7.2	46%	26%	55%		1.81	6.3	6.0									11,618	10,148				11,618	10,148		
11/20/2016	FALSE	TRUE	TRUE	4.4	11.1	7.9	56%	40%	71%		1.40	6.3	6.2									11,618	10,148				11,618	10,148		
11/21/2016	FALSE	TRUE	FALSE	4.2	9.6	7.1	59%	44%	74%		1.35	6.4	6.4									11,299	9,992				11,299	9,992		
11/22/2016	FALSE	TRUE	TRUE	3.6	8.7	6.5	56%	42%	75%		1.34	6.4	6.5									11,299	9,992				11,299	9,992		
11/23/2016	TRUE	TRUE	TRUE	3.7	8.8	6.6	56%	42%	75%		1.34	6.4	6.6	278	228	0.82		15,279	12,531			11,741	10,274		15,279	12,531		11,741	10,274	
11/24/2016	TRUE	TRUE	FALSE	3.5	8.8	5.8	60%	40%	66%		1.51	6.4	6.6									11,741	10,274				11,741	10,274		
11/25/2016	TRUE	TRUE	FALSE	3.4	7.7	5.4	63%	44%	70%		1.42	6.3	6.5									11,741	10,274				11,741	10,274		
11/26/2016	TRUE	TRUE	TRUE	3.4	9.3	6.2	54%	36%	67%		1.49	6.3	6.6									11,636	10,055				11,636	10,055		
11/27/2016	TRUE	TRUE	TRUE	1.8	9.1	6.7	27%	20%	74%	MinAvg	1.36	6.3	6.5									11,636	10,055				11,636	10,055		
11/28/2016	TRUE	TRUE	TRUE	3.6	9.3	6.7	54%	39%	72%		1.38	6.3	6.3									11,273	9,839				11,273	9,839		
11/29/2016	FALSE	FALSE	FALSE	3.6	9.0	6.5	55%	40%	73%		1.37	6.2	6.3									11,273	9,839				11,273	9,839		
11/30/2016	FALSE	FALSE	FALSE	3.5	8.6	6.4	55%	41%	75%		1.34	6.2	6.2	242	240	0.99		12,957	12,850			11,483	10,215		12,957	12,850		11,483	10,215	
12/1/2016	FALSE	FALSE	FALSE	3.5	8.5	6.3	55%	41%	74%		1.34	6.2	6.2									11,483	10,215				11,483	10,215		
12/2/2016	FALSE	FALSE	FALSE	3.3	8.3	6.1	54%	40%	74%		1.36	6.2	6.3	253	213	0.84		12,919	10,889			11,643	10,290		12,919	10,889		11,643	10,290	
12/3/2016	FALSE	FALSE	FALSE	3.3	8.8	6.0	55%	38%	69%		1.45	6.2	6.3									12,100	10,675				12,100	10,675		
12/4/2016	FALSE	FALSE	FALSE	3.3	8.7	6.0	55%	38%	69%		1.46	6.1	6.3									12,100	10,675				12,100	10,675		
12/5/2016	FALSE	FALSE	FALSE	2.8	10.2	6.1	46%	27%	59%		1.69	6.2	6.3									12,950	11,146				12,950	11,146		
12/6/2016	FALSE	FALSE	FALSE	3.2	8.4	6.0	54%	38%	71%		1.41	6.2	6.2									12,950	11,146				12,950	11,146		
12/7/2016	FALSE	FALSE	TRUE	3.2	8.2	6.0	54%	39%	73%		1.36	6.2	6.1	282	283	1.00		14,049	14,114			13,087	11,517		14,049	14,114		13,087	11,517	
12/8/2016	FALSE	FALSE	TRUE	3.5	10.1	7.1	50%	35%	70%		1.43	6.2	6.2									13,087	11,517				13,087	11,517		
12/9/2016	FALSE	FALSE	TRUE	3.7	21.3	11.4	32%	17%	53%		1.87	6.4	6.8	126	134	1.06		11,949	12,718			12,961	11,650		11,949	12,718		12,961	11,650	
12/10/2016	FALSE	FALSE	TRUE	7.3	19.6	10.3	71%	37%	52%		1.91	6.5	7.3									12,961	11,650				12,961	11,650		
12/11/2016	FALSE	FALSE	FALSE	4.8	11.4	8.3	58%	42%	72%		1.38	6.6	7.6									13,230	12,167				13,230	12,167		
12/12/2016	FALSE	FALSE	FALSE	4.1	10.6	7.5	54%	38%	71%		1.42	6.7	7.8									13,379	12,271				13,379	12,271		
12/13/2016	FALSE	FALSE	TRUE	3.7	10.0	7.1	52%	37%	71%		1.41	6.7	7.9									13,379	12,271				13,379	12,271		
12/14/2016	FALSE	FALSE	TRUE	4.3	11.5	8.4	51%	37%	74%		1.36	6.8	8.2				17			1,190		13,379	12,271	1,190			13,379	12,271	1,190	
12/15/2016	FALSE	FALSE	TRUE	5.6	18.9	13.1	43%	30%	69%		1.44	7.0	9.1	243	180	0.74		26,466	19,621		TSS	13,379	12,271	1,190	26,466	19,621		13,379	12,271	1,190
12/16/2016	TRUE	TRUE	FALSE	9.3	17.6	12.5	74%	53%	71%		1.40	7.3	9.8									13,379	12,271	1,190			13,379	12,271	1,190	
12/17/2016	TRUE	TRUE	FALSE	6.1	12.3	9.4	65%	50%	76%		1.31	7.4	9.6									13,235	12,480	1,190			13,235	12,480	1,190	
12/18/2016	TRUE	TRUE	FALSE	4.8	11.7	8.0	60%	41%	68%		1.47	7.4	9.3									13,235	12,480	1,190			13,235	12,480	1,190	
12/19/2016	TRUE	TRUE	FALSE	4.2	10.1	7.6	56%	42%	75%		1.33	7.5	9.2	153				9,666				12,803	12,621	1,190	9,666		12,803	12,621	1,190	
12/20/2016	TRUE	TRUE	FALSE	4.1	9.4	7.1	57%	43%	76%		1.31	7.5	9.1									12,803	12,621	1,190			12,803	12,621	1,190	
12/21/2016	TRUE	TRUE	FALSE	3.8	9.0	6.9	55%	42%	76%		1.31	7.5	9.1	170				9,735				12,365	12,621	1,190	9,735		12,365	12,621	1,190	
12/22/2016	TRUE	TRUE	FALSE	3.6	9.1	6.7	54%	40%	73%		1.36	7.5	8.9	191	182	0.95		10,624	10,139			12,147	12,207	1,190	10,624	10,139		12,147	12,207	1,190
12/23/2016	TRUE	TRUE	TRUE	3.8	11.4	7.5	50%	33%	66%		1.53	7.5	8.2									12,147	12,207	1,190			12,147	12,207	1,190	
12/24/2016	TRUE	TRUE	FALSE	4.6	10.6	7.5	62%	44%	71%		1.41	7.5	7.6									11,700	12,142	1,190			11,700	12,142	1,190	
12/25/2016	TRUE	TRUE	FALSE	3.8	8.2	6.0	63%	46%	73%		1.36	7.5	7.2									11,700	12,142	1,190			11,700	12,142	1,190	
12/26/2016	TRUE	TRUE	FALSE	3.6	9.0	6.2	57%	39%	69%		1.46	7.6	6.9									11,700	12,142	1,190			11,700	12,142	1,190	
12/27/2016	TRUE	TRUE	FALSE	3.4	8.7	6.3	54%	39%	72%		1.38	7.6	6.8									11,700	12,142	1,190			11,700	12,142	1,190	
12/28/2016	TRUE	TRUE	FALSE	3.6	8.5	6.2	58%	42%	72%		1.38	7.5	6.7	190	187	0.98		9,793	9,638			11,462	11,725	1,190	9,793	9,638		11,462	11,725	1,190
12/29/2016	TRUE	TRUE	FALSE	3.5	8.1	6.0	57%	43%	75%		1.34	7.5	6.6									11,462	11,725	1,190			11,462	11,725	1,190	
12/30/2016	TRUE	TRUE	FALSE	3.5	8.1	5.9	58%	42%	73%		1.37	7.5	6.5	266								11,652	11,725	1,190	13,173		11,652	11,725	1,190	
12/31/2016	TRUE	TRUE	TRUE	3.5	8.4	5.9	59%	41%	70%		1.42	7.5	6.3									11,488	11,500	1,190			11,488	11,500	1,190	
1/1/2017	TRUE	TRUE	TRUE	3.4	7.7	5.5	62%	44%	71%		1.41	7.4	6.0									11,488	11,500	1,190			11,488	11,500	1,190	
1/2/2017	TRUE	TRUE	FALSE	3.3	8.4	5.8	58%	40%	69%		1.45	7.4	6.0									11,284	11,652	1,190			11,284	11,652	1,190	
1/3/2017	TRUE	TRUE	TRUE	3.4	12.2	6.8	50%	28%	55%		1.80	7.4	6.0									11,284	11,652	1,190			11,284	11,652	1,190	
1/4/2017	TRUE	TRUE	FALSE	6.6	12.0	9.2	71%	55%	77%		1.30	7.5	6.4	174	189	1.08		13,395	14,533			11,548	12,229	1,190	13,395	14,533		11,548	12,229	1,190
1/5/2017	TRUE	TRUE	FALSE	4.4	9.7	7.6	58%	45%	78%		1.29	7.6</																		

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
1/15/2017	TRUE	TRUE	FALSE	4.3	10.6	7.4	58%	40%	70%		1.44	7.9	9.8									10,610	10,738				10,610	10,738		
1/16/2017	TRUE	TRUE	TRUE	4.1	10.5	7.5	55%	39%	71%		1.40	7.7	9.2									10,610	10,738				10,610	10,738		
1/17/2017	TRUE	TRUE	FALSE	3.8	9.8	7.1	54%	39%	73%		1.38	7.6	8.7									10,610	10,738				10,610	10,738		
1/18/2017	TRUE	TRUE	TRUE	3.7	13.5	8.1	46%	27%	60%		1.67	7.7	8.3	214	164	0.77		14,369	11,038			10,986	10,788		14,369	11,038	10,986	10,788	10,986	10,788
1/19/2017	TRUE	TRUE	TRUE	6.8	13.5	10.0	68%	51%	74%		1.34	7.7	8.2	207				17,299				11,749	10,788		17,299		11,749	10,788	11,749	10,788
1/20/2017	TRUE	TRUE	TRUE	6.3	15.1	11.6	55%	42%	77%		1.30	7.9	8.5									11,749	10,788				11,749	10,788	11,749	10,788
1/21/2017	TRUE	TRUE	TRUE	7.0	12.8	10.2	68%	54%	79%		1.26	8.0	8.7									11,973	10,788				11,973	10,788	11,973	10,788
1/22/2017	TRUE	TRUE	TRUE	8.1	15.2	11.7	69%	53%	77%		1.29	8.1	9.2									12,142	10,917				12,142	10,917	12,142	10,917
1/23/2017	TRUE	TRUE	FALSE	6.5	13.4	10.3	63%	48%	77%		1.30	8.2	9.6									12,142	10,917				12,142	10,917	12,142	10,917
1/24/2017	FALSE	FALSE	TRUE	5.3	13.1	9.6	55%	40%	73%		1.36	8.3	9.8									12,142	10,917				12,142	10,917	12,142	10,917
1/25/2017	FALSE	FALSE	FALSE	5.0	12.4	8.9	56%	40%	72%		1.39	8.4	10.0	168	149	0.89		12,434	11,047			12,174	10,939		12,434	11,047	12,174	10,939	12,174	10,939
1/26/2017	FALSE	FALSE	FALSE	4.6	11.4	8.3	55%	40%	73%		1.37	8.5	10.1	156	154	0.99		10,816	10,712			12,038	10,906		10,816	10,712	12,038	10,906	12,038	10,906
1/27/2017	FALSE	FALSE	FALSE	4.1	10.7	7.8	52%	38%	73%		1.36	8.5	9.8									12,038	10,906				12,038	10,906	12,038	10,906
1/28/2017	FALSE	FALSE	FALSE	4.0	10.7	7.4	54%	38%	70%		1.43	8.6	9.3									12,288	11,118				12,288	11,118	12,288	11,118
1/29/2017	FALSE	FALSE	FALSE	3.8	10.9	7.3	51%	35%	68%		1.48	8.6	8.9									12,288	11,118				12,288	11,118	12,288	11,118
1/30/2017	FALSE	FALSE	FALSE	3.6	9.7	7.1	51%	37%	73%		1.38	8.6	8.3									12,177	11,118				12,177	11,118	12,177	11,118
1/31/2017	FALSE	FALSE	FALSE	3.7	9.8	7.0	53%	38%	71%		1.41	8.7	7.9									12,177	11,118				12,177	11,118	12,177	11,118
2/1/2017	FALSE	FALSE	FALSE	3.7	9.9	7.0	53%	37%	70%		1.42	8.7	7.6									12,177	11,118				12,177	11,118	12,177	11,118
2/2/2017	FALSE	FALSE	TRUE	3.5	9.5	7.0	49%	37%	74%		1.35	8.8	7.4	185	200	1.08		10,831	11,709			12,028	11,202		10,831	11,709	12,028	11,202	12,028	11,202
2/3/2017	FALSE	FALSE	TRUE	4.3	11.7	8.1	54%	37%	69%		1.45	8.8	7.3	199	216	1.09		13,367	14,538			12,162	11,619		13,367	14,538	12,162	11,619	12,162	11,619
2/4/2017	FALSE	FALSE	TRUE	4.7	11.9	8.2	58%	40%	69%		1.46	8.8	7.4									12,025	11,203				12,025	11,203	12,025	11,203
2/5/2017	FALSE	FALSE	TRUE	4.1	11.9	7.6	54%	35%	64%		1.56	8.8	7.4									12,679	11,203				12,679	11,203	12,679	11,203
2/6/2017	FALSE	FALSE	TRUE	4.1	11.5	8.0	52%	36%	69%		1.45	8.8	7.5									12,679	11,203				12,679	11,203	12,679	11,203
2/7/2017	FALSE	FALSE	TRUE	8.9	15.1	12.0	74%	59%	80%		1.26	8.9	8.1									12,679	11,203				12,679	11,203	12,679	11,203
2/8/2017	FALSE	FALSE	TRUE	6.2	13.3	10.5	59%	47%	79%		1.26	8.8	8.5	184	132	0.72		16,130	11,603			13,063	11,253		16,130	11,603	13,063	11,253	13,063	11,253
2/9/2017	FALSE	FALSE	TRUE	5.7	13.8	10.6	54%	42%	77%		1.30	8.8	9.0	173	152	0.88		15,236	13,387			13,280	11,490		15,236	13,387	13,280	11,490	13,280	11,490
2/10/2017	FALSE	FALSE	FALSE	6.7	13.5	10.3	65%	50%	77%		1.31	8.8	9.4									13,280	11,490				13,280	11,490	13,280	11,490
2/11/2017	FALSE	FALSE	TRUE	5.3	12.9	9.0	58%	41%	70%		1.43	8.8	9.5									13,402	11,628				13,402	11,628	13,402	11,628
2/12/2017	FALSE	FALSE	FALSE	4.7	12.3	8.4	57%	39%	68%		1.47	8.7	9.6									13,810	12,005				13,810	12,005	13,810	12,005
2/13/2017	FALSE	FALSE	FALSE	4.4	11.0	8.2	53%	40%	75%		1.34	8.7	9.6									13,810	12,005				13,810	12,005	13,810	12,005
2/14/2017	FALSE	FALSE	FALSE	4.2	11.0	8.1	53%	39%	73%		1.36	8.7	9.6									13,810	12,005				13,810	12,005	13,810	12,005
2/15/2017	FALSE	FALSE	FALSE	3.8	10.5	7.6	50%	36%	72%		1.39	8.7	9.1									13,810	12,005				13,810	12,005	13,810	12,005
2/16/2017	FALSE	FALSE	TRUE	4.0	10.1	7.7	52%	40%	76%		1.31	8.7	8.7	257	206	0.80		16,487	13,195			14,108	12,154		16,487	13,195	14,108	12,154	14,108	12,154
2/17/2017	FALSE	FALSE	TRUE	4.1	15.6	9.9	41%	26%	64%		1.57	8.8	8.6	224	212	0.95		18,570	17,575			14,554	12,756		18,570	17,575	14,554	12,756	14,554	12,756
2/18/2017	FALSE	FALSE	TRUE	9.6	17.8	13.7	70%	54%	77%		1.30	9.0	9.1									14,574	12,971				14,574	12,971	14,574	12,971
2/19/2017	FALSE	FALSE	TRUE	7.5	13.8	11.1	68%	54%	80%		1.25	9.0	9.3									14,234	12,971				14,234	12,971	14,234	12,971
2/20/2017	FALSE	FALSE	TRUE	7.9	16.0	12.2	65%	50%	76%		1.31	9.1	9.8									14,234	12,971				14,234	12,971	14,234	12,971
2/21/2017	FALSE	FALSE	FALSE	7.9	15.3	11.5	69%	52%	75%		1.33	9.1	10.2									14,234	12,971				14,234	12,971	14,234	12,971
2/22/2017	FALSE	FALSE	TRUE	6.0	13.1	10.0	61%	46%	76%		1.31	9.0	10.5	173	146	0.84		14,364	12,116			14,248	12,876		14,364	12,116	14,248	12,876	14,248	12,876
2/23/2017	FALSE	FALSE	TRUE	5.4	12.1	9.2	59%	45%	76%		1.32	9.0	10.7									14,248	12,876				14,248	12,876	14,248	12,876
2/24/2017	FALSE	FALSE	FALSE	4.9	11.5	8.7	57%	43%	75%		1.33	9.0	10.8									14,248	12,876				14,248	12,876	14,248	12,876
2/25/2017	FALSE	FALSE	FALSE	4.5	11.6	8.1	55%	39%	70%		1.43	9.0	10.6									14,475	13,104				14,475	13,104	14,475	13,104
2/26/2017	FALSE	FALSE	FALSE	4.3	11.2	7.9	54%	38%	70%		1.42	8.9	9.8									14,998	13,446				14,998	13,446	14,998	13,446
2/27/2017	FALSE	FALSE	FALSE	3.9	10.3	7.6	50%	37%	74%		1.35	8.9	9.4									14,998	13,446				14,998	13,446	14,998	13,446
2/28/2017	FALSE	FALSE	FALSE	3.8	10.3	7.4	51%	36%	72%		1.39	8.9	8.8									14,998	13,446				14,998	13,446	14,998	13,446
3/1/2017	FALSE	FALSE	FALSE	3.6	10.3	7.2	50%	35%	70%		1.43	8.9	8.2	194	209	1.08		11,619	12,498			14,575	13,327		11,619	12,498	14,575	13,327	14,575	13,327
3/2/2017	FALSE	FALSE	FALSE	3.5	9.7	7.0	50%	36%	73%		1.38	8.9	7.9	111	98	0.88		6,520	5,746			13,680	12,485		6,520	5,746	13,680	12,485	13,680	12,485
3/3/2017	FALSE	FALSE	FALSE	3.5	9.5	6.9	50%	37%	73%		1.37	8.9	7.6									13,680	12,485				13,680	12,485	13,680	12,485
3/4/2017	FALSE	FALSE	TRUE	3.6	10.0	6.8	53%	36%	68%		1.47	8.9	7.4									13,680	12,485				13,680	12,485	13,680	12,485
3/5/2017	FALSE	FALSE	FALSE	3.5	10.2	6.8	52%	34%	66%		1.50	8.9	7.2									14,037	12,582				14,037	12,582	14,037	12,582
3/6/2017	FALSE	FALSE	FALSE	3.5	9.4	6.7	52%	37%	71%		1.41	8.9	7.0									14,132	12,303				14,132	12,303	14,132	12,303
3/7/2017	FALSE	FALSE	FALSE	3.4	9.5	6.6	52%	36%	69%		1.45	8.8	6.9									1								

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Flow, mgd	7-d Avg of Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
3/20/2017	TRUE	TRUE	TRUE	3.2	8.4	6.2	52%	38%	74%		1.36	7.5	5.7									11,463	11,283				11,463	11,283		
3/21/2017	TRUE	FALSE	TRUE	3.7	9.7	7.0	52%	38%	72%		1.39	7.3	5.9									11,463	11,283				11,463	11,283		
3/22/2017	TRUE	FALSE	TRUE	3.9	10.4	7.7	51%	38%	74%		1.34	7.1	6.2	288	271	0.94		18,569	17,448					18,569	17,448		12,351	12,053		
3/23/2017	TRUE	FALSE	TRUE	4.0	10.6	7.5	53%	38%	71%		1.41	7.0	6.4	236	204	0.86		14,815	12,811					14,815	12,811		12,625	12,138		
3/24/2017	TRUE	FALSE	TRUE	3.7	13.2	9.0	41%	28%	68%		1.46	6.9	6.8														12,625	12,138		
3/25/2017	FALSE	FALSE	FALSE	5.4	12.9	8.8	61%	42%	68%		1.46	6.9	7.2									12,408	12,140				12,408	12,140		
3/26/2017	FALSE	FALSE	TRUE	4.4	11.5	8.0	55%	38%	70%		1.43	6.8	7.5									12,408	12,140				12,408	12,140		
3/27/2017	FALSE	FALSE	FALSE	3.9	10.5	7.6	51%	37%	72%		1.38	6.8	7.7				21			1,333		12,408	12,140	1,333		1,333	12,408	12,140	1,333	
3/28/2017	FALSE	FALSE	FALSE	3.9	11.0	7.4	52%	35%	67%		1.49	6.8	7.9									12,408	12,140	1,333			12,408	12,140	1,333	
3/29/2017	FALSE	FALSE	FALSE	3.8	10.3	7.2	53%	36%	69%		1.44	6.8	7.9	160	178	1.11		9,541	10,614			12,089	11,971	1,333	9,541	10,614	12,089	11,971	1,333	
3/30/2017	FALSE	FALSE	FALSE	3.7	9.8	6.9	54%	38%	71%		1.41	6.7	7.8	140	172	1.23		8,080	9,927			11,688	11,766	1,333	8,080	9,927	11,688	11,766	1,333	
3/31/2017	FALSE	FALSE	FALSE	3.6	9.7	6.8	53%	37%	70%		1.44	6.7	7.7									11,688	11,766	1,333			11,688	11,766	1,333	
4/1/2017	FALSE	FALSE	FALSE	3.5	9.4	6.4	55%	37%	68%		1.46	6.7	7.4									11,696	11,685	1,333			11,696	11,685	1,333	
4/2/2017	FALSE	FALSE	FALSE	3.4	9.4	6.4	54%	36%	68%		1.47	6.7	7.1									12,343	12,428	1,333			12,343	12,428	1,333	
4/3/2017	FALSE	FALSE	FALSE	3.3	9.2	6.4	52%	36%	70%		1.43	6.7	6.9									12,343	12,428	1,333			12,343	12,428	1,333	
4/4/2017	FALSE	FALSE	FALSE	3.4	9.6	6.4	53%	36%	67%		1.49	6.6	6.7									12,343	12,428	1,333			12,343	12,428	1,333	
4/5/2017	FALSE	FALSE	FALSE	3.3	9.4	6.3	53%	35%	67%		1.49	6.6	6.6	261	214	0.82		13,768	11,298			12,501	12,302	1,333	13,768	11,298	12,501	12,302	1,333	
4/6/2017	FALSE	FALSE	TRUE	3.4	10.8	6.7	52%	32%	62%		1.61	6.6	6.5	254	198	0.78		14,130	10,998			12,664	12,172	1,333	14,130	10,998	12,664	12,172	1,333	
4/7/2017	FALSE	FALSE	TRUE	5.0	11.7	8.5	58%	42%	73%		1.38	6.7	6.7									12,664	12,172	1,333			12,664	12,172	1,333	
4/8/2017	FALSE	FALSE	TRUE	4.3	11.1	7.7	55%	38%	70%		1.44	6.7	6.9									12,632	12,077	1,333			12,632	12,077	1,333	
4/9/2017	FALSE	FALSE	FALSE	3.7	10.4	7.1	52%	36%	68%		1.47	6.8	6.9									12,738	11,958	1,333			12,738	11,958	1,333	
4/10/2017	FALSE	FALSE	FALSE	3.7	10.1	7.0	52%	36%	69%		1.45	6.8	7.0									12,738	11,958	1,333			12,738	11,958	1,333	
4/11/2017	FALSE	FALSE	TRUE	3.6	9.7	7.0	52%	37%	72%		1.39	6.8	7.1									12,738	11,958	1,333			12,738	11,958	1,333	
4/12/2017	FALSE	FALSE	TRUE	3.7	9.6	7.1	52%	38%	74%		1.35	6.9	7.2	261	276	1.06		15,433	16,320			13,038	12,443	1,333	15,433	16,320	13,038	12,443	1,333	
4/13/2017	FALSE	FALSE	TRUE	4.2	10.2	7.8	54%	41%	76%		1.31	6.9	7.4	210	237	1.13		13,672	15,437			13,101	12,742	1,333	13,672	15,437	13,101	12,742	1,333	
4/14/2017	FALSE	FALSE	FALSE	4.4	10.7	7.8	56%	41%	73%		1.38	7.0	7.5									13,101	12,742	1,333			13,101	12,742	1,333	
4/15/2017	FALSE	FALSE	FALSE	3.9	9.5	7.0	56%	41%	74%		1.35	7.0	7.3									13,272	12,902	1,333			13,272	12,902	1,333	
4/16/2017	FALSE	FALSE	TRUE	3.7	9.7	7.2	51%	38%	74%		1.36	7.1	7.3									13,501	13,107	1,333			13,501	13,107	1,333	
4/17/2017	FALSE	FALSE	TRUE	4.4	10.1	8.1	54%	43%	80%		1.25	7.2	7.4									13,501	13,107	1,333			13,501	13,107	1,333	
4/18/2017	FALSE	FALSE	TRUE	4.1	10.7	7.7	53%	38%	72%		1.39	7.2	7.5									13,501	13,107	1,333			13,501	13,107	1,333	
4/19/2017	FALSE	FALSE	TRUE	3.8	10.3	7.5	51%	37%	72%		1.38	7.3	7.5									13,501	13,107	1,333			13,501	13,107	1,333	
4/20/2017	FALSE	FALSE	FALSE	3.8	10.2	7.1	54%	37%	69%		1.44	7.3	7.5	203	192	0.95		12,020	11,369			13,336	12,914	1,333	12,020	11,369	13,336	12,914	1,333	
4/21/2017	FALSE	FALSE	FALSE	3.6	9.7	6.9	53%	37%	71%		1.41	7.3	7.4	182	179	0.98		10,473	10,301			13,050	12,652	1,333	10,473	10,301	13,050	12,652	1,333	
4/22/2017	FALSE	FALSE	FALSE	3.7	8.9	6.7	55%	41%	75%		1.33	7.3	7.3									12,437	12,119	1,333			12,437	12,119	1,333	
4/23/2017	FALSE	FALSE	FALSE	4.0	9.0	7.7	52%	44%	85%		1.17	7.3	7.3									12,140	12,033	1,333			12,140	12,033	1,333	
4/24/2017	FALSE	FALSE	TRUE	3.4	9.5	6.7	51%	36%	71%		1.41	7.2	7.3									12,140	12,033	1,333			12,140	12,033	1,333	
4/25/2017	FALSE	FALSE	FALSE	3.3	9.1	6.4	52%	37%	71%		1.41	7.1	7.1									12,140	12,033	1,333			12,140	12,033	1,333	
4/26/2017	FALSE	FALSE	TRUE	3.5	9.1	6.5	53%	38%	72%		1.39	7.1	6.9	270	242	0.90		14,682	13,179			12,422	12,160	1,333	14,682	13,179	12,422	12,160	1,333	
4/27/2017	FALSE	FALSE	TRUE	3.5	9.1	6.4	54%	39%	71%		1.41	7.1	6.8									12,422	12,160				12,422	12,160		
4/28/2017	FALSE	FALSE	FALSE	3.2	8.7	6.3	51%	37%	72%		1.39	7.0	6.7									12,422	12,160				12,422	12,160		
4/29/2017	FALSE	FALSE	FALSE	3.3	8.4	6.0	55%	39%	71%		1.40	7.0	6.6									12,782	12,354				12,782	12,354		
4/30/2017	FALSE	FALSE	FALSE	3.3	8.3	6.0	55%	39%	72%		1.39	7.0	6.5									13,454	12,700				13,454	12,700		
5/1/2017	FALSE	FALSE	FALSE	3.3	8.3	6.0	55%	39%	72%		1.39	6.9	6.3									13,454	12,700				13,454	12,700		
5/2/2017	FALSE	FALSE	FALSE	3.3	8.7	6.1	53%	38%	71%		1.41	6.9	6.2									13,454	12,700				13,454	12,700		
5/3/2017	FALSE	FALSE	FALSE	3.3	8.6	6.0	55%	38%	70%		1.43	6.9	6.2	253	253	1.00		12,639	12,639			13,352	12,693		12,639	12,639	13,352	12,693		
5/4/2017	FALSE	FALSE	FALSE	3.3	8.5	6.1	54%	39%	72%		1.39	6.9	6.1	282				14,274				13,455	12,693		14,274		13,455	12,693		
5/5/2017	FALSE	FALSE	FALSE	3.4	8.4	6.1	55%	40%	72%		1.39	6.9	6.1									13,455	12,693				13,455	12,693		
5/6/2017	FALSE	FALSE	FALSE	3.2	8.2	5.8	56%	40%	71%		1.41	6.9	6.0									13,416	12,892				13,416	12,892		
5/7/2017	FALSE	FALSE	FALSE	3.1	8.1	5.7	55%	39%	71%		1.41	6.8	6.0									13,313	13,208				13,313	13,208		
5/8/2017	FALSE	FALSE	FALSE	3.3	8.5	5.9	55%	38%	69%		1.44	6.7	6.0									13,313	13,208				13,313	13,208		
5/9/2017	FALSE	FALSE	FALSE	3.2	8.5	5.9	55%	38%	70%		1.44	6.7	5.9									13,313	13,208				13,313	13,208		
5/10/2017	FALSE	FALSE	FALSE	3.3	8.4	5.9	55%	39%	71%		1.41	6.7	5.9									13,313	13,208				13,313	13,208		
5/11/2017	FALSE	FALSE	FALSE	3.3	8.3	6.0	55%	39%	72%		1.39	6.6	5.9	257	206	0.80		12,839	10,291			13,254	12,791		12,839	10,291	13,254	12,791		
5/12/2017	FALSE	FALSE	FALSE	3.2	8.1	5.8	55%	39%	72%		1.39	6.6	5.9	254	242	0.95		12,371	11,787			13,156	12,665		12,371	11,787	13,156	12,665		
5/13/2017	FALSE																													

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
7/26/2017	TRUE	TRUE	FALSE	3.2	7.3	5.2	61%	44%	72%		1.40	5.2	5.2	249	197	0.79		10,861	8,593			11,264	9,788		10,861	8,593		11,264	9,788	
7/27/2017	TRUE	TRUE	FALSE	3.1	7.1	5.2	60%	43%	73%		1.37	5.2	5.2	255	222	0.87		11,038	9,609			11,242	9,770		11,038	9,609		11,242	9,770	
7/28/2017	TRUE	TRUE	FALSE	3.1	7.2	5.1	61%	44%	71%		1.40	5.2	5.1									11,242	9,770					11,242	9,770	
7/29/2017	TRUE	TRUE	FALSE	3.2	6.9	5.0	64%	46%	72%		1.39	5.2	5.1									10,990	9,540					10,990	9,540	
7/30/2017	TRUE	TRUE	FALSE	3.1	6.9	5.0	63%	45%	72%		1.40	5.2	5.1									10,875	9,606					10,875	9,606	
7/31/2017	TRUE	TRUE	FALSE	3.1	7.2	5.3	59%	44%	74%		1.36	5.2	5.1									10,875	9,606					10,875	9,606	
8/1/2017	TRUE	TRUE	FALSE	3.3	7.4	5.3	61%	44%	72%		1.38	5.2	5.2									10,875	9,606					10,875	9,606	
8/2/2017	TRUE	TRUE	FALSE	3.2	7.2	5.3	61%	44%	73%		1.36	5.2	5.2	273	187	0.69		12,058	8,266			11,006	9,457		12,058	8,266		11,006	9,457	
8/3/2017	TRUE	TRUE	FALSE	3.2	7.6	5.3	60%	42%	70%		1.43	5.2	5.2	177	134	0.76						10,692	9,107		7,868	5,957		10,692	9,107	
8/4/2017	TRUE	TRUE	FALSE	3.2	7.2	5.2	61%	44%	72%		1.39	5.2	5.2									10,692	9,107					10,692	9,107	
8/5/2017	TRUE	TRUE	FALSE	3.2	7.2	5.1	62%	44%	71%		1.41	5.2	5.2									10,823	9,144					10,823	9,144	
8/6/2017	TRUE	TRUE	FALSE	3.2	7.2	5.2	61%	44%	72%		1.40	5.2	5.2									10,782	9,144					10,782	9,144	
8/7/2017	TRUE	TRUE	FALSE	3.2	7.5	5.4	59%	43%	72%		1.38	5.2	5.3									10,782	9,144					10,782	9,144	
8/8/2017	TRUE	TRUE	FALSE	3.3	7.3	5.4	60%	45%	75%		1.34	5.2	5.3									10,782	9,144					10,782	9,144	
8/9/2017	TRUE	TRUE	FALSE	3.4	7.6	5.4	62%	44%	72%		1.40	5.2	5.3	259	230	0.89		11,742	10,435			10,889	9,273		11,742	10,435		10,889	9,273	
8/10/2017	TRUE	TRUE	FALSE	3.3	7.6	5.5	60%	43%	72%		1.39	5.2	5.3	246	212	0.86		11,238	9,689			10,924	9,311		11,238	9,689		10,924	9,311	
8/11/2017	TRUE	TRUE	FALSE	3.2	7.5	5.4	60%	43%	72%		1.38	5.2	5.3									10,924	9,311					10,924	9,311	
8/12/2017	TRUE	TRUE	FALSE	3.2	7.4	5.2	62%	44%	71%		1.42	5.2	5.3									10,772	9,388					10,772	9,388	
8/13/2017	TRUE	TRUE	FALSE	3.2	7.4	5.3	61%	43%	71%		1.41	5.2	5.3									10,772	9,328					10,772	9,328	
8/14/2017	TRUE	TRUE	FALSE	3.2	7.4	5.6	57%	43%	75%		1.34	5.2	5.4									10,855	9,562					10,855	9,562	
8/15/2017	TRUE	TRUE	FALSE	3.3	7.7	5.6	59%	42%	72%		1.39	5.3	5.4									10,855	9,562					10,855	9,562	
8/16/2017	TRUE	TRUE	FALSE	3.2	7.8	5.5	58%	41%	71%		1.41	5.3	5.4	223	241	1.08		10,287	11,135			10,792	9,737		10,287	11,135		10,792	9,737	
8/17/2017	TRUE	TRUE	FALSE	3.3	7.6	5.6	58%	43%	74%		1.35	5.3	5.5	254	308	1.21		11,926	14,462			10,906	10,209		11,926	14,462		10,906	10,209	
8/18/2017	TRUE	TRUE	FALSE	3.2	7.7	5.7	57%	42%	74%		1.36	5.3	5.5									10,906	10,209					10,906	10,209	
8/19/2017	TRUE	TRUE	FALSE	3.3	8.3	5.7	58%	39%	68%		1.46	5.3	5.5									10,968	10,013					10,968	10,013	
8/20/2017	TRUE	TRUE	FALSE	3.2	8.5	5.8	54%	37%	68%		1.46	5.3	5.6									10,877	9,768					10,877	9,768	
8/21/2017	TRUE	TRUE	FALSE	3.2	8.9	5.8	54%	36%	66%		1.52	5.3	5.7									10,877	9,768					10,877	9,768	
8/22/2017	FALSE	FALSE	FALSE	3.3	8.9	6.0	56%	37%	67%		1.49	5.4	5.7									10,877	9,768					10,877	9,768	
8/23/2017	FALSE	FALSE	FALSE	3.2	8.8	5.9	53%	36%	67%		1.49	5.4	5.7	265	306	1.15		13,017	15,032			11,115	10,353		13,017	15,032		11,115	10,353	
8/24/2017	FALSE	FALSE	FALSE	3.2	8.6	6.0	54%	37%	70%		1.44	5.4	5.8									11,115	10,353					11,115	10,353	
8/25/2017	FALSE	FALSE	FALSE	3.2	8.3	5.8	56%	39%	71%		1.42	5.4	5.8									11,115	10,353					11,115	10,353	
8/26/2017	FALSE	FALSE	FALSE	3.3	8.4	5.7	57%	39%	67%		1.48	5.5	5.8									11,147	10,573					11,147	10,573	
8/27/2017	FALSE	FALSE	FALSE	3.2	8.6	5.7	56%	37%	66%		1.51	5.5	5.8									11,163	10,711					11,163	10,711	
8/28/2017	FALSE	FALSE	FALSE	3.3	8.9	5.8	56%	37%	65%		1.53	5.5	5.8									11,163	10,711					11,163	10,711	
8/29/2017	FALSE	FALSE	FALSE	3.3	8.4	5.8	56%	39%	69%		1.45	5.5	5.8									11,163	10,711					11,163	10,711	
8/30/2017	FALSE	FALSE	FALSE	3.2	8.5	6.0	54%	38%	70%		1.43	5.6	5.8									11,163	10,711					11,163	10,711	
8/31/2017	FALSE	FALSE	FALSE	3.2	8.7	5.8	55%	37%	67%		1.49	5.6	5.8	236	329	1.39		11,475	15,969			11,202	11,368		11,475	15,969		11,202	11,368	
9/1/2017	FALSE	FALSE	FALSE	3.2	8.2	5.8	55%	39%	71%		1.42	5.6	5.8	229	316	1.38		11,058	15,286			11,186	11,803		11,058	15,286		11,186	11,803	
9/2/2017	FALSE	FALSE	FALSE	3.3	8.0	5.5	59%	41%	69%		1.44	5.6	5.8									11,076	12,245					11,076	12,245	
9/3/2017	FALSE	FALSE	FALSE	3.2	8.0	5.4	60%	40%	68%		1.47	5.6	5.7									11,535	13,144					11,535	13,144	
9/4/2017	FALSE	FALSE	FALSE	3.2	8.4	5.7	56%	38%	68%		1.48	5.6	5.7									11,535	13,144					11,535	13,144	
9/5/2017	FALSE	FALSE	TRUE	3.3	8.4	5.9	55%	39%	71%		1.41	5.6	5.7									11,535	13,144					11,535	13,144	
9/6/2017	FALSE	FALSE	FALSE	3.4	8.6	6.0	56%	39%	70%		1.43	5.7	5.8									11,535	13,144					11,535	13,144	
9/7/2017	FALSE	FALSE	FALSE	3.2	8.7	6.0	54%	37%	69%		1.44	5.7	5.8	295	390	1.32		14,786	19,581		BOD	11,535	13,144		14,786	19,581		11,535	13,144	
9/8/2017	FALSE	FALSE	FALSE	3.2	8.3	5.9	54%	39%	71%		1.41	5.7	5.8	237	315	1.33		11,701	15,526			11,556	13,442		11,701	15,526		11,556	13,442	
9/9/2017	FALSE	FALSE	FALSE	3.2	8.3	5.7	56%	38%	69%		1.46	5.7	5.8									11,529	13,871					11,529	13,871	
9/10/2017	FALSE	FALSE	FALSE	3.2	8.4	5.8	56%	38%	69%		1.45	5.7	5.8									11,577	14,568					11,577	14,568	
9/11/2017	FALSE	FALSE	FALSE	3.1	8.4	5.9	53%	37%	71%		1.41	5.7	5.9									11,577	14,568					11,577	14,568	
9/12/2017	FALSE	FALSE	FALSE	3.4	8.8	6.0	56%	38%	68%		1.47	5.8	5.9									11,577	14,568					11,577	14,568	
9/13/2017	FALSE	FALSE	FALSE	3.4	8.6	6.0	57%	40%	70%		1.43	5.8	5.9	196	221	1.13		9,793	11,059			11,323	14,067		9,793	11,059		11,323	14,067	
9/14/2017	FALSE	FALSE	FALSE	3.2	8.8	6.0	54%	37%	69%		1.46	5.8	5.9	257	284	1.10		12,930	14,282			11,523	14,094		12,930	14,282		11,523	14,094	
9/15/2017	FALSE	FALSE	FALSE	3.2	8.2	5.9	54%	39%	72%		1.39	5.8	5.9									11,523	14,094					11,523	14,094	
9/16/2017	FALSE	FALSE	FALSE	3.3	8.5	5.7	57%	39%	68%		1.47	5.8	5.9									11,700	14,517					11,700	14,517	
9/17/2017	FALSE	FALSE	FALSE	3.2	8.7	5.8	55%	37%	67%		1.50	5.8	5.9									11,662	14,526					11,662	14,526	
9/18/2017	FALSE	FALSE	FALSE	3.3	8.4	6.0	55%	40%	72%		1.39	5.8	5.9									11,662	14,526					11,662	14,526	
9/19/2017	FALSE	FALSE	FALSE	3.2	8.4	6.0	53%	38%	72%		1.40	5.8	5.9									11,662	14,526					11,662	14,526	
9/20/2017	FALSE																													

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
9/28/2017	FALSE	FALSE	FALSE	3.2	8.8	5.9	54%	37%	67%		1.49	5.9	5.9	248	266	1.07		12,260	13,155			12,119	14,871		12,260	13,155		12,119	14,871	
9/29/2017	FALSE	FALSE	FALSE	3.2	8.3	6.0	54%	38%	72%		1.40	5.9	5.9									12,119	14,871					12,119	14,871	
9/30/2017	FALSE	FALSE	FALSE	3.3	8.6	5.8	56%	38%	67%		1.50	5.9	5.9									12,119	14,871					12,119	14,871	
10/1/2017	FALSE	FALSE	FALSE	3.1	8.6	5.8	54%	37%	68%		1.48	5.9	5.9									12,200	14,714					12,200	14,714	
10/2/2017	FALSE	FALSE	FALSE	3.1	8.3	5.8	54%	38%	70%		1.43	5.9	5.9									12,363	14,619					12,363	14,619	
10/3/2017	FALSE	FALSE	FALSE	3.2	8.5	5.9	54%	38%	69%		1.44	5.9	5.9									12,363	14,619					12,363	14,619	
10/4/2017	FALSE	FALSE	FALSE	3.2	8.8	5.9	54%	36%	66%		1.51	5.9	5.9	274	289	1.06		13,344	14,100			12,486	14,545	13,344	14,100		12,486	14,545		
10/5/2017	FALSE	FALSE	FALSE	3.1	8.2	5.8	55%	38%	70%		1.43	5.9	5.8	262	271	1.03		12,574	12,996			12,496	14,351	12,574	12,996		12,496	14,351		
10/6/2017	FALSE	FALSE	FALSE	3.1	8.4	5.9	53%	37%	70%		1.43	5.9	5.8									12,496	14,351					12,496	14,351	
10/7/2017	FALSE	FALSE	FALSE	3.2	8.5	5.7	57%	38%	67%		1.50	5.9	5.8									12,496	14,351					12,496	14,351	
10/8/2017	FALSE	FALSE	FALSE	3.1	8.4	5.7	54%	37%	68%		1.47	5.9	5.8									12,496	14,351					12,496	14,351	
10/9/2017	FALSE	FALSE	FALSE	3.1	8.2	5.8	52%	37%	71%		1.40	5.9	5.8									12,595	14,183					12,595	14,183	
10/10/2017	FALSE	FALSE	FALSE	3.2	8.4	6.0	54%	38%	71%		1.41	5.9	5.8									12,595	14,183					12,595	14,183	
10/11/2017	FALSE	FALSE	FALSE	3.2	8.7	5.9	54%	37%	68%		1.47	5.9	5.8	266	284	1.07		13,079	13,975			12,649	14,157	13,079	13,975		12,649	14,157		
10/12/2017	FALSE	FALSE	FALSE	3.2	8.4	5.9	54%	38%	70%		1.44	5.9	5.8	346	262	0.76		16,857	12,783			13,069	14,004	16,857	12,783		13,069	14,004		
10/13/2017	FALSE	FALSE	FALSE	3.2	8.5	5.8	55%	38%	69%		1.45	5.9	5.8									13,069	14,004					13,069	14,004	
10/14/2017	FALSE	FALSE	FALSE	3.2	8.7	5.7	55%	37%	66%		1.51	5.9	5.8									13,434	14,372					13,434	14,372	
10/15/2017	FALSE	FALSE	FALSE	3.2	8.9	5.8	55%	36%	65%		1.53	5.9	5.8									13,497	14,385					13,497	14,385	
10/16/2017	FALSE	FALSE	FALSE	3.2	8.4	5.9	54%	38%	69%		1.44	5.9	5.8									13,497	14,385					13,497	14,385	
10/17/2017	FALSE	FALSE	FALSE	3.2	8.4	5.9	55%	38%	70%		1.43	5.9	5.8									13,497	14,385					13,497	14,385	
10/18/2017	FALSE	FALSE	FALSE	3.2	8.3	5.8	54%	38%	70%		1.43	5.9	5.8	239	261	1.09		11,556	12,625			13,281	14,165	11,556	12,625		13,281	14,165		
10/19/2017	FALSE	FALSE	TRUE	3.2	8.7	5.9	55%	37%	68%		1.46	5.9	5.8	301	296	0.99		14,811	14,590			13,434	14,212	14,811	14,590		13,434	14,212		
10/20/2017	FALSE	FALSE	TRUE	3.3	8.4	6.0	54%	39%	72%		1.39	5.9	5.9									13,434	14,212					13,434	14,212	
10/21/2017	FALSE	FALSE	FALSE	3.2	8.7	5.8	55%	37%	67%		1.48	5.9	5.9									13,466	13,545					13,466	13,545	
10/22/2017	FALSE	FALSE	FALSE	3.2	8.7	5.8	55%	37%	67%		1.50	5.8	5.9									13,334	13,460					13,334	13,460	
10/23/2017	FALSE	FALSE	FALSE	3.2	8.4	5.9	54%	38%	70%		1.43	5.8	5.9									13,334	13,460					13,334	13,460	
10/24/2017	FALSE	FALSE	FALSE	3.2	8.6	5.8	55%	37%	68%		1.48	5.9	5.9									13,334	13,460					13,334	13,460	
10/25/2017	FALSE	FALSE	FALSE	3.2	8.8	5.9	54%	36%	67%		1.50	5.9	5.9	282	194	0.69		13,781	9,497			13,384	12,965	13,781	9,497		13,384	12,965		
10/26/2017	FALSE	FALSE	FALSE	3.2	8.4	6.0	54%	39%	71%		1.41	5.9	5.9	276	232	0.84		13,696	11,513			13,415	12,804	13,696	11,513		13,415	12,804		
10/27/2017	FALSE	FALSE	FALSE	3.2	8.4	5.9	55%	38%	70%		1.42	5.9	5.9									13,415	12,804					13,415	12,804	
10/28/2017	FALSE	FALSE	FALSE	3.2	8.5	5.9	55%	38%	69%		1.45	5.8	5.9									13,551	12,804					13,551	12,804	
10/29/2017	FALSE	FALSE	FALSE	3.2	8.5	5.8	56%	38%	68%		1.46	5.8	5.9									13,712	12,760					13,712	12,760	
10/30/2017	FALSE	FALSE	FALSE	3.3	8.4	5.9	56%	40%	70%		1.43	5.8	5.9									13,712	12,760					13,712	12,760	
10/31/2017	FALSE	FALSE	FALSE	3.2	8.7	5.9	55%	37%	67%		1.49	5.8	5.9									13,712	12,760					13,712	12,760	
11/1/2017	FALSE	FALSE	FALSE	3.2	8.4	5.9	55%	38%	70%		1.43	5.8	5.9	258				12,611				13,590	12,760	12,611			13,590	12,760		
11/2/2017	FALSE	FALSE	FALSE	3.2	8.5	6.0	54%	38%	71%		1.41	5.9	5.9	136	91	0.67		6,779	4,546			12,909	11,847	6,779	4,546		12,909	11,847		
11/3/2017	FALSE	FALSE	TRUE	3.2	8.4	6.0	53%	38%	72%		1.40	5.9	5.9									12,909	11,847					12,909	11,847	
11/4/2017	FALSE	FALSE	TRUE	3.5	9.5	6.3	55%	37%	67%		1.50	5.9	6.0									12,860	11,565					12,860	11,565	
11/5/2017	FALSE	FALSE	FALSE	3.3	9.6	6.2	52%	34%	65%		1.54	5.9	6.0									12,896	11,361					12,896	11,361	
11/6/2017	FALSE	FALSE	FALSE	3.3	8.6	6.1	54%	38%	70%		1.42	5.9	6.0									12,896	11,361					12,896	11,361	
11/7/2017	FALSE	FALSE	FALSE	3.3	8.4	6.0	54%	39%	71%		1.40	5.9	6.0									12,896	11,361					12,896	11,361	
11/8/2017	FALSE	FALSE	TRUE	3.2	9.3	6.2	52%	34%	66%		1.51	5.9	6.1	252	270	1.07		12,910	13,849			12,898	11,672	12,910	13,849		12,898	11,672		
11/9/2017	FALSE	FALSE	TRUE	3.6	9.6	6.9	52%	38%	72%		1.38	6.0	6.2	199	240	1.21		11,491	13,851			12,757	11,914	11,491	13,851		12,757	11,914		
11/10/2017	FALSE	FALSE	TRUE	3.4	9.5	6.5	52%	36%	68%		1.47	6.0	6.3									12,757	11,914					12,757	11,914	
11/11/2017	FALSE	FALSE	FALSE	3.4	9.0	6.2	55%	38%	68%		1.46	6.0	6.3									12,721	11,657					12,721	11,657	
11/12/2017	FALSE	FALSE	FALSE	3.3	8.8	6.1	53%	37%	69%		1.44	6.0	6.3									12,204	11,496					12,204	11,496	
11/13/2017	FALSE	FALSE	TRUE	3.3	8.6	6.3	52%	38%	73%		1.37	6.0	6.3									12,204	11,496					12,204	11,496	
11/14/2017	FALSE	FALSE	FALSE	3.3	8.7	6.2	54%	38%	72%		1.39	6.0	6.3									12,204	11,496					12,204	11,496	
11/15/2017	FALSE	FALSE	TRUE	3.3	9.5	6.7	49%	34%	70%		1.43	6.1	6.4	235	252	1.07		13,006	13,976			12,293	11,806	13,006	13,976		12,293	11,806		
11/16/2017	FALSE	FALSE	TRUE	3.6	9.4	7.0	52%	38%	74%		1.35	6.1	6.5	248	319	1.29		14,446	18,597			12,509	12,560	14,446	18,597		12,509	12,560		
11/17/2017	FALSE	TRUE	FALSE	3.6	9.0	6.6	55%	41%	74%		1.35	6.1	6.4									12,509	12,560					12,509	12,560	
11/18/2017	FALSE	TRUE	FALSE	3.6	8.6	6.1	59%	42%	71%		1.41	6.1	6.4									12,615	12,552					12,615	12,552	
11/19/2017	FALSE	TRUE	FALSE	3.5	8.5	5.9	59%	41%	70%		1.44	6.1	6.4									12,340	12,261					12,340	12,261	
11/20/2017	FALSE	TRUE	TRUE	3.5	8.6	6.2	56%	40%	72%		1.40	6.1	6.4									12,340	12,261					12,340	12,261	
11/21/2017	FALSE	TRUE	TRUE	3.6	8.3	6.3	58%	44%	75%		1.33	6.1	6.4	139	175	1.26		7,289	9,151			11,779	11,872	7,289	9,151		11,779	11,872		
11/22/2017	TRUE	TRUE	FALSE	3.4	8.3	6.1	57%	41%	73%		1.37	6.1	6.4									11,779								

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
12/1/2017	FALSE	FALSE	FALSE	3.4	8.5	6.2	54%	40%	73%		1.37	6.2	6.2									11,319	12,278				11,319	12,278		
12/2/2017	FALSE	FALSE	FALSE	3.3	9.3	6.2	53%	35%	66%		1.51	6.2	6.3									11,158	12,278				11,158	12,278		
12/3/2017	FALSE	FALSE	FALSE	3.3	9.0	6.2	53%	36%	69%		1.45	6.2	6.4									11,783	13,383				11,783	13,383		
12/4/2017	FALSE	FALSE	FALSE	3.2	8.5	6.1	53%	38%	72%		1.39	6.2	6.4									11,783	13,383				11,783	13,383		
12/5/2017	FALSE	FALSE	FALSE	3.2	8.5	6.0	53%	38%	71%		1.41	6.2	6.2									11,783	13,383				11,783	13,383		
12/6/2017	FALSE	FALSE	FALSE	3.2	8.6	6.1	53%	37%	71%		1.42	6.2	6.2	265	364	1.37		13,371	18,366			11,982	14,006		13,371	18,366	11,982	14,006		
12/7/2017	FALSE	FALSE	FALSE	3.2	8.3	6.0	53%	39%	73%		1.37	6.2	6.1	241	281	1.17		12,100	14,132			11,995	14,020		12,100	14,132	11,995	14,020		
12/8/2017	FALSE	FALSE	FALSE	3.2	8.3	6.0	53%	39%	73%		1.38	6.2	6.1									11,995	14,020				11,995	14,020		
12/9/2017	FALSE	FALSE	FALSE	3.3	8.8	5.9	55%	37%	68%		1.48	6.2	6.1									11,880	14,041				11,880	14,041		
12/10/2017	FALSE	FALSE	FALSE	3.2	8.7	5.9	54%	37%	68%		1.47	6.2	6.0									11,936	14,068				11,936	14,068		
12/11/2017	FALSE	FALSE	FALSE	3.1	8.1	6.0	52%	38%	74%		1.36	6.2	6.0									11,936	14,068				11,936	14,068		
12/12/2017	FALSE	FALSE	FALSE	3.1	8.3	5.9	53%	38%	71%		1.41	6.1	6.0									11,936	14,068				11,936	14,068		
12/13/2017	FALSE	FALSE	FALSE	3.1	8.2	5.9	52%	38%	73%		1.38	6.1	6.0	261	269	1.03		12,888	13,304			12,055	13,973		12,888	13,304	12,055	13,973		
12/14/2017	FALSE	FALSE	FALSE	3.1	7.9	5.9	53%	40%	75%		1.33	6.1	6.0	297	255	0.86		14,723	12,633			12,352	13,824		14,723	12,633	12,352	13,824		
12/15/2017	TRUE	TRUE	FALSE	3.1	7.8	5.8	52%	39%	75%		1.34	6.1	5.9									12,352	13,824				12,352	13,824		
12/16/2017	TRUE	TRUE	FALSE	3.2	8.0	5.6	56%	40%	70%		1.42	6.1	5.9									12,270	13,805				12,270	13,805		
12/17/2017	TRUE	TRUE	FALSE	3.1	7.8	5.5	56%	40%	71%		1.41	6.0	5.8									11,959	13,120				11,959	13,120		
12/18/2017	TRUE	TRUE	FALSE	3.2	7.4	5.5	57%	43%	75%		1.34	6.0	5.8									11,959	13,120				11,959	13,120		
12/19/2017	TRUE	TRUE	FALSE	3.1	7.5	5.6	56%	42%	75%		1.34	6.0	5.7									11,959	13,120				11,959	13,120		
12/20/2017	TRUE	TRUE	TRUE	3.2	7.4	5.6	58%	43%	75%		1.33	6.0	5.7									11,959	13,120				11,959	13,120		
12/21/2017	TRUE	TRUE	FALSE	3.1	7.5	5.6	56%	41%	74%		1.35	6.0	5.6	271	274	1.01		12,562	12,705			12,034	13,068		12,562	12,705	12,034	13,068		
12/22/2017	TRUE	TRUE	FALSE	3.2	7.5	5.6	58%	43%	74%		1.35	5.9	5.6									12,712	13,628				12,712	13,628		
12/23/2017	TRUE	TRUE	FALSE	3.1	7.9	5.4	58%	40%	68%		1.46	5.9	5.5									12,712	13,628				12,712	13,628		
12/24/2017	TRUE	TRUE	FALSE	3.1	7.9	5.2	60%	40%	66%		1.51	5.9	5.5									12,712	13,628				12,712	13,628		
12/25/2017	TRUE	TRUE	FALSE	3.1	6.3	4.6	67%	49%	73%		1.36	5.9	5.4									12,712	13,628				12,712	13,628		
12/26/2017	TRUE	TRUE	FALSE	3.1	7.3	5.2	60%	42%	71%		1.41	5.9	5.3									12,712	13,628				12,712	13,628		
12/27/2017	TRUE	TRUE	FALSE	3.2	7.2	5.4	59%	44%	75%		1.33	5.8	5.3									12,712	13,628				12,712	13,628		
12/28/2017	TRUE	TRUE	FALSE	3.2	7.4	5.4	58%	43%	74%		1.36	5.8	5.3	262	339	1.30		11,851	15,352			12,605	13,843		11,851	15,352	12,605	13,843		
12/29/2017	TRUE	TRUE	FALSE	3.1	7.3	5.4	59%	43%	73%		1.37	5.8	5.3									12,605	13,843				12,605	13,843		
12/30/2017	TRUE	TRUE	FALSE	3.1	7.4	5.3	59%	42%	71%		1.41	5.7	5.2									12,888	14,067				12,888	14,067		
12/31/2017	TRUE	TRUE	FALSE	3.0	7.8	5.3	57%	39%	68%		1.46	5.7	5.2									12,916	14,415				12,916	14,415		
1/1/2018	TRUE	TRUE	FALSE	3.1	7.0	5.0	61%	44%	71%		1.40	5.6	5.2									12,916	14,415				12,916	14,415		
1/2/2018	TRUE	TRUE	FALSE	3.0	7.3	5.4	56%	41%	73%		1.36	5.6	5.3									12,916	14,415				12,916	14,415		
1/3/2018	TRUE	TRUE	FALSE	3.1	7.3	5.4	57%	42%	74%		1.35	5.6	5.3	278				12,580				12,868	14,415		12,580		12,868	14,415		
1/4/2018	TRUE	TRUE	TRUE	3.1	7.2	5.5	57%	43%	76%		1.32	5.6	5.3	256	280	1.10		11,686	12,797			12,720	14,184		11,686	12,797	12,720	14,184		
1/5/2018	TRUE	TRUE	TRUE	3.1	7.5	5.5	57%	42%	74%		1.36	5.6	5.3									12,720	14,184				12,720	14,184		
1/6/2018	TRUE	TRUE	TRUE	3.1	7.7	5.5	57%	40%	71%		1.41	5.5	5.4									12,627	13,487				12,627	13,487		
1/7/2018	TRUE	TRUE	FALSE	3.0	7.9	5.6	54%	38%	71%		1.42	5.5	5.4									12,715	13,358				12,715	13,358		
1/8/2018	TRUE	TRUE	TRUE	3.1	11.0	6.7	46%	28%	61%		1.65	5.5	5.6									12,715	13,358				12,715	13,358		
1/9/2018	TRUE	TRUE	TRUE	7.7	11.7	9.8	79%	66%	84%	MinMax	1.19	5.5	5.6									12,715	13,358				12,715	13,358		
1/10/2018	TRUE	TRUE	TRUE	4.2	10.6	7.4	57%	40%	70%		1.43	5.6	5.9	177	217	1.23		10,920	13,410			12,459	13,367		10,920	13,410	12,459	13,367		
1/11/2018	TRUE	TRUE	FALSE	3.6	9.5	6.8	54%	38%	72%		1.40	5.6	6.1	168	192	1.15		9,463	10,841			12,084	13,006		9,463	10,841	12,084	13,006		
1/12/2018	TRUE	TRUE	FALSE	3.4	8.8	6.3	53%	38%	72%		1.39	5.6	6.2									12,084	13,006				12,084	13,006		
1/13/2018	TRUE	TRUE	FALSE	3.3	8.5	6.1	54%	39%	72%		1.40	5.6	6.3									11,969	12,956				11,969	12,956		
1/14/2018	TRUE	TRUE	FALSE	3.3	8.7	5.9	55%	37%	68%		1.47	5.6	6.4									11,510	13,021				11,510	13,021		
1/15/2018	TRUE	TRUE	TRUE	3.2	8.6	6.1	52%	37%	71%		1.41	5.6	6.5									11,510	13,021				11,510	13,021		
1/16/2018	TRUE	TRUE	TRUE	3.4	8.4	6.1	55%	40%	73%		1.37	5.7	6.4									11,510	13,021				11,510	13,021		
1/17/2018	TRUE	TRUE	FALSE	3.4	8.7	6.1	55%	39%	71%		1.41	5.7	6.3	219	283	1.29		11,217	14,468			11,468	13,262		11,217	14,468	11,468	13,262		
1/18/2018	TRUE	TRUE	TRUE	3.3	8.3	6.1	54%	40%	74%		1.36	5.7	6.2	238	359	1.51		12,098	18,264			11,547	13,977		12,098	18,264	11,547	13,977		
1/19/2018	TRUE	TRUE	FALSE	3.4	8.2	6.2	55%	41%	75%		1.34	5.7	6.1									11,547	13,977				11,547	13,977		
1/20/2018	TRUE	TRUE	FALSE	3.3	8.8	6.1	53%	37%	69%		1.45	5.7	6.1									11,547	13,977				11,547	13,977		
1/21/2018	TRUE	TRUE	TRUE	3.3	9.7	6.2	52%	34%	64%		1.55	5.8	6.1									11,402	14,189				11,402	14,189		
1/22/2018	TRUE	TRUE	TRUE	3.4	9.8	7.1	48%	35%	72%		1.38	5.8	6.3									11,402	14,189				11,402	14,189		
1/23/2018	FALSE	FALSE	FALSE	3.6	9.9	7.0	51%	36%	70%		1.42	5.9	6.4									11,402	14,189				11,402	14,189		
1/24/2018	FALSE	FALSE	TRUE	3.4	9.5	6.9	50%	36%	72%		1.39	5.9	6.5	210	256	1.22		11,980	14,625			11,474	14,251		11,980	14,625	11,474	14,251		
1/25/2018	FALSE	FALSE	FALSE	3.4	9.5	6.9	50%	36%	72%		1.39	6.0	6.5	191	290	1.52		10,895	16,567			11,410	14,541		10,895	16,567	11,41			

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
2/3/2018	FALSE	FALSE	FALSE	3.2	9.1	6.0	54%	36%	66%		1.51	6.3	6.3									11,292	14,425				11,292	14,425		
2/4/2018	FALSE	FALSE	FALSE	3.2	9.6	6.0	53%	33%	63%		1.60	6.3	6.2									11,236	14,696				11,236	14,696		
2/5/2018	FALSE	FALSE	FALSE	3.2	8.4	6.0	53%	38%	72%		1.39	6.3	6.1									11,236	14,696				11,236	14,696		
2/6/2018	FALSE	FALSE	FALSE	3.2	8.5	6.0	54%	38%	70%		1.42	6.3	6.1									11,236	14,696				11,236	14,696		
2/7/2018	FALSE	FALSE	FALSE	3.2	8.8	6.0	54%	37%	69%		1.45	6.4	6.1									11,236	14,696				11,236	14,696		
2/8/2018	FALSE	FALSE	FALSE	3.3	8.4	6.0	55%	39%	71%		1.41	6.3	6.0	297	306	1.03		14,792	15,261			11,680	14,777		14,792	15,261	11,680	14,777		
2/9/2018	FALSE	FALSE	FALSE	3.1	8.3	6.0	53%	38%	71%		1.40	6.3	6.0	245	263	1.07		12,158	13,051			11,733	14,561		12,158	13,051	11,733	14,561		
2/10/2018	FALSE	FALSE	FALSE	3.2	8.9	5.9	54%	35%	66%		1.51	6.3	6.0									11,835	14,725				11,835	14,725		
2/11/2018	FALSE	FALSE	FALSE	3.2	8.8	6.0	53%	36%	67%		1.48	6.2	6.0									12,174	15,373				12,174	15,373		
2/12/2018	FALSE	FALSE	FALSE	3.1	8.3	6.0	52%	37%	72%		1.39	6.2	6.0									12,174	15,373				12,174	15,373		
2/13/2018	FALSE	FALSE	FALSE	3.2	8.3	5.9	54%	38%	71%		1.41	6.2	6.0									12,174	15,373				12,174	15,373		
2/14/2018	FALSE	FALSE	FALSE	3.2	8.6	5.9	53%	37%	69%		1.45	6.2	6.0									12,174	15,373				12,174	15,373		
2/15/2018	FALSE	FALSE	FALSE	3.2	8.2	5.8	55%	38%	71%		1.42	6.2	5.9	257	285	1.11		12,463	13,810			12,210	15,149		12,463	13,810	12,210	15,149		
2/16/2018	FALSE	FALSE	FALSE	3.1	8.1	5.8	53%	38%	72%		1.39	6.2	5.9	257	277	1.08		12,527	13,491			12,245	14,942		12,527	13,491	12,245	14,942		
2/17/2018	FALSE	FALSE	FALSE	3.2	8.6	5.8	55%	37%	67%		1.49	6.2	5.9									12,374	15,010				12,374	15,010		
2/18/2018	FALSE	FALSE	FALSE	3.2	8.9	5.7	55%	36%	65%		1.55	6.2	5.9									12,413	14,468				12,413	14,468		
2/19/2018	FALSE	FALSE	FALSE	3.1	8.6	6.0	51%	36%	69%		1.45	6.2	5.9									12,413	14,468				12,413	14,468		
2/20/2018	FALSE	FALSE	FALSE	3.1	8.5	6.0	52%	36%	70%		1.43	6.2	5.9									12,413	14,468				12,413	14,468		
2/21/2018	FALSE	FALSE	FALSE	3.1	8.3	5.9	53%	38%	71%		1.40	6.2	5.9	254	293	1.15		12,547	14,491			12,430	14,471		12,547	14,491	12,430	14,471		
2/22/2018	FALSE	FALSE	FALSE	3.4	8.4	6.0	57%	41%	72%		1.40	6.1	5.9	267	268	1.00		13,393	13,433			12,537	14,341		13,393	13,433	12,537	14,341		
2/23/2018	FALSE	FALSE	FALSE	3.3	8.2	5.9	56%	40%	72%		1.39	6.1	5.9									12,537	14,341				12,537	14,341		
2/24/2018	FALSE	FALSE	FALSE	3.3	9.0	5.9	57%	37%	65%		1.53	6.1	5.9									12,606	14,301				12,606	14,301		
2/25/2018	FALSE	FALSE	FALSE	3.3	8.8	6.0	55%	37%	67%		1.48	6.0	5.9									12,851	13,923				12,851	13,923		
2/26/2018	FALSE	FALSE	FALSE	3.4	8.3	6.0	56%	40%	71%		1.40	6.0	5.9									12,851	13,923				12,851	13,923		
2/27/2018	FALSE	FALSE	FALSE	3.1	8.4	5.9	53%	38%	71%		1.41	6.0	5.9									12,851	13,923				12,851	13,923		
2/28/2018	FALSE	FALSE	FALSE	3.2	8.8	6.0	53%	36%	68%		1.47	6.0	5.9	266				13,271				12,904	13,923		13,271		12,904	13,923		
3/1/2018	FALSE	FALSE	TRUE	3.5	9.1	6.8	52%	39%	74%		1.35	6.0	6.0	262	287	1.09		14,761	16,157			13,110	14,242		14,761	16,157	13,110	14,242		
3/2/2018	FALSE	FALSE	FALSE	3.5	9.2	6.7	53%	38%	72%		1.38	6.0	6.1									13,110	14,242				13,110	14,242		
3/3/2018	FALSE	FALSE	FALSE	3.4	9.7	6.4	53%	35%	66%		1.51	6.0	6.2									13,110	14,242				13,110	14,242		
3/4/2018	FALSE	FALSE	FALSE	3.3	9.6	6.3	53%	35%	65%		1.53	6.0	6.2									13,239	14,242				13,239	14,242		
3/5/2018	FALSE	FALSE	FALSE	3.2	8.7	6.2	52%	37%	72%		1.39	6.0	6.3									13,239	14,242				13,239	14,242		
3/6/2018	FALSE	FALSE	FALSE	3.3	8.8	6.3	52%	37%	71%		1.41	6.0	6.3									13,239	14,242				13,239	14,242		
3/7/2018	FALSE	FALSE	TRUE	3.4	8.7	6.3	54%	39%	72%		1.39	6.0	6.4	237	237	1.00		12,404	12,393			13,146	14,011		12,404	12,393	13,146	14,011		
3/8/2018	FALSE	FALSE	TRUE	3.5	8.5	6.4	55%	41%	75%		1.33	6.0	6.4	246	256	1.04		13,114	13,664			13,143	13,972		13,114	13,664	13,143	13,972		
3/9/2018	FALSE	FALSE	FALSE	3.5	8.8	6.3	55%	40%	72%		1.39	6.1	6.3									13,143	13,972				13,143	13,972		
3/10/2018	FALSE	FALSE	FALSE	3.5	9.1	6.2	55%	38%	68%		1.46	6.1	6.3									13,143	13,972				13,143	13,972		
3/11/2018	FALSE	FALSE	FALSE	3.4	9.0	6.2	55%	38%	69%		1.44	6.1	6.3									12,960	13,811				12,960	13,811		
3/12/2018	FALSE	FALSE	TRUE	3.4	8.8	6.3	54%	38%	71%		1.40	6.1	6.3									13,060	13,920				13,060	13,920		
3/13/2018	FALSE	FALSE	TRUE	3.5	9.5	6.9	51%	37%	73%		1.37	6.1	6.4									13,060	13,920				13,060	13,920		
3/14/2018	FALSE	FALSE	TRUE	3.6	9.3	7.2	51%	39%	77%		1.30	6.2	6.5									13,060	13,920				13,060	13,920		
3/15/2018	FALSE	FALSE	TRUE	3.6	9.8	7.3	49%	37%	74%		1.35	6.2	6.6									13,060	13,920				13,060	13,920		
3/16/2018	TRUE	TRUE	FALSE	3.9	9.6	7.2	54%	40%	75%		1.34	6.2	6.7	182	216	1.18		10,907	12,916			12,821	13,794		10,907	12,916	12,821	13,794		
3/17/2018	TRUE	TRUE	FALSE	3.6	9.0	6.5	55%	40%	73%		1.37	6.3	6.7									12,821	13,794				12,821	13,794		
3/18/2018	TRUE	TRUE	FALSE	3.3	8.3	6.1	55%	40%	73%		1.36	6.3	6.7									12,866	13,792				12,866	13,792		
3/19/2018	TRUE	TRUE	FALSE	3.2	7.6	5.9	55%	43%	78%		1.29	6.3	6.7	62				3,040			TSS	12,914	13,842		3,040		12,914	13,842		
3/20/2018	TRUE	TRUE	TRUE	3.2	8.0	5.9	54%	40%	74%		1.35	6.3	6.6									12,914	13,842				12,914	13,842		
3/21/2018	TRUE	TRUE	TRUE	3.9	10.8	8.0	49%	36%	73%		1.36	6.3	6.7	228	248	1.09		15,097	16,443			13,187	14,214		15,097	16,443	13,187	14,214		
3/22/2018	TRUE	TRUE	TRUE	5.5	11.5	9.4	58%	48%	82%		1.23	6.5	7.0	184	157	0.86		14,363	12,282			13,317	13,972		14,363	12,282	13,317	13,972		
3/23/2018	TRUE	TRUE	FALSE	5.0	10.3	8.0	62%	48%	78%		1.28	6.5	7.1									13,317	13,972				13,317	13,972		
3/24/2018	TRUE	TRUE	TRUE	4.3	9.6	7.2	59%	45%	75%		1.33	6.6	7.1									13,414	13,898				13,414	13,898		
3/25/2018	TRUE	TRUE	FALSE	3.3	9.7	7.1	47%	35%	73%		1.37	6.6	7.2									13,417	13,976				13,417	13,976		
3/26/2018	TRUE	TRUE	FALSE	3.4	9.3	7.0	48%	36%	75%		1.33	6.6	7.3									13,417	13,976				13,417	13,976		
3/27/2018	FALSE	FALSE	FALSE	3.5	9.7	6.8	52%	36%	70%		1.42	6.7	7.4									13,417	13,976				13,417	13,976		
3/28/2018	FALSE	FALSE	FALSE	3.4	9.8	6.7	51%	35%	68%		1.46	6.7	7.5	194	233	1.20		10,819	13,000			13,092	13,837		10,819	13,000	13,092	13,837		
3/29/2018	FALSE	FALSE	FALSE	3.6	9.4	6.6	54%	38%	71%		1.41	6.7	7.4	203	227	1.12		11,214	12,552			12,883	13,676		11,214	12,552	12,883	13,676		
3/30/2018	FALSE	FALSE	FALSE	3.4	9.2	6.5	53%	37%	71%		1.42	6.7	7.0									12,883								

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Flow, mgd	7-d Avg of Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
4/8/2018	FALSE	FALSE	FALSE	5.7	12.1	9.1	63%	47%	75%		1.34	6.9	7.0									12,480	13,439				12,480	13,439		
4/9/2018	FALSE	FALSE	FALSE	4.4	11.1	8.2	54%	40%	74%		1.36	6.9	7.3									12,480	13,439				12,480	13,439		
4/10/2018	FALSE	FALSE	TRUE	4.3	10.9	7.6	56%	39%	70%		1.43	7.0	7.5									12,480	13,439				12,480	13,439		
4/11/2018	FALSE	FALSE	TRUE	3.9	10.4	7.5	52%	38%	72%		1.39	7.0	7.6									12,480	13,439				12,480	13,439		
4/12/2018	FALSE	FALSE	FALSE	3.8	10.1	7.1	54%	38%	70%		1.43	7.0	7.7									12,480	13,439				12,480	13,439		
4/13/2018	FALSE	FALSE	FALSE	3.4	9.5	6.7	50%	35%	70%		1.42	7.0	7.8									12,480	13,439				12,480	13,439		
4/14/2018	FALSE	FALSE	FALSE	3.5	9.2	6.4	54%	38%	70%		1.43	7.0	7.5									12,480	13,439				12,480	13,439		
4/15/2018	FALSE	FALSE	TRUE	3.4	9.4	6.6	51%	36%	70%		1.43	7.0	7.4									12,480	13,439				12,480	13,439		
4/16/2018	FALSE	FALSE	TRUE	3.3	9.8	7.0	47%	33%	71%		1.41	7.0	7.1									12,873	13,569				12,873	13,569		
4/17/2018	FALSE	FALSE	FALSE	3.7	10.1	7.1	52%	37%	70%		1.42	7.0	7.0				40		2,353	NH3		12,873	13,569			2,353	12,873	13,569		
4/18/2018	FALSE	FALSE	FALSE	3.5	9.8	6.8	52%	36%	70%		1.44	7.0	6.9				20		1,108			12,873	13,569	1,108		1,108	12,873	13,569	1,108	
4/19/2018	FALSE	FALSE	FALSE	3.5	9.4	6.6	52%	37%	70%		1.43	7.0	6.8									12,873	13,569	1,108			12,873	13,569	1,108	
4/20/2018	FALSE	FALSE	FALSE	3.4	9.0	6.3	54%	38%	71%		1.41	7.1	6.7									12,873	13,569	1,108			12,873	13,569	1,108	
4/21/2018	FALSE	FALSE	FALSE	3.4	8.8	6.1	55%	38%	69%		1.45	7.0	6.6									12,132	12,611	1,108			12,132	12,611	1,108	
4/22/2018	FALSE	FALSE	FALSE	3.3	8.9	6.1	54%	37%	69%		1.46	6.9	6.6									11,016	12,776	1,108			11,016	12,776	1,108	
4/23/2018	FALSE	FALSE	FALSE	3.2	9.2	6.2	52%	35%	67%		1.49	6.8	6.5									11,016	12,776	1,108			11,016	12,776	1,108	
4/24/2018	FALSE	FALSE	FALSE	3.3	8.8	6.2	53%	37%	70%		1.43	6.8	6.4				23		1,160			11,016	12,776	1,314		1,160	11,016	12,776	1,314	
4/25/2018	FALSE	FALSE	FALSE	3.2	9.0	6.1	53%	36%	68%		1.47	6.8	6.3				33		1,676			11,016	12,776	1,315		1,676	11,016	12,776	1,315	
4/26/2018	FALSE	FALSE	FALSE	3.2	8.9	6.1	53%	37%	69%		1.46	6.7	6.2				34		1,724			11,016	12,776	1,417		1,724	11,016	12,776	1,417	
4/27/2018	FALSE	FALSE	FALSE	3.3	8.6	6.1	54%	38%	70%		1.42	6.7	6.1									11,016	12,776	1,417			11,016	12,776	1,417	
4/28/2018	FALSE	FALSE	FALSE	3.2	8.8	5.9	54%	36%	67%		1.49	6.7	6.1									11,214	12,552	1,417			11,214	12,552	1,417	
4/29/2018	FALSE	FALSE	FALSE	3.1	8.5	5.8	54%	37%	69%		1.46	6.7	6.1									#DIV/0!	#DIV/0!	1,417			#DIV/0!	#DIV/0!	1,417	
4/30/2018	FALSE	FALSE	FALSE	3.1	8.6	6.0	52%	36%	69%		1.45	6.6	6.0									#DIV/0!	#DIV/0!	1,417			#DIV/0!	#DIV/0!	1,417	
5/1/2018	FALSE	FALSE	FALSE	3.2	8.7	5.9	54%	37%	68%		1.47	6.6	6.0									#DIV/0!	#DIV/0!	1,417			#DIV/0!	#DIV/0!	1,417	
5/2/2018	FALSE	FALSE	FALSE	3.3	8.5	6.0	54%	38%	70%		1.42	6.6	6.0	209	235	1.13	39	10,448	11,759	1,927		10,448	11,759	1,519	10,448	11,759	1,927	10,448	11,759	1,519
5/3/2018	FALSE	FALSE	FALSE	3.3	8.6	6.0	55%	38%	69%		1.45	6.6	6.0	231	248	1.07	37	11,482	12,327	1,829		10,965	12,043	1,571	11,482	12,327	1,829	10,965	12,043	1,571
5/4/2018	FALSE	FALSE	FALSE	3.2	8.3	6.0	54%	39%	72%		1.39	6.6	5.9									10,965	12,043	1,571			10,965	12,043	1,571	
5/5/2018	FALSE	FALSE	FALSE	3.3	8.3	5.9	55%	40%	72%		1.39	6.6	5.9									10,965	12,043	1,571			10,965	12,043	1,571	
5/6/2018	FALSE	FALSE	FALSE	3.3	8.1	5.8	56%	40%	72%		1.40	6.6	5.9									10,965	12,043	1,571			10,965	12,043	1,571	
5/7/2018	FALSE	FALSE	FALSE	3.1	8.6	5.8	53%	36%	68%		1.48	6.5	5.9									10,965	12,043	1,571			10,965	12,043	1,571	
5/8/2018	FALSE	FALSE	FALSE	3.3	8.3	5.9	56%	39%	70%		1.42	6.5	5.9									10,965	12,043	1,571			10,965	12,043	1,571	
5/9/2018	FALSE	FALSE	FALSE	3.2	8.8	6.0	54%	37%	68%		1.47	6.4	5.9	323	299	0.93	40	16,067	14,887	2,007		12,666	12,991	1,633	16,067	14,887	2,007	12,666	12,991	1,633
5/10/2018	FALSE	FALSE	FALSE	3.2	8.6	5.9	55%	38%	69%		1.45	6.3	5.9	265	284	1.07	39	13,069	14,022	1,926		12,767	13,249	1,669	13,069	14,022	1,926	12,767	13,249	1,669
5/11/2018	FALSE	FALSE	FALSE	3.2	8.2	5.8	55%	39%	71%		1.41	6.2	5.9									12,767	13,249	1,669			12,767	13,249	1,669	
5/12/2018	FALSE	FALSE	FALSE	3.3	8.4	5.7	57%	39%	68%		1.47	6.2	5.9									12,767	13,249	1,669			12,767	13,249	1,669	
5/13/2018	FALSE	FALSE	FALSE	3.2	8.3	5.7	56%	38%	68%		1.47	6.1	5.8									12,767	13,249	1,669			12,767	13,249	1,669	
5/14/2018	FALSE	FALSE	FALSE	3.2	8.2	5.9	54%	39%	71%		1.40	6.1	5.8									12,767	13,249	1,669			12,767	13,249	1,669	
5/15/2018	FALSE	FALSE	FALSE	3.2	8.5	5.9	54%	38%	70%		1.44	6.1	5.8									12,767	13,249	1,669			12,767	13,249	1,669	
5/16/2018	FALSE	FALSE	FALSE	3.3	8.4	6.0	55%	39%	71%		1.41	6.1	5.9	301	303	1.01	42	14,967	15,086	2,106	NH3	12,767	13,249	1,669	14,967	15,086	2,106	12,767	13,249	1,669
5/17/2018	FALSE	FALSE	FALSE	3.2	8.2	5.8	55%	39%	71%		1.41	6.0	5.8	277	298	1.08	39	13,450	14,465	1,883		12,903	13,492	1,693	13,450	14,465	1,883	12,903	13,492	1,693
5/18/2018	FALSE	FALSE	FALSE	3.3	8.5	5.9	55%	38%	70%		1.42	6.0	5.8									12,903	13,492	1,693			12,903	13,492	1,693	
5/19/2018	FALSE	FALSE	FALSE	3.3	8.2	5.8	57%	40%	70%		1.42	6.0	5.8									12,903	13,492	1,766			12,903	13,492	1,766	
5/20/2018	FALSE	TRUE	FALSE	3.2	8.1	5.7	56%	39%	70%		1.44	5.9	5.8									12,903	13,492	1,766			12,903	13,492	1,766	
5/21/2018	FALSE	TRUE	FALSE	3.2	8.2	5.6	57%	39%	68%		1.46	5.9	5.8									12,903	13,492	1,766			12,903	13,492	1,766	
5/22/2018	FALSE	TRUE	FALSE	3.3	7.8	5.5	59%	42%	71%		1.41	5.9	5.8									12,903	13,492	1,766			12,903	13,492	1,766	
5/23/2018	FALSE	TRUE	FALSE	3.2	7.9	5.5	58%	41%	70%		1.42	5.9	5.7									12,903	13,492	1,766			12,903	13,492	1,766	
5/24/2018	FALSE	TRUE	FALSE	3.2	7.8	5.5	58%	41%	71%		1.41	5.9	5.7	400	317	0.79	46	18,415	14,594	2,095	NH3	12,903	13,492	1,766	18,415	14,594	2,095	12,903	13,492	1,766
5/25/2018	TRUE	TRUE	TRUE	3.2	7.7	5.8	55%	41%	75%		1.34	5.8	5.7	323	441	1.36	35	15,504	21,148	1,664	BOD	12,903	13,492	1,853	15,504	21,148	1,664	12,903	13,492	1,853
5/26/2018	TRUE	TRUE	TRUE	3.2	7.8	5.4	60%	41%	68%		1.46	5.8	5.6									12,903	13,492	1,883			12,903	13,492	1,883	
5/27/2018	TRUE	TRUE	FALSE	3.1	7.2	5.1	62%	44%	71%		1.42	5.8	5.5									12,903	13,492	1,914			12,903	13,492	1,914	
5/28/2018	TRUE	TRUE	FALSE	3.2	7.3	5.3	61%	44%	72%		1.39	5.8	5.5									12,903	13,492	1,914			12,903	13,492	1,914	
5/29/2018	TRUE	TRUE	FALSE	3.2	7.7	5.4	59%	42%	70%		1.43	5.7	5.4									12,903	13,492	1,914			12,903	13,492	1,914	
5/30/2018	TRUE	TRUE	FALSE	3.3	7.8	5.5	59%	42%	70%		1.42	5.7	5.4	248	367	1.48	38	11,378	16,865	1,732		12,649	14,054	1,884	11,378	16,865	1,732	12,649	14,054	1,884
5/31/2018	TRUE	TRUE	FALSE	3.2	8.1	5.5																								

Date	Butte Break?	CSU Break?	Precip?	Min Influent Flow, mgd	Max Influent Flow, mgd	Avg Influent Flow, mgd	Min % of Avg	Min % of Max	Avg % of Max	Flow Outlier Type	Diurnal Peak Factor (DPF)	30-d Avg of Avg Flow, mgd	7-d Avg of Avg Flow, mgd	Influent TSS Conc., mg/L	Influent BOD Conc., mg/L	BOD/TSS Ratio	Influent NH3-N Conc., mg/L	Avg Inf TSS Load, ppd	Avg Inf BOD Load, ppd	Avg Inf NH3 Load, ppd	Load Outlier Type	30-d Avg of TSS Load, ppd	30-d Avg of BOD Load, ppd	30-d Avg of NH3-N Load, ppd	non-SN TSS Load, ppd	non-SN BOD Load, ppd	non-SN NH3 Load, ppd	30-d Avg of non-SN TSS Load, ppd	30-d Avg of non-SN BOD Load, ppd	30-d Avg of non-SN NH3-N Load, ppd
6/11/2018	TRUE	TRUE	FALSE	3.1	7.2	5.2	59%	43%	73%		1.37	5.5	5.3									12,142	14,211	1,769				12,142	14,211	1,769
6/12/2018	TRUE	TRUE	FALSE	3.2	7.1	5.2	60%	44%	73%		1.37	5.5	5.3									12,142	14,211	1,769				12,142	14,211	1,769
6/13/2018	TRUE	TRUE	FALSE	3.3	7.3	5.3	62%	44%	72%		1.39	5.5	5.2	288	257	0.89	39	12,628	11,253	1,712		12,223	13,718	1,759	12,628	11,253	1,712	12,223	13,718	1,759
6/14/2018	TRUE	TRUE	FALSE	3.1	7.4	5.3	59%	42%	72%		1.39	5.4	5.2	279	266	0.95		12,258	11,691			12,228	13,429	1,759	12,258	11,691		12,228	13,429	1,759
6/15/2018	TRUE	TRUE	FALSE	3.2	7.1	5.2	60%	45%	74%		1.35	5.4	5.2									12,228	13,429	1,759				12,228	13,429	1,759
6/16/2018	TRUE	TRUE	FALSE	3.2	6.9	5.1	63%	46%	74%		1.36	5.4	5.2									12,228	13,429	1,759				12,228	13,429	1,759
6/17/2018	TRUE	TRUE	FALSE	3.1	6.8	5.0	62%	46%	74%		1.36	5.4	5.2									12,024	13,256	1,734				12,024	13,256	1,734
6/18/2018	TRUE	TRUE	FALSE	3.1	6.9	5.3	60%	46%	77%		1.30	5.3	5.2									12,024	13,256	1,734				12,024	13,256	1,734
6/19/2018	TRUE	TRUE	FALSE	3.3	7.2	5.3	62%	46%	73%		1.36	5.3	5.2									12,024	13,256	1,734				12,024	13,256	1,734
6/20/2018	TRUE	TRUE	FALSE	3.2	7.3	5.3	60%	44%	72%		1.38	5.3	5.2	284	298	1.05	39	12,439	13,048	1,699		12,083	13,226	1,728	12,439	13,048	1,699	12,083	13,226	1,728
6/21/2018	TRUE	TRUE	FALSE	3.2	7.2	5.3	61%	45%	74%		1.36	5.3	5.2	335	283	0.84		14,756	12,462			12,417	13,131	1,728	14,756	12,462		12,417	13,131	1,728
6/22/2018	TRUE	TRUE	FALSE	3.2	7.0	5.2	61%	46%	74%		1.35	5.3	5.2									12,417	13,131	1,728				12,417	13,131	1,728
6/23/2018	TRUE	TRUE	FALSE	3.2	7.0	5.0	64%	46%	72%		1.39	5.3	5.2									12,417	13,131	1,728				12,417	13,131	1,728
6/24/2018	TRUE	TRUE	FALSE	3.1	6.8	5.0	63%	46%	73%		1.38	5.3	5.2									12,417	13,131	1,728				12,417	13,131	1,728
6/25/2018	TRUE	TRUE	FALSE	3.2	6.9	5.3	61%	46%	76%		1.31	5.2	5.2									12,417	13,131	1,728				12,417	13,131	1,728
6/26/2018	TRUE	TRUE	FALSE	3.2	7.4	5.3	60%	43%	72%		1.39	5.2	5.2									12,417	13,131	1,728				12,417	13,131	1,728
6/27/2018	TRUE	TRUE	FALSE	3.2	7.3	5.3	60%	43%	72%		1.39	5.2	5.2	377	246	0.65		16,570	10,812			12,879	12,873	1,728	16,570	10,812		12,879	12,873	1,728
6/28/2018	TRUE	TRUE	FALSE	3.2	7.2	5.3	61%	45%	74%		1.35	5.2	5.2	251	234	0.93		11,057	10,304			12,697	12,616	1,728	11,057	10,304		12,697	12,616	1,728
6/29/2018	TRUE	TRUE	FALSE	3.2	7.1	5.2	61%	45%	73%		1.37	5.2	5.2									12,697	12,616	1,728				12,697	12,616	1,728
6/30/2018	TRUE	TRUE	FALSE	3.2	7.1	5.1	63%	45%	71%		1.41	5.2	5.2									12,843	12,144	1,728				12,843	12,144	1,728

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Appendix C

SUMMARY OF RECOMMENDED ASSET REPLACEMENTS THROUGH PLANNING PERIOD

Table C.1 Summary of Recommended Replacements Through Planning Period

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
02 - Primary Treatment	PC 1 & 2 pump pit	\$1,047,000	2018
07 - Disinfection	AAC1	\$524,000	2018
11 - Solids Digestion	Sludge Heater 1 (Digester Control Building)	\$447,000	2018
11 - Solids Digestion	Sludge Heater 2 (Digester Control Building)	\$447,000	2018
03 - Aeration	Aeration Basin 3 Air Diffusers	\$392,000	2018
03 - Aeration	Aeration Basin 4 Air Diffusers	\$392,000	2018
12 - Solids Dewatering	Screw Conveyor 1	\$339,000	2018
00 - Other Plant Systems	Deep Well Pump No. 1	\$270,000	2018
11 - Solids Digestion	Boiler Building No. 3	\$262,000	2018
04 - Secondary Treatment	MCC-EP-1	\$157,000	2018
10 - Solids Thickening	Motor Control Center EP5	\$157,000	2018
07 - Disinfection	Mixer	\$107,000	2018
08 - Chemical Building	CSS Pump 1	\$41,000	2018
08 - Chemical Building	CSS Pump 2	\$41,000	2018
08 - Chemical Building	SBS Recirculation Pump 1	\$41,000	2018
08 - Chemical Building	SHS Pump 1	\$41,000	2018
12 - Solids Dewatering	Grinder	\$38,000	2018
07 - Disinfection	Chlorine contact basin 3 Sample Pump	\$22,000	2018
07 - Disinfection	Chlorine contact basin 4 Sample Pump	\$22,000	2018
02 - Primary Treatment	Composite Sampler	\$22,000	2018
07 - Disinfection	Composite Sampler	\$22,000	2018
07 - Disinfection	Sample Pumps	\$22,000	2018
02 - Primary Treatment	Primary Scum Trough 5 (w/ Rotork Actuator)	\$22,000	2018
02 - Primary Treatment	Primary Scum Trough 6 (w/ Rotork Actuator)	\$22,000	2018

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
04 - Secondary Treatment	Mixed Liquor Automatic Sampler	\$22,000	2018
10 - Solids Thickening	Recycle Pressurization Pumps Nos. 1	\$15,000	2018
10 - Solids Thickening	Recycle Pressurization Pumps Nos. 2	\$15,000	2018
10 - Solids Thickening	Recycle Pressurization Pumps Nos. 3	\$15,000	2018
10 - Solids Thickening	Recycle Pressurization Pumps Nos. 4	\$15,000	2018
12 - Solids Dewatering	2W Flowmeter	\$11,000	2018
03 - Aeration	Aeration Tank Nos. 3 Aeration Air Flowmeters	\$11,000	2018
03 - Aeration	Aeration Tank Nos. 4 Aeration Air Flowmeters	\$11,000	2018
07 - Disinfection	CCB Flow Meters 1	\$11,000	2018
07 - Disinfection	CCB Flow Meters 2	\$11,000	2018
11 - Solids Digestion	Digester Gas Flow Meter 33	\$11,000	2018
11 - Solids Digestion	Digester Gas Flow Meter 34	\$11,000	2018
11 - Solids Digestion	Digester Gas Flow Meter 513	\$11,000	2018
11 - Solids Digestion	Digester Gas Flow Meter 514	\$11,000	2018
07 - Disinfection	Magnetic Flowmeter	\$11,000	2018
03 - Aeration	Nos. 3, 4, 5, and 6 Channel Air Flowmeter	\$11,000	2018
12 - Solids Dewatering	Polymer Flowmeter	\$11,000	2018
07 - Disinfection	Propeller Flowmeter	\$11,000	2018
07 - Disinfection	Ultrasonic Flowmeter	\$11,000	2018
12 - Solids Dewatering	Air Compressor	\$10,000	2018
10 - Solids Thickening	DAFT Air Compressor No. 1	\$10,000	2018
10 - Solids Thickening	DAFT Air Compressor No. 2	\$10,000	2018
02 - Primary Treatment	Electrical Room Air Conditioning Unit	\$10,000	2018

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
11 - Solids Digestion	Electrical Room Heat Pump 1	\$10,000	2018
11 - Solids Digestion	Electrical Room Heat Pump 4	\$10,000	2018
11 - Solids Digestion	Gas Mixing Compressor 1	\$10,000	2018
07 - Disinfection	PLC Input-Output Panel	\$10,000	2018
02 - Primary Treatment	PLC-H old Headwork and primary sludge	\$10,000	2018
10 - Solids Thickening	Unit Electric Heater	\$10,000	2018
11 - Solids Digestion	Unit Heater 1	\$10,000	2018
12 - Solids Dewatering	Unit Heater 1	\$10,000	2018
11 - Solids Digestion	Unit Heater 2	\$10,000	2018
12 - Solids Dewatering	Unit Heater 2	\$10,000	2018
12 - Solids Dewatering	Unit Heater 3	\$10,000	2018
12 - Solids Dewatering	Unit Heater 4	\$10,000	2018
13 - Plant Power Systems	LCP-PCP-47	\$9,000	2018
11 - Solids Digestion	Digester Pump Pit Sump Pump 1	\$8,000	2018
11 - Solids Digestion	Digester Pump Pit Sump Pump 2	\$8,000	2018
10 - Solids Thickening	Duplex Sump Pump 1	\$8,000	2018
10 - Solids Thickening	Duplex Sump Pump 2	\$8,000	2018
02 - Primary Treatment	Exhaust Fan	\$5,000	2018
11 - Solids Digestion	Exhaust Fan 1	\$5,000	2018
12 - Solids Dewatering	Exhaust Fan 1	\$5,000	2018
11 - Solids Digestion	Exhaust Fan 2	\$5,000	2018

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
12 - Solids Dewatering	Exhaust Fan 2	\$5,000	2018
11 - Solids Digestion	Exhaust Fan 3	\$5,000	2018
12 - Solids Dewatering	Exhaust Fan 3	\$5,000	2018
11 - Solids Digestion	Exhaust Fan 4	\$5,000	2018
02 - Primary Treatment	Supply Fan	\$5,000	2018
11 - Solids Digestion	Supply Fan 1	\$5,000	2018
12 - Solids Dewatering	Supply Fan 1	\$5,000	2018
11 - Solids Digestion	Supply Fan 2	\$5,000	2018
12 - Solids Dewatering	Supply Fan 2	\$5,000	2018
12 - Solids Dewatering	Supply Fan 3	\$5,000	2018
12 - Solids Dewatering	Supply Fan 4	\$5,000	2018
12 - Solids Dewatering	Supply Fan 5	\$5,000	2018
12 - Solids Dewatering	Supply Fan 6	\$5,000	2018
12 - Solids Dewatering	Supply Fan 7	\$5,000	2018
00 - Other Plant Systems	3W Pressure Transmitter	\$1,000	2018
02 - Primary Treatment	Combustible Gas Detector	\$1,000	2018
07 - Disinfection	Level Indicator	\$1,000	2018
00 - Other Plant Systems	Deep Well Pump No. 2	\$270,000	2020
10 - Solids Thickening	Polymer Feed System	\$41,000	2020
02 - Primary Treatment	Primary Clarifier 1	\$367,000	2022
02 - Primary Treatment	Primary Clarifier 2	\$367,000	2022

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
02 - Primary Treatment	Primary Clarifier 1 Motor and Chains	\$707,000	2022
02 - Primary Treatment	Primary Clarifier 2 Motor and Chains	\$707,000	2022
04 - Secondary Treatment	Secondary Clarifier Sludge Collector 4	\$576,000	2022
11 - Solids Digestion	Digester Control Building No. 2	\$471,000	2022
11 - Solids Digestion	Sludge Heater 3 (Boiler Building No. 2)	\$447,000	2022
04 - Secondary Treatment	MCC-P1	\$157,000	2022
00 - Other Plant Systems	MCC-P2/EP-2	\$157,000	2022
02 - Primary Treatment	Gate 1	\$57,000	2022
02 - Primary Treatment	Primary Effluent Motor 2	\$52,000	2022
02 - Primary Treatment	Primary Effluent Motor 3	\$52,000	2022
11 - Solids Digestion	PLC Input-Output Panel 1	\$10,000	2022
03 - Aeration	PLC Panel B	\$10,000	2022
08 - Chemical Building	PLC Panel C	\$10,000	2022
04 - Secondary Treatment	PLC Panel R	\$10,000	2022
10 - Solids Thickening	PLC Input-Output Panel	\$9,000	2022
12 - Solids Dewatering	PLC Input-Output Panel	\$9,000	2022
12 - Solids Dewatering	Centrifuge 1	\$2,031,000	2027
02 - Primary Treatment	Primary Clarifier 3 Motor and Chains	\$707,000	2027
04 - Secondary Treatment	Secondary Clarifier Sludge Collector 3	\$576,000	2027
04 - Secondary Treatment	SWGP1	\$314,000	2027
13 - Plant Power Systems	Switchboard P2	\$314,000	2027

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
02 - Primary Treatment	Primary Effluent Pump 1 VFD	\$292,000	2027
02 - Primary Treatment	Primary Effluent Pump 2 VFD	\$292,000	2027
02 - Primary Treatment	Primary Effluent Pump 3 VFD	\$292,000	2027
02 - Primary Treatment	Primary Effluent Pump Unit 2	\$270,000	2027
02 - Primary Treatment	Primary Effluent Pump Unit 3	\$270,000	2027
10 - Solids Thickening	DAFT No. 2 Collector Drive	\$157,000	2027
10 - Solids Thickening	Motor Control Center MCC-P3	\$157,000	2027
04 - Secondary Treatment	Motor Control Center P11-A	\$157,000	2027
03 - Aeration	Motor Control Center P8	\$157,000	2027
11 - Solids Digestion	Digester Transfer Pump 1	\$118,000	2027
11 - Solids Digestion	Digester Transfer/ Recirculation Pumps 6	\$118,000	2027
11 - Solids Digestion	Digester Transfer/ Recirculation Pumps 7	\$118,000	2027
11 - Solids Digestion	Digester Transfer/ Recirculation Pumps 9	\$118,000	2027
11 - Solids Digestion	Sludge Mixing Pump 1	\$118,000	2027
11 - Solids Digestion	Sludge Mixing Pump 2	\$118,000	2027
11 - Solids Digestion	Sludge Mixing Pump 3	\$118,000	2027
11 - Solids Digestion	Digester Recirculation Pump 1	\$93,000	2027
11 - Solids Digestion	Digester Recirculation Pump 2	\$93,000	2027
02 - Primary Treatment	Primary Sludge Pump 4	\$75,000	2027
02 - Primary Treatment	Primary Sludge Pump 5	\$75,000	2027
04 - Secondary Treatment	Return Activated Sludge Pump 7	\$75,000	2027

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
04 - Secondary Treatment	Return Activated Sludge Pump 8	\$75,000	2027
10 - Solids Thickening	Thickened Sludge Pumps Nos. 1 (TWAS Pumps)	\$75,000	2027
10 - Solids Thickening	Thickened Sludge Pumps Nos. 2 (TWAS Pumps)	\$75,000	2027
10 - Solids Thickening	Thickened Sludge Pumps Nos. 3 (TWAS Pumps)	\$75,000	2027
10 - Solids Thickening	Thickened Sludge Pumps Nos. 4 (TWAS Pumps)	\$75,000	2027
04 - Secondary Treatment	Waste Activated Sludge Pump 3	\$75,000	2027
04 - Secondary Treatment	Waste Activated Sludge Pump 4	\$75,000	2027
00 - Other Plant Systems	3W Pumps Nos. 2,	\$71,000	2027
00 - Other Plant Systems	3W Pumps Nos. 1	\$71,000	2027
00 - Other Plant Systems	3W Pumps Nos. 3	\$71,000	2027
00 - Other Plant Systems	3W Pumps Nos. 4	\$71,000	2027
07 - Disinfection	Storm water Pumps	\$71,000	2027
02 - Primary Treatment	Gate 2	\$57,000	2027
02 - Primary Treatment	Gate 3	\$57,000	2027
02 - Primary Treatment	Gate 4	\$57,000	2027
02 - Primary Treatment	Gate 5	\$57,000	2027
02 - Primary Treatment	Gate 6	\$57,000	2027
02 - Primary Treatment	Gate 7	\$57,000	2027
07 - Disinfection	Sluice Gate	\$57,000	2027
07 - Disinfection	Sluice Gates	\$57,000	2027
03 - Aeration	Tank 3 Inlet Hydro Gate	\$57,000	2027
03 - Aeration	Tank 4 Inlet Hydro Gate	\$57,000	2027
02 - Primary Treatment	Primary Clarifier Sludge Collector Drive 1	\$52,000	2027

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
02 - Primary Treatment	Primary Clarifier Sludge Collector Drive 2	\$52,000	2027
02 - Primary Treatment	Primary Clarifier Sludge Collector Drive 3	\$52,000	2027
02 - Primary Treatment	Primary Effluent Motor 1	\$52,000	2027
03 - Aeration	Tank 3 Inlet Hydro Gate	\$43,000	2027
03 - Aeration	Tank 3 Outlet Gate	\$43,000	2027
03 - Aeration	Tank 4 Inlet Hydro Gate	\$43,000	2027
03 - Aeration	Tank 4 Outlet Gate	\$43,000	2027
02 - Primary Treatment	Primary Effluent Pump 4 VFD	\$26,000	2027
13 - Plant Power Systems	Transformer No. 1	\$26,000	2027
00 - Other Plant Systems	Main Loop Hot Water Pumps	\$25,000	2027
02 - Primary Treatment	Primary Scum Pump	\$13,000	2027
12 - Solids Dewatering	Centrifuge No. 2 Control Panel	\$9,000	2027
12 - Solids Dewatering	Centrifuge No. 2 Starter Panel	\$9,000	2027
12 - Solids Dewatering	Dewatering Control Panel	\$9,000	2027
12 - Solids Dewatering	Fan Control Panel	\$9,000	2027
13 - Plant Power Systems	Standby Generator No. 2 Control Panel	\$10,000	2027
03 - Aeration	Aeration Tank Nos. 3 and 4 Dissolved Oxygen Meters 1	\$10,000	2028
03 - Aeration	Aeration Tank Nos. 3 and 4 Dissolved Oxygen Meters 2	\$10,000	2028
03 - Aeration	Aeration Tank Nos. 3 and 4 Dissolved Oxygen Meters 3	\$10,000	2028
03 - Aeration	Aeration Tank Nos. 3 and 4 Dissolved Oxygen Meters 4	\$10,000	2028
03 - Aeration	Aeration Tank Nos. 5 and 6 Dissolved Oxygen Meters 5	\$10,000	2028
07 - Disinfection	Residual Chlorine Analyzers	\$6,000	2028
03 - Aeration	Aeration Basin 5 Air Diffusers	\$392,000	2029
03 - Aeration	Aeration Basin 6 Air Diffusers	\$392,000	2029

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
12 - Solids Dewatering	Screw Conveyor 2	\$339,000	2029
12 - Solids Dewatering	Screw Conveyor 3	\$339,000	2029
01 - Headworks	Shaftless Screw Conveyor No. 1	\$339,000	2029
13 - Plant Power Systems	Substation, No. 1 (12kV Switchgear)	\$314,000	2029
01 - Headworks	Mechanical Bar Screen No. 1	\$305,000	2029
01 - Headworks	Mechanical Bar Screen No. 2	\$305,000	2029
02 - Primary Treatment	Primary Effluent Pump Unit 1	\$270,000	2029
02 - Primary Treatment	MCC-EP7 ADD-ON	\$157,000	2029
12 - Solids Dewatering	Motor Control Center P10	\$157,000	2029
04 - Secondary Treatment	Motor Control Center P11	\$157,000	2029
08 - Chemical Building	Motor Control Center P12	\$157,000	2029
11 - Solids Digestion	Motor Control Center P15	\$157,000	2029
11 - Solids Digestion	Motor Control Center P9	\$157,000	2029
01 - Headworks	Vortex Grit Chamber Drive No. 1	\$157,000	2029
01 - Headworks	Vortex Grit Chamber Drive No. 2	\$157,000	2029
01 - Headworks	Screenings Washer/Compactor No. 1	\$146,000	2029
01 - Headworks	Screenings Washer/Compactor No. 2	\$146,000	2029
01 - Headworks	Grit Cyclone Separator and Classifier No. 1	\$143,000	2029
01 - Headworks	Grit Cyclone Separator and Classifier No. 2	\$143,000	2029
07 - Disinfection	Chlorine contact basin 3 SHS Induction Mixer	\$107,000	2029
07 - Disinfection	Chlorine contact basin 4 SHS Induction Mixer	\$107,000	2029
12 - Solids Dewatering	Polymer Mixing Pump 1	\$69,000	2029
12 - Solids Dewatering	Polymer Mixing Pump 2	\$69,000	2029
01 - Headworks	Manual Bar Rack	\$55,000	2029

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
12 - Solids Dewatering	Polymer Blending Unit 1	\$41,000	2029
12 - Solids Dewatering	Polymer Blending Unit 2	\$41,000	2029
08 - Chemical Building	SBS Recirculation Pump 2	\$41,000	2029
01 - Headworks	Biofilter Fan No. 1	\$34,000	2029
01 - Headworks	Biofilter Fan No. 2	\$34,000	2029
01 - Headworks	Grit Basement Exhaust Fan	\$34,000	2029
01 - Headworks	Grit Basement Supply Fan	\$34,000	2029
13 - Plant Power Systems	Transformer	\$26,000	2029
01 - Headworks	Automatic Sampler	\$22,000	2029
07 - Disinfection	Sample Pumps	\$22,000	2029
03 - Aeration	Aeration Tank Nos. 5 Aeration Air Flowmeters	\$11,000	2029
03 - Aeration	Aeration Tank Nos. 6 Aeration Air Flowmeters	\$11,000	2029
12 - Solids Dewatering	Centrifuge Feed Flowmeter 2	\$11,000	2029
11 - Solids Digestion	Digester Gas Flow Meter 545	\$11,000	2029
01 - Headworks	Ferric Chloride Flow Meter ⁽²⁾	\$11,000	2029
01 - Headworks	Headworks Drain Flow Meter	\$11,000	2029
08 - Chemical Building	SHS Flow Meter 310	\$11,000	2029
08 - Chemical Building	SHS Flow Meter 319	\$11,000	2029
03 - Aeration	Blower Building No. 2 Elect. Room Heat Pump	\$11,000	2029
08 - Chemical Building	Electrical Room Heat Pump	\$10,000	2029
00 - Other Plant Systems	Hydropneumatic Tank No. 1 Air Compressor	\$10,000	2029
01 - Headworks	PLC Input-Output Panel	\$10,000	2029
02 - Primary Treatment	PLC Input-Output Panel	\$10,000	2029
11 - Solids Digestion	PLC Input-Output Panel 2	\$10,000	2029
03 - Aeration	PLC Panel BB	\$10,000	2029

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
04 - Secondary Treatment	PLC Panel RR	\$10,000	2029
04 - Secondary Treatment	RAS Pump Station Heat Pump	\$10,000	2029
08 - Chemical Building	Unit Heater 1	\$10,000	2029
08 - Chemical Building	Unit Heater 2	\$10,000	2029
08 - Chemical Building	Unit Heater 3	\$10,000	2029
08 - Chemical Building	Unit Heater 4	\$10,000	2029
03 - Aeration	Aeration Tank Nos. 3, 4, 5, and 6 TSS Analyzers	\$10,000	2029
11 - Solids Digestion	Digester Pump Pit Sump Pump 3	\$8,000	2029
11 - Solids Digestion	Digester Pump Pit Sump Pump 4	\$8,000	2029
01 - Headworks	Grit Basement Sump Pump No. 1	\$8,000	2029
01 - Headworks	Grit Basement Sump Pump No. 2	\$8,000	2029
13 - Plant Power Systems	489v switchboard	\$7,000	2029
13 - Plant Power Systems	Panel-P9A	\$7,000	2029
03 - Aeration	Blower Building Exhaust Fan 1	\$5,000	2029
03 - Aeration	Blower Building Exhaust Fan 2	\$5,000	2029
03 - Aeration	Blower Building Exhaust Fan 3	\$5,000	2029
03 - Aeration	Blower Building Supply Fan 2	\$5,000	2029
03 - Aeration	Blower Building Supply Fan 3	\$5,000	2029
03 - Aeration	Blower Building Supply Fan 4	\$5,000	2029
03 - Aeration	Blower Building Supply Fan 5	\$5,000	2029
10 - Solids Thickening	DAFT No. 1 Air Retention Tank Level Controller	\$5,000	2029
08 - Chemical Building	Exhaust Fan	\$5,000	2029
13 - Plant Power Systems	Automatic Transfer Switch	\$2,000	2029
10 - Solids Thickening	DAFT No. 1 Float Box Level Switch 1	\$2,000	2029

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
10 - Solids Thickening	DAFT No. 1 Float Box Level Switch 2	\$2,000	2029
10 - Solids Thickening	DAFT No. 1 Float Box Level Switch 3	\$2,000	2029
10 - Solids Thickening	DAFT No. 1 Float Box Level Switch 4	\$2,000	2029
01 - Headworks	Parshall Flume Flow Transmitter	\$1,000	2029
08 - Chemical Building	Tank Level Sensors	\$1,000	2029
12 - Solids Dewatering	Electrical Room Heat Pump	\$10,000	2030
11 - Solids Digestion	Digester 3 Level Sensor 1	\$1,000	2030
02 - Primary Treatment	Level Transmitter	\$1,000	2030
10 - Solids Thickening	DAFT No. 1	\$524,000	2032
03 - Aeration	Aeration Air Tank Inlet Valve 4	\$10,000	2032
03 - Aeration	Channel Air Tank Inlet Valve 1	\$10,000	2032
03 - Aeration	Channel Air Tank Inlet Valve 2	\$10,000	2032
03 - Aeration	Spray Water Solenoid Valve 10	\$10,000	2032
03 - Aeration	Spray Water Solenoid Valve 7	\$10,000	2032
03 - Aeration	Spray Water Solenoid Valve 8	\$10,000	2032
03 - Aeration	Spray Water Solenoid Valve 9	\$10,000	2032
02 - Primary Treatment	Duplex Sump Pump 1	\$8,000	2032
03 - Aeration	Aeration Blower 5 Inlet Valve	\$8,000	2032
03 - Aeration	Aeration Blower 6 Inlet Valve	\$8,000	2032
03 - Aeration	Aeration Blower 7 Inlet Valve	\$8,000	2032
03 - Aeration	Aeration Blower Blowoff Valve 5	\$8,000	2032
03 - Aeration	Aeration Blower Blowoff Valve 6	\$8,000	2032
03 - Aeration	Aeration Blower Blowoff Valve 7	\$8,000	2032
11 - Solids Digestion	Digester Inlet Feed Valve 1	\$8,000	2032
11 - Solids Digestion	Digester Inlet Feed Valve 2	\$8,000	2032
00 - Other Plant Systems	Three-way blending valves	\$8,000	2032
07 - Disinfection	Dechlorination Analyzer	\$6,000	2032

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
02 - Primary Treatment	Duplex Sump Pump 2	\$8,000	2033
13 - Plant Power Systems	Cogeneration Unit	\$2,001,000	2034
11 - Solids Digestion	Sludge Heater 1 (Boiler Building No. 1)	\$447,000	2034
02 - Primary Treatment	Primary Effluent Motor 4	\$52,000	2034
02 - Primary Treatment	Primary Scum Trough 1 (w/ Rotork Actuator)	\$21,000	2034
02 - Primary Treatment	Primary Scum Trough 2 (w/ Rotork Actuator)	\$21,000	2034
02 - Primary Treatment	Primary Scum Trough 3 (w/ Rotork Actuator)	\$21,000	2034
02 - Primary Treatment	Primary Scum Trough 4 (w/ Rotork Actuator)	\$21,000	2034
07 - Disinfection	Chlorine Analyzer	\$6,000	2034
01 - Headworks	PH/Temp Analyzer	\$6,000	2034
07 - Disinfection	CCB Flow Meters 3	\$11,000	2035
07 - Disinfection	CCB Flow Meters 4	\$11,000	2035
12 - Solids Dewatering	Centrifuge Feed Flowmeter 1	\$11,000	2036
11 - Solids Digestion	Digester Sludge Feed Flow Meter 1	\$11,000	2036
11 - Solids Digestion	Digester TWAS Feed Flow Meter 1	\$11,000	2036
02 - Primary Treatment	Flowmeter	\$11,000	2036
02 - Primary Treatment	Primary Clarifier No. 3 Primary Sludge Flow Meter	\$11,000	2036
04 - Secondary Treatment	RAS Flowmeter 1	\$11,000	2036
04 - Secondary Treatment	RAS Flowmeter 2	\$11,000	2036
04 - Secondary Treatment	RAS Flowmeter 3	\$11,000	2036
04 - Secondary Treatment	WAS Flowmeter	\$11,000	2036
03 - Aeration	Blower Building Supply Fan 1	\$5,000	2036

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
13 - Plant Power Systems	Standby Generator No. 2	\$2,001,000	2037
13 - Plant Power Systems	Synchronizer Panel for Generators No. 2 & 3	\$2,001,000	2037
12 - Solids Dewatering	Bridge Crane 1	\$33,000	2037
08 - Chemical Building	SBS Pump 1	\$41,000	2038
08 - Chemical Building	SBS Pump 2	\$41,000	2038
08 - Chemical Building	SHS Pump 2	\$41,000	2038
08 - Chemical Building	SHS Pump 3	\$41,000	2038
08 - Chemical Building	SHS Pump 4	\$41,000	2038
12 - Solids Dewatering	Centrifuge 2	\$2,031,000	2039
04 - Secondary Treatment	Secondary Clarifier Sludge Collector 5	\$576,000	2039
07 - Disinfection	Hydraulic Power Unit	\$435,000	2039
02 - Primary Treatment	Primary Effluent Pump Unit 4	\$270,000	2039
02 - Primary Treatment	Motor Control Center P13	\$157,000	2039
01 - Headworks	Motor Control Center P14	\$157,000	2039
11 - Solids Digestion	Digester Transfer Pump 2	\$118,000	2039
11 - Solids Digestion	Sludge Mixing Pump 4	\$118,000	2039
11 - Solids Digestion	Digester Recirculation Pump 3	\$93,000	2039
12 - Solids Dewatering	Centrifuge Feed Pump 1	\$75,000	2039
12 - Solids Dewatering	Centrifuge Feed Pump 2	\$75,000	2039
04 - Secondary Treatment	Return Activated Sludge Pump 9	\$75,000	2039
00 - Other Plant Systems	3W Pumps Nos. 5	\$71,000	2039
01 - Headworks	Grit Pump No. 1	\$67,000	2039

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
01 - Headworks	Grit Pump No. 2	\$67,000	2039
01 - Headworks	Grit Pump No. 3	\$67,000	2039
01 - Headworks	Grit Pump No. 4	\$67,000	2039
01 - Headworks	Barscreen No. 1 Channel Inlet Gate	\$57,000	2039
01 - Headworks	Barscreen No. 2 Channel Inlet Gate	\$57,000	2039
01 - Headworks	Conveyor No. 1 Slide Gate	\$57,000	2039
12 - Solids Dewatering	Knife Gate	\$57,000	2039
01 - Headworks	Manual Barscreen Channel Inlet Gate	\$57,000	2039
07 - Disinfection	Motorized Sluice Gate	\$57,000	2039
07 - Disinfection	Motorized Sluice Gates	\$57,000	2039
01 - Headworks	Parshall Flume No. 1 Inlet Gates	\$57,000	2039
01 - Headworks	Slide Gate Y02	\$57,000	2039
03 - Aeration	Tank 5 Inlet Hydro Gate	\$57,000	2039
03 - Aeration	Tank 6 Inlet Hydro Gate	\$57,000	2039
01 - Headworks	Vortex Grit Chamber Slide Gate No. 1	\$57,000	2039
01 - Headworks	Vortex Grit Chamber Slide Gate No. 2	\$57,000	2039
03 - Aeration	Tank 5 Inlet Hydro Gate	\$43,000	2039
03 - Aeration	Tank 5 Outlet Gate	\$43,000	2039
03 - Aeration	Tank 6 Inlet Hydro Gate	\$43,000	2039
03 - Aeration	Tank 6 Outlet Gate	\$43,000	2039
13 - Plant Power Systems	Cogeneration Hot Water Loop Pump	\$25,000	2039
11 - Solids Digestion	Hot Water Loop Pump 1	\$25,000	2039
11 - Solids Digestion	Hot Water Loop Pump 2	\$25,000	2039
11 - Solids Digestion	Hot Water Loop Pump 3	\$25,000	2039
04 - Secondary Treatment	Secondary Scum Pump 5	\$16,000	2039
13 - Plant Power Systems	Standby Generator No. 3 Control Panel	\$9,000	2039
13 - Plant Power Systems	Standby Generator No. 4 Control Panel	\$9,000	2039
11 - Solids Digestion	Anaerobic Digester 3 (with Floating Cover)	\$3,562,000	2040
Total		\$41,841,000	

Notes:

(1) Costs are based on February 2021 dollars using an ENR-CCI 20 Cities Index of 11699.

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Appendix D

SUMMARY OF REMOVED ASSET REPLACEMENT RECOMMENDATIONS

Table D.1 Summary of Removed Asset Replacement Recommendations – Plant 1

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
99 - Plant 1	Secondary Clarifier No. 2 Sludge Collector	\$576,000 ⁽²⁾	2018
99 - Plant 1	Chlorine contact basin 1&2 SHS Flash Mixer	\$107,000 ⁽²⁾	2018
99 - Plant 1	Mixed Liquor Automatic Sampler	\$22,000 ⁽²⁾	2018
99 - Plant 1	RAS Automatic Sampler	\$22,000 ⁽²⁾	2018
99 - Plant 1	Chlorine contact basin Sample Pump 1	\$15,000 ⁽²⁾	2018
99 - Plant 1	Chlorine contact basin Sample Pump 2	\$15,000 ⁽²⁾	2018
99 - Plant 1	RAS Pump 1	\$25,000 ⁽²⁾	2018
99 - Plant 1	RAS Pump 2	\$25,000 ⁽²⁾	2018
99 - Plant 1	RAS Pump 3	\$25,000 ⁽²⁾	2018
99 - Plant 1	RAS Pump 4 (Standby)	\$25,000 ⁽²⁾	2018
99 - Plant 1	Mixed Liquor Automatic Sampler	\$22,000 ⁽²⁾	2018
99 - Plant 1	RAS Automatic Sampler	\$22,000 ⁽²⁾	2018
99 - Plant 1	WAS Pump 1	\$15,000 ⁽²⁾	2018
99 - Plant 1	WAS Pump 2 (Standby)	\$15,000 ⁽²⁾	2018
99 - Plant 1	Aeration Tank Nos. 1 Dissolved Oxygen Meters	\$11,000 ⁽²⁾	2018
99 - Plant 1	Aeration Tank Nos. 1 Flowmeters	\$11,000 ⁽²⁾	2018
99 - Plant 1	Aeration Tank Nos. 2 Dissolved Oxygen Meters	\$11,000 ⁽²⁾	2018
99 - Plant 1	Aeration Tank Nos. 2 Flowmeters	\$11,000 ⁽²⁾	2018
99 - Plant 1	RAS Flowmeters	\$11,000 ⁽²⁾	2018
99 - Plant 1	WAS Flowmeter	\$11,000 ⁽²⁾	2018
99 - Plant 1	RAS PS Sump Pump 1	\$8,000 ⁽²⁾	2018
99 - Plant 1	RAS PS Sump Pump 2	\$8,000 ⁽²⁾	2018
99 - Plant 1	RAS Pump Sta. Exhaust Fan No. 1	\$5,000 ⁽²⁾	2018
99 - Plant 1	RAS Pump Sta. Exhaust Fan No. 2	\$5,000 ⁽²⁾	2018
99 - Plant 1	Aeration Blower 1	\$576,000 ⁽²⁾	2020
99 - Plant 1	Aeration Blower 2	\$576,000 ⁽²⁾	2020
99 - Plant 1	Aeration Blower 3	\$576,000 ⁽²⁾	2020
99 - Plant 1	Aeration Blower 4	\$576,000 ⁽²⁾	2020
99 - Plant 1	Secondary Clarifier No. 1 Scum Collector	\$472,000 ⁽²⁾	2020
99 - Plant 1	Secondary Clarifier No. 1 Sludge/Sludge Collector	\$576,000 ⁽²⁾	2020
99 - Plant 1	Plant 1 Switchgear	\$786,000 ⁽²⁾	2020

Table D.1 Summary of Removed Asset Replacement Recommendations – Plant 1 (continued)

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
99 - Plant 1	Motor Control Center EP1	\$262,000 ⁽²⁾	2020
99 - Plant 1	Motor Control Center EP6	\$262,000 ⁽²⁾	2020
99 - Plant 1	Aeration Basin 1	\$419,000 ⁽²⁾	2022
99 - Plant 1	Aeration Basin 2	\$419,000 ⁽²⁾	2022
99 - Plant 1	Secondary Clarifier 1	\$157,000 ⁽²⁾	2022
99 - Plant 1	Secondary Clarifier 2	\$157,000 ⁽²⁾	2022
99 - Plant 1	Chlorine Contact Basin 1	\$183,000 ⁽²⁾	2022
99 - Plant 1	Chlorine Contact Basin 2	\$183,000 ⁽²⁾	2022
99 - Plant 1	Motor Control Center EP3	\$262,000 ⁽²⁾	2022
99 - Plant 1	Motor Control Center P1	\$157,000 ⁽²⁾	2022
99 - Plant 1	PLC Input-Output Panel	\$11,000 ⁽²⁾	2022
99 - Plant 1	Plant Effluent Pumps	\$270,000 ⁽²⁾	2027
99 - Plant 1	Gate	\$57,000 ⁽²⁾	2027
99 - Plant 1	Blower Building	\$262,000 ⁽²⁾	2040
99 - Plant 1	Aeration Basin 1	\$4,034,000 ⁽²⁾	2040
99 - Plant 1	Aeration Basin 2	\$4,034,000 ⁽²⁾	2040
99 - Plant 1	Secondary Clarifier 1	\$3,257,000 ⁽²⁾	2040
99 - Plant 1	Secondary Clarifier 2	\$3,257,000 ⁽²⁾	2040
99 - Plant 1	Chlorine Contact Basin 1	\$2,498,000 ⁽²⁾	2040
99 - Plant 1	Chlorine Contact Basin 2	\$2,498,000 ⁽²⁾	2040
Total		\$27,350,000	

Notes:

(1) Costs are based on February 2021 dollars using an ENR-CCI 20 Cities Index of 11699.

(2) Cost not included in final condition-driven project projections or projected capital improvement planning.

Table D.2 Summary of Removed Asset Replacement Recommendations – Headworks

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
01 - Headworks	Ferric Facility Sump Pump No. 3	\$68,000 ⁽²⁾	2029
01 - Headworks	Ferric Facility Sump Pump No. 4	\$68,000 ⁽²⁾	2029
01 - Headworks	Ferric Facility Sump Pump No. 5	\$68,000 ⁽²⁾	2029
01 - Headworks	Ferric Chloride Feed Pump No. 1	\$41,000 ⁽²⁾	2029
01 - Headworks	Ferric Chloride Feed Pump No. 2	\$41,000 ⁽²⁾	2029
01 - Headworks	Ferric Chloride Flow Meter	\$11,000 ⁽²⁾	2029
Total		\$297,000	

Table D.3 Summary of Removed Asset Replacement Recommendations – Aeration

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
03 - Aeration	Aeration Blower 7 Motor	\$157,000 ⁽²⁾	2022
03 - Aeration	Aeration Blower 7	\$898,000 ⁽²⁾	2027
03 - Aeration	Aeration Blower 8 Motor	\$157,000 ⁽²⁾	2034
03 - Aeration	Aeration Blower 8	\$898,000 ⁽²⁾	2039
Total		\$2,110,000	

Table D.4 Summary of Removed Asset Replacement Recommendations – Solids Thickening

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
10 - Solids Thickening	Gravity Thickener Instrumentation	\$14,000 ⁽²⁾	2022
10 - Solids Thickening	Thickener Mechanism	\$576,000 ⁽²⁾	2027
10 - Solids Thickening	Thickened Sludge Grinder 1	\$38,000 ⁽²⁾	2029
10 - Solids Thickening	Thickened Sludge Grinder 2	\$38,000 ⁽²⁾	2029
10 - Solids Thickening	Thickened Sludge Pump 1	\$92,000 ⁽²⁾	2039
10 - Solids Thickening	Thickened Sludge Pump 2	\$92,000 ⁽²⁾	2039
Total		\$850,000	

Table D.5 Summary of Removed Asset Replacement Recommendations – Plant Power Systems

Process	Asset Name	Approximate Replacement Cost	Approximate Replacement Year
13 - Plant Power Systems	Solar Power System	\$9,749,000 ⁽²⁾	2027
	Total	\$9,749,000	

Appendix E

ADJUSTMENT TO SECONDARY CLARIFIER IMPLEMENTATION TIMING

August 30, 2019

Mr. Erik Gustafson, Public Works Director – Operations
City of Chico
411 Main Street
Sacramento, CA 95928

Subject: Analysis Summary – Camp Fire Impact on Future Capacity Projections

Dear Erik:

This letter is submitted in response to your request for information regarding the potential impacts that the recent increase in the City of Chico (City) population may have on long-term capacity projections at the City's Water Pollution Control Plant (WPCP).

The population increase within the City's sphere of influence has resulted from the relocation of displaced Paradise residents following the devastating Camp Fire (fire) in Paradise, California in late 2018. The financial impact of this increased population is estimated herein based on the capacity of the existing WPCP facilities in treating the addition flow at the WPCP, resulting from this increase in base population over the City's documented population prior to the fire. We understand that the City is currently conducting a separate analysis to determine the financial impacts due to increased operation and maintenance costs, and the potential for lost sewer service revenues. Therefore, this assessment will focus exclusively on the capital cost impacts.

BACKGROUND

Carollo has been working with the City of Chico (City) to complete a Strategic Planning and Sewer Rate Review Support project since the fall of 2018. This effort was placed on hold following the fire, as the City worked to understand what long-term impact (if any) the fire would have on the City's planning effort. This effort was re-initiated during the summer of 2019, and is currently being finalized.

The deliverable associated with the planning project discussed above summarizes capital investment needs at the WPCP over a 20 year planning horizon based on:

- Identified condition-driven needs
- Projected regulatory requirements
- Required facility expansions to accommodate population growth projections

Under direction of the City, projections in the planning document were calculated exclusively considering the base population and WPCP flows that were documented prior to the fire.

Within the first few months following the fire, the City observed a significant increase in population over its existing base, which caused a direct (and measurable) increase in flows received at the WPCP. Short-term flow increases of 1.0 million gallons per day (mgd) that occurred over the first few months following the fire, have now tapered to a more consistent increase of 0.6 mgd over the existing average dry weather flow (ADWF) at the WPCP, measured over the 2019 dry weather season.

This increased baseline flow will require projected capacity upgrades at the WPCP sooner than anticipated, as documented herein.

Projected Capacity Impacts

As documented in Draft Chapter 4 “Plant Capacity Evaluation” of the Strategic Planning and Sewer Rate Review Support Report (attached herein as Exhibit A), the majority of the existing facilities at the WPCP are adequate for the projected population growth expected within the City’s service boundary. The findings of Chapter 4 indicate that a new secondary clarifier could be required in the year 2036 to address anticipated increases in sludge volume index (SVI) values that will result from nutrient removal upgrades implemented to address regulatory needs at the facility. This projection is based on the existing population base identified prior to the fire (see Draft Chapter 2 “Flows and Load Analysis”, attached herein as Exhibit B).

An update of this model, using a long-term increase in base flow of 0.6 mgd over the original value (as documented by City staff due to population increases resulting from the fire), results in needed capacity upgrades 4 years sooner than originally predicted, with a firm requirement for a new 100-foot secondary clarifier by the year 2032.

Financial Impact of Expedited Capacity Improvements

The City will have to finance required capacity upgrades 4 years sooner than originally anticipated, creating a financial impact that is quantifiable. The estimated financial impact of this schedule shift in is summarized in Table 1.

Table 1 Estimated Financial Impact of Expedited Capacity Improvements

Required Facilities	Estimated Project Cost	Escalated Project Cost (2032)	Accrued Interest Due to Earlier Construction
100-ft Secondary Clarifier	\$9,800,000 ¹	\$14,400,000 ²	\$2,300,000 ³

Notes:

1. Per Chapter 8 of the Strategic Planning and Sewer Rate Review Support Project Report (2019 cost).
2. Assume 3% annual long-term construction cost escalation.
3. Assumes four annual interest only payments of \$575,665, based on financing escalated project cost of \$14.4 M at 4% interest (Average Utility Bond Rate, 2019).

Please let me know if you have questions or concerns regarding the findings summarized herein.

Sincerely,

CAROLLO ENGINEERS, INC.



Beverly Hann, P.E., PMP

BJH:bh

Enclosure: Exhibit A and Exhibit B

Appendix F
ALTERNATIVE EVALUATION DETAILED COST
ESTIMATES

Table F.1 Capital Cost Assumptions

Description	Value
Estimating Contingency	40%
Contractor Overhead and Profit	18%
General Conditions	18%
Sales Tax	7.250%
Project Cost Factor	35%
ENR-CCI ⁽¹⁾	11699
Location Factor ⁽²⁾	1.185

Notes:

- (1) February 2021 ENR-CCI 20-Cities.
- (2) Location Factor for Redding, CA.
- (3) Includes an estimate of benefits.

Table F.2 Chemical Addition System for Title 22 Filtration Upgrade Capital Cost

Item	Quantity	Unit	Unit Cost	Total
Concrete	1	LS	\$45,000	\$45,000
Pump Room	255	SF	\$263	\$67,000
Flash Mixing Allowance	1	LS	\$209,000	\$209,000
Chemical Dosing Pumps	2	EA	\$15,500	\$31,000
Pump Room & Chemical Containment Coating	1.0	LS	\$48,000	\$48,000
7,500 gal Chemical Tanks	2	EA	\$67,500	\$135,000
Subtotal				\$532,000
Sitework, Plant Paving, and Grading and Yard Piping (% of Subtotal)	15	%		\$80,000
Additional Mechanical and Piping (% of Subtotal)	10	%		\$54,000
Plant Electrical and Instrumentation (% of Subtotal)	25	%		\$134,000
Total Direct Costs				\$803,000
Estimating Contingency	40%			\$321,000
Subtotal				\$1,124,000
Contractor's Overhead & Profit	18%			\$202,000
General Conditions	18%			\$202,000
Sales Tax	7%			\$81,000
Total Construction Cost				\$1,610,000
Project Cost Factor	35%			\$564,000
Total Project Cost				\$2,200,000

Table F.3 Dual Media Filtration Capital Cost Estimate

Description	Quantity	Unit	Unit Cost	Total
Dual Media Filters	1	LS	\$11,647,000	\$11,647,000
Tertiary Lift Station	90	HP	\$8,144	\$733,000
Total Direct Costs				\$12,380,000
Contingency		40%		\$4,952,000
<i>Subtotal</i>				<i>\$17,332,000</i>
Contractor Overhead & Profit		18%		\$3,120,000
General Conditions		18%		\$3,120,000
Sales Tax on 50%		7.25%		\$628,000
Total Construction Cost				\$24,200,000
Project Cost Factor		35%		\$8,470,000
Total Project Cost				\$32,678,000

Table F.4 Cloth Disk Filters Capital Cost Estimate

Description	Quantity	Unit	Unit Cost	Total
Equipment	1	LS	\$1,971,000	\$1,971,000
EQ Basin & Return Pumps	1	LS	\$103,000	\$103,000
Concrete	1	LS	\$493,000	\$493,000
Piping	1	LS	\$933,000	\$933,000
E&IC	1	LS	\$830,000	\$830,000
Site Work	1	LS	\$433,000	\$433,000
Yard Piping	1	LS	\$433,000	\$433,000
Tertiary Lift Station	90	HP	\$8,144	\$733,000
Total Direct Cost				\$5,196,000
Estimating Contingency		40%		\$2,078,000
<i>Subtotal</i>				<i>\$7,274,000</i>
Contractor Overhead & Profit		18%		\$1,309,000
General Conditions		18%		\$1,309,000
Sales Tax on 50%		7.25%		\$264,000
Total Construction Cost				\$10,157,000
Project Cost Factor		35%		\$3,555,000
Total Project Cost				\$13,712,000

Table F.5 Microfiltration Membranes Capital Cost Estimate

Description	Quantity	Unit	Unit Cost	Total
Equipment	1.2	LS	\$5,970,000	\$7,164,000
Building	11,550	SF	\$262	\$3,024,000
Influent Wet Well	360,000	gal	\$1.05	\$377,000
Piping & Mechanical	1	LS	\$1,791,000	\$1,791,000
E&IC	1	LS	\$1,433,000	\$1,433,000
<i>Material Total</i>				<i>\$13,789,000</i>
Site Work	1	LS	\$1,379,000	\$1,379,000
Yard Piping	1	LS	\$1,379,000	\$1,379,000
Total Direct Cost				\$16,547,000
Estimating Contingency	40%			\$6,619,000
<i>Subtotal</i>				<i>\$23,166,000</i>
Contractor Overhead & Profit	18%			\$4,170,000
General Conditions	18%			\$4,170,000
Sales Tax on 50%	7.25%			\$840,000
Total Construction Cost				\$32,350,000
Project Cost Factor	35%			\$11,321,000
Total Project Cost				\$43,700,000

Table F.6 Ozone Disinfection Capital Cost Estimate

Description	Quantity	Unit	Unit Cost	Total
Liquid Oxygen Storage and Vaporization	2	EA	\$1,047,500	\$2,095,000
Ozone Generators and Power Supply Units	2	EA	\$1,152,000	\$2,304,000
Open-loop and Closed-loop Cooling System	1	LS	\$419,000	\$419,000
Ozone Generation Building	4000	SF	\$262	\$1,047,000
Ozone Contacting System	130000	Gal	\$12.08	\$1,571,000
Ozone Destruct System	2	EA	\$262,000	\$524,000
Contactor Inlet and Outlet Piping	300	LF	\$1,047	\$314,000
Interconnecting Process Piping	1	LS	\$524,000	\$524,000
Electrical, Instrumentation, and Controls	1	LS	\$1,257,000	\$1,257,000
Power Supply to Ozone Generation Building	1	LS	\$367,000	\$367,000
Site Work	1	LS	\$209,000	\$209,000
<i>Total Direct Costs</i>				<i>\$10,631,000</i>
Estimating Contingency	40%			\$4,252,000
<i>Subtotal</i>				<i>\$14,883,000</i>
Contractor's Overhead & Profit	18%			\$2,679,000
General Conditions	18%			\$2,679,000
Sales Tax	7%			\$540,000
Total Construction Cost				\$20,780,000
Project Cost Factor	35%			\$7,273,000
Total Project Cost				\$28,100,000

Table F.7 UV Disinfection (Retrofitting CCB's) Capital Cost Estimate

Description	Quantity	Unit	Unit Cost	Total
UV Equipment	1	LS	\$3,864,000	\$3,864,000
Site Work	1	LS	\$193,000	\$193,000
Structural Rehab	1	LS	\$773,000	\$773,000
Electrical, Instrumentation, and Controls	1	LS	\$2,318,000	\$2,318,000
Piping	1	LS	\$966,000	\$966,000
Total Direct Costs				\$8,114,000
Contingency		40%		\$3,264,000
<i>Subtotal</i>				<i>\$11,360,000</i>
Contractor Overhead & Profit		18%		\$2,045,000
General Conditions		18%		\$2,045,000
Sales Tax on 50%		7%		\$412,000
Total Construction Cost				\$15,900,000
Project Cost Factor		35%		\$5,551,000
Total Project Cost				\$21,400,000

Table F.8 UV Disinfection (New Facility) Capital Cost Estimate

Description	Quantity	Unit	Unit Cost	Total
UV Equipment	1	LS	\$3,864,000	\$3,864,000
Site Work	1	LS	\$386,000	\$386,000
Structural	1	LS	\$1,932,000	\$1,8932,000
Electrical, Instrumentation, and Controls	1	LS	\$2,318,000	\$2,318,000
Piping	1	LS	\$966,000	\$966,000
Total Direct Costs				\$9,466,000
Contingency		40%		\$3,786,000
<i>Subtotal</i>				<i>\$13,252,000</i>
Contractor Overhead & Profit		18%		\$2,385,000
General Conditions		18%		\$2,385,000
Sales Tax on 50%		7%		\$480,000
Total Construction Cost				\$18,500,000
Project Cost Factor		35%		\$6,476,000
Total Project Cost				\$25,000,000

Table F.9 Spreading Basin Capital Cost Estimate

Description	Quantity	Unit	Unit Cost	Total
Recharge Pond Construction	120	ac	\$19,900	\$2,138,000
Total Direct Cost				\$2,388,000
Contingency	40%			\$960,000
Subtotal				\$3,348,000
Contractor Fees and OH&P	18%			\$600,000
General Conditions	18%			\$600,000
Sales Tax	7%			\$120,000
Total Cost				\$4,668,000
Project Cost Factor	35%			\$1,630,000
Land Purchase	144	ac	\$8,380	\$1,210,000
Total Project Cost				\$7,500,000

Table F.10 Conventional IPR Treatment Train Capital Cost Estimate

Description	Quantity	Unit	Unit Cost	Total
MF/RO/UVAOP Structure	10.3	mgd	\$1,161,000	\$12,000,000
MF System	9.3	mgd	\$994,000	\$9,250,000
RO System	7.4	mgd	\$1,373,000	\$10,220,000
CIP System	10.3	mgd	\$454,000	\$4,690,000
UVAOP System	7.4	mgd	\$1,671,000	\$12,440,000
Lime System	7.4	mgd	\$164,000	\$1,220,000
CO2 System	7.4	LS	\$465,000	\$3,460,000
System Subtotal				\$53,280,000
Yard Piping	1	LS	\$2,660,000	\$2,660,000
Site Work	1	LS	\$2,660,000	\$2,660,000
Demolition	1	LS	\$2,100,000	\$2,100,000
Electrical	1	LS	\$13,320,000	\$13,320,000
Total Direct Costs				\$74,020,000
Contingency		40%		\$29,610,000
Subtotal				\$103,620,000
Contractor Overhead & Profit		18%		\$18,650,000
General Conditions		18%		\$18,650,000
Sales Tax on 50%		7%		\$3,760,000
Total Construction Cost				\$144,680,000
Project Cost Factor		35%		\$50,640,000
Total Project Cost				\$195,320,000

Table F.11 Potable Reuse Influent Flow Equalization Capital Cost Estimate

Description	Quantity	Unit	Unit Cost	Total
Equalization	5	MG	\$523,600	\$2,618,000
Total Direct Cost				\$2,618,000
Contingency	40%			\$1,047,000
Subtotal				\$3,666,000
Contractor Fees and OH&P	18%			\$660,000
General Conditions	18%			\$660,000
Sales Tax	7%			\$133,000
Total Cost				\$5,132,000
Project Cost Factor	35%			\$1,791,000
Total Project Cost				\$6,913,000

Table F.12 Non-RO Based IPR Treatment Train Capital Cost Estimate

Description	Quantity	Unit	Unit Cost	Total
Tertiary Lift Station	9.4	mgd	\$55,300	\$520,000
Ozone	9.4	mgd	\$1,302,000	\$12,240,000
BAF	9.3	mgd	\$1,139,000	\$10,600,000
UF	8.4	mgd	\$2,440,000	\$20,440,000
GAC/IX	8.2	mgd	\$1,139,000	\$9,350,000
UV	8.2	mgd	\$1,626,000	\$13,350,000
Building/Civil Site Work	9.4	mgd	\$244,000	\$2,290,000
Demolition (LS)	1	LS	\$2,100,000	\$2,100,000
Total Direct Costs				\$70,880,000
Contingency		40%		\$28,350,000
Subtotal				\$99,230,000
Contractor Overhead & Profit		18%		\$17,860,000
General Conditions		18%		\$17,860,000
Sales Tax on 50%		7%		\$3,600,000
Total Construction Cost				\$138,550,000
Project Cost Factor		35%		\$48,490,000
Total Project Cost				\$187,040,000



PROJECT SUMMARY

Estimate Class: 4

Project: Pond/Facility Improvement Options TM -
 Conversion to MLE
Client: City of Chico
Location: Chico, CA
Zip Code: 95928
Carollo Job # 9354C00

PIC: SEP
PM: BJH
Date: June 13, 2019
By: BLB
Reviewed: BJH

NO.	DESCRIPTION	TOTAL
01	Aeration Basin Modifications	\$1,754,000
TOTAL DIRECT COST		\$1,754,000
	Estimating Contingency 30.0%	\$526,200
	Subtotal	\$2,280,200
	General Contractor Overhead, Profit & Risk 15.0%	\$342,030
	Subtotal	\$2,622,230
	Escalation to Mid-Point 5.00%	\$131,112
	Subtotal	\$2,753,342
	Sales Tax (Based 50% of Total Direct Cost) 7.25%	\$63,583
	Subtotal	\$2,816,924
	Bid Market Allowance 5.0%	\$140,846
	Subtotal	\$2,957,770
	General Conditions 10.0%	\$295,777
TOTAL ESTIMATED CONSTRUCTION COST		\$3,254,000
	Engineering, Legal & Administration Fees 15.0%	\$488,100
	Owner's Reserve for Change Orders 5.0%	\$162,700
TOTAL ESTIMATED PROJECT COST		\$3,905,000
<div style="border: 1px solid black; padding: 5px;"> <p><i>The cost estimate herein is based on our perception of current conditions at the project location. This estimate reflects our professional opinion of accurate costs at this time and is subject to change as the project design matures. Carollo Engineers have no control over variances in the cost of labor, materials, equipment; nor services provided by others, contractor's means and methods of executing the work or of determining prices, competitive bidding or market conditions, practices or bidding strategies. Carollo Engineers cannot and does not warrant or guarantee that proposals, bids or actual construction costs will not vary from the costs presented as shown.</i></p> </div>		

DETAILED COST ESTIMATE

Project: Pond/Facility Improvement Options TM -
 Conversion to MLE
Client: City of Chico
Location: Chico, CA
Element: 01 Aeration Basin Modifications

Format: MASTER FORMAT 17
Date : June 13, 2019
By : BLB
Reviewed: BJH

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
Division 11 - Equipment						
11000	6Hp Submersible Mixers, including Davit Crane	14	EA	\$59,350.31	\$830,904	
11000	6Hp Submersible Mixer, Shelf Spare	1	EA	\$47,480.25	\$47,480	
11312	30Hp Vertical Turbine Solids Handling Pump	4.00	EA	\$116,688.75	\$466,755	
11312	30Hp Vertical Turbine Solids Handling Pump, Shelf Spare	1.00	EA	\$93,351.00	\$93,351	
Total						\$1,438,491
Division 15 - Mechanical						
15000	Piping Allowance	1.00	LS	\$40,000.00	\$40,000	
15000	Valve Allowance	1.00	LS	\$100,000.00	\$100,000	
Total						\$140,000
Division 16 - Electrical						
16000	EI&C Allowance (10% of Construction Cost)	1.00	LS	\$175,387.84	\$175,388	
Total						\$175,388
Grand Total						\$1,753,878

PROJECT SUMMARY

Estimate Class: 4

Project: Pond/Facility Improvement Options TM - Pond
Liner Alternative - Northeast Pond - HDPE
Client: City of Chico
Location: Chico, CA
Zip Code: 95928
Carollo Job # 9354C00

PIC: SEP
PM: BJH
Date: February 16, 2021
By: RAH
Reviewed: BJH

NO.	DESCRIPTION	TOTAL
01	NE Pond Liner	\$3,540,662
02	Temporary Effluent Bypass	\$500,000
03	Effluent Diversion Pipeline	\$0
04	Pump Station	\$1,600,000
TOTAL DIRECT COST		\$5,640,662
Estimating Contingency	25.0%	\$1,410,165
	Subtotal	\$7,050,827
General Contractor Overhead, Profit & Risk	18.0%	\$1,269,149
	Subtotal	\$8,319,976
Escalation to Mid-Point		\$0
	Subtotal	\$8,319,976
Sales Tax (Based 50% of Total Direct Cost)	7.25%	\$204,474
	Subtotal	\$8,524,450
Bid Market Allowance		\$0
	Subtotal	\$8,524,450
General Conditions	12.0%	\$1,022,934
TOTAL ESTIMATED CONSTRUCTION COST		\$9,547,000
Engineering, Legal & Administration Fees	15.0%	\$1,432,050
Owner's Reserve for Change Orders	5.0%	\$477,350
TOTAL ESTIMATED PROJECT COST		\$11,456,000

The cost estimate herein is based on our perception of current conditions at the project location. This estimate reflects our professional opinion of accurate costs at this time and is subject to change as the project design matures. Carollo Engineers have no control over variances in the cost of labor, materials, equipment; nor services provided by others, contractor's means and methods of executing the work or of determining prices, competitive bidding or market conditions, practices or bidding strategies. Carollo Engineers cannot and does not warrant or guarantee that proposals, bids or actual construction costs will not vary from the costs presented as shown.

DETAILED COST ESTIMATE

Project: Pond/Facility Improvement Options TM -
Pond Liner Alternative - Northeast Pond -
HDPE

Client: City of Chico
Location: Chico, CA
Element: 01 NE Pond Liner

Format: MASTER FORMAT 17

Date : February 16, 2021
By : RAH
Reviewed: BJH

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
Division						
01000	General Conditions for Liner	1.00	LS	\$461,825.48	\$461,825	
Total						\$461,825
Division						
02000	Underdrain Allowance	0	LS	\$.00	\$	
02240	Dewatering Allowance	0	LS	\$.00	\$	
02300	Topsoil Strip & Stockpile On Site, Over 1000 Cy	491	CY	\$10.85	\$5,328	
02300	20 Cy Dump Truck, 30 Miles/Round Trip	106365.39	CY	\$10.59	\$1,126,601	
02300	D8 Dozer, Class A (Easy Dig), Grade, Cut, Fill & Compact, 600' Haul	7,819.39	CY	\$5.92	\$46,303	
02300	Loading Loose Materials, 8.25 Cy Bucket, 988-B Loader, All Classes	106,365.39	CY	\$.89	\$95,036	
02300	Structure/Pit Excavation, 7 Cy Wheel Loader, Class A Material	78,444.00	CY	\$.95	\$74,356	
Total						\$1,347,624
Division						
03000	HDPE, 60 mil	422,247.00	SF	\$4.10	\$1,731,213	
Total						\$1,731,213
Grand Total						\$3,540,662



DETAILED COST ESTIMATE

Project: Pond/Facility Improvement Options TM -
Pond Liner Alternative - Northeast Pond -
HDPE
Client: City of Chico
Location: Chico, CA
Element: 02 Temporary Effluent Bypass

Format: MASTER FORMAT 17

Date : February 16, 2021
By : RAH
Reviewed: BJH

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
Division 15 - Mechanical						
15000	Temporary Effluent Bypass Allowance	1	LS	\$500,000.00	\$500,000	
	Total					\$500,000
	Grand Total					\$500,000



DETAILED COST ESTIMATE

Project: Pond/Facility Improvement Options TM -
 Pond Liner Alternative - Northeast Pond -
 HDPE
Client: City of Chico
Location: Chico, CA
Element: 03 Effluent Diversion Pipeline

Format: MASTER FORMAT 17

Date : February 16, 2021
By : RAH
Reviewed: BJH

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
Division						
00000	Pipeline included in cost of PS	0	LS	\$.00	\$	
Total						\$0
Grand Total						\$0



DETAILED COST ESTIMATE

Project: Pond/Facility Improvement Options TM -
 Pond Liner Alternative - Northeast Pond -
 HDPE
Client: City of Chico
Location: Chico, CA
Element: 04 Pump Station

Format: MASTER FORMAT 17

Date : February 16, 2021

By : RAH

Reviewed: BJH

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
Division 15 - Mechanical						
15000	Drainage Pump Station	1	LS	\$1,600,000.00	\$1,600,000	
Total						\$1,600,000
Grand Total						\$1,600,000

Appendix G

CORRESPONDENCE WITH RWQCB REGARDING LAND DISCHARGE REQUIREMENTS

From: [Pagan, Jeremy@Waterboards](mailto:Pagan,Jeremy@Waterboards)
To: [Beverly Hann](mailto:Beverly.Hann)
Cc: erik.gustafson@Chicoca.gov; james.carr@Chicoca.gov; [Brianna Barton](mailto:Brianna.Barton); [Gonzalez, Marisol@Waterboards](mailto:Gonzalez,Marisol@Waterboards); [Smith, Bryan@Waterboards](mailto:Smith,Bryan@Waterboards)
Subject: RE: Chico WPCP - Order No. R5-2016-0023
Date: Wednesday, January 20, 2021 4:44:41 PM

Hi All,

After review of Beverly's email below, and the minutes from our 2019 meeting, I feel that we are on the same path and our direction to the City remains the same.

1. As evidenced in the meeting notes, a major theme is the groundwater quality monitoring, the potential degradation occurring, and whether we'll be able to justify that the City is meeting the antidegradation policy. This remains to be seen, but we will work through this and whatever permit conditions it might necessitate, as we go through the permit renewal process. No action for the City to take at this moment.
2. With the administrative extension of the permit, the 30 May 2021 deadline for compliance with the land discharge specifications and monitoring (BOD, TSS, and Total Coliform) will be extended as well. We will gather more information prior to permit renewal and adjust this deadline for the next permit. Ultimately, the City needs to discontinue using the southern ponds as a "safety valve" of sorts when effluent quality is suspect. If the City wants this ability, they should work towards some kind of project which includes an emergency storage basin with the ability to bring diverted flows back to the headworks for treatment and discharge. Details of this pathway can be worked out in the renewed permit.
3. We are happy to have a meeting, but at this point I largely believe things are where we left them in 2019. However, we are planning to begin the permit renewal process this spring and will be working toward permit renewal by the end of 2021 or perhaps early 2022. As we get moving on the permit renewal, and begin to look more closely at all of the groundwater data, and begin to have internal discussions with our executive group on what this permit will include, we'll reach back out to the City. Expect to hear from us in April-June of this year to continue this conversation and work toward permit renewal.

Hopefully this answers any questions at this point, but if not, please let me know.

Thanks,

Jeremy Pagan, P.E.

Senior Water Resource Control Engineer
NPDES Unit

Cal EPA - Water Quality Control Board
Central Valley Region
364 Knollcrest Drive, Suite 205
Redding, CA 96002
Direct: 530.224.4850
Office: 530.224.4845

Fax: 530.224.4857

<http://www.waterboards.ca.gov/centralvalley/>

From: Pagan, Jeremy@Waterboards

Sent: Tuesday, January 19, 2021 4:31 PM

To: Beverly Hann <BHann@carollo.com>

Cc: erik.gustafson@Chicoca.gov; james.carr@Chicoca.gov; Brianna Barton <BLBarton@carollo.com>; Gonzalez, Marisol@Waterboards <Marisol.Gonzalez@Waterboards.ca.gov>

Subject: RE: Chico WPCP - Order No. R5-2016-0023

Hi Beverly,

My apologies for the delay in responding to you. I will review your email in more detail and respond in a day or two.

Thanks!

Jeremy Pagan, P.E.

Senior Water Resource Control Engineer
NPDES Unit

Cal EPA - Water Quality Control Board

Central Valley Region

364 Knollcrest Drive, Suite 205

Redding, CA 96002

Direct: 530.224.4850

Office: 530.224.4845

Fax: 530.224.4857

<http://www.waterboards.ca.gov/centralvalley/>

From: Beverly Hann <BHann@carollo.com>

Sent: Sunday, January 10, 2021 10:02 AM

To: Pagan, Jeremy@Waterboards <Jeremy.Pagan@waterboards.ca.gov>

Cc: erik.gustafson@Chicoca.gov; james.carr@Chicoca.gov; Brianna Barton <BLBarton@carollo.com>

Subject: Chico WPCP - Order No. R5-2016-0023

EXTERNAL:

Hi Jeremy,

I am just sending this quick note as a check-in for the Chico Water Pollution Control Plant (WPCP). Looking back, our last significant permitting discussion for this site was the meeting between the RWQCB, the City, and Carollo in November 2019 (notes attached). During this meeting, it was

decided that the City would not need to submit a formal request for extension of the compliance schedule to meet land discharge specifications in their current permit order, and that this topic would be revisited during the permit renewal where the RWQCB would work with the City to create a game plan for the next permit cycle (which is now pending).

The following related deliverables have been submitted by the City since the meeting in November:

- Annual Progress Report – Due by February 1, annually; submitted in January 2020
- Groundwater Quality and Characterization and Antidegradation Reevaluation Report – Due December 2, 2020; submitted in April 2020.
- Report of Waste Discharge (ROWD) – Due December 2, 2020; submitted in July 2020.
 - Deemed complete by RWQCB staff on August 17th following requested ROWD updates.

With notification of ROWD completion by the RWQCB, the existing permit Order was administratively extended past the permit expiration date (May 31, 2021). This notification did not include specific extension of the land discharge compliance requirements. We assume that the discussion/decisions from the November 2019 meeting are still valid, but want to check in to make sure with the official compliance deadline approaching (May 30, 2021).

Please let us know if you think a meeting is appropriate in the near-term to discuss any updates and/or if you think that a formal extension should now be submitted. We look forward to working with you and your team as the City's permit is renewed this year.

Thank you very much for all of your help and support along the way.

Beverly J. Hann, P.E., PMP

Project Manager | Vice President

2880 Gateway Oaks Drive, Suite 300 | Sacramento, CA 95833

P 916-565-4888 | M 916-308-2234

carollo.com



MEETING MINUTES

2016 PERMIT-REQUIRED DELIVERABLES

City of Chico

Issue Date: November 20,
2019

Project No.: 9354C.00

Purpose: Discuss NPDES permit requirement for compliance with land discharge specifications (as related to effluent discharge to the WPCP's southern pond system).

Meeting Date: October 2, 2019

Meeting Location: Central Valley RWQCB, Redding Office

Prepared By: Brianna Barton, Beverly Hann

Attendees:	City:	Carollo:	RWQCB:
	Erik Gustafson	Beverly Hann	Bryan Smith
	James Carr	Brianna Barton	Jeremy Pagan

Distribution: Attendees, Kate Sjoberg, File

Discussion:

The following is our understanding of the subject matter covered in this conference. If this differs from your understanding, please notify us.

1. Waste Discharge Requirements (WDR) Order No. R5-2016-0023 includes land discharge specifications at Discharge Point D-002 beginning May 30, 2021, for effluent biochemical oxygen demand (BOD), total suspended solids (TSS), and total coliform organisms. Under normal operating conditions, the Water Pollution Control Plant (WPCP) can immediately comply with these land discharge requirements without facility improvements.
2. The land discharge specifications also includes a provision that "No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitations of this Order." The groundwater limitations indicate that "Release of waste constituents from any portion of the facility shall not cause groundwater to: a) Contain constituents in concentrations that exceed either the Primary or Secondary MCLs established in the Title 22 of the California Code of Regulations, or natural background water quality, whichever is greater..." The City completed an interim antidegradation reevaluation based on one year of groundwater monitoring data (draft findings discussed below). The City has concerns regarding compliance with this specification.
3. Per the WDR, land discharge "Sampling to begin once Discharger has constructed improvements necessary to comply with Land Discharge Specifications section IV.B.1.a-b." It is unknown whether improvements will be required. The City is currently not performing land discharge sampling.
4. The City is interested in maintaining use of at least a portion of one of the southern ponds for emergency storage of treated flow under facility upset conditions and for protection of surface water quality (which is City's first priority). The City diverts treated flow to the southern ponds to maintain wetlands and when water quality issues are suspect based on analyzer results for a short

MEETING MINUTES

time period (approx. 2 hours). The City has not experienced any facility upset conditions in the last several years. The City does not have the ability to return flow from the southern ponds to the headworks.

5. Jeremy shared history of why the land discharge specifications were incorporated during last permit renewal. In past operation (under different management), the City used to more commonly divert "off-spec" water to the ponds. The Regional Board acknowledged that this past practice has stopped.
6. Carollo review related requirements in the permit, including public access control and groundwater monitoring well network installation and groundwater quality monitoring.
7. The City discontinued public access to the ponds, but still allows the local Audubon Society to make ten visits a year guided by a trained docent.
8. Condor Earth (Condor) completed the well installation in September 2017 and completed the eighth quarterly groundwater sampling event in August 2019. Bryan asked about elevated total coliforms in wells. The City has requested a proposal from Condor for disinfection of wells impacted by coliforms (such as GW-3, GW-5).
9. The City prepared draft Interim Antidegradation Reevaluation and Pond/Facility Improvement Options technical memorandums. One hard copy of each draft report was shared with the Regional Board. Electronic copies were shared with the Regional Board after the meeting.
10. Carollo reviewed the draft findings of the Interim Antidegradation Reevaluation (based on one year of collected groundwater and effluent monitoring data), which identified suspected degradation of groundwater quality with respect to nitrate as nitrogen, dissolved iron, and dissolved manganese (when compared to groundwater water quality objectives [WQOs]). Several other constituents that do not have groundwater WQOs but are greater than background will be reviewed and discussed in the forthcoming Antidegradation Reevaluation Report.
11. The average nitrate concentration under the southern ponds is less than background and less than the groundwater WQO. However, the overall monitoring well network groundwater concentration (calculated considering all downgradient wells) is greater than background and the groundwater WQO. There appears to be impacts at GW-2, GW-3, and G-7 from WPCP operations (such as historic biosolids drying practice in unlined Northeast Pond [prior to 2016] and concrete-lined sludge drying area [prior to October 2018]) and or other land uses surrounding the WPCP site (such as agriculture). Bryan suggested that the City consider a nitrogen-isotope technique to determine the nitrate source.
12. All wells in the monitoring network had non-detect results for dissolved iron with the exception of under the southern ponds at GW-4. The high levels of dissolved iron at GW-4 can be attributed to anoxic conditions underlying the southern ponds. Therefore, it does not appear that the WPCP operation is causing degradation with respect to dissolved iron. Bryan asked if the City was aware of any iron issues in domestic water on-site. City is not aware of any issues.
13. As with iron, the high dissolved manganese at GW-4 can be attributed to anoxic conditions underlying the southern ponds. However, there appears to be impacts at GW-2 and GW-3 from WPCP operations (such as historic biosolids drying practice) and or other land uses surrounding the WPCP site (such as agriculture).
14. Carollo described proposed WPCP upgrades, including Southeast Pond liner project (estimated \$58.2 million) and conversion from nitrification to Modified Ludzack-Ettinger (MLE) process (estimated \$3.9 million).
15. Erik explained the City's financial situation. The City has an outstanding State Revolving Fund (SRF) loan from the 2008 expansion project. The anticipated future connections to help pay the loan were

MEETING MINUTES

not built due to the 2007/2008 recession. Additionally, the City has one of the lowest sewer rates in the region. The City is completing a Strategic Planning and Sewer Rate Review Support Project and will hire a financial analysis consultant to start the Prop 218 process to increase sewer rates. The City is also experiencing deteriorated infrastructure and Camp Fire impacts (16% increase in average daily flow with no new connections to offset that cost). The City is working hard to correct their financial situation and needs to be prudent on how money is spent.

16. The City is treating wastewater which is in the best interest of the people of the state, therefore some groundwater degradation may be acceptable per the Antidegradation Policy.
17. The City, Carollo, and the Regional Board all agree that MLE is a good project, which would improve water quality to surface water or to land. However, Jeremy indicated that the City is not expected to have the MLE project online by May 2021. The City could pursue study to confirm if denitrification occurs in ponds.
18. The City requested a time extension on the final compliance schedule. The Regional Board indicated that a formal time extension on the compliance schedule was unnecessary. The Regional Board will revisit the land discharge specifications and monitoring requirements during permit renewal and work with the City to create a game plan for the next permit cycle. Bryan and Jeremy reiterated that there is time/flexibility to reframe the approach. The Regional Board will take into consideration economic practicability and Camp Fire impacts. Jeremy will check with the land discharge group to check if land discharge specs are appropriate.
19. The City has several outstanding permit-required deliverables (WDR Order No. R5-2016-0023):
 - a. Groundwater Quality Characterization Technical Report – Due December 1, 2020.
 - b. Antidegradation Reevaluation Report – Due December 2, 2020.
 - c. Report of Waste Discharge (ROWD) – Due December 2, 2020.
 - d. Annual Progress Reports – By February 1, annually.
20. The Regional Board indicated that the City can combine and submit the Groundwater Quality Characterization Technical Report and Antidegradation Reevaluation Report as a single document. The City will prepare and submit this report early, by March 31, 2020.
21. The City will prepare and submit the ROWD early, by May 29, 2020.
22. The Regional Board will provide feedback on the Groundwater Quality Characterization Technical Report and Antidegradation Reevaluation Report, including understanding of groundwater data, indication of potential permit specifications and monitoring requirements, and direction for capital improvements (if any).



SEWER COLLECTION SYSTEM ANALYSIS

2021

CITY OF CHICO

Authored by: Brendan Ottoboni



EXHIBIT 4

Sewer Collection System Analysis

The sewer collection system is comprised of a strategic network of pipes underground that collect wastewater from homes and businesses, ultimately carrying this waste out to the Water Pollution Control Plant (WPCP) several miles outside of City limits, to be treated and disposed. Similar to roadways, sewer pipes are classified based on their intended capacity designs. Due to the nature of sewer flows, as pipes further out from the WPCP get closer, more users are also discharging waste, resulting in larger diameter pipes being needed. Pipe classifications are defined as follows (In accordance with Chico Municipal Code Section 15):

- Trunk Lines: Any pipeline greater than, or equal to fifteen (15) inches in diameter.
- Main Lines: Any sewer constructed in a street, a sewer easement, a public utility easement or a public service easement, which is less than fifteen (15) inches in diameter and designed to accommodate a system of sewer laterals.
- Laterals: That part of the sewer piping between a building waste disposal system (i.e. plumbing) and a sewer main or sewer trunk line.

Due to the engineering design and use of topography in Chico, the system is mostly comprised of a gravity system, meaning we utilize the energy of gravity to flow this wastewater to the desired destination, without mechanical support. In total, the City of Chico has approximately 400 miles of sewer pipes. In areas where the gradient is not lower and a gravity fed system does not work, sanitary sewer lift stations are utilized. Lift stations provide a mechanical pump system to force water that cannot flow via gravity, to its desired location. The City of Chico has 14 lift stations existing in our network. Lift stations have additional maintenance costs and increased failure potential compared to gravity systems.

The piping material has changed over the decades, with modern technologies best utilizing PVC pipe with a life expectancy of 100 years. However, with the age of many of our existing sewer pipelines, past practices were to utilize Vitrified Clay Pipe (VCP) and Asbestos-Cement Pipe (ACP), which were typically expected to have a life expectancy of 75 years, or Orangeburg pipe with a life expectancy of 60 years. Therefore, unlike roadways, maintenance and replacement costs for sewer pipes are based on replacing the lines prior to the expiration of the material properties life expectancy. Whereas roadways utilize a condition assessment to determine the appropriate treatment method, and ultimately cost. Outside of localized failures repaired by the Operations & Maintenance Department, in the past approximately 20-years, the City has only performed one sewer replacement project, which was the River Road Trunk Line Replacement project performed in 2018. As pipelines extend beyond their life, root intrusion and leaking pipes into the ground and groundwater are very common. This can lead to contaminated soils due to the high concentrations of nitrates and other chemicals hazardous to humans. Therefore, the intention of the sewer collection system is to program replacement of the lines prior to reaching their useful life. In addition, the Public Works – Operations & Maintenance personnel provide video of the existing lines on an annual basis. Should the conditions dictate replacement prior to their useful life due to various factors

such as significant root intrusion or failed pipes, those segments will be prioritized for replacement. Failed piping results in emergency responses that result in higher costs to repair, as well as a high likelihood of groundwater contamination and/or sanitary sewer overflows (SSO's). SSO's are required to be reported to the State Water Board and if prevalent and preventable, can result in fines.

The costs associated with this section of the sewer enterprise, comprises of operating costs for city staff and consultants to do the day-to-day functions (cleaning, FOG program, TV lines, emergency repairs, planning efforts for the collection system, GIS updating/tracking, program oversight, etc), as well as the costs for replacing the aging pipelines.

The methodology used in determining the costs of maintaining the collection system are broken down into operating costs and capital replacement costs. The operating costs are premised on the industry identified and internally recognized need for staffing the overall program management and field operations to ensure a sustainable and functional sewer collection system. This includes functions such as keeping system details such as pipe sizing, locations, dates of installation, etc. in the City's GIS layers for sewer infrastructure. The capital replacement costs will include the costs for design and construction of the replacement of segments of pipe on an annual basis. These two functions will be further broken down in this report.

ANNUAL OPERATING COSTS:

The annual operating costs associated with the collection system comprises of labor of city staff positions necessary for carrying out the day-to-day functions, as well as equipment needed to carry out those functions. Both the engineering and operations & maintenance departments have staffing demands in order to meet the needs of the system and ensure proper planning and implementation is done. The staffing costs presented below will also provide the funding for staffing position requests, if adopted, in future budget cycles.

The rates provided for the positions include the fully burdened costs of salary and benefits typical of City costs. In order to come up with the funding needed, typical hours per year associated with the collection system are assigned. A year of hours consists of 2,080 hours for a full-time equivalent (FTE) staff position. Some positions are assigned partial years to account for the fact that only a portion of those staff positions will be attributable to the collection system, whereas some of the maintenance worker positions in the Operations & Maintenance department reflect year-round efforts needed to perform maintenance functions and video recording of the conditions of the lines. While only portions of some of the positions are included, the other portions are included in areas such as the WPCP and Storm Water functions, to ensure full-time positions are funded 100% within the sewer enterprise.

Annual Collection System Staffing Costs (Engineering)

Sewer program management- Engineering Staff				
City Staff Position	Hours	Rates		Cost
Public Works Director	130	\$123.05		\$15,996.58
Senior Development Engineer	260	\$96.23		\$25,019.78
Senior Civil Engineer (Sewer/Stromwater)	1040	\$91.46		\$95,123.22
Senior Civil Engineer (Construction)	347	\$91.46		\$31,738.23
Associate Engineer Sewer	1040	\$72.51		\$75,407.51
Associate Engineer Capital	1040	\$72.51		\$75,407.51
Assistant Engineer	1040	\$63.49		\$66,028.98
Assistant Engineer	1040	\$63.49		\$66,028.98
GIS Analyst	520	\$58.12		\$30,222.39
Construction Inspector	1040	\$57.01		\$59,294.20
Admin Analyst (over see billing)	1040	\$72.51		\$75,407.51
Total for engineering staff				\$615,674.90

Annual Collection System Staffing Costs (Operations & Maintenance)

Sewer program management- Operation and Maintenance Staff				
City Staff Position	Hours	Rates		Cost
Public Works Director	130	\$123.05		\$15,996.58
Public Works Manager	694	\$85.37		\$59,243.55
Maintenance worker	2080	\$41.15		\$85,598.08
Maintenance worker	2080	\$41.15		\$85,598.08
Maintenance worker	2080	\$41.15		\$85,598.08
Maintenance worker	2080	\$41.15		\$85,598.08
Senior Maintenance Worker	2080	\$50.15		\$104,321.96
Senior Maintenance Worker	2080	\$50.15		\$104,321.96
Senior Maintenance Worker	2080	\$50.15		\$104,321.96
Senior Maintenance Worker	2080	\$50.15		\$104,321.96
Field Supervisor	2080	\$62.19		\$129,352.76
Utility locator	2080	\$50.15		\$104,321.96
Administrative Assistant	1040	\$48.61		\$50,552.74
Total for O&M staff				\$1,119,147.74

Operating costs associated with the sewer piping network include equipment, tools and miscellaneous contract services for emergency repairs. The table below provides a breakdown of the associated costs with this section of program costs.

Annual Collection System Operating Costs

Sewer program management - Annual Operating Costs				
Item	each	Rates		Cost
f550	1	per year		\$16,666.67
f150	1	per year		\$4,300.00
Camera Van	1	per year		\$20,000.00
Camera Van	1	per year		\$20,000.00
Jet/Vac Truck	1	per year		\$33,333.33
Jet/Vac Truck	1	per year		\$33,333.33
Jet/Vac Truck	1	per year		\$33,333.33
F150	1	per year		\$4,300.00
Materials/Supplies/Safety/ Internal Servicing Allocations/Purchased Services	1	per year		\$100,000.00
Total Annual Operating Costs				\$265,266.67

Therefore, the total operating costs portion of the sanitary sewer collection system is: **\$2,000,089.31**.

ANNUALIZED CAPITAL IMPROVEMENT PROGRAM (CIP) COSTS:

There are approximately three-hundred-seventy-one (371) miles of sewer pipeline currently underground in the City of Chico. As new development occurs, or installation of new piping to areas currently on septic systems, the length of pipeline needed to be repaired and replaced grows. The methodology for predicting replacement costs utilizes the design life of the piping. Current standards utilize PVC pipe with a life expectancy of 100 years. Therefore, the costs to replace the installed pipe will be amortized out over 100 years. However, many existing segments of pipe were installed as early as 1906, which consisted of Vitrified Clay Pipe (VCP) or Orangeburg pipe, which had a life expectancy of between 75 and 50 years, respectively. The costs of replacing pipe segments are factored in to ensure consistent annual replacement costs, moving throughout the City. However, when it comes to actually putting together the annual project, Engineering and Operations & Maintenance staff will coordinate to television inspect and identify the worst first segments for replacement and prioritize those lines. Keeping updated records from building new lines is a critical function to ensure the data that gets transposed from “as-built” plans from new development or installation of new sewer lines to serve existing residences on septic, is a critical function. Current staffing levels and funding have not allowed for the level of detail necessary. This proposed staffing model will ensure those issues are mitigated in the future. This will also assist in responding to customer questions and concerns being experienced. The unit price costs are based on recent project costs

experienced, so that it is formulated on real-world prices. Annual inflator increases will then be necessary to keep up with the costs of replacing these lines as construction materials and labor go up in the future, without having to re-do the complete study each year.

ROADWAY AFTER SLURRY SEAL



ROADWAY WITHOUT SLURRY SEAL



To break it down, the expected annual replacement of pipeline would consist of approximately 3.71 miles of pipeline per year (371 total miles, divided by 100 years of life). The scope of pipeline replacement typically consists of excavation of a trench to remove and replace the existing sewer line, re-connect existing laterals to the new line, placing trench backfill and compaction of material in accordance with City Standard details and then providing a slurry seal finish to the affected roadway. The addition of the slurry seal finish is to account for impacts to the roadway outside of the trench from heavy construction equipment. This is consistent with policy direction, as well as practices associated with the Nitrate Compliance Program.

BORE AND JACK INSTALLATION OF 36" SEWER PIPE



Based on recent pricing for all items included in a typical sewer project (i.e. mobilization, traffic control, storm water items required by law, trench excavation, pipe installation, trench replacement, pavement treatment, etc.), the average unit price per foot of pipe equates to \$494.16. This varies based on the size of pipe being replaced, however this provides a good average estimate. On top of the construction capital costs for the piping work, preliminary engineering work is necessary to prepare the job for public works bidding. These functions include the topographic surveys, utility potholing to ensure identification of utility conflicts (water, storm drainage, gas, electric and cable), design and environmental processes. These functions are all necessary in order to prepare plans, specifications and estimates (PS&E) for construction bidding by local contractors. As an industry standard for planning purposes, this is estimated at 15% of construction capital costs. In addition, construction engineering costs are necessary to provide inspection, construction engineering and materials testing as quality control (QC) and quality assurance (QA) in accordance with the City of Chico's adopted QA/QC plan. As an industry standard, this is typically estimated

at 10% of the construction capital costs. Therefore, the breakdown of total project costs on an annual basis equate to:

Construction Capital – 19,588.80 Linear Feet (3.71 miles) @ \$494.16/LF	=	\$9,680,000
Preliminary Engineering – 15% of construction capital	=	\$1,452,000
Construction Engineering – 10% of construction capital	=	<u>\$ 968,000</u>
TOTAL ANNUAL CIP COSTS		<i>\$12,100,000</i>

Based on the reality of implementation of a new fee program, the intention is to reduce this amount in the first year to allow for design and construction of a slightly smaller project. After Year 1, the full annual amount would be intended to be collected so that adequate replacement of aged pipe can be done prior to failure of the lines. The recommended methodology of replacing pipe over the next 100-years and annualizing those costs makes this a consistent and cost-effective implementation for rate payers. An alternative would create a revenue stream based on the actual failure dates, dictating changing needs from year-to-year. That approach would result in a significant investment of staffing resources on an annual basis to do detailed inspections, analysis and administrative time to implement on a year-to-year basis.

OPEN TRENCH FOR SEWER LINE INSTALLATION







CITY OF CHICO
INC. 1872

Aerial view of the City of Chico
via Google Earth

CITY OF CHICO

Final Report for:

Sewer Rate Study

November 2021

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EXHIBIT 5

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SECTION 1. PURPOSE AND OVERVIEW OF THE STUDY

The City of Chico (City) has not increased sewer rates in over ten years and has fallen significantly behind in its repair and replacement and infrastructure improvement programs. In June of this year, the City retained NBS to conduct a comprehensive sewer rate study that considers and addresses several key issues:

- Funding significant collection system replacement costs in order to address deteriorating sewer lines that are 50-70 years old and, in some cases, older than 100 years,
- Examining customer classes and the equity of the rates, particularly how Equivalent Dwelling Units (EDUs) are calculated and applied to commercial and multi-family accounts,
- Considering adopting residential volumetric charges based on average winter water use that would improve the equity among residential customers, and
- Evaluating whether it would be appropriate to fund some stormwater program costs through sewer rates under Proposition 218¹ (Prop 218) regulations.

The rates resulting from this Study were developed in a manner that is consistent with industry standards and cost-of-service principles. In addition to documenting the rate study methodology, as required under Prop 218, this report helps the City maintain transparent communications with the residents and community it serves.

In developing new sewer rates, NBS worked cooperatively under the direction of City staff to reflect the concerns of the Finance Committee and City Council (Council), including selecting an appropriate rate alternative. This report summarizes the input and direction received from these stakeholders along with an overview of the methodology, assumptions, and data used to develop the proposed rates.

A. Overview of the Study

Key Issues Addressed - In addition to ensuring that sewer rates collect sufficient revenue to meet the annual operating costs and fund capital improvement plans, other key issues include:

- **Financial Plans** – The long-term financial plan developed for the City incorporates all revenue sources, expenditures, reserves, and capital improvement costs in determining the net revenue requirements that must be funded from rates.
- **Capital Improvement Funding** – The City’s Capital Improvement Program primarily funds collection system replacements, but also includes Water Pollution Control Plant projects. These projects total approximately \$95 million over the next five years and are a high priority for City staff. New sewer rates capable of fully funding these costs but must be weighed against customer bill impacts.
- **Calculation of EDU Assignments** – The cost-of-service analysis evaluated the number of equivalent dwelling units (EDUs) for each customer class by: 1) defining what the average single-family residential flow and the pounds of Biochemical Oxygen Demand (BOD) and Total Suspended Solids

¹ California Constitution Article XIII D, Section 6, which is commonly referred to as Proposition 218 (Prop 218).

(TSS) are based on the average monthly consumption during the winter; 2) applying these standards to all customer classes to determine their number of EDUs; and, 3) calculating the number of EDUs for commercial customers as well as volumetric rates that are based on standard effluent strength factors, which vary by type of commercial customer. Also, this analysis determined that multi-family and duplex accounts should be less than a full EDU and, as a result, their proposed monthly fixed charges are less than the fixed charges for single-family customers.

- **Rate Design** – Whereas the current residential rate structure is a flat monthly rate, the proposed rate structure uses both a fixed charge and a volumetric charge based on the estimated average winter water use for residential customers; commercial customers continue to have fixed charges based on their EDUs plus volumetric rates that reflect typical commercial strength factors, although the EDU calculations and commercial strength factors have been reviewed and updated. This approach improves the fairness and equity within both residential and commercial classes.

In addition, NBS also performed an in-depth examination of the appropriate amount of rate revenue that should be collected from fixed vs. variable charges. After carefully considering the customer bill impacts, the City decided on a rate alternative that collects approximately 50 percent of the rate revenue from fixed charges and 50 percent from volumetric charges.

B. Rate Study Methodology

Comprehensive rate studies, such as this one, typically include the three components outlined in **Figure 1**:

Figure 1. Primary Components of a Rate Study



² also referred to as the M1 Manual. The rate study also addresses requirements under Prop 218 that rates must not exceed the cost of providing the service and that rates be proportionate to the cost of

² *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1 Manual, American Water Works Association (AWWA), Seventh Edition, 2017.*

providing service for all customers. In terms of the chronology of the Study, these three steps represent the order in which they were performed.

The City provided NBS with the data necessary to conduct the Study, including historical, current, and projected revenues and expenditures, number of customer accounts, and water consumption data from Cal Water, along with other operational and capital cost information. Detailed tables and figures documenting the development of the proposed rates are provided in the *Appendix*. The next sections provide more details on each of these three rate study components shown in Figure 1.

Financial Plan

As a part of the rate study, NBS projected revenues and expenditures on a cash-flow basis for the next twenty years, although the proposed rates are for a 5-year period (FY 2022/23 through FY 2026/27). The amount of rate revenue that will maintain adequate reserves is known as the *net revenue requirement*. When current rate revenue falls short of the net revenue requirement, rate adjustments - or more accurately, adjustments in the total revenue collected from rates – should be implemented. Recommended reserve levels are based on a combination of industry standards and the Utility’s unique financial needs. More detail on recommended reserve levels is included in Section 2.

Cost-of-Service Analysis

The basic purpose of the cost-of-service analysis (COSA) is to fairly and equitably allocate costs to customer classes. A key task in this effort is the “classification” of costs into the following basic categories:

- Flow-related (volume) costs
- Strength-related costs for Biochemical Oxygen Demand (BOD)
- Strength-related costs for Total Suspended Solids (TSS)
- Fixed costs (i.e., system infrastructure vs. strength-related costs)
- Customer service-related costs

These cost allocation factors represent a typical cost of service approach to developing sewer rates. For example, effluent with higher levels of BOD and TSS is more costly to treat and, therefore, should be allocated a greater proportion of the treatment costs. Likewise, customer classes that generate significantly more flow to the sewer treatment plant should also be charged accordingly. Both strength- and flow-related costs are reflected in each customer’s EDU calculation, which provides the overall basis for sewer charges. Further details are discussed below and documented in the *Appendix*.

Rate Design Analysis

Rate Design is typically where rate design alternatives focus on broader goals and objectives. It is important to send proper price signals that are transparent to customers and reflect the actual cost of providing service in a fair and equitable manner.

Several criteria are typically considered in setting rates and developing sound rate structures. The fundamentals of this process have been well documented in various rate-setting manuals, such as AWWA’s M1 Manual. The foundation for evaluating rate structures is generally credited to James C. Bonbright in

*Principles of Public Utility Rates*³ which outlines pricing policies, theories, and economic concepts along with various rate designs. The following is a simplified list of the attributes of a sound rate structure:

- Rates should be easy to understand from the customer’s perspective.
- Rates should be easy to administer from the utility’s perspective.
- Rates should promote the efficient allocation of the resource.
- Rates should be equitable and non-discriminating (that is, cost based).
- There should be continuity in the rate making philosophy over time.
- Rates should provide month-to-month and year-to-year revenue stability.

Rate Structure Terminology

Along with the basic rate design criteria noted above, NBS and City staff considered one of the most fundamental rate structure criteria, which is the percentage of revenue collected from fixed vs. variable charges. Although the City’s current residential rates are 100-percent fixed but add a volumetric component for non-residential customers, the City deemed it important to consider using a volumetric rate for all customers, since this approach improves overall equity among customers. Particularly in the last ten years, many sewer utilities have incorporated a volumetric component into their residential sewer rates solely for the purpose of improving customer equity.

The relationship between fixed and variable costs can also have a significant impact on customer bills. Fixed costs, such as capital improvement costs, debt service, and personnel costs, typically do not vary with the amount of wastewater effluent. In contrast, variable costs, such as the cost of chemicals and electricity used in pumping effluent flows, tend to change with the quantity of wastewater effluent. Volumetric sewer charges for residential customers are generally based on metered winter water use and non-residential customers use either metered winter or monthly water use.

Key Financial Assumptions

Following are the key assumptions used in the rate analysis:

- **Funding of Capital Projects** – Without rate increases, the City would find it difficult to pay for the planned capital improvements. Therefore, rate increases in combination with capital reserves and, at times, debt and grant funding, are used to fund the planned capital improvements.
- **Reserve Fund Targets** – Reserves for operations and capital needs are set based on NBS input and recommendations from City staff, which are generally consistent with industry standards:
 - Operating Reserve – Equal to 25%, or 3 months, of operating and maintenance expenses.
 - Capital Replacement Reserve – Equal to 3% of net assets.

³ James C. Bonbright, Albert L. Danielsen, and David R. Kamerschen, *Principles of Public Utility Rates*, Arlington, VA: Public Utilities Report, Inc., Second Edition, 1988, pp. 383-384.

- **Growth Projection** - The following growth factor is incorporated into the sewer rate model:
 - Customer growth is 1% annually based on the projected population growth documented in the City's CAFR.⁴
- **Inflation Factors** – At this time, inflation rates appear to be increasing significantly and are difficult to project with any accuracy. Because of this, projected costs do not include general inflation or personnel/labor cost inflation adjustments. Instead, the City plans to make annual Cost-of-Living Adjustments using an annual cost index, such as Engineering News Record (ENR) construction cost indices or the U.S. Bureau of Labor Statistics, based on regional indices (e.g., California or San Francisco Bay Area). This provision needs to be adopted along with the new sewer rates and included as a provision in the City's rate resolution. This approach allows the City to make future cost adjustments in appears based on actual, rather than projected, inflation.

The next section presents the sewer rate study.

⁴ Source file: *Chico_2020-21_city_annual_final_budget.pdf*, page 250.

SECTION 2. SEWER RATE STUDY

This section presents further details on the primary rate study components previously outlined in Figure 1.

A. Financial Plan

It is important for municipal utilities to maintain reasonable reserves in order to handle emergencies, fund working capital, maintain a good credit rating, and generally follow sound financial management practices. Rate increases are governed by the need to meet operating and capital costs, maintain adequate debt coverage, and build reasonable reserve funds. The current state of the City’s sewer utility regarding these objectives is as follows:

- Funding Capital Improvement Projects:** The City must be able to fund necessary capital improvements in order to maintain current service levels for its customers. As **Figure 2** below shows, City staff has identified roughly \$95 million in expected capital expenditures for FY 2022/23 through FY 2026/27, and over \$480 million over the next 20 years.

Figure 2. Capital Improvement Costs for FY 2022/23 through FY 2041/42

Capital Improvement Program ¹	2023-2027	2028-2032	2033-2042	Total
Water Pollution Control Plant	\$ 33,428,685	\$ 42,399,520	\$ 66,595,669	\$ 142,423,874
Collection System	61,787,392	79,007,765	197,771,484	338,566,642
Total Costs	95,216,077	121,407,285	264,367,153	480,990,516
<i>Average Annual Expenditure</i>	20%	25%	55%	\$ 24,049,526

1. Capital project costs include estimated cost inflation.

The recommended rate increases will allow the City to complete all planned capital projects while maintaining reasonable reserve levels and meet the recommended minimum reserve balances.

- Meeting Net Revenue Requirements:** For Fiscal Year 2022/23 through FY 2026/27, the projected net revenue requirements (i.e., total annual expenses plus debt service and rate-funded capital costs less non-rate revenues) for the City increase from \$13.8 to \$16.2 million annually. This includes fully funding the \$95 million in CIP costs over the next five years and approximately \$900,000 per year for stormwater O&M costs. Without rate increases, the City is projected to run an annual deficit of approximately \$1.8 million beginning in FY 2022/23 which would continue to grow to \$3.6 million by FY 2026/27, thus requiring the delay of critical capital improvements and more significant increases in the future.

Figure 3 and **Figure 4** summarize the sources and uses of funds, net revenue requirements, and the recommended annual percent increases in total rate revenue recommended for the next five (5) years. These rates take into consideration the input and direction provided by City staff, the Finance Committee, and the Council, and fully fund all O&M expenses and planned capital projects and maintain reserves at the recommended target levels.

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budgeted	5-Year Rate Adoption Period				
	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Sources of Sewer Funds						
Rate Revenue Under Current Rates - Sewer	\$ 11,850,520	\$ 11,992,726	\$ 12,136,639	\$ 12,282,279	\$ 12,429,666	\$ 12,578,822
Non-Rate Revenues	145,800	145,800	145,800	145,800	145,800	145,800
Interest Earnings	200,000	200,000	200,000	200,000	200,000	200,000
Total Sources of Funds	\$ 12,196,320	\$ 12,338,526	\$ 12,482,439	\$ 12,628,079	\$ 12,775,466	\$ 12,924,622
Uses of Sewer Funds						
Operating Expenses	\$ 8,824,281	\$ 8,824,281	\$ 8,824,281	\$ 8,824,281	\$ 8,824,281	\$ 8,824,281
Existing Debt Service	5,294,679	5,297,054	5,295,179	5,293,929	5,293,054	5,297,179
New Debt Service	-	-	-	-	-	-
Rate Funded Capital Expenses	-	-	864,143	-	4,742,733	2,415,279
Total Use of Funds	\$ 14,118,961	\$ 14,121,336	\$ 14,983,604	\$ 14,118,211	\$ 18,860,068	\$ 16,536,739
Surplus (Deficiency) before Rate Increase	\$ (1,922,641)	\$ (1,782,809)	\$ (2,501,165)	\$ (1,490,132)	\$ (6,084,602)	\$ (3,612,118)
Additional Revenue from Rate Increases ¹	-	5,996,363	14,260,551	22,445,864	27,986,947	28,322,790
Surplus (Deficiency) after Rate Increase	\$ (1,922,641)	\$ 4,213,554	\$ 11,759,386	\$ 20,955,732	\$ 21,902,344	\$ 24,710,672
Increase in Rate Revenue Needed to Avoid Deficit	0.00%	50.00%	45.00%	30.00%	15.00%	0.00%
Cumulative Increases	0.00%	50.00%	117.50%	182.75%	225.16%	225.16%
Net Revenue Requirement²	\$ 13,773,161	\$ 13,775,536	\$ 14,637,804	\$ 13,772,411	\$ 18,514,268	\$ 16,190,939

1. Assumes new rates are implemented July 1, 2022.

2. Total Uses of Sewer Funds less non-rate revenues and interest earnings. This is the annual amount needed from rates.

Figure 4. Proposed Rate Increases for FY 2022/23 through 2026/27

Financial Plan Alternative	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Proposed Annual Rate Increases	50.00%	45.00%	30.00%	15.00%	0.00%

- Building and Maintaining Reserve Funds:** Reserve funds provide a basis for a utility to cope with fiscal emergencies, such as revenue shortfalls, asset failure, and natural disasters, among other events. Reserve policies provide guidelines for sound financial management, with an overall long-range perspective to maintain financial solvency and mitigate financial risks associated with revenue instability, volatile capital costs, and unexpected emergencies. NBS along with City staff have chosen to set the following reserve targets:
 - Operating Reserves** equal to 3 months of operating and maintenance expenses, which will be approximately \$2.2 million annually from FY 2022/23 through FY 2026/27. An operating reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures, such as those caused by weather, the natural inflow and outflow of cash, demand-based revenue streams (volumetric charges), and changes or trends in the age of receivables, such as impacts from Covid-19.
 - Capital Replacement Reserves** equal to 3% of net capital assets, which will be approximately \$4.0 million in FY 2022/23 and increase to \$6.0 million by FY 2026/27. This reserve is set aside to address long-term and routine capital system replacement and rehabilitation needs. **Figure 5** summarizes the projected reserve fund balances and reserve targets for the Utility's unrestricted funds. A more detailed version of the City's proposed 5-year financial plan is included in the *Appendix*.

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budgeted	5-Year Rate Adoption Period				
	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Operating & Maintenance Reserve Fund						
Ending Balance	\$ 2,175,850	\$ 2,175,850	\$ 2,175,850	\$ 2,175,850	\$ 2,175,850	\$ 2,175,850
<i>Recommended Minimum Target</i>	<i>2,175,850</i>	<i>2,175,850</i>	<i>2,175,850</i>	<i>2,175,850</i>	<i>2,175,850</i>	<i>2,175,850</i>
Capital Reserve Fund						
Ending Balance	\$ 13,884,313	\$ 8,948,665	\$ 3,880,944	\$ 6,771,135	\$ 6,108,352	\$ 10,232,080
<i>Recommended Minimum Target</i>	<i>3,769,000</i>	<i>3,934,000</i>	<i>4,343,000</i>	<i>4,750,000</i>	<i>5,415,000</i>	<i>5,934,000</i>
Total Ending Balance (Unrestricted)	\$ 16,060,163	\$ 11,124,516	\$ 6,056,795	\$ 8,946,985	\$ 8,284,202	\$ 12,407,930
<i>Recommended Minimum Target</i>	<i>\$ 5,944,850</i>	<i>\$ 6,109,850</i>	<i>\$ 6,518,850</i>	<i>\$ 6,925,850</i>	<i>\$ 7,590,850</i>	<i>\$ 8,109,850</i>

- Maintaining Adequate Bond Coverage:** The City is required by the rate covenants of the 2020 Sewer Revenue Refunding Bonds to maintain a debt service coverage ratio of at least 1.20. The benefit of maintaining a higher coverage ratio is that it strengthens the City’s credit rating which can help lower interest rates for debt-funded capital projects and, in turn, reduce annual debt service payments. Currently, the City is not able to meet the debt coverage requirement and will continue to fall short of the debt service coverage ratio throughout the 5-year rate adoption period.
- Growth Projections:** According to City staff, customer growth is expected to be about 1% percent annually and was used to project future revenue generated from sewer service fees.
- Inflation Adjustments:** Projected costs do not include inflation. Instead, the City plans to make a Cost-of-Living Adjustment each year using an annual cost index, such as Engineering News Record (ENR) construction cost indices or the U.S. Bureau of Labor Statistics, based on regional indices (e.g., California or San Francisco Bay Area). This provision should be adopted along with the new sewer rates and included as a provision in the City’s rate resolution.

B. Cost-of-Service Analysis

Once the net revenue requirements are determined, the cost-of-service analysis (COSA) proportionately distributes the revenue requirements to each of the customer classes. The COSA consists of the classification of expenses and then the allocation of those expenses to customer classes based on allocation factors, such as water consumption and number of equivalent dwelling units (EDUs), or accounts. Ultimately, a COSA is intended to result in rates that are proportional to the cost of providing service to each customer class.

Classification of Costs

As previously noted, costs are classified into the following categories: (1) flow-related costs; (2) strength-related costs (BOD and TSS); (3) fixed costs (i.e., non-strength related); and (4) customer-related costs. Most costs are typically allocated to more than one of these categories. The City’s budgeted costs were reviewed and allocated to these basic categories which serve as the basis for calculating the fixed and variable charges. Tables in the *Appendix* show how the City’s expenses were classified and allocated to these cost-causation components.

Based on the City’s projected costs, the COSA resulted in a distribution that is approximately 25 percent (25%) fixed and 75 percent (75%) variable. Currently, the City’s rate structure collects 100-percent of the revenue from fixed charges for residential customers and a combination of fixed and variable charges for

commercial customers. In considering the importance of revenue stability and customer bill impacts, the City decided that changing residential rates from 100-percent fixed to a 25% fixed/75% variable split was too much of a change and that a more reasonable alternative was to use approximately 50% fixed/50% variable rate. This adjustment moves the City closer to the COSA results (compared to a 100% fixed residential charge) and allocates revenue requirements to customers more equitably.

Figure 6 summarizes how the \$13.8 million in revenue requirements (costs) are allocated to the various types of cost classifications. This \$13.8 million does not include the rate increase previously shown in Figure 3. The development of the allocation factors is discussed in the following section.

Figure 6. Summary of Classification by Budget Category

Budget Categories	Total Revenue Requirements	Flow	Strength		Non-Strength-Related Fixed	Customer
	FY 2022/23	(VOL)	(BOD)	(TSS)	Fixed	(CA)
Water Pollution Control Plant (WPCP)						
Salaries & Benefits	\$ 3,719,923	\$ 1,301,973	\$ 743,985	\$ 743,985	\$ 743,985	\$ 185,996
WPCP Operating Expenses	2,217,886	596,810	770,577	770,577	48,977	30,944
Collection System						
Collection Salaries & Benefits	\$ 1,734,823	\$ 780,670	\$ -	\$ -	\$ 867,411	\$ 86,741
Collection Operating Expenses	265,267	132,633	-	-	132,633	-
Stormwater						
Stormwater O&M Expenses	\$ 886,383	\$ 443,192	\$ -	\$ -	\$ 443,192	\$ -
Debt Services						
Existing Debt Service	\$ 5,297,054	\$ 2,118,822	\$ 1,059,411	\$ 1,059,411	\$ 1,059,411	\$ -
Capital Expenditures						
Rate-Funded Capital Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL REVENUE REQUIREMENTS	\$ 14,121,336	\$ 5,374,100	\$ 2,573,973	\$ 2,573,973	\$ 3,295,609	\$ 303,682
Less: Non-Rate Revenues	\$ (345,800)	\$ (131,600)	\$ (63,031)	\$ (63,031)	\$ (80,702)	\$ (7,436)
NET REVENUE REQUIREMENTS	\$ 13,775,536	\$ 5,242,500	\$ 2,510,942	\$ 2,510,942	\$ 3,214,907	\$ 296,245
<i>Allocation of Revenue Requirements</i>	100.0%	38.1%	18.2%	18.2%	23.3%	2.2%

Figure 7 summarizes the allocation of the net revenue requirements to each cost-causation component. The almost \$18 million in net revenue requirements includes the proposed 50% rate increase in the first year.

Customer Class	Cost Classification Components					COSA Revenue Req't.	% of COS Revenue Req't.
	Volume	Treatment		Fixed (Non-Strength)	Customer Related		
		BOD	TSS				
74.5% of Total			25.5% of Total				
Net Revenue Requirements¹	\$ 6,846,035	\$ 3,278,969	\$ 3,278,969	\$ 4,198,258	\$ 386,858	\$ 17,989,089	--
<i>Percent of Total</i>	<i>38.1%</i>	<i>18.2%</i>	<i>18.2%</i>	<i>23.3%</i>	<i>2.2%</i>	<i>100.0%</i>	
Residential							
House	\$ 3,505,230	\$ 1,377,312	\$ 1,501,876	\$ 2,013,896	\$ 322,210	\$ 8,720,525	48.5%
Multi-Family	1,608,293	631,948	689,101	924,029	20,298	3,873,669	21.5%
Duplex - 2 Meters	21,103	8,292	9,042	12,124	3,412	53,972	0.3%
Duplex - 1 Meter	262,985	103,335	112,680	151,095	8,246	638,342	3.5%
Commercial							
Bars without Dining	7,931	3,561	3,884	4,817	120	20,313	0.1%
Brewery	253	568	372	353	34	1,581	0.0%
Car Wash	28,642	1,286	10,519	13,071	206	53,723	0.3%
Dorms	45,635	17,931	19,553	26,219	137	109,475	0.6%
Hospital & Convalescent	170,871	95,915	41,836	98,173	480	407,275	2.3%
Hotels w/o Dining	56,539	39,354	16,611	35,454	223	148,180	0.8%
Hotels with Dining	15,728	17,657	23,105	16,782	86	73,357	0.4%
Industrial Laundry	29,743	44,745	49,520	36,619	17	160,644	0.9%
Laundromat	22,334	7,522	6,015	11,512	223	47,605	0.3%
Markets/Bakeries	94,322	169,426	184,749	131,609	891	580,998	3.2%
Mortuary	402	722	787	561	34	2,507	0.0%
Restaurants	211,528	474,949	310,742	295,148	4,492	1,296,859	7.2%
School	157,844	46,073	38,646	78,250	994	321,808	1.8%
All Other	606,654	238,373	259,931	348,547	24,755	1,478,259	8.2%
Total	\$ 6,846,035	\$ 3,278,969	\$ 3,278,969	\$ 4,198,258	\$ 386,858	\$ 17,989,089	100%

1. Revenue requirement for each customer class is determined by multiplying the revenue requirement from each cost classification by the allocation factors for each customer class.

Characteristics of Customers by Class

Customer classes are determined by combining customers with similar flow and strength characteristics into customer classes. The most recent water consumption data was used to estimate the amount of flow that each customer class sends to the treatment plant. Volumetric charges for all customer classes were based on the average winter water consumption for the four lowest months of use.⁵ For non-residential customers that do not have typical (i.e., residential) effluent strengths, volumetric rates reflect both their estimated flow and the appropriate non-residential effluent strengths.

Determining Customer Class Effluent Strengths – Effluent strength factors for each customer class were estimated by using the State Water Resources Control Board's (SWRCB) *Revenue Program Guidelines*⁶ as described below:

- Residential customers, including single family, multi-family, and duplexes, were assigned BOD and TSS strength factors of 175 mg/l which is within the normal range for residential users.
- Commercial customers were assigned BOD and TSS strength factors as shown in **Figure 8**.

⁵ Lowest consecutive winter months - December 2019 through March 2020.

⁶ State Water Resources Control Board (SWRCB). *Revenue Program Guidelines, Appendix G, page G-21 "Commercial User Strength Characteristics."* Site: https://www.waterboards.ca.gov/publications_forms/publications/general/docs/srf_wastewater_facilities_b.pdf.

- **Figure 9** summarizes the development of the strength allocation factors by customer class, with the percentage allocations by customer class highlighted in the blue columns. These strength-related percentages were used to allocate strength-related costs.
- **Figure 10.** summarizes the calculation of the EDUs for each customer class based on the average water use and pounds of BOD and TSS for single-family residential customers (i.e., “House”). The percentages of EDUs in the righthand column were used to allocate fixed costs and calculate the monthly fixed charges.
- **Figure 11** summarizes the number of accounts; the percentage of accounts were used to allocate customer-related costs.

Customer Class ¹	Biochemical Oxygen Demand (BOD)		Total Suspended Solids (TSS)	
	Average Strength Factor ² (mg/l)	Calculated BOD (lbs./yr.)	Average Strength Factor ² (mg/l)	Calculated TSS (lbs./yr.)
Commercial				
Bars without Dining	200	2,136	200	2,585
Brewery	1,000	341	600	247
Car Wash	20	771	150	7,001
Dorms	175	10,754	175	13,013
Hospital & Convalescent	250	57,522	100	27,844
Hotels w/o Dining	310	23,601	120	11,056
Hotels with Dining	500	10,589	600	15,377
Industrial Laundry	670	26,834	680	32,958
Laundromat	150	4,511	110	4,003
Markets/Bakeries	800	101,607	800	122,959
Mortuary	800	433	800	524
Restaurants	1,000	284,833	600	206,812
School	130	27,631	100	25,721
All Other	175	142,955	175	172,996
Total		694,518		643,095

1. Based on the City's current rate schedule for commercial variable charges.

2. Typical strength factors for BOD and TSS are derived from the State Water Resources Control Board *Revenue Program Guidelines (Appendix G)*.

Figure 9. Annual Flow and Strength Characteristics by Customer Class

Development of the STRENGTH Allocation Factor								
Customer Class	Adjusted Annual Flow (hcf)	Commercial Rate Classes ¹	Biochemical Oxygen Demand (BOD)			Total Suspended Solids (TSS)		
			Average Strength Factor ² (mg/l)	Calculated BOD (lbs./yr.)	Percent of Total	Average Strength Factor ² (mg/l)	Calculated TSS (lbs./yr.)	Percent of Total
Residential								
House	1,507,395	n/a	175	825,994	42.0%	175	999,566	45.8%
Multi-Family	691,633	n/a	175	378,988	19.3%	175	458,627	21.0%
Duplex - 2 Meters	9,075	n/a	175	4,973	0.3%	175	6,018	0.3%
Duplex - 1 Meter	113,095	n/a	175	61,971	3.2%	175	74,994	3.4%
Commercial								
Bars without Dining	3,411	Bars w/o Dining	200	2,136	0.1%	200	2,585	0.1%
Brewery	109	Bars with Dining	1,000	341	0.0%	600	247	0.0%
Car Wash	12,317	Car Wash	20	771	0.0%	150	7,001	0.3%
Dorms	19,625	College	175	10,754	0.5%	175	13,013	0.6%
Hospital & Convalescent	73,482	Hosp/Con	250	57,522	2.9%	100	27,844	1.3%
Hotels w/o Dining	24,314	Hotels w/o Dining	310	23,601	1.2%	120	11,056	0.5%
Hotels with Dining	6,764	Hotels with Dining	500	10,589	0.5%	600	15,377	0.7%
Industrial Laundry	12,791	Indust. Laundry	670	26,834	1.4%	680	32,958	1.5%
Laundromat	9,604	Laundromat	150	4,511	0.2%	110	4,003	0.2%
Markets/Bakeries	40,562	Markets	800	101,607	5.2%	800	122,959	5.6%
Mortuary	173	Mortuary	800	433	0.0%	800	524	0.0%
Restaurants	90,966	Restaurant	1,000	284,833	14.5%	600	206,812	9.5%
School	67,879	Schools	130	27,631	1.4%	100	25,721	1.2%
All Other	260,886	General	175	142,955	7.3%	175	172,996	7.9%
Total	2,944,081			1,966,444	100.0%		2,182,300	100.0%
<i>Plant BOD/TSS (lbs./Year)</i>				1,996,327			2,209,935	
<i>Adjustment Factors</i>				0.502			0.607	

1. Based on the City's current rate schedule for commercial variable charges for existing commercial classes.
2. Typical strength factors for BOD and TSS are derived from the State Water Resources Control Board *Revenue Program Guidelines (Appendix G)*.

Customer Class	Typical Residential (per Unit or EDU) Commercial is HCF/Mo./Account			Annualized Winter (hcf/yr.)	BOD (lbs./yr.)	TSS (lbs./yr.)	EDUs (Based on 60% Flow, 20% BOD, 20% TSS)	% of EDUs
	hcf/mo./EDU or Acct.	BOD (lbs./mo./EDU or Acct.)	TSS (lbs./mo./EDU or Acct.)					
Residential								
House (per EDU)	9.39	3.7	4.4	2,118,813	825,994	999,566	18,795.0	48.0%
Multi-Family (per Unit)	6.33	2.5	3.0	972,168	378,988	458,627	8,623.6	22.0%
Duplex - 2 Meters (per Unit)	2.67	1.0	1.3	12,756	4,973	6,018	113.2	0.3%
Duplex - 1 Meter (per Unit)	6.95	2.7	3.3	158,967	61,971	74,994	1,410.1	3.6%
Commercial								
Bars without Dining	57.1	25.4	30.8	4,794	2,136	2,585	45.0	0.1%
Brewery	6.4	14.2	10.3	153	341	247	3.3	0.0%
Car Wash	120.2	5.4	48.6	17,313	771	7,001	122.0	0.3%
Dorms	287.3	112.0	135.6	27,585	10,754	13,013	244.7	0.6%
Hospital & Convalescent	307.4	171.2	82.9	103,287	57,522	27,844	916.2	2.3%
Hotels w/o Dining	219.1	151.3	70.9	34,176	23,601	11,056	330.9	0.8%
Hotels with Dining	158.5	176.5	256.3	9,507	10,589	15,377	156.6	0.4%
Industrial Laundry	1,498.3	2,236.2	2,746.5	17,979	26,834	32,958	341.7	0.9%
Laundromat	86.5	28.9	25.7	13,500	4,511	4,003	107.4	0.3%
Markets/Bakeries	91.4	162.8	197.0	57,015	101,607	122,959	1,228.3	3.1%
Mortuary	10.1	18.0	21.8	243	433	524	5.2	0.01%
Restaurants	40.7	90.6	65.8	127,863	284,833	206,812	2,754.5	7.0%
School	137.1	39.7	37.0	95,412	27,631	25,721	730.3	1.9%
All Other	21.2	8.2	10.0	366,705	142,955	172,996	3,252.9	8.3%
Total	N.A.	3,250	3,751	4,138,236	1,966,444	2,182,300	39,180.9	100.0%

Figure 11. Number and Percentage of Accounts by Customer Class

Customer Class	Number of Accounts ¹	Percentage of Accounts
Residential		
House	18,795	83.3%
Multi-Family	1,184	5.2%
Duplex - 2 Meters	199	0.9%
Duplex - 1 Meter	481	2.1%
Commercial		
Bars without Dining	7	0.0%
Brewery	2	0.0%
Car Wash	12	0.1%
Dorms	8	0.0%
Hospital & Convalescent	28	0.1%
Hotels w/o Dining	13	0.1%
Hotels with Dining	5	0.0%
Industrial Laundry	1	0.0%
Laundromat	13	0.1%
Markets/Bakeries	52	0.2%
Mortuary	2	0.0%
Restaurants	262	1.2%
School	58	0.3%
All Other	1,444	6.4%
Total	22,566	100%

1. Source files provided by the City. Source files: 118511_City Chico Resid 2020 Consump.xlsx & 120124_CityChicoComm_2020Consump.xlsx.

C. Rate Design Analysis

NBS discussed several rate alternatives with City staff over the course of this Study, including the percentage of revenue collected from fixed versus variable charges and the differences by customer class. The overall objective was to improve the fairness and equity of the rate design and ensure costs were being appropriately collected from each customer class.

Fixed Charges

Based on discussions with City staff, the fixed monthly charge for single family residential customers as well as all commercial customers was set at \$20.00/EDU/month. Multi-family units and duplexes, which are less than one EDU on a per-unit basis, are assigned fixed costs per unit (e.g., per apartment or half-duplex). These fixed charges allow the City to still collect approximately 50 percent of the rate revenue from fixed charges and the remainder from variable charges.

Variable Charges

Variable charges are calculated by allocating approximately 50 percent of the revenue requirement in each customer class and dividing it by the estimated effluent volume produced based on annualized average winter water use for both residential and non-residential customer classes. This effluent volume is the adjusted total annual volume shown in **Figure 12** below. The number of accounts, EDUs, annualized consumption, and revenue requirements by customer class are used to calculate fixed and volumetric charges shown in **Figure 13**. The results of dividing fixed costs by EDUs and volumetric costs by consumption totals are the fixed and variable charges shown in **Figure 14**.

Figure 12. Calculation of Adjusted Sewage Volume

Development of the VOLUME Allocation Factor ¹						
Customer Class	Number of Accounts	Number of Units	Winter Consumption Dec.'19-Mar.'20 (hcf)	Annualized Winter Consumption (hcf)	Adjusted Annual Volume ² (hcf)	Percentage of Volume
Residential						
House	18,795	18,795	706,271	2,118,813	1,507,395	51.20%
Multi-Family	1,184	12,796	324,056	972,168	691,633	23.49%
Duplex - 2 Meters	199	398	4,252	12,756	9,075	0.31%
Duplex - 1 Meter	481	1,907	52,989	158,967	113,095	3.84%
Commercial						
Bars without Dining	7	7	1,598	4,794	3,411	0.12%
Brewery	2	2	51	153	109	0.00%
Car Wash	12	10	5,771	17,313	12,317	0.42%
Dorms	8	6	9,195	27,585	19,625	0.67%
Hospital & Convalescent	28	26	34,429	103,287	73,482	2.50%
Hotels w/o Dining	13	13	11,392	34,176	24,314	0.83%
Hotels with Dining	5	4	3,169	9,507	6,764	0.23%
Industrial Laundry	1	1	5,993	17,979	12,791	0.43%
Laundromat	13	12	4,500	13,500	9,604	0.33%
Markets/Bakeries	52	52	19,005	57,015	40,562	1.38%
Mortuary	2	2	81	243	173	0.01%
Restaurants	262	259	42,621	127,863	90,966	3.09%
School	58	56	31,804	95,412	67,879	2.31%
All Other	1,444	1,444	122,235	366,705	260,886	8.86%
Total	22,566	35,790	1,379,412	4,138,236	2,944,081	100.00%

1. Source files provided by the City: 118511_City Chico Resid 2020 Consump.xlsx & 120124_CityChicoComm_2020Consump.xlsx.
2. Adjusted annual volume based on wastewater treatment plant influent data. Source file: Flow, BOD, TSS July19-Feb20.xlsx.

Figure 13. Summary of Data Used to Develop Fixed and Variable Charges

Customer Class	Number of Accounts	No. of EDUs or Units (Units for MFR & Duplexes)	Number of EDUs/Unit or EDUs/Account	Annualized Winter Consumption	Fixed vs. Variable		Net Revenue Requirement
					Fixed (Non-Strength Related & Customer)	Variable (Volumetric & BOD/TSS)	
Residential		(Units)					
House	18,795	18,795	1.00/EDU/Unit	2,118,813	\$ 2,336,106	\$ 6,384,418	\$ 8,720,525
Multi-Family (Fixed = \$/Unit)	1,184	12,796	0.67/EDU/Unit	972,168	944,327	2,929,342	3,873,669
Duplex - 2 Meters (Fixed = \$/Unit)	199	398	0.28/EDU/Unit	12,756	15,536	38,436	53,972
Duplex - 1 Meter (Fixed = \$/Unit)	481	1,907	0.74/EDU/Unit	158,967	159,341	479,000	638,342
Residential Totals	20,659	33,896		3,262,704	\$ 3,455,310	\$ 9,831,197	\$ 13,286,507
Commercial		(EDUs)					
Bars without Dining	7	45	6.4/EDU/Acct.	4,794	\$ 4,937	\$ 15,376	\$ 20,313
Brewery	2	3	1.6/EDU/Acct.	153	387	1,193	1,581
Car Wash	12	122	10.2/EDU/Acct.	17,313	13,276	40,447	53,723
Dorms	8	245	30.6/EDU/Acct.	27,585	26,356	83,119	109,475
Hospital & Convalescent	28	916	32.7/EDU/Acct.	103,287	98,653	308,623	407,275
Hotels w/o Dining	13	331	25.5/EDU/Acct.	34,176	35,677	112,504	148,180
Hotels with Dining	5	157	31.3/EDU/Acct.	9,507	16,867	56,489	73,357
Industrial Laundry	1	342	341.7/EDU/Acct.	17,979	36,636	124,008	160,644
Laundromat	13	107	8.3/EDU/Acct.	13,500	11,735	35,870	47,605
Markets/Bakeries	52	1,228	23.6/EDU/Acct.	57,015	132,500	448,498	580,998
Mortuary	2	5	2.6/EDU/Acct.	243	595	1,912	2,507
Restaurants	262	2,755	10.5/EDU/Acct.	127,863	299,640	997,219	1,296,859
School	58	730	12.6/EDU/Acct.	95,412	79,245	242,563	321,808
All Other	1,444	3,253	2.3/EDU/Acct.	366,705	373,302	1,104,957	1,478,259
Commercial Totals	1,907	10,239		875,532	\$ 1,129,805	\$ 3,572,777	\$ 4,702,582
Total	22,566	44,135		4,138,236	\$ 4,585,116	\$ 13,403,974	\$ 17,989,089

Customer Class	Fixed & Volumetric Charges FY 2022/23		
	Mo. Fixed Charge ¹ (\$/EDU or Unit)	Volumetric Rate ² (\$/hcf)	Percentages of Fixed/Vol.
Residential			<i>Fixed / Vol.</i>
House	\$20.00/Unit	\$1.99	52% / 48%
Multi-Family (Fixed = \$/Unit)	\$12.63/Unit	\$1.99	50% / 50%
Duplex - 2 Meters (Fixed = \$/Unit)	\$5.98/Unit	\$1.99	53% / 47%
Duplex - 1 Meter (Fixed = \$/Unit)	\$14.08/Unit	\$1.99	50% / 49%
Residential Totals			51% / 49%
Commercial			
Bars without Dining	\$20.00/EDU	\$1.99	53% / 47%
Brewery	\$20.00/EDU	\$5.16	50% / 50%
Car Wash	\$20.00/EDU	\$1.41	54% / 46%
Dorms	\$20.00/EDU	\$1.84	54% / 46%
Hospital & Convalescent	\$20.00/EDU	\$1.81	54% / 46%
Hotels w/o Dining	\$20.00/EDU	\$2.01	54% / 46%
Hotels with Dining	\$20.00/EDU	\$3.76	51% / 49%
Industrial Laundry	\$20.00/EDU	\$4.37	51% / 49%
Laundromat	\$20.00/EDU	\$1.62	54% / 46%
Markets/Bakeries	\$20.00/EDU	\$5.02	51% / 49%
Mortuary	\$20.00/EDU	\$5.15	50% / 50%
Restaurants	\$20.00/EDU	\$4.97	51% / 49%
School	\$20.00/EDU	\$1.54	54% / 46%
All Other	\$20.00/EDU	\$1.90	53% / 47%
Commercial Totals			52% / 48%
Total			51% / 49%

1. Multi-Family and Duplexes are \$/unit; all other (House & Commercial) are \$/EDU, and will vary by customer depending on their EDUs.

2. Based on average winter consumption. HCF = hundred cubic feet, or 748 gallons of water.

Description of the Selected Rate Alternative

In the face of significantly higher planned capital improvements and increasing operating and maintenance costs, the proposed rate alternative represents a means to fully fund capital improvement costs and improve the equity of the rates. The rationale behind the recommended rate structure is described below.

Basis for the Recommended Rate Alternative: The main criteria used to select the rate alternative included:

- Levels of Rate Increases – The City has not increased rates in many years and therefore needs significant rate increases to fund critical capital improvements. While the burden that higher rates place on customers is significant, it is necessary to maintain a functioning sewer system.
- Reserve Fund Levels – The City needs to maintain reasonable reserve levels to manage the sewer utility’s finances in a responsible manner.
- Coverage Ratios – Debt Service Coverage Ratios are an obligation that comes with issuing debt that the City needs to make every attempt to meet, especially if it plans to issue future debt.

Selected Rate Alternative – While there are other combinations of annual rate increases that City staff considered, the recommended rate alternative includes the following annual adjustments:

Financial Plan Alternative	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Proposed Annual Rate Increases	50.00%	45.00%	30.00%	15.00%	0.00%

D. Current and Proposed Rates

The proposed sewer rates in this Study were developed with the goal of developing a new rate structure that consists of both a fixed and variable rate component based on EDUs, number of accounts (for customer-related costs), and water consumption for all customer classes. **Figure 15** compares the current and proposed rates for FY 2022/23 through FY 2026/27 by customer class. Projected rates for future years, with implementation dates of July 1 each year, reflect adjustments based on 1) the cost-of-service analysis, 2) the basic 50% fixed and 50% variable rate design structure, and 3) the recommended annual percent increases in rate revenue. More detailed tables on the development of the proposed rates are documented in the *Appendix*.

Sewer Rate Schedule	Current Rates (within City)	Current Rates (Outside City)	Proposed Sewer Rates				
			FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
FIXED MONTHLY CHARGES							
Residential (\$/Unit/mo.)							
House	\$22.98	\$23.67	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Multi-Family	\$22.98	\$23.67	\$12.63	\$18.31	\$23.80	\$27.37	\$27.37
Duplex - 2 Meters	\$22.98	\$23.67	\$5.98	\$8.66	\$11.26	\$12.95	\$12.95
Duplex - 1 Meter	\$22.98	\$23.67	\$14.08	\$20.41	\$26.53	\$30.51	\$30.51
Commercial (\$/EDU/mo.)							
Bars without Dining	<i>n.a.</i>	<i>n.a.</i>	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Brewery	\$22.98	\$23.67	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Car Wash	\$22.98	\$23.67	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Dorms	<i>n.a.</i>	<i>n.a.</i>	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Hospital & Convalescent	<i>n.a.</i>	<i>n.a.</i>	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Hotels w/o Dining	<i>n.a.</i>	<i>n.a.</i>	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Hotels with Dining	<i>n.a.</i>	<i>n.a.</i>	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Industrial Laundry	<i>n.a.</i>	<i>n.a.</i>	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Laundromat	<i>n.a.</i>	<i>n.a.</i>	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Markets/Bakeries	\$22.98	\$23.67	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Mortuary	<i>n.a.</i>	<i>n.a.</i>	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
Restaurants	\$22.98	\$23.67	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
School	<i>n.a.</i>	<i>n.a.</i>	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
All Other	\$22.98	\$23.67	\$20.00	\$29.00	\$37.70	\$43.36	\$43.36
VOLUMETRIC CHARGES PER HCF¹							
Residential							
House	<i>n.a.</i>	<i>n.a.</i>	\$1.99	\$2.88	\$3.74	\$4.30	\$4.30
Multi-Family	<i>n.a.</i>	<i>n.a.</i>	\$1.99	\$2.88	\$3.74	\$4.30	\$4.30
Duplex - 2 Meters	<i>n.a.</i>	<i>n.a.</i>	\$1.99	\$2.88	\$3.74	\$4.30	\$4.30
Duplex - 1 Meter	<i>n.a.</i>	<i>n.a.</i>	\$1.99	\$2.88	\$3.74	\$4.30	\$4.30
Commercial							
Bars without Dining	<i>n.a.</i>	<i>n.a.</i>	\$1.99	\$2.88	\$3.74	\$4.30	\$4.30
Brewery	<i>n.a.</i>	\$8.72	\$5.16	\$7.48	\$9.72	\$11.18	\$11.18
Car Wash	\$2.94	\$2.94	\$1.41	\$2.05	\$2.67	\$3.07	\$3.07
Dorms	<i>n.a.</i>	<i>n.a.</i>	\$1.84	\$2.67	\$3.47	\$3.99	\$3.99
Hospital & Convalescent	<i>n.a.</i>	<i>n.a.</i>	\$1.81	\$2.63	\$3.42	\$3.93	\$3.93
Hotels w/o Dining	<i>n.a.</i>	<i>n.a.</i>	\$2.01	\$2.92	\$3.80	\$4.37	\$4.37
Hotels with Dining	<i>n.a.</i>	<i>n.a.</i>	\$3.76	\$5.46	\$7.10	\$8.17	\$8.17
Industrial Laundry	<i>n.a.</i>	<i>n.a.</i>	\$4.37	\$6.34	\$8.24	\$9.48	\$9.48
Laundromat	<i>n.a.</i>	<i>n.a.</i>	\$1.62	\$2.34	\$3.04	\$3.50	\$3.50
Markets/Bakeries	\$5.87	\$5.87	\$5.02	\$7.28	\$9.46	\$10.88	\$10.88
Mortuary	<i>n.a.</i>	<i>n.a.</i>	\$5.15	\$7.46	\$9.70	\$11.16	\$11.16
Restaurants	\$5.87	\$5.87	\$4.97	\$7.21	\$9.37	\$10.78	\$10.78
School	<i>n.a.</i>	<i>n.a.</i>	\$1.54	\$2.23	\$2.90	\$3.34	\$3.34
All Other	\$2.71	\$2.71	\$1.90	\$2.76	\$3.59	\$4.13	\$4.13

1. HCF = hundred cubic feet, equal to 748 gallons of water based on average winter consumption.

Sewer Rates for Accessory Dwelling Units (ADUs)

The City currently has an undetermined number of ADUs that are on the same account as a single-family residence and billed as a duplex (i.e., with slightly lower fixed charges than single-family), and there may also be other ADUs that the City is unaware of. Since City records do not indicate there are any ADUs with separate water meters, NBS recommends the City continue to charge these single-family/ADU accounts at the duplex rates, which now include both fixed and volumetric charges.

E. Comparison of Current and Proposed Customer Bills

The following figures compare monthly sewer bills under current and proposed rates for various customers over the 5-year rate period. These bill comparisons are calculated at typical levels of average winter water consumption and reflect adjustments to how EDUs are calculated. Here are the results:

- Single family** – The typical customer is expected to see their first-year monthly bill increase from \$22.98 to \$38.67 (an increase of \$15.69). Even though there is a decrease of \$2.98 in the fixed charge, they will now be charged a volumetric rate of \$1.99 per HCF. **Figure 16** shows typical customer bills for the 5-year rate period based on the average residential consumption of 9.4 HCF per month. It is important to note that typical monthly bills are projected to increase by about 225 percent by year five and individual customer bills will vary based on their average winter water use.
- Multi-family** residential customers will see their first-year monthly bill increase from \$22.98 to \$25.23, an increase of \$2.25 due to a lower fixed charge but the addition of a new volumetric charge of \$1.99 per HCF. **Figure 17** shows the customer bill impacts for the 5-year rate period based on 6.3 HCF per month.
- Markets and Restaurants (Commercial)** will see their monthly bills decrease in the first year of the rate adoption period; however, the monthly bills will increase significantly in the last four years due to the increase in both their fixed and volumetric charges as shown in **Figure 18** and **Figure 19**.
- Regional Sewer Rate Comparison:** **Figure 20** compares the current and proposed monthly sewer bills for the typical single-family residential customer to those of other surrounding communities.

Figure 16. Monthly Bill Comparison for Single Family Customers

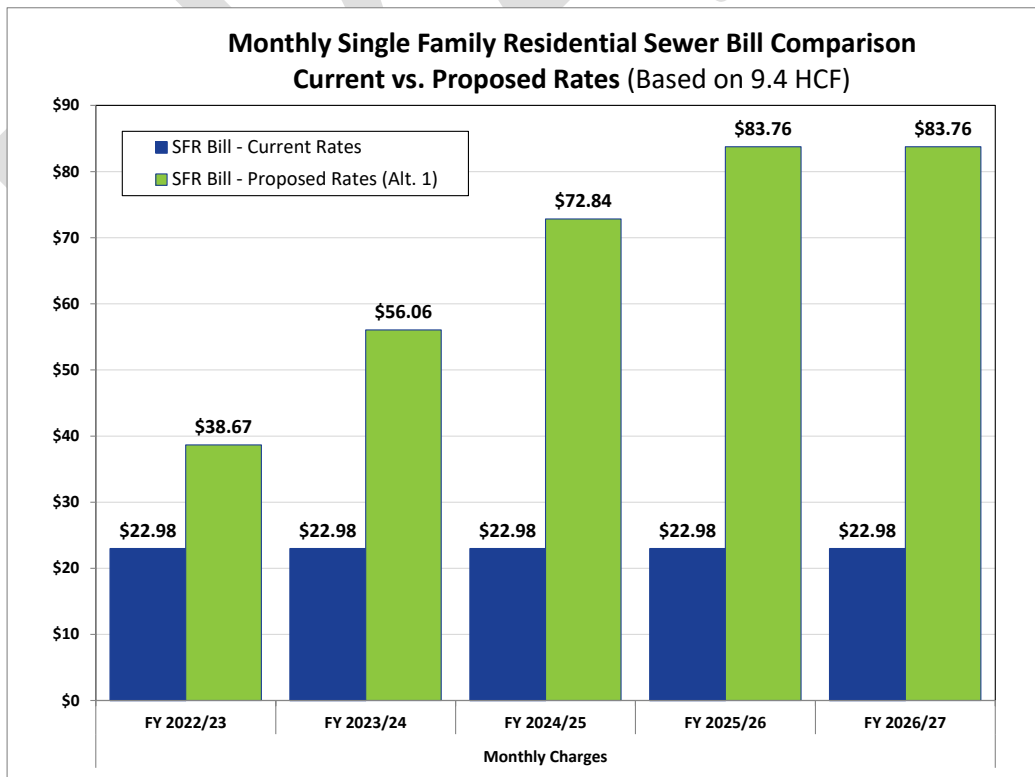
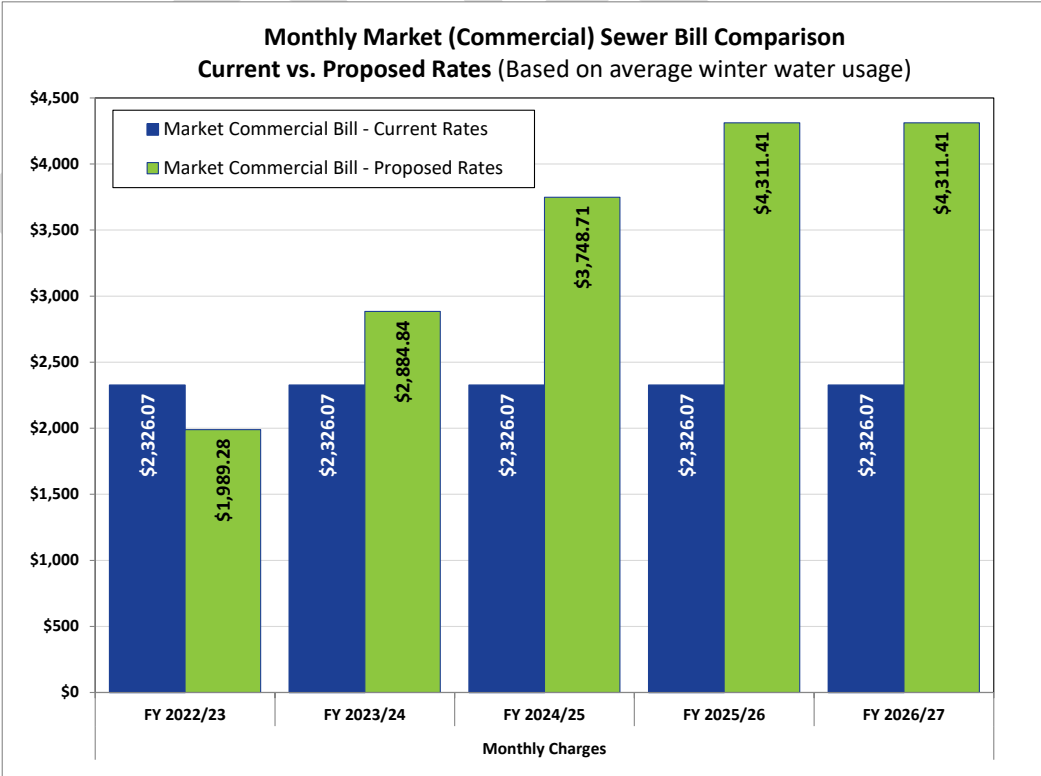
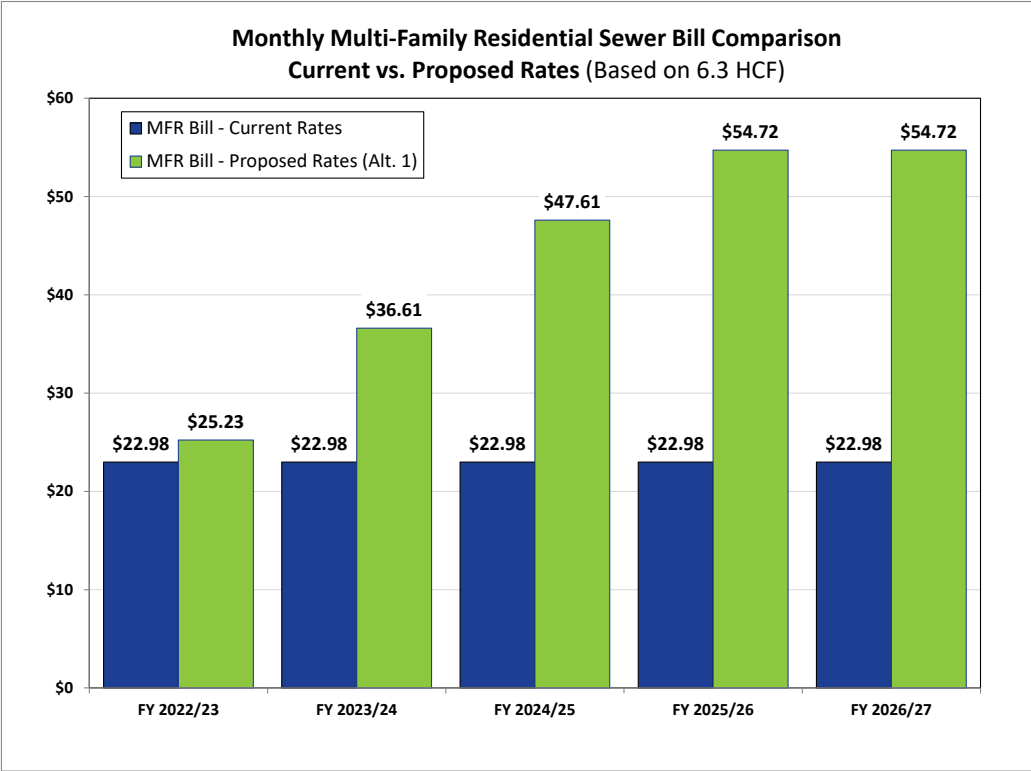
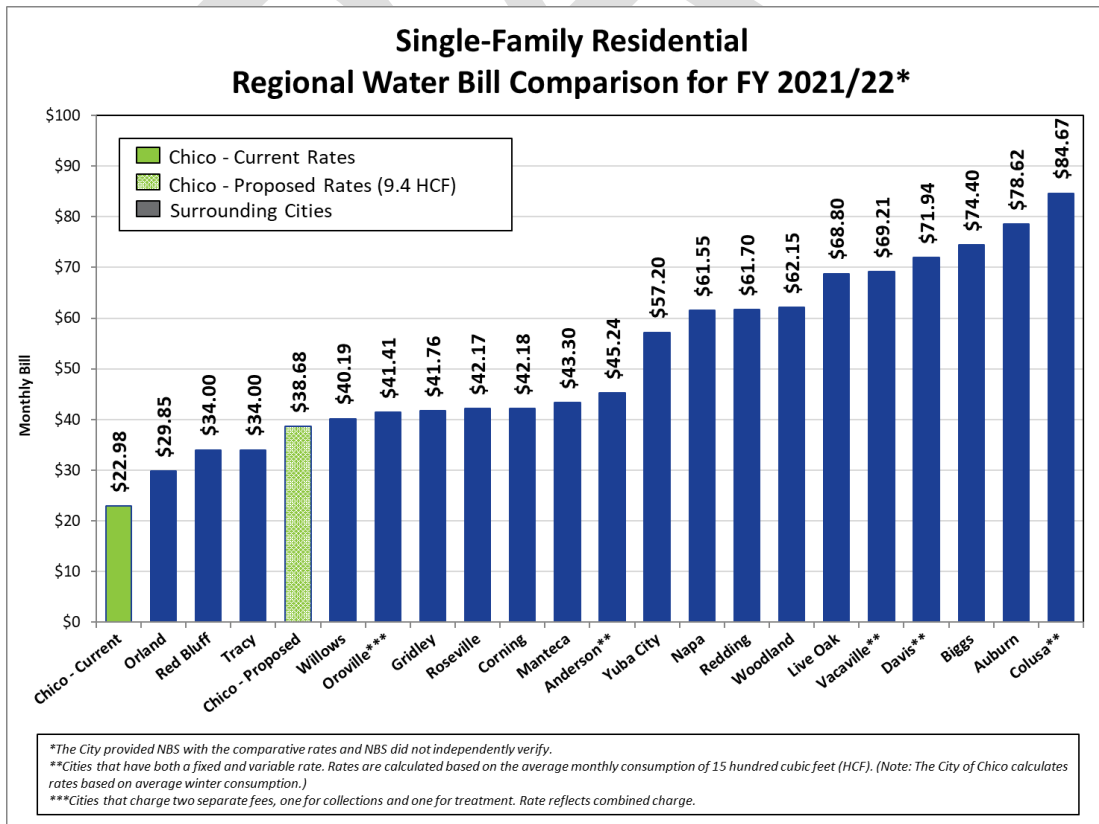
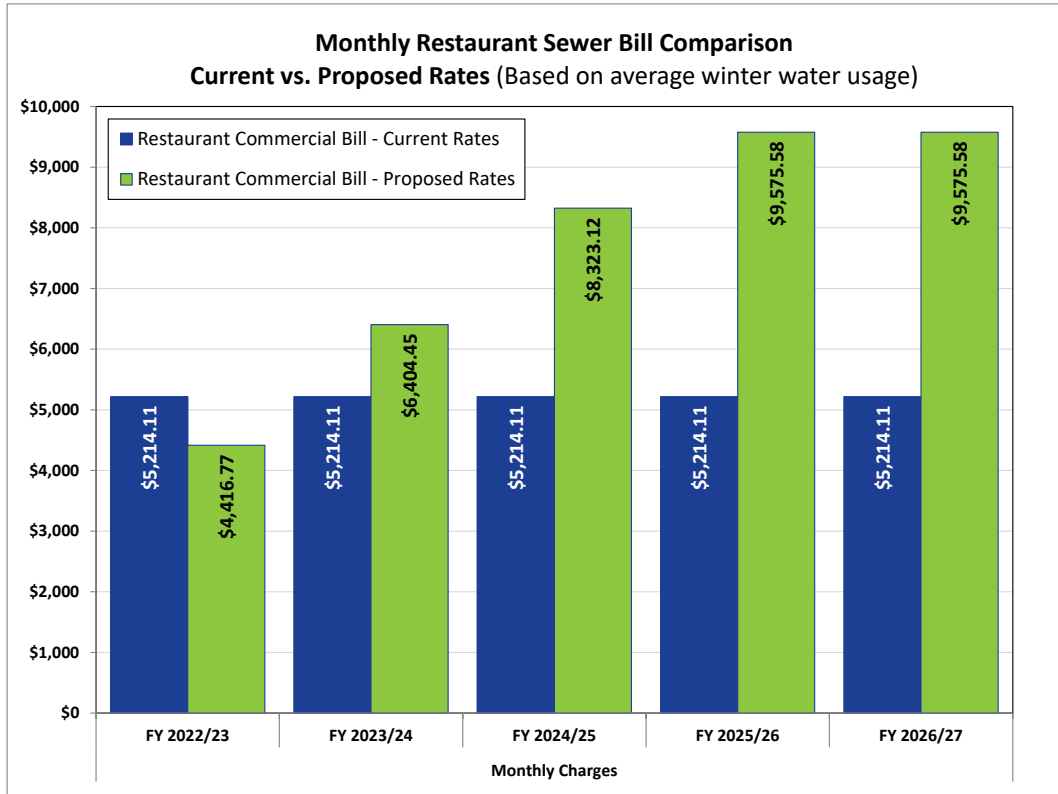


Figure 17. Monthly Bill Comparison for Multi-Family Customers





F. Pass-Through and Cost-of-Living Adjustments

There are two mechanisms that NBS recommends the City adopt along with the new sewer rates: (1) Pass-Through Adjustments, and (2) Cost-of-Living Adjustments. These are legal means for the City to offset unplanned cost increases that can and do occur and, over time, can have a significant and detrimental effect on the financial health of the sewer utility if not corrected.

Pass-Through Adjustments can be implemented by including appropriate provisions of the rate resolution⁷ that allow specified costs that the City has no control over to be recovered through small rate increases as needed. For example, the cost of energy that is greater than anticipated in the projected expenses can be offset by small rate increases.

Cost-of-Living Adjustments are tied to an annual cost index, such as the Engineering News Record (ENR) construction cost indices or the U.S. Bureau of Labor Statistics regional indices (e.g., California or San Francisco Bay Area). This adjustment is intended to prevent unexpected inflationary factors, which are being predicted by many financial forecasters at this time, from eroding the financial health of the sewer utility. Like the Pass-Through provision, the Cost-of-Living Adjustment can be included in the adoption process and should be based on appropriate language approved by the City's legal counsel.

⁷ The City's legal counsel should craft appropriate language to add to the sewer rate adoption process.

SECTION 3. RECOMMENDATIONS AND NEXT STEPS

A. Consultant Recommendations

NBS recommends the City take the following actions:

Approve and Accept this Study: NBS recommends the City Council formally approve and adopt this Study report, including the *Appendix*, and its recommendations as a first step to implementing the proposed rates. This Study provides documentation of the rate study and the basis for analyzing changes to future rates.

Implement Recommended Levels of Rate Adjustments and Proposed Rates: Based on successfully meeting the Proposition 218 procedural requirements, the City Council should proceed with implementing the 5-year schedule of proposed rates previously shown in Figure 15. This will help ensure the continued financial health of City's sewer utility.

Include a Pass-Through and a Cost-of-Living Adjustment: Based on discussions with City staff and direction provided by the Finance Committee, NBS recommends that the City incorporate both pass-through and cost-of-living inflation mechanisms. These mechanisms provide options that the City Council can adopt during the Prop 218 process that will allow the City to implement small rate adjustments if designated costs, such as energy, fuel, construction costs, or general cost of living, exceed what are currently projected in the recommended sewer rates.

B. Next Steps

Annually Review Rates and Revenue: Any time an agency adopts new utility rates or rate structures, those new rates should be closely monitored over the next several years to ensure the revenue generated is sufficient to meet the annual revenue requirements. Since proposed rates rely on the accuracy of customer data and consumption records that were not previously considered, tracking rate revenue is particularly important. Additionally, changing economic and water consumption patterns underscore the need for this ongoing review, as well as potential and unseen changing revenue requirements—particularly those related to the increasing costs of construction and environmental regulations that can significantly affect capital improvements and repair and replacement costs.

Note: The attached Appendix provides more detailed information on the analysis of the sewer revenue requirements, cost-of-service analysis and cost allocations, and the rate design analyses that have been summarized in this report.

C. NBS' Principal Assumptions and Considerations

In preparing this report and the opinions and recommendations included herein, NBS has relied on a number of principal assumptions and considerations with regard to financial matters, conditions, data used in estimating EDUs, and events that may occur in the future. This information and these assumptions, including City's budgets, capital improvement costs, consumption data provided by Cal Water, and information from City staff were provided by sources we believe to be reliable, although NBS has not independently verified this data.

While we believe NBS' use of such information and assumptions is reasonable for the purpose of this report and its recommendations, some assumptions will invariably not materialize as stated herein and may vary significantly due to unanticipated events and circumstances. Therefore, the actual results can be expected to vary from those projected to the extent that actual future conditions differ from those assumed by us or provided to us by others.

DRAFT

ABBREVIATIONS & ACRONYMS

AAF	Average Annual Flow
Alt.	Alternative
Avg.	Average
AWWA	American Water Works Association
BOD	Biochemical Oxygen Demand
CA	Customer
CAP	Capacity
CCF	Hundred Cubic Feet (same as HCF); equal to 748 gallons
CCI	Construction Cost Index
CIP	Capital Improvement Program/Plan
COD	Chemical Oxygen Demand
COM	Commodity
Comm.	Commercial
COS	Cost-of-Service
COSA	Cost-of-Service Analysis
CPI	Consumer Price Index
DU	Dwelling Unit
Excl.	Exclude
ENR	Engineering News Record
EDU	Equivalent Dwelling Unit
Exp.	Expense
FY	Fiscal Year
FY 2019/20	July 1, 2019 through June 30, 2020
HCF	Hundred Cubic Feet; equal to 748 gallons or 1 CCF
Ind.	Industrial
Irr.	Irrigation
LAIF	Local Agency Investment Fund
Lbs.	Pounds
MFR	Multi-Family Residential
Mo.	Month

This appendix identifies abbreviations and acronyms that may be used in this report. This appendix has not been viewed, arranged, or edited by an attorney, nor should it be relied on as legal advice. The intent of this appendix is to support the recognition and analysis of this report. Any questions regarding clarification of this document should be directed to staff or an attorney specializing in this particular subject matter.

ABBREVIATIONS & ACRONYMS

Muni.	Municipal
NH ₃	Ammonia
NPV	Net Present Value
N/A	Not Available or Not Applicable
O&M	Operating & Maintenance Expenses
Prop 13	Proposition 13 (1978) – Article XIII A of the California Constitution which limits taxes on real property to 1% of the full cash value of such property.
Prop 218	Proposition 218 (1996) – State Constitutional amendment expanded restrictions of local government revenue collections.
Req't.	Requirement
Res.	Residential
Rev.	Revenue
R&R	Rehabilitation & Replacement
SFR	Single Family Residential
SWRCB	State Water Resources Control Board
TSS / SS	Total Suspended Solids
V. / Vs. /vs.	Versus
WWTP	Wastewater Treatment Plant

This appendix identifies abbreviations and acronyms that may be used in this report. This appendix has not been viewed, arranged, or edited by an attorney, nor should it be relied on as legal advice. The intent of this appendix is to support the recognition and analysis of this report. Any questions regarding clarification of this document should be directed to staff or an attorney specializing in this particular subject matter.

APPENDIX: DETAILED SEWER STUDY TABLES AND FIGURES

DRAFT



Finance Committee Agenda Report

Meeting Date: 1/26/22

TO: Finance Committee
FROM: Barbara Martin, Deputy Director - Finance
RE: Monthly Financial Report for December 2021

REPORT IN BRIEF:

The Deputy Director - Finance presents to the Finance Committee the Monthly Financial Reports as of December 31, 2021 which include budget monitoring reports and revenue reports that provide a comprehensive look at the City's finances. The purpose of these reports is to enhance transparency, to increase staff's engagement in controlling their budgets, and to provide the Finance Committee timely financial information.

Recommendation: No recommendation is required.

FISCAL IMPACT: N/A

BACKGROUND:

Article IX, Section 908 was added to the City's Charter in 1960, stating, "The finance officer shall submit to the Council through the City Manager monthly statements of receipts, disbursements and balances in such form as to show the exact financial condition of the city. At the end of each fiscal year the finance director shall submit a complete and detailed financial statement."

DISCUSSION:

Attachment A is the Financial Summary by Fund Report. This Report shows a summary of all activity in each City Fund.

Attachment B includes Department Operating Summary Reports (totals for each Department by category, Fund/Dept and Fund), Department Expense Reports (summary of totals at the category level by each Departmental budget unit) and Department Expense Reports (totals for each object or account level by each Departmental budget unit).

Attachment C includes Department Expense Category Summary Reports (allocations for each Department at the object or account level). Any budgetary savings in the Allocations category are unable to be rebudgeted except by approval of Council.

Attachment D includes Fund Revenue Reports (revenue reported for each City Fund).

Attachment E is a monthly Cash Flow Projections Report which summarizes recent cash activity and estimates future cash flows.

Attachment F is the Investment Portfolio Report for the City of Chico through December 31, 2021.

Submitted by:


Barbara Martin, Deputy Director - Finance

Reviewed and Approved by:



Scott Dowell, Administrative Services Director

Approved and Recommended by:



Mark Orme, City Manager

DISTRIBUTION:

City Clerk (2)

ATTACHMENTS:

Attachment A – Financial Summary Report by Fund

Attachment B – Department Operating Summary Reports, Department Expense Reports (by category) and
Department Expense Reports (by object)

Attachment C – Department Expense Category Summary Reports (Allocations Report)

Attachment D – Fund Revenue Reports

Attachment E – Cash Flow Projections Report

Attachment F – Investment Portfolio Report

City of Chico
Fiscal Year 2021-22
Financial Report Through December 2021

	6/30/2021 Available Balance	Year-To-Date Actuals				Modified Adopted Budget			
		Revenues	Expenditures	Xfers In/(Out)	Available Balance	Revenues	Expenditures	Xfers In/(Out)	Available Balance
General Fund									
001 General	21,761,810	15,529,053	24,248,387	(3,399,201)	9,643,275	62,301,002	60,791,449	(11,772,726)	11,498,637
002 Park	(81,295)	20,535	1,594,455	838,342	(816,873)	53,500	5,409,508	5,437,304	1
003 Emergency Reserve	10,385,373	0	0	160,104	10,545,477	0	0	608,857	10,994,230
004 General Fund Deficit	0	0	0	0	0	0	0	0	0
006 Compensated Absence Reserve	1,513,524	0	0	0	1,513,524	0	0	0	1,513,524
008 American Recue Plan Act of 2021	11,746	536,404	1,873,624	(177,695)	(1,503,169)	12,582,944	21,584,599	(291,843)	(9,281,752)
009 Debt Service Fund	0	4,446,970	4,729,160	273,735	(8,455)	0	506,322	506,322	0
050 Donations	603,001	109,885	110,774	0	602,112	174,679	545,568	0	232,112
051 Arts and Culture	34,658	0	34,669	0	(11)	0	34,593	0	65
052 Specialized Community Services	2,400,093	0	1,136,234	0	1,263,859	0	2,568,218	168,126	1
315 General Plan Reserve	757,101	0	33,123	60,411	784,389	0	74,122	196,989	879,968
316 CASp Certification and Training Fund	101,917	7,175	0	0	109,092	24,000	0	0	125,917
920 REVOLVING	0	0	0	0	0	0	0	0	0
TOTAL General Fund	37,487,928	20,650,022	33,760,426	(2,244,304)	22,133,220	75,136,125	91,514,379	(5,146,971)	15,962,703
Enterprise Funds									
320 Sewer-Trunk Line Capacity	5,595,917	393,799	876,792	2,652	5,115,576	948,000	5,326,619	(79,211)	1,138,087
321 Sewer-WPCP Capacity	70,646	551,997	0	(46,471)	576,172	1,283,700	25,674	(1,178,655)	150,017
322 Sewer-Main Installation	681,275	67,054	0	0	748,329	101,900	636,649	0	146,526
323 Sewer-Lift Stations	351,627	27,568	0	0	379,195	56,800	0	0	408,427
850 Sewer	132,167,435	3,716,097	2,993,329	(334,874)	132,555,329	12,055,000	11,520,568	(2,736,944)	129,964,923
851 WPCP Capital Reserve	18,245,094	0	127,497	358,406	18,476,003	0	8,966,772	493,624	9,771,946
852 Sewer Debt Service	(21,580,290)	0	(70,717)	(70,733)	(21,580,306)	0	2,459,052	2,459,053	(21,580,289)
853 Parking Revenue	3,718,067	357,348	364,469	174,995	3,885,941	416,000	1,713,257	288,243	2,709,053
854 Parking Revenue Reserve	1,140,549	0	67,963	0	1,072,586	0	801,933	0	338,616
856 Airport	12,743,946	434,705	285,917	(49,440)	12,843,294	565,000	1,015,537	288,434	12,581,843
857 Airport Improvement Grants	7,826,988	2,764,696	2,921,592	0	7,670,092	16,182,797	17,789,249	0	6,220,536
862 Private Development	(161,717)	999,260	0	0	837,543	0	0	0	(161,717)
863 Subdivisions	(17,965)	403	302,884	0	(320,446)	1,131,333	1,052,378	0	60,990
871 Private Development - Building	2,163,172	640,676	732,651	5,377	2,076,574	1,889,100	2,421,692	120,959	1,751,539
872 Private Development - Planning	835,621	246,173	322,859	11,580	770,515	795,400	1,032,505	52,154	650,670
873 Private Development - Engineering	517,913	306,067	309,548	5,266	519,698	555,000	767,627	74,457	379,743
874 Private Development - Fire	579,948	171,931	116,799	4,949	640,029	332,500	250,044	28,725	691,129
875 Cannabis Permit Program	(1,618)	0	70,824	0	(72,442)	101,368	99,750	0	0
876 City Recreation	0	123,267	201,854	0	(78,587)	579,700	427,186	300,000	452,514
960 GASB 68-Fund 850	(7,626,829)	0	0	0	(7,626,829)	0	0	0	(7,626,829)
961 GASB 68-Fund 853	(1,374,638)	0	0	0	(1,374,638)	0	0	0	(1,374,638)

City of Chico
Fiscal Year 2021-22
Financial Report Through December 2021

	6/30/2021 Available Balance	Year-To-Date Actuals				Modified Adopted Budget			
		Revenues	Expenditures	Xfers In/(Out)	Available Balance	Revenues	Expenditures	Xfers In/(Out)	Available Balance
962 GASB 68-Fund 856	(1,067,153)	0	0	0	(1,067,153)	0	0	0	(1,067,153)
963 GASB 68-Fund 863	(7,626,829)	0	0	0	(7,626,829)	0	0	0	(7,626,829)
TOTAL Enterprise Funds	147,181,159	10,801,041	9,624,261	61,707	148,419,646	36,993,598	56,306,492	110,839	127,979,104
Capital Improvement Funds									
300 Capital Grants/Reimbursements	(834,334)	1,838,254	2,811,880	0	(1,807,960)	58,422,447	57,588,114	0	(1)
301 Building/Facility Improvement	130,356	0	0	0	130,356	0	73,646	0	56,710
303 Passenger Facility Charges	361,225	0	0	0	361,225	0	0	0	361,225
305 Bikeway Improvement	1,511,888	157,552	29,805	0	1,639,635	345,000	1,637,961	(3,450)	215,477
306 In Lieu Offsite Improvement	331,669	2,905	0	0	334,574	40,000	161,837	0	209,832
308 Street Facility Improvement	11,910,490	2,284,998	717,732	0	13,477,756	3,967,700	14,121,948	(39,677)	1,716,565
309 Storm Drainage Facility	2,514,469	261,016	216,405	0	2,559,080	300,000	2,371,552	(3,000)	439,917
312 Remediation Fund	501,024	0	23,319	0	477,705	0	506,022	5,000	2
330 Community Park	6,897,055	391,294	0	0	7,288,349	800,000	2,327,889	(8,000)	5,361,166
332 Bidwell Park Land Acquisition	(859,963)	11,197	0	0	(848,766)	70,000	6,257	(700)	(796,920)
333 Linear Parks/Grnws	936,228	59,842	11,129	0	984,941	100,000	194,048	(1,000)	841,180
335 Street Maintenance Equipment	1,514,378	58,673	0	0	1,573,051	60,000	1,237,384	(600)	336,394
336 Administrative Building	(439,546)	7,170	0	0	(432,376)	100,000	5,989	(1,000)	(346,535)
337 Fire Protection Building and Equipment	1,027,563	101,800	917	0	1,128,446	350,000	35,748	(3,500)	1,338,315
338 Police Protection Building and Equipment	4,253,968	150,001	41,553	0	4,362,416	600,000	1,656,340	(6,000)	3,191,628
340 Fund 340 - Neighborhood Parks	3,128,957	(140,200)	0	0	2,988,757	215,000	627,606	(2,150)	2,714,201
347 Zone I - Neighborhood Parks	0	(544)	0	0	(544)	0	0	0	0
400 Capital Projects	2,251,641	6,786	3,424,360	0	(1,165,933)	760,000	3,679,077	0	(667,436)
410 Bond Proceeds from Former RDA	124,275	(99)	14,215	0	109,961	0	62,958	0	61,317
931 Technology Replacement	416,047	0	233,795	318,591	500,843	0	1,685,976	1,274,363	4,434
932 Fleet Replacement	1,186,527	22,834	276,225	1,563,474	2,496,610	0	3,732,441	2,612,135	66,221
933 Facility Maintenance	331,297	0	92,724	75,000	313,573	0	619,891	300,000	11,406
934 Prefunding Equipment Liability Reserve- Police Dept.	315,658	0	0	0	315,658	0	168,518	0	147,140
938 Prefunding Equipment Liability Reserve-Fire Dept.	487,066	0	6,167	473,959	954,858	0	956,312	473,959	4,713
943 Public Infrastructure Replacement	2,539,424	0	645,661	0	1,893,763	0	3,010,057	1,520,000	1,049,367
TOTAL Capital Improvement Funds	40,537,362	5,213,479	8,545,887	2,431,024	39,635,978	66,130,147	96,467,571	6,116,380	16,316,318
Internal Service Funds									
010 City Treasury	3,892	291,010	16,227	0	278,675	1,228,000	1,228,000	0	3,892
900 General Liability Insurance Reserve	699,402	1,331,874	1,696,259	0	335,017	1,969,253	2,248,288	0	420,367
901 Work Compensation Insurance Reserve	(406,643)	931,593	1,036,670	0	(511,720)	1,752,942	1,752,942	0	(406,643)
902 Unemployment Insurance Reserve	253,523	21,536	2,565	0	272,494	37,134	50,000	0	240,657
903 CalPERS Unfunded Liability Reserve	3,309,260	5,796,404	10,602,176	0	(1,496,512)	11,662,394	10,602,176	0	4,369,478

City of Chico
Fiscal Year 2021-22
Financial Report Through December 2021

	6/30/2021 Available Balance	Year-To-Date Actuals				Modified Adopted Budget			
		Revenues	Expenditures	Xfers In/(Out)	Available Balance	Revenues	Expenditures	Xfers In/(Out)	Available Balance
904 Pension Stabilization Trust	2,042,842	12,224	2,111	250,000	2,302,955	0	0	1,000,000	3,042,842
929 Central Garage	58,630	538,807	926,132	(5,037)	(333,732)	2,033,218	2,027,488	(20,149)	44,211
930 Municipal Buildings Maintenance	(2,858)	346,410	652,150	(8,949)	(317,547)	1,545,341	1,560,910	(35,796)	(54,223)
935 Information Technology	143,701	752,572	1,287,600	0	(391,327)	2,408,526	2,575,055	0	(22,828)
964 GASB 68-Fund 929	(2,399,587)	0	0	0	(2,399,587)	0	0	0	(2,399,587)
965 GASB 68-Fund 930	(1,718,297)	0	0	0	(1,718,297)	0	0	0	(1,718,297)
966 GASB 68-Fund 935	(3,683,789)	0	0	0	(3,683,789)	0	0	0	(3,683,789)
TOTAL Internal Service Funds	(1,699,924)	10,022,430	16,221,890	236,014	(7,663,370)	22,636,808	22,044,859	944,055	(163,920)
<u>Special Revenue Funds</u>									
098 Justice Assist Grant (JAG)	(43,899)	42,666	1,539	1,539	(1,233)	97,350	65,070	6,156	(5,463)
099 Supp Law Enforcement Service	0	283,138	96,610	2,407	188,935	286,111	295,740	9,629	0
100 Grants-Operating Activities	196,899	7,586	118,705	6,596	92,376	529,631	619,116	(91,690)	15,724
201 Community Development Blk Grant	311,234	0	582,433	7,880	(263,319)	3,477,521	3,488,046	31,518	332,227
203 Community Development Blk Grant - DR	(7,357)	0	42,845	0	(50,202)	32,496,114	32,488,757	0	0
204 HOME - State Grants	1,767,708	0	0	0	1,767,708	15,000	158,638	0	1,624,070
206 HOME - Federal Grants	5,574,819	1,025,593	1,241,046	0	5,359,366	2,764,463	2,809,213	0	5,530,069
210 PEG - Public, Educational & Government Access	463,928	50,888	132,339	0	382,477	100,000	246,540	0	317,388
211 Traffic Safety	(4,157)	11,234	0	(5,000)	2,077	20,000	0	(20,000)	(4,157)
212 Transportation	4,590,841	1,015,677	694,753	(25,000)	4,886,765	3,047,394	6,551,744	(100,000)	986,491
213 Abandoned Vehicle Abatement	(36,812)	16,446	98,478	47,517	(71,327)	60,000	223,860	164,070	(36,602)
217 Asset Forfeiture	23,955	9,842	10,051	0	23,746	0	10,204	0	13,751
220 Assessment District Administration	60,647	1,174	0	0	61,821	1,174	0	0	61,821
307 Gas Tax	5,878,829	1,934,080	2,031,675	(512,500)	5,268,734	6,523,471	7,351,624	(2,050,000)	3,000,676
316 CASp Certification and Training Fund	101,917	0	3,026	0	98,891	0	47,734	0	54,183
392 Affordable Housing	56,102,408	314,990	175,893	(7,880)	56,233,625	285,000	1,065,205	(31,518)	55,290,685
TOTAL Special Revenue Funds	74,980,960	4,713,314	5,229,393	(484,441)	73,980,440	49,703,229	55,421,491	(2,081,835)	67,180,863
<u>Redevelopment Funds</u>									
TOTAL Redevelopment Funds	0	0	0	0	0	0	0	0	0
<u>Successor Agency Funds</u>									
360 RDA Obligation Retirement Fund	4,776,129	0	0	(4,776,129)	0	8,375,528	0	(8,014,281)	5,137,376
390 Successor Agency to the Chico RDA	821,211	1,884	1,928,202	4,776,129	3,671,022	51,000	2,031,322	1,709,941	550,830
395 CalHome Grant - RDA	329,890	0	0	0	329,890	0	0	0	329,890
396 HRBD Remediation Monitoring	806,948	0	30,188	0	776,760	0	56,200	0	750,748
399 Chico Urban Area JPFA	1,619,657	2,518,874	7,732	(1,188,657)	2,942,142	1,920,000	36,828	0	3,502,829
661 2017 TARBS-A DEBT SERVICE	105	0	818,152	0	(818,047)	0	6,304,340	6,304,340	105
959 JPFA Reserve	0	0	0	1,188,657	1,188,657	0	0	0	0

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TOTAL Successor Agency Funds	8,353,940	2,520,758	2,784,274	0	8,090,424	10,346,528	8,428,690	0	10,271,778
<u>Assessment District Funds</u>									
443 Eastwood Assessment Capital	(23,477)	6,621	1,174	0	(18,030)	0	0	0	(23,477)
731 Southeast Chico Sewer Redemption	109,846	0	0	0	109,846	0	0	0	109,846
735 Southeast Chico Sewer Refunding No. 1 Reserve	61,371	0	0	0	61,371	0	0	0	61,371
755 Village Park Refunding Redemption	319,016	0	0	0	319,016	0	0	0	319,016
764 Mission Ranch Redemp	2,544	0	0	0	2,544	0	0	0	2,544
765 Mission Ranch Reserve	78,586	0	26,805	0	51,781	0	0	0	78,586
TOTAL Assessment District Funds	547,886	6,621	27,979	0	526,528	0	0	0	547,886
<u>Maintenance District Funds</u>									
101 CMD No. 1 - Springfield Estates	0	0	5,398	0	(5,398)	13,655	14,412	7,598	6,841
102 CMD No. 2 - Springfield Manor	(22,908)	0	5,187	0	(28,095)	8,239	9,685	0	(24,354)
103 CMD No. 3 - Skyway Park	0	0	3,089	0	(3,089)	7,832	7,268	905	1,469
104 CMD No. 4 - Target Shopping Center	0	0	1,876	0	(1,876)	5,014	4,538	626	1,102
105 CMD No. 5 - Chico Mall	8,459	0	1,373	0	7,086	5,008	5,075	0	8,392
106 CMD No. 6 - Charolais Estates	3,460	0	784	0	2,676	1,892	4,571	0	781
111 CMD No. 11 - Vista Canyon	0	0	5,003	0	(5,003)	13,655	13,172	7,247	7,730
113 CMD No. 13 - Olive Grove Estates	0	0	5,109	0	(5,109)	10,877	16,343	8,381	2,915
114 CMD No. 14 - Glenshire	0	0	637	0	(637)	1,368	1,700	8	(324)
116 CMD No. 16 - Forest Ave/Hartford	1,095	0	809	0	286	2,329	3,370	0	54
117 CMD No. 17 - SHR 99/E. 20th Street	9,951	0	0	0	9,951	0	0	0	9,951
118 CMD No. 18 - Lowes	(2,507)	0	2,350	0	(4,857)	3,872	3,506	0	(2,141)
121 CMD No. 21 - E. 20th Street/Forest Avenue	1,928	0	2,860	0	(932)	5,142	9,170	961	(1,139)
122 CMD No. 22 - Oak Meadows Condos	0	0	1,511	0	(1,511)	4,047	3,527	84	604
123 CMD No. 23 - Foothill Park No. 11	0	0	5,358	0	(5,358)	9,229	10,690	630	(831)
126 CMD No. 26 - Manzanita Estates	157	0	0	0	157	0	0	0	157
127 CMD No. 27 - Bidwell Vista	0	0	2,028	0	(2,028)	5,532	7,205	2,014	341
128 CMD No. 28 - Burney Drive	0	0	114	0	(114)	320	559	0	(239)
129 CMD No. 29 - Black Hills Estates	748	0	624	0	124	1,636	2,516	186	54
130 CMD No. 30 - Foothill Park Unit I	0	0	5,449	0	(5,449)	9,812	8,916	2,353	3,249
131 CMD No. 31 - Capshaw/Smith Subdivision	(597)	0	173	0	(770)	0	0	0	(597)
132 CMD No. 32 - Floral Garden Subdivision	2,087	0	919	0	1,168	2,172	4,294	0	(35)
133 CMD No. 33 - Eastside Subdivision	0	0	4,987	0	(4,987)	7,017	7,472	2,448	1,993
136 CMD No. 36 - Duncan Subdivision	(942)	0	2,126	0	(3,068)	2,009	1,828	0	(761)
137 CMD No. 37 - Springfield Drive	4,440	0	459	0	3,981	1,531	1,367	0	4,604
147 CMD No. 47 - US Rents	4,710	0	0	0	4,710	0	0	0	4,710

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160 CMD No. 60 - Camden Park	2,920	0	0	0	2,920	0	0	0	2,920
161 CMD No. 61 - Ravenshoe	6,717	0	525	0	6,192	1,889	1,613	0	6,993
163 CMD No. 63 - Fleur De Parc	12,622	0	0	0	12,622	877	233	0	13,266
164 CMD No. 64 - Eaton Village	41,630	0	947	0	40,683	4,869	5,412	0	41,087
165 CMD No. 65 - Parkway Village	18,384	0	4,491	0	13,893	13,330	11,586	0	20,128
166 CMD No. 66 - Heritage Oak	0	0	3,323	0	(3,323)	9,611	9,211	473	873
167 CMD No. 67 - Cardiff Estates	10,401	0	820	0	9,581	3,056	2,750	0	10,707
168 CMD No. 68 - Woest Orchard	37,182	0	173	0	37,009	2,239	1,523	0	37,898
169 CMD No. 69 - Carriage Park	16,031	0	4,125	0	11,906	9,785	8,934	0	16,882
170 CMD No. 70 - EW Heights	13,068	0	1,224	0	11,844	4,954	4,316	0	13,706
171 CMD No. 71 - Hyde Park	4,395	0	2,445	0	1,950	7,046	7,135	0	4,306
173 CMD No. 73 - Walnut Park Subdivision	36,928	0	7,385	0	29,543	17,576	12,891	0	41,613
175 CMD No. 75 - Alamo Avenue	(994)	0	1,616	0	(2,610)	4,542	4,908	0	(1,360)
176 CMD No. 76 - Lindo Channel Estates	5,838	0	1,232	0	4,606	3,315	2,854	0	6,299
177 CMD No. 77 - Ashby Park	70,241	0	9,172	0	61,069	19,366	13,775	0	75,832
178 CMD No. 78 - Creekside Subdivision	48,970	0	0	0	48,970	3,456	1,839	0	50,587
179 CMD No. 79 - Mission Ranch Commercial	11,639	0	3,702	0	7,937	8,302	6,533	0	13,408
180 CMD No. 80 - Home Depot	265,186	0	3,481	0	261,705	21,914	8,455	0	278,645
181 CMD No. 81 - Aspen Glen	138,861	0	11,100	0	127,761	28,177	22,416	0	144,622
182 CMD No. 82 - Meadowood	57,346	0	2,721	0	54,625	10,510	8,099	0	59,757
183 CMD No. 83 - Eiffel Estates	44,781	0	625	0	44,156	2,565	2,018	0	45,328
184 CMD No. 84 - Raley's East Avenue	0	0	5,760	0	(5,760)	12,856	10,943	5,039	6,952
185 CMD No. 85 - Highland Park	35,229	0	856	0	34,373	6,680	6,430	0	35,479
186 CMD No. 86 - Marigold Park	27,723	0	1,586	0	26,137	5,032	4,907	0	27,848
189 CMD No. 89 - Heritage Oaks	24,579	0	2,444	0	22,135	8,256	8,403	0	24,432
190 CMD No. 90 - Amber Grove/Greenfield	3,816	0	7,484	0	(3,668)	1,999	13,308	3,775	(3,718)
191 CMD No. 91 - Stratford Estates	33,592	0	0	0	33,592	1,869	888	0	34,573
193 CMD No. 93 - United Health Care	11,546	0	843	0	10,703	2,836	2,058	0	12,324
194 CMD No. 94 - Shastan at Holly	13,566	0	173	0	13,393	803	894	0	13,475
195 CMD No. 95 - Carriage Park Phase II	20,014	0	11,337	0	8,677	27,268	26,951	0	20,331
196 CMD No. 96 - Paseo Haciendas Phase I	11,521	0	117	0	11,404	1,080	1,065	0	11,536
197 CMD No. 97 - Stratford Estates Phase II	45,697	0	4,081	0	41,616	11,295	8,343	0	48,649
198 CMD No. 98 - Foothill Park East	91,490	0	0	0	91,490	6,096	11,146	0	86,440
199 CMD No. 99 - Marigold Estates Phase II	35,849	0	1,897	0	33,952	6,683	5,026	0	37,506
500 CMD No. 500 - Foothill Park Unit 1	52,088	0	53,465	0	(1,377)	169,389	137,642	0	83,835
501 CMD No. 501 - Sunwood	2,127	0	0	0	2,127	0	0	0	2,127
502 CMD No. 502 - Peterson	28,580	0	1,109	0	27,471	4,796	6,489	0	26,887

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503 CMD No. 503 - Nob Hill	147,865	0	20,174	0	127,691	56,925	42,933	0	161,857
504 CMD No. 504 - Scout Court	8,697	0	117	0	8,580	620	560	0	8,757
505 CMD No. 505 - Whitehall Park	25,303	0	114	0	25,189	1,672	787	0	26,188
506 CMD No. 506 - Shastan at Idyllwild	24,404	0	5,775	0	18,629	12,825	11,145	0	26,084
507 CMD No. 507 - Ivy Street Business Park	6,000	0	108	0	5,892	1,040	1,110	0	5,930
508 CMD No. 508 - Pleasant Valley Estates	11,398	0	2,203	0	9,195	5,649	4,920	0	12,127
509 CMD No. 509 - Hidden Park	3,376	0	567	0	2,809	1,948	1,730	0	3,594
510 CMD No. 510 - Marigold Village	13,947	0	645	0	13,302	2,746	2,188	0	14,505
511 CMD No. 511 - Floral Gardens	2,729	0	1,039	0	1,690	2,366	1,998	0	3,097
512 CMD No. 512 - Dominic Park	19,525	0	2,121	0	17,404	5,636	5,575	0	19,586
513 CMD No. 513 - Almond Tree RV Park	15,291	0	935	0	14,356	2,030	976	0	16,345
514 CMD No. 514 - Pheasant Run Plaza	10,560	0	2,273	0	8,287	4,469	3,155	0	11,874
515 CMD No. 515 - Longboard	20,077	0	1,021	0	19,056	2,692	2,095	0	20,674
516 CMD No. 516 - Bidwell Ridge	11,865	0	114	0	11,751	0	0	0	11,865
517 CMD No. 517 - Marion Court	14,472	0	117	0	14,355	1,007	946	0	14,533
518 CMD No. 518 - Stonehill	21,750	0	0	0	21,750	1,066	282	0	22,534
519 CMD No. 519 - Windchime	1,374	0	1,888	0	(514)	5,760	4,727	0	2,407
520 CMD No. 520 - Brenni Ranch	7,647	0	1,321	0	6,326	3,293	3,265	0	7,675
521 CMD No. 521 - PM 01-12	78,516	0	352	0	78,164	5,392	1,154	0	82,754
522 CMD No. 522 - Vial Estates	(5,263)	0	1,262	0	(6,525)	4,242	3,483	0	(4,504)
523 CMD No. 523 - Shastan at Chico Canyon	19,649	0	1,165	0	18,484	4,391	3,569	0	20,471
524 CMD No. 524 - Richmond Park	54,268	0	2,992	0	51,276	10,244	9,678	0	54,834
525 CMD No. 525 - Husa Ranch	113,156	0	18,160	0	94,996	56,872	43,108	0	126,920
526 CMD No. 526 - Thoman Court	17,409	0	1,407	0	16,002	5,223	3,959	0	18,673
527 CMD No. 527 - Shastan at Forest Avenue	6,416	0	913	0	5,503	3,159	3,845	0	5,730
528 CMD No. 528 - Lake Vista	212,165	0	3,397	0	208,768	24,408	15,265	0	221,308
529 CMD No. 529 - Esplanade Village	20,589	0	2,494	0	18,095	5,590	4,416	0	21,763
530 CMD No. 530 - Brentwood	467,560	0	31,823	0	435,737	83,780	53,665	0	497,675
531 CMD No. 531 - Mariposa Vista	46,581	0	4,293	0	42,288	11,559	11,564	0	46,576
532 CMD No. 532 - Raptor Ridge	13,864	0	123	0	13,741	1,221	682	0	14,403
533 CMD No. 533 - Channel Estates	10,628	0	1,126	0	9,502	4,243	3,537	0	11,334
534 CMD No. 534 - Marigold Gardens	23,795	0	1,235	0	22,560	3,929	2,608	0	25,116
535 CMD No. 535 - California Park/Dead Horse Slough	1,397	0	3,767	0	(2,370)	9,666	10,703	0	360
536 CMD No. 536 - Orchard Commons	7,910	0	1,601	0	6,309	4,331	4,069	0	8,172
537 CMD No. 537 - Herlax Place	16,509	0	0	0	16,509	1,473	1,430	0	16,552
538 CMD No. 538 - Hidden Oaks	4,942	0	774	0	4,168	2,435	2,263	0	5,114
539 CMD No. 539 - Sequoyah Estates	14,354	0	1,453	0	12,901	4,951	4,013	0	15,292

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540 CMD No. 540 - Park Wood Estates	13,083	0	278	0	12,805	1,338	756	0	13,665
541 CMD No. 541 - Park Vista Subdivision	7,249	0	509	0	6,740	2,148	1,832	0	7,565
542 CMD No. 542 - Mission Vista Hills	45,493	0	2,265	0	43,228	7,610	4,666	0	48,437
543 CMD No. 543 - Westmont	13,487	0	714	0	12,773	2,714	2,421	0	13,780
544 CMD No. 544 - Longboard Phase 2	13,846	0	922	0	12,924	3,341	2,561	0	14,626
545 CMD No. 545 - Yosemite Commons	94,398	0	2,158	0	92,240	13,203	6,401	0	101,200
546 CMD No. 546 - Floral Garden Estates	32,468	0	561	0	31,907	3,959	2,415	0	34,012
547 CMD No. 547 - Paseo Haciendas 2	4,225	0	0	0	4,225	728	834	0	4,119
548 CMD No. 548 - Baltar Estates	43,230	0	3,357	0	39,873	12,280	9,175	0	46,335
549 CMD No. 549 - Holly Estates	18,876	0	865	0	18,011	4,212	3,138	0	19,950
550 CMD No. 550 - Crouch Farr	6,239	0	0	0	6,239	0	0	(6,186)	53
551 CMD No. 551 - Monarch Park	20,314	0	909	0	19,405	3,219	2,314	0	21,219
552 CMD No. 552 - Wandering Hills	9,274	0	359	0	8,915	1,447	1,181	0	9,540
553 CMD No. 553 - Mariposa Vista Unit 1	4,164	0	103	0	4,061	621	440	0	4,345
554 CMD No. 554 - Five Mile Court	15,525	0	232	0	15,293	2,150	1,458	0	16,217
555 CMD No. 555 - Hannah's Court	16,644	0	232	0	16,412	1,436	604	0	17,476
556 CMD No. 556 - Valhalla Place	19,636	0	232	0	19,404	1,589	966	0	20,259
557 CMD No. 557 - Floral Arrangement	14,165	0	542	0	13,623	2,237	1,430	0	14,972
558 CMD No. 558 - Hillview Terrace	86,465	0	1,301	0	85,164	10,478	6,086	0	90,857
559 CMD No. 559 - Westside Place	29,277	0	7,701	0	21,576	23,707	21,129	0	31,855
560 CMD No. 560 - Mariposa Vista Unit 2	33,488	0	6,123	0	27,365	12,378	12,788	0	33,078
561 CMD No. 561 - Jensen Park	19,558	0	348	0	19,210	1,804	1,737	0	19,625
562 CMD No. 562 - Belvedere Heights	75,411	0	4,662	0	70,749	18,869	15,976	0	78,304
563 CMD No. 563 - Sparrow Hawk Ridge	5,791	0	123	0	5,668	823	758	0	5,856
564 CMD No. 564 - Brown	53,145	0	0	0	53,145	3,920	553	0	56,512
565 CMD No. 565 - River Glen Subdivision	22,711	0	6,317	0	16,394	16,516	13,306	0	25,921
566 CMD No. 566 - Bruce Road	7,888	0	123	0	7,765	1,005	785	0	8,108
567 CMD No. 567 - Salisbury Court	6,465	0	0	0	6,465	781	757	0	6,489
568 CMD No. 568 - Shastan at Glenwood	125,239	0	0	0	125,239	10,737	2,887	0	133,089
569 CMD No. 569 - Sky Creek Park Subd.	14,372	0	2,450	0	11,922	7,864	6,234	0	16,002
570 CMD No. 570 - McKinney Ranch Subd.	24,396	0	1,653	0	22,743	7,264	6,169	0	25,491
571 CMD No. 571 - Symm City Subdivision	7,302	0	116	0	7,186	893	1,299	0	6,896
572 CMD No. 572 - Lassen Glen Subdivision	14,989	0	2,115	0	12,874	6,527	5,443	0	16,073
573 CMD No. 573 - Keystone Manor Subdivision	6,792	0	0	0	6,792	846	819	0	6,819
574 CMD No. 574 - Laburnum Estates	4,574	0	210	0	4,364	980	805	0	4,749
576 CMD No. 576 - Eaton Cottages Subd.	40,001	0	0	0	40,001	3,485	1,160	0	42,326
577 CMD No. 577 - Hawes Subdivision	21,324	0	116	0	21,208	2,272	1,370	0	22,226

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578 CMD No. 578 - Godman Ranch Subdivision	40,600	0	0	0	40,600	3,695	1,987	0	42,308
579 CMD No. 579 - Manzanita Pointe Subd.	14,572	0	491	0	14,081	4,160	3,854	0	14,878
580 CMD No. 580 - Avalon Court Subd.	4,270	0	1,585	0	2,685	4,794	3,880	0	5,184
581 CMD No. 581 - Glenshire Park Subd.	26,754	0	116	0	26,638	2,474	1,274	0	27,954
582 CMD No. 582 - NWCSP Area & CC&RS	(1)	0	0	0	(1)	0	0	0	(1)
584 CMD No. 584 - Marthas Vineyard	10,843	0	83	0	10,760	1,678	1,137	0	11,384
586 CMD No. 586 - Meriam Park Dev. Proj.	(1)	0	22	0	(23)	0	0	0	(1)
588 CMD No. 588 - Harmony Park	(1)	0	0	0	(1)	0	0	0	(1)
589 CMD No. 589 - Lee Estates Subd.	19,219	0	578	0	18,641	3,332	1,931	0	20,620
590 CMD No. 590 - Baroni Park L & L District	(6,243)	0	300	0	(6,543)	0	0	0	(6,243)
591 CMD No. 591 - Ranch/Nob Hill LLD	(35,829)	0	3,253	0	(39,082)	15,790	11,864	0	(31,903)
941 Maintenance District Administration	0	0	76,380	0	(76,380)	174,677	189,480	14,803	0
A01 CMD A01 - Wildwood Estates	31,315	0	10,138	0	21,177	54,672	30,234	0	55,753
A02 CMD A02 - 16TH Street Subdivision	(2,514)	0	0	0	(2,514)	0	0	0	(2,514)
A03 CMD No. A03 - Humboldt Trails Subd	16,208	0	1,059	0	15,149	4,753	3,115	0	17,846
A04 CMD No. A04 - Meriam Prk Subd. PH 8	2,991	0	4,800	0	(1,809)	13,628	11,427	0	5,192
A05 CMD No. A05 - Mtn Vista Sycamore	104,415	1,826	40,903	0	65,338	83,034	63,035	0	124,414
A06 CMD No. A06 - Woodbrook Subdivision	11,545	0	188	0	11,357	2,366	1,997	0	11,914
A07 CMD No. A07 - Deer Park Subdivision	44,530	0	368	0	44,162	4,104	1,876	0	46,758
A08 CMD No. A08 - 16th & 19th St. HFH	281	0	294	0	(13)	829	1,036	0	74
A11 CMD A11-Crouch Farr-Lamb	4,554	0	284	0	4,270	(3,760)	0	6,186	6,980
A12 CMD No. A12 - Estates @ Hooker Oak	15,772	0	474	0	15,298	2,629	933	0	17,468
A13 CMD A13 Hampton Court	(2,051)	0	835	0	(2,886)	2,675	1,841	0	(1,217)
A14 CMD A14-Estates @ lindo Channel	(800)	0	2,958	0	(3,758)	10,273	7,868	0	1,605
A15 CMD A15 - Lassen Subdivision	(1,317)	0	0	0	(1,317)	3,785	0	0	2,468
A16 A16-NW Chico Specific Plan	86,255	0	92,916	0	(6,661)	230,842	199,874	0	117,223
A17 CMD A17 - Harmony Park Revised	(3,920)	0	4,239	0	(8,159)	10,860	7,540	0	(600)
A18 CMD A18-Faithful Est Subdivsn	(1,196)	0	0	0	(1,196)	2,595	0	0	1,399
A20 CMD A20-Crossroads Subdivis	3,915	0	1,210	0	2,705	5,990	2,911	0	6,994
A21 CMD A21 - Meriam Park Revised	224,691	0	161	0	224,530	62,782	4,162	0	283,311
A22 CMD A22 - Meriam Park ABC	11,075	0	2,241	0	8,834	13,550	5,900	0	18,725
A24 CMD A24-Hopeful Heights Subdivision	(1,196)	0	0	0	(1,196)	3,365	0	0	2,169
A25 CMD A25-Domicile Subdivision	(1,196)	0	0	0	(1,196)	3,365	0	0	2,169
A26 CMD A26- Burnap Subdivision	(1,224)	0	0	0	(1,224)	9,222	0	0	7,998
A27 CMD A27- Mariposa Manor Subdivision	(1,196)	0	0	0	(1,196)	18,866	0	0	17,670
A28 CMD A28- PM 16-03 392 East 9th Ave	(1,317)	0	0	0	(1,317)	2,039	0	0	722
A29 CMD A29 - Ruthie Subdivision	(2,933)	0	550	0	(3,483)	5,191	1,675	0	583

City of Chico
Fiscal Year 2021-22
Financial Report Through December 2021

	6/30/2021 Available Balance	Year-To-Date Actuals				Modified Adopted Budget			
		Revenues	Expenditures	Xfers In/(Out)	Available Balance	Revenues	Expenditures	Xfers In/(Out)	Available Balance
A31 CMD A31- Meriam Park Phase H1-Block 2	0	0	0	0	0	4,769	0	0	4,769
A32 CMD A32-Carlene Place Subdivision	(1,196)	0	0	0	(1,196)	3,368	0	0	2,172
A33 CMD A33- PM 18-04 Karasinski	(1,196)	0	0	0	(1,196)	1,001	0	0	(195)
A34 CMD A34- Trinity Park Subdivision	(1,438)	0	0	0	(1,438)	8,415	0	0	6,977
A36 CMD A36- Crusader Court Subdivision	0	0	0	0	0	5,407	0	0	5,407
A37 CMD A37-Moresman Estate	0	0	0	0	0	7,792	0	0	7,792
A38 CMD A38-Covenant Court Subdivision	0	0	0	0	0	2,314	0	0	2,314
A40 CMD A40-Meriam Park Subdivisions Ph D	0	0	0	0	0	2,969	0	0	2,969
A41 CMD A41-Drake Estates	0	0	0	0	0	10,791	0	0	10,791
A42 CMD A42-Meriam Park North	0	0	0	0	0	18,644	0	0	18,644
TOTAL Maintenance District Funds	4,378,913	1,826	621,373	0	3,759,366	1,944,464	1,497,065	57,531	4,883,843
TOTAL ALL FUNDS	311,768,224	53,929,491	76,815,483	0	288,882,232	262,890,899	331,680,547	(1)	242,978,575

** End of Report **

Monthly Budget Monitoring Report

Administrative Services Department

Fiscal Year 2021-22 Monthly Report for the period ending: December 2021

Department Contact: Scott Dowell, Administrative Services Director

Purpose: The purpose of the review is to identify any expenditure trends which would hinder a department's ability to meet their approved budget targets or to highlight any trends of interest for the governing body. Budget overages are monitored and controlled at the category level, not object (account) level. Therefore, the analysis considers the category level.

Overall Summary: As of December 31, 2021, the City is six months of the way through this fiscal year. The areas requiring explanation are listed below.

Items of Interest:

NEW

Item #1

Location: **Fund/Dept 001-150 – General Finance**

Expenditure Item: **Category – Purchased Services**

Description: Charges for Broadband consultant and audit fees were charged to Professional Services. The Broadband charges will be re-coded to the appropriate capital project and the audit fees will be allocated as budgeted. This will make the category within budget.

Item #2

Location: **Fund/Dept 009-099 – Debt Service**

Expenditure Item: **Category – Debt Service**

Description: Annual lease payments were made at the beginning of the fiscal year. This expense will not continue at the same pace and will be within budget at the end of the fiscal year.

Item #3

Location: **Fund/Dept 903-099 – CalPERS UAL Debt Service**

Expenditure Item: **Category – Other Expenses**

Description: The annual payment for the CalPERS Unfunded Accrued Liability was made in July 2021. This is an annual payment and will not occur again until July 2022.

PREVIOUS

Item #1

Location: **Fund/Dept 001-150 – General Finance**

Expenditure Item: **Category – Materials and Supplies**

Description: A one-time purchase of a new paper folding machine has caused this category to trend high. This type of charge will not continue at this level for the remainder of the fiscal year. Costs for the remainder of the fiscal year will be in line with budget.

Item #2

Location: **Fund/Dept 010-150 – City Treasury**

Expenditure Item: **Category – Purchased Services**

Description: Credit card fees are tracking high for the beginning of the fiscal year due to higher than expected credit card use. The category will be monitored, and a supplemental will be processed to align with expected activity if necessary.

Item #3

Location: **Fund/Dept 935-180 – Information Technology Fund**

Expenditure Item: **Category – Purchased Services**

Description: Several annual contracts and annual technology maintenance agreements are payable at the beginning of the fiscal year. This type of charge will not continue at this level throughout the fiscal year.

APPROVALS:

Review	Signature	Date
Department Director Scott Dowell, ASD	<i>Brandon Mander for S.D.</i>	1/18/2022

City of Chico
2021-22 Annual Budget
Department Operating Summary

Data Through 12/31/2021

Prepared for Administrative Services	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining Budg / Time
Expenditure by Category						
4000 Salaries & Employee Benefits	196,588	1,203,872	0	2,683,186	1,479,314	55
5000 Materials & Supplies	873	29,161	0	74,301	45,140	61
5400 Purchased Services	44,623	705,776	14,954	1,106,627	385,897	35
8000 Debt Service	0	10,813,649	0	13,567,550	2,753,901	20
8900 Other Expenses	20,345	121,908	0	266,340	144,432	54
Total For Department(s)	262,429	12,874,366	14,954	17,698,004	4,808,684	27 50

Expenditure Summary by Fund - Dept

Fund - Dept	Title					
001 - 150	General-Finance	135,695	850,825	14,954	1,822,780	957,001 53
	Fund 001 Sub-Totals	135,695	850,825	14,954	1,822,780	957,001 53
009 - 099	-Debt Service	0	282,190	0	506,322	224,132 44
010 - 150	City Treasury-Finance	0	14,817	0	28,270	13,453 48
050 - 150	Donations-Finance	0	0	0	64,679	64,679 100
852 - 099	-Debt Service	0	-70,717	0	2,459,052	2,529,769 103
853 - 150	Parking Revenue-Finance	0	6,790	0	36,000	29,210 81
903 - 099	-Debt Service	0	10,602,176	0	10,602,176	0 0
935 - 180	Info Technology-Information Systems	113,912	1,104,492	0	1,932,405	827,913 43
935 - 182	Info Technology-	12,821	83,794	0	246,320	162,526 66
Total For Fund/Department		262,428	12,874,367	14,954	17,698,004	4,808,683 27 50

Expenditure Summary by Fund

Fund	Title					
001	General	135,695	850,825	14,954	1,822,780	957,001 53
009	Debt Service Fund	0	282,190	0	506,322	224,132 44
010	City Treasury	0	14,817	0	28,270	13,453 48
050	Donations	0	0	0	64,679	64,679 100
852	Sewer Debt Service	0	-70,717	0	2,459,052	2,529,769 103
853	Parking Revenue	0	6,790	0	36,000	29,210 81
903	CalPERS Unfunded Liability Reserve	0	10,602,176	0	10,602,176	0 0
935	Information Technology	126,733	1,188,286	0	2,178,725	990,439 45
Total For Fund(s)		262,428	12,874,367	14,954	17,698,004	4,808,683 27 50

** End of Report **

Department Expense Report

Current Year Data Through 12/31/2021

Multi Fund/Dept Budget Year: 2022

Budget Version 10: Working

Administrative Services Category Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining Budg / Time
Fund - Dept 001-099 General Fund Debt Service							
Debt Service	323,149.98	0.00	0.00	0.00	0.00	0.00	0 50
End Fund - Dept 001-099	323,149.98	0.00	0.00	0.00	0.00	0.00	0 50
Fund - Dept 001-150 GENERAL-FINANCE							
Salaries & Employee Benefits	653,674.55	107,057.76	677,921.07	0.00	1,522,609.00	844,687.93	55 50
Materials & Supplies	11,991.67	756.35	18,795.34	0.00	35,066.00	16,270.66	46 50
Purchased Services	46,329.58	27,708.35	140,034.66	14,953.75	213,035.00	58,046.59	27 50
Other Expenses	20,026.00	172.40	14,073.46	0.00	52,070.00	37,996.54	73 50
End Fund - Dept 001-150	732,021.80	135,694.86	850,824.53	14,953.75	1,822,780.00	957,001.72	53 50
Fund - Dept 009-000 DEBT SERVICE							
Other Financing Uses	0.00	0.00	0.00	0.00	0.00	0.00	0 50
End Fund - Dept 009-000	0.00	0.00	0.00	0.00	0.00	0.00	0 50
Fund - Dept 009-099 DEBT SERVICE							
Debt Service	0.00	0.00	282,190.40	0.00	506,322.00	224,131.60	44 50
Other Financing Uses	0.00	0.00	0.00	0.00	0.00	0.00	0 50
End Fund - Dept 009-099	0.00	0.00	282,190.40	0.00	506,322.00	224,131.60	44 50
Fund - Dept 010-000 CITY TREASURY-ADMINISTRATION							
Other Expenses	0.00	0.00	0.00	0.00	0.00	0.00	0 50
End Fund - Dept 010-000	0.00	0.00	0.00	0.00	0.00	0.00	0 50
Fund - Dept 010-150 CITY TREASURY-FINANCE							
Purchased Services	38,365.53	0.00	14,816.79	0.00	25,000.00	10,183.21	41 50
Other Expenses	0.00	0.00	0.00	0.00	3,270.00	3,270.00	100 50
End Fund - Dept 010-150	38,365.53	0.00	14,816.79	0.00	28,270.00	13,453.21	48 50
Fund - Dept 050-150 DONATIONS-FINANCE							
Salaries & Employee Benefits	0.00	0.00	0.00	0.00	0.00	0.00	0 50
Purchased Services	0.00	0.00	0.00	0.00	64,679.00	64,679.00	100 50
End Fund - Dept 050-150	0.00	0.00	0.00	0.00	64,679.00	64,679.00	100 50
Fund - Dept 320-099 SEWER FEE/TRUNK & LFT STAT ADM							
Debt Service	6,072.15	0.00	0.00	0.00	0.00	0.00	0 50
End Fund - Dept 320-099	6,072.15	0.00	0.00	0.00	0.00	0.00	0 50
Fund - Dept 321-099 SWR FEE-WPCP CAP DEBT SERVICE							
Debt Service	116,550.77	0.00	0.00	0.00	0.00	0.00	0 50
End Fund - Dept 321-099	116,550.77	0.00	0.00	0.00	0.00	0.00	0 50
Fund - Dept 335-099 General Fund Debt Service							
Debt Service	58,940.00	0.00	0.00	0.00	0.00	0.00	0 50

Department Expense Report

Multi Fund/Dept Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

Administrative Services Category Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining Budg / Time
End Fund - Dept 335-099	58,940.00	0.00	0.00	0.00	0.00	0.00	0 50
Fund - Dept 850-099 SEWER DEBT SERVICE							
Debt Service	61,389.34	0.00	0.00	0.00	0.00	0.00	0 50
End Fund - Dept 850-099	61,389.34	0.00	0.00	0.00	0.00	0.00	0 50
Fund - Dept 852-099 Sewer Debt Service							
Debt Service	70,408.73	0.00	-70,717.21	0.00	2,459,052.00	2,529,769.21	103 50
End Fund - Dept 852-099	70,408.73	0.00	-70,717.21	0.00	2,459,052.00	2,529,769.21	103 50
Fund - Dept 853-150 PARKING REVENUE-FINANCE							
Purchased Services	2,616.86	0.00	6,790.09	0.00	36,000.00	29,209.91	81 50
End Fund - Dept 853-150	2,616.86	0.00	6,790.09	0.00	36,000.00	29,209.91	81 50
Fund - Dept 903-099 CalPERS UAL Debt Service							
Debt Service	9,551,935.00	0.00	10,602,176.00	0.00	10,602,176.00	0.00	0 50
End Fund - Dept 903-099	9,551,935.00	0.00	10,602,176.00	0.00	10,602,176.00	0.00	0 50
Fund - Dept 932-099 Fleet Replacment Debt Service							
Debt Service	0.00	0.00	0.00	0.00	0.00	0.00	0 50
End Fund - Dept 932-099	0.00	0.00	0.00	0.00	0.00	0.00	0 50
Fund - Dept 935-180 INFORMATION TECHNOLOGY							
Salaries & Employee Benefits	400,045.63	76,708.62	442,156.45	0.00	914,257.00	472,100.55	52 50
Materials & Supplies	17,483.90	116.48	10,365.93	0.00	39,235.00	28,869.07	74 50
Purchased Services	384,185.16	16,914.28	544,134.74	0.00	767,913.00	223,778.26	29 50
Other Expenses	89,666.06	20,172.22	107,834.68	0.00	211,000.00	103,165.32	49 50
End Fund - Dept 935-180	891,380.75	113,911.60	1,104,491.80	0.00	1,932,405.00	827,913.20	43 50
Fund - Dept 935-182 INFORMATION TECHNOLOGY - RADIO							
Salaries & Employee Benefits	68,764.10	12,821.48	83,794.05	0.00	246,320.00	162,525.95	66 50
Materials & Supplies	0.00	0.00	0.00	0.00	0.00	0.00	0 50
Purchased Services	0.00	0.00	0.00	0.00	0.00	0.00	0 50
Other Expenses	0.00	0.00	0.00	0.00	0.00	0.00	0 50
End Fund - Dept 935-182	68,764.10	12,821.48	83,794.05	0.00	246,320.00	162,525.95	66 50

Department Expense Report

Current Year Data Through 12/31/2021

Multi Fund/Dept Budget Year: 2022

Budget Version 10: Working

Administrative Services		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
Grand Totals : Admin Services		11,921,595.01	262,427.94	12,874,366.45	14,953.75	17,698,004.00	4,808,683.80	27 50

End Of Report Prepared for Administrative Services

Current Year Data Through 12/31/2021

**** End of Report ****

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 001-150 Budget Year: 2022

Budget Version 10: Working

GENERAL-FINANCE		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	389,006.48	62,340.69	394,573.92	0.00	884,099.00	489,525.08	55	
4020	Salaries - Hourly Pay	0.00	658.00	6,951.50	0.00	15,000.00	8,048.50	54	
4050	Salaries - Overtime	2,000.70	75.89	636.87	0.00	5,000.00	4,363.13	87	
4056	Salaries - CTO Payout	0.00	0.00	2,787.96	0.00	0.00	-2,787.96	0	Over
4690	Employee Benefits Other	262,667.37	43,983.18	272,970.82	0.00	618,510.00	345,539.18	56	
Salaries & Employee Benefits		653,674.55	107,057.76	677,921.07	0.00	1,522,609.00	844,687.93	55	50
5000 Materials & Supplies									
5000	Office Expense	2,406.23	580.98	4,140.14	0.00	8,500.00	4,359.86	51	
5005	Postage & Mailing	8,128.09	175.37	5,939.07	0.00	14,535.00	8,595.93	59	
5010	Outside Printing Expense	1,349.35	0.00	2,978.60	0.00	3,653.00	674.40	18	
5050	Books/Periodicals/Software	48.00	0.00	0.00	0.00	1,500.00	1,500.00	100	
5505	Equipment Maintenance/Repair	60.00	0.00	5,737.53	0.00	6,878.00	1,140.47	17	
Materials & Supplies		11,991.67	756.35	18,795.34	0.00	35,066.00	16,270.66	46	50
5400 Purchased Services									
5400	Professional Services	18,960.06	27,708.35	139,339.66	14,953.75	182,404.00	28,110.59	15	
5401	Audit Services	27,369.52	0.00	695.00	0.00	30,631.00	29,936.00	98	
Purchased Services		46,329.58	27,708.35	140,034.66	14,953.75	213,035.00	58,046.59	27	50
8900 Other Expenses									
5140	Advertising/Marketing	406.62	0.00	765.85	0.00	0.00	-765.85	0	Over
5160	Licenses/Permits/Fees	0.00	0.00	250.00	0.00	1,235.00	985.00	80	
5370	Memberships/Dues	1,755.00	0.00	1,624.99	0.00	3,090.00	1,465.01	47	
5385	Business Expenses	1,425.00	0.00	0.00	0.00	0.00	0.00	0	
5390	Training	1,285.00	0.00	2,080.00	0.00	14,355.00	12,275.00	86	
5480	Communications	1,952.75	172.40	1,699.20	0.00	5,890.00	4,190.80	71	
6115	DCBA Contract	13,201.63	0.00	7,653.42	0.00	27,500.00	19,846.58	72	
Other Expenses		20,026.00	172.40	14,073.46	0.00	52,070.00	37,996.54	73	50
End Fund - Dept 001-150		732,021.80	135,694.86	850,824.53	14,953.75	1,822,780.00	957,001.72	53	50

Department Expense Report

Fund - Dept 009-099 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

DEBT SERVICE		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent		
Category	Description	Actuals	Month	Actuals	brances			Remaining		
		Thru 12/2020	Actuals	Actuals				Budg / Time		
8000 Debt Service										
8898	Capital Lease Principal	0.00	0.00	243,096.07	0.00	430,651.00	187,554.93	44		
8899	Capital Lease Interest	0.00	0.00	39,094.33	0.00	75,671.00	36,576.67	48		
Debt Service		0.00	0.00	282,190.40	0.00	506,322.00	224,131.60	44	50	
8425 Other Financing Uses										
Other Financing Uses		0.00	0.00	0.00	0.00	0.00	0.00	0	50	
End Fund - Dept 009-099		0.00	0.00	282,190.40	0.00	506,322.00	224,131.60	44	50	

City of Chico

Department Expense Report

Fund - Dept 010-150 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

CITY TREASURY-FINANCE		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category Description		Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
5400 Purchased Services									
5330	Contractual	38,365.53	0.00	14,816.79	0.00	25,000.00	10,183.21	41	
	Purchased Services	38,365.53	0.00	14,816.79	0.00	25,000.00	10,183.21	41	50
8900 Other Expenses									
5370	Memberships/Dues	0.00	0.00	0.00	0.00	570.00	570.00	100	
5390	Training	0.00	0.00	0.00	0.00	2,700.00	2,700.00	100	
	Other Expenses	0.00	0.00	0.00	0.00	3,270.00	3,270.00	100	50
End Fund - Dept 010-150		38,365.53	0.00	14,816.79	0.00	28,270.00	13,453.21	48	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 050-150 Budget Year: 2022

Budget Version 10: Working

DONATIONS-FINANCE		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
	Salaries & Employee Benefits	0.00	0.00	0.00	0.00	0.00	0.00	0	50
5400 Purchased Services									
5400	Professional Services	0.00	0.00	0.00	0.00	64,679.00	64,679.00	100	
	Purchased Services	0.00	0.00	0.00	0.00	64,679.00	64,679.00	100	50
End Fund - Dept 050-150		0.00	0.00	0.00	0.00	64,679.00	64,679.00	100	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 852-099 Budget Year: 2022

Budget Version 10: Working

Sewer Debt Service		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent		
Category	Description	Actuals	Month	Actuals	brances			Remaining		
		Thru 12/2020	Actuals	Actuals				Budg / Time		
8000 Debt Service										
8000	Debt Principal	0.00	0.00	0.00	0.00	1,610,000.00	1,610,000.00	100		
8200	Debt Interest	70,408.73	0.00	-70,717.21	0.00	849,052.00	919,769.21	108		
Debt Service		70,408.73	0.00	-70,717.21	0.00	2,459,052.00	2,529,769.21	103	50	
End Fund - Dept 852-099		70,408.73	0.00	-70,717.21	0.00	2,459,052.00	2,529,769.21	103	50	

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 853-150 Budget Year: 2022

Budget Version 10: Working

PARKING REVENUE-FINANCE

Category	Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
5400 Purchased Services								
5330	Contractual	2,616.86	0.00	6,790.09	0.00	36,000.00	29,209.91	81
	Purchased Services	2,616.86	0.00	6,790.09	0.00	36,000.00	29,209.91	81 50
End Fund - Dept 853-150		2,616.86	0.00	6,790.09	0.00	36,000.00	29,209.91	81 50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 903-099 Budget Year: 2022

Budget Version 10: Working

CalPERS UAL Debt Service		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
8000 Debt Service								
8301	CalPERS UAL Pymt - Misc	4,761,307.00	0.00	5,080,969.00	0.00	5,080,969.00	0.00	0
8302	CalPERS UAL Pymt - Safety	4,790,628.00	0.00	5,521,207.00	0.00	5,521,207.00	0.00	0
Debt Service		9,551,935.00	0.00	10,602,176.00	0.00	10,602,176.00	0.00	0 50
End Fund - Dept 903-099		9,551,935.00	0.00	10,602,176.00	0.00	10,602,176.00	0.00	0 50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 935-180 Budget Year: 2022

Budget Version 10: Working

INFORMATION TECHNOLOGY		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	265,222.42	47,135.10	272,686.62	0.00	563,090.00	290,403.38	52	
4015	Salaries - Holiday Pay	0.00	0.00	133.38	0.00	0.00	-133.38	0	Over
4050	Salaries - Overtime	786.11	471.76	1,963.69	0.00	5,000.00	3,036.31	61	
4690	Employee Benefits Other	134,037.10	29,101.76	167,372.76	0.00	346,167.00	178,794.24	52	
Salaries & Employee Benefits		400,045.63	76,708.62	442,156.45	0.00	914,257.00	472,100.55	52	50
5000 Materials & Supplies									
5000	Office Expense	3,457.97	26.33	1,819.88	0.00	1,120.00	-699.88	-62	Over
5005	Postage & Mailing	49.22	49.91	130.68	0.00	50.00	-80.68	-161	Over
5010	Outside Printing Expense	0.00	0.00	12.75	0.00	0.00	-12.75	0	Over
5050	Books/Periodicals/Software	0.00	0.00	0.00	0.00	5,200.00	5,200.00	100	
5100	Materials and Supplies	4,269.58	0.00	6,003.35	0.00	1,500.00	-4,503.35	-300	Over
5105	Small Tools and Equipment	6,898.78	40.24	2,399.27	0.00	10,000.00	7,600.73	76	
5505	Equipment Maintenance/Repair	2,784.22	0.00	0.00	0.00	6,365.00	6,365.00	100	
5520	Computer Maint & Repair	24.13	0.00	0.00	0.00	15,000.00	15,000.00	100	
Materials & Supplies		17,483.90	116.48	10,365.93	0.00	39,235.00	28,869.07	74	50
5400 Purchased Services									
5330	Contractual	124,999.93	0.00	114,997.25	0.00	169,142.00	54,144.75	32	
5400	Professional Services	25,188.51	315.95	3,919.91	0.00	21,250.00	17,330.09	82	
5555	Maint Agreements Other	233,996.72	16,598.33	425,217.58	0.00	577,521.00	152,303.42	26	
Purchased Services		384,185.16	16,914.28	544,134.74	0.00	767,913.00	223,778.26	29	50
8900 Other Expenses									
5301	Copier Lease Expense	34,378.63	6,659.47	40,475.44	0.00	92,000.00	51,524.56	56	
5370	Memberships/Dues	650.00	0.00	650.00	0.00	1,500.00	850.00	57	
5390	Training	194.41	0.00	3,813.77	0.00	8,500.00	4,686.23	55	
5480	Communications	54,443.02	13,512.75	62,895.47	0.00	109,000.00	46,104.53	42	
Other Expenses		89,666.06	20,172.22	107,834.68	0.00	211,000.00	103,165.32	49	50
End Fund - Dept 935-180		891,380.75	113,911.60	1,104,491.80	0.00	1,932,405.00	827,913.20	43	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 935-182 Budget Year: 2022

Budget Version 10: Working

INFORMATION TECHNOLOGY - RADIO		Prior Year's Actuals	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining	
Category	Description	Thru 12/2020						Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	41,528.47	7,531.14	49,855.89	0.00	144,647.00	94,791.11	66	
4690	Employee Benefits Other	27,235.63	5,290.34	33,938.16	0.00	101,673.00	67,734.84	67	
	Salaries & Employee Benefits	68,764.10	12,821.48	83,794.05	0.00	246,320.00	162,525.95	66	50
5000 Materials & Supplies									
	Materials & Supplies	0.00	0.00	0.00	0.00	0.00	0.00	0	50
5400 Purchased Services									
	Purchased Services	0.00	0.00	0.00	0.00	0.00	0.00	0	50
8900 Other Expenses									
	Other Expenses	0.00	0.00	0.00	0.00	0.00	0.00	0	50
End Fund - Dept 935-182		68,764.10	12,821.48	83,794.05	0.00	246,320.00	162,525.95	66	50

Department Expense Report

Fund - Dept 935-182 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

INFORMATION TECHNOLOGY - RADIO		Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
Grand Totals : Admin Services		11,921,595.01	262,427.94	12,874,366.45	14,953.75	17,698,004.00	4,808,683.80	27 50

End Of Report Prepared for Administrative Services

Current Year Data Through 12/31/2021

**** End of Report ****

Monthly Budget Monitoring Report

City Attorney

(Dept. Name)

Fiscal Year 2021-22 Monthly Report for the **period ending:** December, 2021


Department Contact: Vincent C. Ewing

Purpose: The purpose of the review is to identify any expenditure trends which would hinder a department's ability to meet their approved budget targets or to highlight any trends of interest for the governing body.

Overall Summary:

No overages at the category level to report.

APPROVALS:

Review	Signature	Date
Vincent C. Ewing, City Attorney		1/12/22

City of Chico
2021-22 Annual Budget
Department Operating Summary

Data Through 12/31/2021

Prepared for City Attorney	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
<u>Expenditure by Category</u>						
5000 Materials & Supplies	50	50	0	250	200	80
5400 Purchased Services	130,684	754,594	0	1,322,847	568,253	43
8900 Other Expenses	114	684	0	1,805	1,121	62
Total For Department(s)	130,848	755,328	0	1,324,902	569,574	43 50

Expenditure Summary by Fund - Dept

Fund - Dept	Title	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
001 - 160	General-City Attny	51,357	117,963	0	614,902	496,939	81
	Fund 001 Sub-Totals	51,357	117,963	0	614,902	496,939	81
052 - 160	-City Attny	0	0	0	60,000	60,000	100
900 - 160	Gen Liab Ins Rsrv-City Attny	79,491	637,365	0	650,000	12,635	2
Total For Fund/Department		130,848	755,328	0	1,324,902	569,574	43 50

Expenditure Summary by Fund

Fund	Title	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
001	General	51,357	117,963	0	614,902	496,939	81
052	Specialized Community Services	0	0	0	60,000	60,000	100
900	General Liability Insurance Reserve	79,491	637,365	0	650,000	12,635	2
Total For Fund(s)		130,848	755,328	0	1,324,902	569,574	43 50

** End of Report **

Department Expense Report

Multi Fund/Dept Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

City Attorney	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining	Budg / Time
Fund - Dept 001-160 GENERAL-CITY ATTORNEY								
Materials & Supplies	521.01	49.91	49.91	0.00	250.00	200.09	80	50
Purchased Services	263,734.59	51,193.06	117,229.13	0.00	612,847.00	495,617.87	81	50
Other Expenses	801.64	114.19	684.18	0.00	1,805.00	1,120.82	62	50
End Fund - Dept 001-160	265,057.24	51,357.16	117,963.22	0.00	614,902.00	496,938.78	81	50
Fund - Dept 052-160 Specialized Community Services								
Purchased Services	0.00	0.00	0.00	0.00	60,000.00	60,000.00	100	50
End Fund - Dept 052-160	0.00	0.00	0.00	0.00	60,000.00	60,000.00	100	50
Fund - Dept 900-160 GENERAL LIAB INS RSRV-CA								
Purchased Services	223,352.96	79,490.52	637,365.31	0.00	650,000.00	12,634.69	2	50
End Fund - Dept 900-160	223,352.96	79,490.52	637,365.31	0.00	650,000.00	12,634.69	2	50
Grand Totals : City Attorney	488,410.20	130,847.68	755,328.53	0.00	1,324,902.00	569,573.47	43	50

End Of Report Prepared for City Attorney

Current Year Data Through 12/31/2021

**** End of Report ****

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 001-160 Budget Year: 2022

Budget Version 10: Working

GENERAL-CITY ATTORNEY		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent		
Category	Description	Actuals	Month	Actuals	brances			Remaining		
		Thru 12/2020	Actuals	Actuals				Budg / Time		
5000 Materials & Supplies										
5000	Office Expense	472.79	0.00	0.00	0.00	0.00	0.00	0		
5005	Postage & Mailing	48.22	49.91	49.91	0.00	250.00	200.09	80		
Materials & Supplies		521.01	49.91	49.91	0.00	250.00	200.09	80	50	
5400 Purchased Services										
5330	Contractual	263,554.59	51,193.06	117,229.13	0.00	612,847.00	495,617.87	81		
5332	Contractual - Special Legal	180.00	0.00	0.00	0.00	0.00	0.00	0		
Purchased Services		263,734.59	51,193.06	117,229.13	0.00	612,847.00	495,617.87	81	50	
8900 Other Expenses										
5480	Communications	801.64	114.19	684.18	0.00	1,805.00	1,120.82	62		
Other Expenses		801.64	114.19	684.18	0.00	1,805.00	1,120.82	62	50	
End Fund - Dept 001-160		265,057.24	51,357.16	117,963.22	0.00	614,902.00	496,938.78	81	50	

City of Chico

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 052-160 Budget Year: 2022

Budget Version 10: Working

Specialized Community Services		Prior Year's Actuals	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining	
Category	Description	Thru 12/2020						Budg / Time	
5400 Purchased Services									
5330	Contractual	0.00	0.00	0.00	0.00	60,000.00	60,000.00	100	
	Purchased Services	0.00	0.00	0.00	0.00	60,000.00	60,000.00	100	50
End Fund - Dept 052-160		0.00	0.00	0.00	0.00	60,000.00	60,000.00	100	50

Department Expense Report

Fund - Dept 900-160 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

GENERAL LIAB INS RSRV-CA		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category Description		Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
5400 Purchased Services								
5332	Contractual - Special Legal	81,314.98	31,097.31	49,092.15	0.00	500,000.00	450,907.85	90
6151	Major Litigation Costs	142,037.98	48,393.21	588,273.16	0.00	150,000.00	-438,273.16	-292 Over
	Purchased Services	223,352.96	79,490.52	637,365.31	0.00	650,000.00	12,634.69	2 50
End Fund - Dept 900-160		223,352.96	79,490.52	637,365.31	0.00	650,000.00	12,634.69	2 50

Department Expense Report

Fund - Dept 900-160 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

GENERAL LIAB INS RSRV-CA		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
Grand Totals : City Attorney		488,410.20	130,847.68	755,328.53	0.00	1,324,902.00	569,573.47	43 50

End Of Report Prepared for City Attorney

Current Year Data Through 12/31/2021

**** End of Report ****

Monthly Budget Monitoring Report

City Clerk Department

(Dept. Name)

Fiscal Year 2021-22 Monthly Report for the **period ending:**

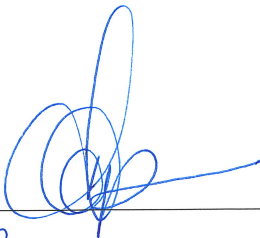
12/31/21

Department Contact: Deborah R. Presson, City Clerk


Nothing to report.

APPROVALS:

DEPARTMENT HEAD SIGNATURE: _____



DATE: _____

 1/19/22

City of Chico
2021-22 Annual Budget
Department Operating Summary

Data Through 12/31/2021

Prepared for City Clerk	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining Budg / Time	
Expenditure by Category							
4000 Salaries & Employee Benefits	47,592	283,935	0	689,687	405,752	59	
5000 Materials & Supplies	83	1,408	0	18,250	16,842	92	
5400 Purchased Services	0	87,020	95,742	290,641	107,879	37	
8900 Other Expenses	2,332	15,778	0	194,165	178,387	92	
8910 Non-Recurring Operating	0	0	0	15,000	15,000	100	
Total For Department(s)	50,007	388,141	95,742	1,207,743	723,860	60	50

Expenditure Summary by Fund - Dept

Fund - Dept	Title	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining Budg / Time	
001 - 101	General-City Council	12,163	71,105	0	236,110	165,005	70	
001 - 103	General-City Clerk	37,844	237,336	19,500	846,057	589,221	70	
	Fund 001 Sub-Totals	50,007	308,441	19,500	1,082,167	754,226	70	
051 - 000	-Funds Administration	0	34,669	0	34,593	-76	0	Over
052 - 101	-City Council	0	0	76,242	46,243	-29,999	-65	Over
210 - 180	PEG - Public, Educational & Go-	0	45,031	0	44,740	-291	-1	Over
Total For Fund/Department		50,007	388,141	95,742	1,207,743	723,860	60	50

Expenditure Summary by Fund

Fund	Title	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining Budg / Time	
001	General	50,007	308,441	19,500	1,082,167	754,226	70	
051	Arts and Culture	0	34,669	0	34,593	-76	0	Over
052	Specialized Community Services	0	0	76,242	46,243	-29,999	-65	Over
210	PEG - Public, Educational & Government	0	45,031	0	44,740	-291	-1	Over
Total For Fund(s)		50,007	388,141	95,742	1,207,743	723,860	60	50

** End of Report **

Department Expense Report

Multi Fund/Dept Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

City Clerk	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining	Budg / Time
Fund - Dept 001-101 GENERAL-CITY COUNCIL								
Salaries & Employee Benefits	64,643.25	11,011.44	58,746.42	0.00	137,445.00	78,698.58	57	50
Materials & Supplies	549.50	0.00	431.37	0.00	9,900.00	9,468.63	96	50
Purchased Services	2,400.00	0.00	0.00	0.00	21,000.00	21,000.00	100	50
Other Expenses	13,224.66	1,151.61	11,927.53	0.00	67,765.00	55,837.47	82	50
End Fund - Dept 001-101	80,817.41	12,163.05	71,105.32	0.00	236,110.00	165,004.68	70	50
Fund - Dept 001-103 GENERAL-CITY CLERK								
Salaries & Employee Benefits	222,388.03	36,580.99	225,188.56	0.00	552,242.00	327,053.44	59	50
Materials & Supplies	2,487.12	82.92	976.80	0.00	8,350.00	7,373.20	88	50
Purchased Services	22,000.00	0.00	7,319.94	19,500.00	144,065.00	117,245.06	81	50
Other Expenses	10,675.66	1,180.00	3,850.60	0.00	126,400.00	122,549.40	97	50
Non-Recurring Operating	0.00	0.00	0.00	0.00	15,000.00	15,000.00	100	50
End Fund - Dept 001-103	257,550.81	37,843.91	237,335.90	19,500.00	846,057.00	589,221.10	70	50
Fund - Dept 051-000 ARTS AND CULTURE								
Purchased Services	0.00	0.00	34,669.00	0.00	34,593.00	-76.00	0	50 Over
End Fund - Dept 051-000	0.00	0.00	34,669.00	0.00	34,593.00	-76.00	0	50 OVER
Fund - Dept 052-101 Specialized Community Services								
Purchased Services	3,508.45	0.00	0.00	76,242.14	46,243.00	-29,999.14	-65	50 Over
End Fund - Dept 052-101	3,508.45	0.00	0.00	76,242.14	46,243.00	-29,999.14	-65	50 OVER
Fund - Dept 210-180 PEG - INFORMATION SYSTEMS								
Purchased Services	0.00	0.00	45,030.91	0.00	44,740.00	-290.91	-1	50 Over
End Fund - Dept 210-180	0.00	0.00	45,030.91	0.00	44,740.00	-290.91	-1	50 OVER
Grand Totals : City Clerk	341,876.67	50,006.96	388,141.13	95,742.14	1,207,743.00	723,859.73	60	50

End Of Report Prepared for City Clerk

Current Year Data Through 12/31/2021

**** End of Report ****

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 001-101 Budget Year: 2022

Budget Version 10: Working

GENERAL-CITY COUNCIL		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4020	Salaries - Hourly Pay	29,576.25	4,845.00	27,720.00	0.00	58,140.00	30,420.00	52	
4690	Employee Benefits Other	35,067.00	6,166.44	31,026.42	0.00	79,305.00	48,278.58	61	
	Salaries & Employee Benefits	64,643.25	11,011.44	58,746.42	0.00	137,445.00	78,698.58	57	50
5000 Materials & Supplies									
5000	Office Expense	0.00	0.00	367.02	0.00	400.00	32.98	8	
5010	Outside Printing Expense	549.50	0.00	64.35	0.00	9,500.00	9,435.65	99	
	Materials & Supplies	549.50	0.00	431.37	0.00	9,900.00	9,468.63	96	50
5400 Purchased Services									
5400	Professional Services	2,400.00	0.00	0.00	0.00	21,000.00	21,000.00	100	
	Purchased Services	2,400.00	0.00	0.00	0.00	21,000.00	21,000.00	100	50
8900 Other Expenses									
5370	Memberships/Dues	0.00	0.00	0.00	0.00	30,000.00	30,000.00	100	
5385	Business Expenses	585.82	0.00	1,557.44	0.00	2,100.00	542.56	26	
5386	Conference Expenses	100.00	0.00	1,022.15	0.00	2,000.00	977.85	49	
5390	Training	0.00	0.00	0.00	0.00	7,000.00	7,000.00	100	
5480	Communications	225.84	76.02	190.05	0.00	665.00	474.95	71	
6053	Boards and Commissions Expense	0.00	0.00	3,142.00	0.00	3,500.00	358.00	10	
6056	Meeting Expenses	5,032.34	0.00	82.22	0.00	6,500.00	6,417.78	99	
6114	Council Broadcasts	7,280.66	1,075.59	5,933.67	0.00	16,000.00	10,066.33	63	
	Other Expenses	13,224.66	1,151.61	11,927.53	0.00	67,765.00	55,837.47	82	50
End Fund - Dept 001-101		80,817.41	12,163.05	71,105.32	0.00	236,110.00	165,004.68	70	50

Department Expense Report

Fund - Dept 001-103 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

GENERAL-CITY CLERK		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	130,537.69	21,696.78	132,441.94	0.00	320,651.00	188,209.06	59	
4050	Salaries - Overtime	2,004.33	143.57	1,788.59	0.00	7,373.00	5,584.41	76	
4690	Employee Benefits Other	89,846.01	14,740.64	90,958.03	0.00	224,218.00	133,259.97	59	
	Salaries & Employee Benefits	222,388.03	36,580.99	225,188.56	0.00	552,242.00	327,053.44	59	50
5000 Materials & Supplies									
5000	Office Expense	2,373.87	33.01	785.11	0.00	5,450.00	4,664.89	86	
5005	Postage & Mailing	105.17	49.91	177.55	0.00	1,000.00	822.45	82	
5010	Outside Printing Expense	8.08	0.00	12.14	0.00	1,000.00	987.86	99	
5050	Books/Periodicals/Software	0.00	0.00	2.00	0.00	900.00	898.00	100	
	Materials & Supplies	2,487.12	82.92	976.80	0.00	8,350.00	7,373.20	88	50
5400 Purchased Services									
5330	Contractual	22,000.00	0.00	6,000.00	0.00	44,065.00	38,065.00	86	
5400	Professional Services	0.00	0.00	1,319.94	19,500.00	100,000.00	79,180.06	79	
	Purchased Services	22,000.00	0.00	7,319.94	19,500.00	144,065.00	117,245.06	81	50
8900 Other Expenses									
5140	Advertising/Marketing	3,002.18	0.00	0.00	0.00	8,000.00	8,000.00	100	
5370	Memberships/Dues	445.00	0.00	200.00	0.00	2,750.00	2,550.00	93	
5385	Business Expenses	62.88	105.89	197.15	0.00	2,400.00	2,202.85	92	
5386	Conference Expenses	0.00	0.00	0.00	0.00	2,000.00	2,000.00	100	
5390	Training	200.00	0.00	0.00	0.00	3,000.00	3,000.00	100	
5480	Communications	730.15	102.11	623.04	0.00	2,250.00	1,626.96	72	
6050	Elections	3,000.21	0.00	856.62	0.00	100,000.00	99,143.38	99	
6053	Boards and Commissions Expense	0.00	972.00	972.00	0.00	0.00	-972.00	0	Over
6150	Municipal Code Update	3,235.24	0.00	1,001.79	0.00	6,000.00	4,998.21	83	
	Other Expenses	10,675.66	1,180.00	3,850.60	0.00	126,400.00	122,549.40	97	50
8910 Non-Recurring Operating									
7500	Non-Recurring Operating	0.00	0.00	0.00	0.00	15,000.00	15,000.00	100	
	Non-Recurring Operating	0.00	0.00	0.00	0.00	15,000.00	15,000.00	100	50
End Fund - Dept 001-103		257,550.81	37,843.91	237,335.90	19,500.00	846,057.00	589,221.10	70	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 051-000 Budget Year: 2022

Budget Version 10: Working

ARTS AND CULTURE		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent		
Category	Description	Actuals	Month	Actuals	brances			Remaining		
		Thru 12/2020	Actuals	Actuals				Budg / Time		
5400 Purchased Services										
5330	Contractual	0.00	0.00	34,669.00	0.00	34,593.00	-76.00	0	Over	
	Purchased Services	0.00	0.00	34,669.00	0.00	34,593.00	-76.00	0	50	Over
End Fund - Dept 051-000		0.00	0.00	34,669.00	0.00	34,593.00	-76.00	0	50	OVER

City of Chico

Department Expense Report

Fund - Dept 052-101 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

Specialized Community Services		Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
5400 Purchased Services								
5330	Contractual	3,508.45	0.00	0.00	76,242.14	46,243.00	-29,999.14	-65 Over
	Purchased Services	3,508.45	0.00	0.00	76,242.14	46,243.00	-29,999.14	-65 50 Over
End Fund - Dept 052-101		3,508.45	0.00	0.00	76,242.14	46,243.00	-29,999.14	-65 50 OVER

City of Chico

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 210-180 Budget Year: 2022

Budget Version 10: Working

PEG - INFORMATION SYSTEMS		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent		
Category	Description	Actuals	Month	Actuals	brances			Remaining		
		Thru 12/2020	Actuals	Actuals				Budg / Time		
5400 Purchased Services										
5555	Maint Agreements Other	0.00	0.00	45,030.91	0.00	44,740.00	-290.91	-1	Over	
	Purchased Services	0.00	0.00	45,030.91	0.00	44,740.00	-290.91	-1	50	Over
End Fund - Dept 210-180		0.00	0.00	45,030.91	0.00	44,740.00	-290.91	-1	50	OVER

Department Expense Report

Fund - Dept 210-180 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

PEG - INFORMATION SYSTEMS

Category Description

Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
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Grand Totals : City Clerk	341,876.67	50,006.96	388,141.13	95,742.14	1,207,743.00	723,859.73	60	50
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End Of Report Prepared for City Clerk

Current Year Data Through 12/31/2021

**** End of Report ****

Monthly Budget Monitoring Report

City Manager's Office

Fiscal Year 2021-22 Monthly Report for the period ending December 31, 2021

Department Contacts: Management Analyst (896-7202)

Purpose: The purpose of the review is to identify any expenditure trends which would hinder a department's ability to meet their approved budget targets or to highlight any trends of interest for the governing body. Budget overages are monitored and controlled at the category level, not object (account) level. Therefore, the analysis considers the category level.

Overall Summary: The City Manager's Office does not believe current expenditure trends will exceed budget appropriations.

Items of Interest:

NEW

Item #1

Location: **Fund/Dept 875-106 – Cannabis Permit Program**

Expenditure Item: **Category 5400 – Purchased Services**

Description & Analysis: Funds received from cannabis permit applicants used to cover costs associated with application process.

Action Plan: Journal entry to be completed to fix overage.

PREVIOUS

Location: **Fund/Dept 050-106 – Donations**

Expenditure Item: **Category 5000 – Materials & Supplies**

Description & Analysis: One-time grant funding received from PG&E in 2014 to be used in support of Team Chico.

Action Plan: No action necessary.

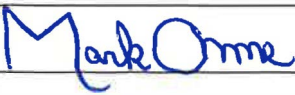
Location: **Fund/Dept 001-112 – Gen Econ Dev**

Expenditure Item: **Category 8900 – Other Expenses**

Description & Analysis: The city has multiple agreements with the Chamber of Commerce that we pay of encumber at the beginning of the fiscal year, therefore we expend most of the budget upfront.

Action Plan: No action necessary.

APPROVALS:

Review	Signature	Date
Department Director Mark Orme, City Manager		January 13, 2022

City of Chico
2021-22 Annual Budget
Department Operating Summary

Data Through 12/31/2021

Prepared for City Manager	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
Expenditure by Category						
4000 Salaries & Employee Benefits	64,429	393,080	0	951,175	558,095	59
5000 Materials & Supplies	670	2,043	0	7,064	5,021	71
5400 Purchased Services	0	121,318	78,200	443,055	243,537	55
8900 Other Expenses	1,696	27,688	82,114	203,633	93,831	46
8910 Non-Recurring Operating	0	0	0	500	500	100
Total For Department(s)	66,795	544,129	160,314	1,605,427	900,984	56 50

Expenditure Summary by Fund - Dept

Fund - Dept	Title					
001 - 106	General-City Manager	66,045	421,750	33,300	1,196,175	741,125 62
001 - 112	General-Econ Dev	12	51,554	87,514	301,249	162,181 54
	Fund 001 Sub-Totals	66,057	473,304	120,814	1,497,424	903,306 60
050 - 106	Donations-City Manager	0	0	0	2,119	2,119 100
052 - 106	-City Manager	0	0	0	5,634	5,634 100
100 - 106	Grants-Oper Activities-City Manager	0	0	0	500	500 100
875 - 106	-City Manager	738	70,824	39,500	99,750	-10,574 -11 Over
Total For Fund/Department		66,795	544,128	160,314	1,605,427	900,985 56 50

Expenditure Summary by Fund

Fund	Title					
001	General	66,057	473,305	120,814	1,497,424	903,305 60
050	Donations	0	0	0	2,119	2,119 100
052	Specialized Community Services	0	0	0	5,634	5,634 100
100	Grants-Operating Activities	0	0	0	500	500 100
875	Cannabis Permit Program	738	70,824	39,500	99,750	-10,574 -11 Over
Total For Fund(s)		66,795	544,129	160,314	1,605,427	900,984 56 50

** End of Report **

Department Expense Report

Multi Fund/Dept Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

City Manager	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining	Budg / Time
Fund - Dept 001-106 GENERAL-CITY MANAGER								
Salaries & Employee Benefits	464,336.19	64,428.78	391,645.93	0.00	951,175.00	559,529.07	59	50
Materials & Supplies	1,541.51	670.13	1,737.01	0.00	4,445.00	2,707.99	61	50
Purchased Services	0.00	0.00	24,975.00	33,300.00	216,450.00	158,175.00	73	50
Other Expenses	4,383.24	946.41	3,392.27	0.00	23,605.00	20,212.73	86	50
Non-Recurring Operating	0.00	0.00	0.00	0.00	500.00	500.00	100	50
End Fund - Dept 001-106	470,260.94	66,045.32	421,750.21	33,300.00	1,196,175.00	741,124.79	62	50
Fund - Dept 001-112 GENERAL-ECONOMIC DEVEL								
Materials & Supplies	0.00	0.00	0.00	0.00	500.00	500.00	100	50
Purchased Services	45,658.70	0.00	27,996.60	5,400.00	121,221.00	87,824.40	72	50
Other Expenses	26,437.10	12.12	23,557.72	82,114.00	179,528.00	73,856.28	41	50
End Fund - Dept 001-112	72,095.80	12.12	51,554.32	87,514.00	301,249.00	162,180.68	54	50
Fund - Dept 050-106 DONATIONS-CITY MANAGER								
Salaries & Employee Benefits	68,979.66	0.00	0.00	0.00	0.00	0.00	0	50
Materials & Supplies	403.70	0.00	0.00	0.00	2,119.00	2,119.00	100	50
End Fund - Dept 050-106	69,383.36	0.00	0.00	0.00	2,119.00	2,119.00	100	50
Fund - Dept 052-106 Special Com Svcs								
Purchased Services	0.00	0.00	0.00	0.00	5,634.00	5,634.00	100	50
End Fund - Dept 052-106	0.00	0.00	0.00	0.00	5,634.00	5,634.00	100	50
Fund - Dept 100-106 GRANTS RISK MANAGEMENT								
Other Expenses	0.00	0.00	0.00	0.00	500.00	500.00	100	50
End Fund - Dept 100-106	0.00	0.00	0.00	0.00	500.00	500.00	100	50
Fund - Dept 875-106 Cannabis Permit Program								
Salaries & Employee Benefits	1,413.65	0.00	1,433.78	0.00	0.00	-1,433.78	0	50 Over
Materials & Supplies	0.00	0.00	306.36	0.00	0.00	-306.36	0	50 Over
Purchased Services	0.00	0.00	68,346.00	39,500.00	99,750.00	-8,096.00	-8	50 Over
Other Expenses	0.00	737.66	737.66	0.00	0.00	-737.66	0	50 Over
End Fund - Dept 875-106	1,413.65	737.66	70,823.80	39,500.00	99,750.00	-10,573.80	-11	50 OVER

Department Expense Report

Current Year Data Through 12/31/2021

Multi Fund/Dept Budget Year: 2022

Budget Version 10: Working

City Manager		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
Grand Totals : City Manager		613,153.75	66,795.10	544,128.33	160,314.00	1,605,427.00	900,984.67	56 50

End Of Report Prepared for City Manager

Current Year Data Through 12/31/2021

**** End of Report ****

Department Expense Report

Fund - Dept 001-106 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

GENERAL-CITY MANAGER		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	248,288.58	38,483.24	232,496.56	0.00	501,104.00	268,607.44	54	
4020	Salaries - Hourly Pay	34,735.70	0.00	2,517.38	0.00	48,550.00	46,032.62	95	
4050	Salaries - Overtime	1,114.11	0.00	0.00	0.00	15,000.00	15,000.00	100	
4690	Employee Benefits Other	180,197.80	25,945.54	156,631.99	0.00	386,521.00	229,889.01	59	
	Salaries & Employee Benefits	464,336.19	64,428.78	391,645.93	0.00	951,175.00	559,529.07	59	50
5000 Materials & Supplies									
5000	Office Expense	363.75	83.97	1,035.17	0.00	1,250.00	214.83	17	
5005	Postage & Mailing	52.12	49.91	141.45	0.00	275.00	133.55	49	
5010	Outside Printing Expense	966.64	536.25	548.39	0.00	2,000.00	1,451.61	73	
5050	Books/Periodicals/Software	159.00	0.00	12.00	0.00	600.00	588.00	98	
6261	Records Purge	0.00	0.00	0.00	0.00	320.00	320.00	100	
	Materials & Supplies	1,541.51	670.13	1,737.01	0.00	4,445.00	2,707.99	61	50
5400 Purchased Services									
5400	Professional Services	0.00	0.00	24,975.00	33,300.00	216,450.00	158,175.00	73	
	Purchased Services	0.00	0.00	24,975.00	33,300.00	216,450.00	158,175.00	73	50
8900 Other Expenses									
5370	Memberships/Dues	1,830.00	450.00	700.00	0.00	4,705.00	4,005.00	85	
5385	Business Expenses	0.00	0.00	0.00	0.00	1,000.00	1,000.00	100	
5386	Conference Expenses	0.00	0.00	666.16	0.00	8,800.00	8,133.84	92	
5390	Training	210.00	0.00	0.00	0.00	5,000.00	5,000.00	100	
5480	Communications	1,886.05	313.01	1,669.78	0.00	3,800.00	2,130.22	56	
6667	Public Information Officer Exp	457.19	183.40	356.33	0.00	300.00	-56.33	-19	Over
	Other Expenses	4,383.24	946.41	3,392.27	0.00	23,605.00	20,212.73	86	50
8910 Non-Recurring Operating									
7500	Non-Recurring Operating	0.00	0.00	0.00	0.00	500.00	500.00	100	
	Non-Recurring Operating	0.00	0.00	0.00	0.00	500.00	500.00	100	50
End Fund - Dept 001-106		470,260.94	66,045.32	421,750.21	33,300.00	1,196,175.00	741,124.79	62	50

Department Expense Report

Fund - Dept 001-112 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

GENERAL-ECONOMIC DEVEL		Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
5000 Materials & Supplies								
5050	Books/Periodicals/Software	0.00	0.00	0.00	0.00	500.00	500.00	100
	Materials & Supplies	0.00	0.00	0.00	0.00	500.00	500.00	100 50
5400 Purchased Services								
5330	Contractual	42,658.70	0.00	27,996.60	0.00	111,221.00	83,224.40	75
5400	Professional Services	3,000.00	0.00	0.00	5,400.00	10,000.00	4,600.00	46
	Purchased Services	45,658.70	0.00	27,996.60	5,400.00	121,221.00	87,824.40	72 50
8900 Other Expenses								
5370	Memberships/Dues	16,200.37	0.00	15,500.00	0.00	16,401.00	901.00	5
5385	Business Expenses	0.00	0.00	0.00	0.00	477.00	477.00	100
5386	Conference Expenses	0.00	0.00	0.00	0.00	2,360.00	2,360.00	100
5480	Communications	75.73	12.12	64.72	0.00	190.00	125.28	66
6109	Economic Services	10,161.00	0.00	7,993.00	82,114.00	160,100.00	69,993.00	44
	Other Expenses	26,437.10	12.12	23,557.72	82,114.00	179,528.00	73,856.28	41 50
End Fund - Dept 001-112		72,095.80	12.12	51,554.32	87,514.00	301,249.00	162,180.68	54 50

Department Expense Report

Fund - Dept 050-106 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

DONATIONS-CITY MANAGER		Prior Year's Actuals	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining	
Category	Description	Thru 12/2020					Budg / Time		
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	44,740.51	0.00	0.00	0.00	0.00	0.00	0	
4690	Employee Benefits Other	24,239.15	0.00	0.00	0.00	0.00	0.00	0	
	Salaries & Employee Benefits	68,979.66	0.00	0.00	0.00	0.00	0.00	0	50
5000 Materials & Supplies									
6250	Donations - Expense	403.70	0.00	0.00	0.00	2,119.00	2,119.00	100	
	Materials & Supplies	403.70	0.00	0.00	0.00	2,119.00	2,119.00	100	50
End Fund - Dept 050-106		69,383.36	0.00	0.00	0.00	2,119.00	2,119.00	100	50

Department Expense Report

Fund - Dept 875-106 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

Cannabis Permit Program		Prior Year's Actuals	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining	
Category	Description	Thru 12/2020						Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	849.02	0.00	823.49	0.00	0.00	-823.49	0	Over
4690	Employee Benefits Other	564.63	0.00	610.29	0.00	0.00	-610.29	0	Over
Salaries & Employee Benefits		1,413.65	0.00	1,433.78	0.00	0.00	-1,433.78	0	50 Over
5000 Materials & Supplies									
5005	Postage & Mailing	0.00	0.00	306.36	0.00	0.00	-306.36	0	Over
Materials & Supplies		0.00	0.00	306.36	0.00	0.00	-306.36	0	50 Over
5400 Purchased Services									
5400	Professional Services	0.00	0.00	68,346.00	39,500.00	99,750.00	-8,096.00	-8	Over
Purchased Services		0.00	0.00	68,346.00	39,500.00	99,750.00	-8,096.00	-8	50 Over
8900 Other Expenses									
5140	Advertising/Marketing	0.00	737.66	737.66	0.00	0.00	-737.66	0	Over
Other Expenses		0.00	737.66	737.66	0.00	0.00	-737.66	0	50 Over
End Fund - Dept 875-106		1,413.65	737.66	70,823.80	39,500.00	99,750.00	-10,573.80	-11	50 OVER

Department Expense Report

Fund - Dept 875-106 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

Cannabis Permit Program		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
Grand Totals : City Manager		613,153.75	66,795.10	544,128.33	160,314.00	1,605,427.00	900,984.67	56 50

End Of Report Prepared for City Manager

Current Year Data Through 12/31/2021

**** End of Report ****

Monthly Budget Monitoring Report

Community Development Department

(Dept. Name)

Fiscal Year 21-22 Monthly Report for the **period ending:** December 31, 2021

Department Contact: Brendan Vieg, Community Development Director

Purpose: The purpose of the review is to identify any expenditure trends which would hinder a department's ability to meet its approved budget targets, and to highlight any trends of interest for the governing body.

Overall Summary: The Community Development Department's Fiscal Year 2021-22 expense reports as provided by the Finance Division have been reviewed by CDD staff, and expenditures do not exceed budget appropriations. The Department's Operating Summary figures, as of December 31, 2021, show 63% of the total departmental budget remaining and 50% time remaining in the fiscal year. The Department is trending 13% underbudget.

The below items of interest only include category level trends and not trends at the object code level.

Items of Interest:

NEW

Item #1

Location: Community Development, Low-Mod Housing Asset Fund-Housing (392-540)
Expenditure Item: Purchased Services category, 5400-Professional Services
Description: Purchased professional services for Affordable Housing activities.
Analysis: Several agreements have been executed and funds encumbered, including the Housing Element Update 2022 of the City of Chico General Plan; and an annual consultant agreement for compliance monitoring and technical assistance.
Action Plan: No action is necessary; expenses will be within budget per signed agreements; continue to monitor.

PREVIOUS

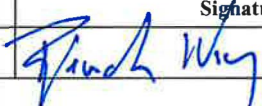
Item #1

Location: Community Development, General-Planning (001-510)
Expenditure Item: Other Expenses category, 6108-LAFCO Operations
Description: City's apportioned share of LAFCO (Butte Local Agency Formation Commission) operating expenses for FY 2021-22; and other LAFCO and annexation expenses.
Analysis: This budget line item is used for the annual LAFCO apportionment, which has already been billed and paid in full, as required by agreement. This year's annual payment is within the budgeted amount.
Action Plan: No action is necessary, continue to monitor.

Item #2

Location: Community Development, Abandoned Vehicle Abatement-Code (213-535)
Expenditure Item: Purchased Services category, 5330-Contractural
Description: Funds to provide Abandoned Vehicle Abatement contracted services.
Analysis: Ongoing increase in cost and need for towing of abandoned vehicles City-wide, including abandoned recreational vehicles.
Action Plan: Continue to monitor and request budget supplemental as needed.

APPROVALS:

	Review	Signature	Date
X	Department Director		01/12/22

City of Chico
2021-22 Annual Budget
Department Operating Summary

Data Through 12/31/2021

Prepared for Planning & Housing	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
Expenditure by Category						
4000 Salaries & Employee Benefits	225,534	1,350,824	0	3,422,105	2,071,281	61
5000 Materials & Supplies	1,256	9,481	0	57,003	47,522	83
5400 Purchased Services	11,794	147,824	125,188	1,081,936	808,924	75
8900 Other Expenses	4,749	217,656	3,100	380,878	160,122	42
8910 Non-Recurring Operating	0	20,300	0	100,000	79,700	80
Total For Department(s)	243,333	1,746,085	128,288	5,041,922	3,167,549	63 50

Expenditure Summary by Fund - Dept

Fund - Dept	Title					
001 - 510	General-Planning	23,570	356,313	3,100	679,948	320,535 47
001 - 535	General-Code Enf	26,549	143,041	0	353,634	210,593 60
	Fund 001 Sub-Totals	50,119	499,354	3,100	1,033,582	531,128 51
213 - 535	Abandoned Veh Abate-Code Enf	15,121	88,229	0	198,043	109,814 55
316 - 520	-Bldg Insp	1,197	2,301	0	46,652	44,351 95
392 - 540	Affordable Housing-Housing	19,216	111,873	53,349	352,337	187,115 53
862 - 510	Private Development-Planning	0	0	0	0	0 0
862 - 520	Private Development-Bldg Insp	0	0	0	0	0 0
863 - 510	Subdivisions-Planning	16,237	120,829	59,066	500,402	320,507 64
871 - 520	-Bldg Insp	93,811	612,659	10,851	1,876,830	1,253,320 67
872 - 510	-Planning	37,630	250,287	0	736,595	486,308 66
935 - 185	Info Technology-GIS	10,002	60,552	1,922	297,481	235,007 79
Total For Fund/Department		243,333	1,746,084	128,288	5,041,922	3,167,550 63 50

Expenditure Summary by Fund

Fund	Title					
001	General	50,119	499,353	3,100	1,033,582	531,129 51
213	Abandoned Vehicle Abatement	15,121	88,229	0	198,043	109,814 55
316	CASp Certification and Training Fund	1,197	2,301	0	46,652	44,351 95
392	Affordable Housing	19,216	111,873	53,349	352,337	187,115 53
862	Private Development	0	0	0	0	0 0
863	Subdivisions	16,237	120,829	59,066	500,402	320,507 64
871	Private Development - Building	93,811	612,659	10,851	1,876,830	1,253,320 67
872	Private Development - Planning	37,630	250,287	0	736,595	486,308 66
935	Information Technology	10,002	60,552	1,922	297,481	235,007 79
Total For Fund(s)		243,333	1,746,083	128,288	5,041,922	3,167,551 63 50

** End of Report **

Department Expense Report

Multi Fund/Dept Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

Community Development		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
Fund - Dept 001-510 GENERAL-PLANNING									
	Salaries & Employee Benefits	128,049.36	23,399.84	139,991.64	0.00	352,677.00	212,685.36	60	50
	Materials & Supplies	258.86	18.22	455.58	0.00	2,137.00	1,681.42	79	50
	Purchased Services	0.00	0.00	14,000.00	0.00	40,000.00	26,000.00	65	50
	Other Expenses	202,601.24	151.68	201,865.39	3,100.00	285,134.00	80,168.61	28	50
End Fund - Dept 001-510		330,909.46	23,569.74	356,312.61	3,100.00	679,948.00	320,535.39	47	50
Fund - Dept 001-520 GENERAL-BUILDING INSPECTION									
	Other Expenses	0.00	0.00	0.00	0.00	0.00	0.00	0	50
End Fund - Dept 001-520		0.00	0.00	0.00	0.00	0.00	0.00	0	50
Fund - Dept 001-535 CODE ENFORCEMENT									
	Salaries & Employee Benefits	149,344.08	25,081.12	137,770.05	0.00	311,608.00	173,837.95	56	50
	Materials & Supplies	1,120.86	332.14	2,215.64	0.00	4,196.00	1,980.36	47	50
	Purchased Services	0.00	0.00	0.00	0.00	27,600.00	27,600.00	100	50
	Other Expenses	2,687.32	1,136.05	3,055.13	0.00	10,230.00	7,174.87	70	50
End Fund - Dept 001-535		153,152.26	26,549.31	143,040.82	0.00	353,634.00	210,593.18	60	50
Fund - Dept 213-535 ABANDON VEHICLE ABATEMENT									
	Salaries & Employee Benefits	51,001.23	10,151.15	57,226.47	0.00	167,234.00	110,007.53	66	50
	Materials & Supplies	440.92	0.00	37.91	0.00	2,559.00	2,521.09	99	50
	Purchased Services	11,105.00	4,970.00	30,965.00	0.00	25,000.00	-5,965.00	-24	50 Over
	Other Expenses	198.00	0.00	0.00	0.00	3,250.00	3,250.00	100	50
End Fund - Dept 213-535		62,745.15	15,121.15	88,229.38	0.00	198,043.00	109,813.62	55	50
Fund - Dept 316-520 CASp Cert & Training									
	Salaries & Employee Benefits	0.00	1,197.03	2,301.26	0.00	26,152.00	23,850.74	91	50
	Materials & Supplies	0.00	0.00	0.00	0.00	500.00	500.00	100	50
	Purchased Services	0.00	0.00	0.00	0.00	15,000.00	15,000.00	100	50
	Other Expenses	0.00	0.00	0.00	0.00	5,000.00	5,000.00	100	50
End Fund - Dept 316-520		0.00	1,197.03	2,301.26	0.00	46,652.00	44,350.74	95	50
Fund - Dept 392-540 LOW-MOD HOUSING ASSET FUND									
	Salaries & Employee Benefits	95,758.28	14,795.75	89,342.02	0.00	239,006.00	149,663.98	63	50
	Materials & Supplies	945.59	49.91	789.01	0.00	3,275.00	2,485.99	76	50
	Purchased Services	11,953.66	4,129.00	19,468.40	53,348.60	98,126.00	25,309.00	26	50
	Other Expenses	2,136.74	241.11	2,273.70	0.00	11,930.00	9,656.30	81	50
End Fund - Dept 392-540		110,794.27	19,215.77	111,873.13	53,348.60	352,337.00	187,115.27	53	50
Fund - Dept 863-510 SUBDIVISION PLANNING									
	Salaries & Employee Benefits	39,695.49	11,761.81	66,098.45	0.00	156,915.00	90,816.55	58	50
	Materials & Supplies	190.37	276.42	1,610.06	0.00	6,853.00	5,242.94	77	50
	Purchased Services	85,347.49	2,695.00	48,628.68	59,066.17	318,574.00	210,879.15	66	50
	Other Expenses	1,391.11	1,504.18	4,492.19	0.00	18,060.00	13,567.81	75	50
End Fund - Dept 863-510		126,624.46	16,237.41	120,829.38	59,066.17	500,402.00	320,506.45	64	50
Fund - Dept 871-520 PRIVATE DEVELOPMENT-BLDG									

Department Expense Report

Current Year Data Through 12/31/2021

Budget Version 10: Working

Multi Fund/Dept Budget Year: 2022

Community Development		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
	Salaries & Employee Benefits	540,922.62	92,753.84	568,885.06	0.00	1,529,240.00	960,354.94	63	50
	Materials & Supplies	2,837.43	247.39	1,604.65	0.00	12,966.00	11,361.35	88	50
	Purchased Services	2,671.63	0.00	18,154.25	10,851.01	261,745.00	232,739.74	89	50
	Other Expenses	6,102.59	809.55	3,714.79	0.00	22,879.00	19,164.21	84	50
	Non-Recurring Operating	77,271.13	0.00	20,299.95	-0.00	50,000.00	29,700.05	59	50
End Fund - Dept 871-520		629,805.40	93,810.78	612,658.70	10,851.01	1,876,830.00	1,253,320.29	67	50

Fund - Dept 872-510 PRIVATE DEVELOPMENT - PLANNING

	Salaries & Employee Benefits	170,488.04	36,554.37	229,338.47	0.00	412,111.00	182,772.53	44	50
	Materials & Supplies	4,771.37	168.72	2,085.84	0.00	11,850.00	9,764.16	82	50
	Purchased Services	120.13	0.00	16,607.48	-0.03	240,314.00	223,706.55	93	50
	Other Expenses	9,251.26	906.87	2,255.12	0.00	22,320.00	20,064.88	90	50
	Non-Recurring Operating	0.00	0.00	0.00	-0.00	50,000.00	50,000.00	100	50
End Fund - Dept 872-510		184,630.80	37,629.96	250,286.91	-0.03	736,595.00	486,308.12	66	50

Fund - Dept 935-185 INFO TECH - GIS

	Salaries & Employee Benefits	43,459.98	9,839.23	59,870.42	0.00	227,162.00	167,291.58	74	50
	Materials & Supplies	145.00	162.90	681.92	0.00	12,667.00	11,985.08	95	50
	Purchased Services	30,292.50	0.00	0.00	1,922.00	55,577.00	53,655.00	97	50
	Other Expenses	29.00	0.00	0.00	0.00	2,075.00	2,075.00	100	50
End Fund - Dept 935-185		73,926.48	10,002.13	60,552.34	1,922.00	297,481.00	235,006.66	79	50

Grand Totals : Community Devlp	1,672,588.28	243,333.28	1,746,084.53	128,287.75	5,041,922.00	3,167,549.72	63	50
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End Of Report Prepared for Community Development

Current Year Data Through 12/31/2021

**** End of Report ****

Department Expense Report

Fund - Dept 001-510 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

GENERAL-PLANNING		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	77,090.99	13,923.66	84,095.63	0.00	209,813.00	125,717.37	60	
4690	Employee Benefits Other	50,958.37	9,476.18	55,896.01	0.00	142,864.00	86,967.99	61	
	Salaries & Employee Benefits	128,049.36	23,399.84	139,991.64	0.00	352,677.00	212,685.36	60	50
5000 Materials & Supplies									
5000	Office Expense	258.86	18.22	455.58	0.00	475.00	19.42	4	
5005	Postage & Mailing	0.00	0.00	0.00	0.00	950.00	950.00	100	
5010	Outside Printing Expense	0.00	0.00	0.00	0.00	712.00	712.00	100	
	Materials & Supplies	258.86	18.22	455.58	0.00	2,137.00	1,681.42	79	50
5400 Purchased Services									
5400	Professional Services	0.00	0.00	14,000.00	0.00	40,000.00	26,000.00	65	
	Purchased Services	0.00	0.00	14,000.00	0.00	40,000.00	26,000.00	65	50
8900 Other Expenses									
5140	Advertising/Marketing	0.00	0.00	0.00	0.00	3,634.00	3,634.00	100	
5385	Business Expenses	5,509.71	151.68	1,106.42	0.00	4,000.00	2,893.58	72	
5390	Training	79.00	0.00	1,920.00	0.00	7,500.00	5,580.00	74	
6108	LAFCO Operations	197,012.53	0.00	198,838.97	3,100.00	270,000.00	68,061.03	25	
	Other Expenses	202,601.24	151.68	201,865.39	3,100.00	285,134.00	80,168.61	28	50
End Fund - Dept 001-510		330,909.46	23,569.74	356,312.61	3,100.00	679,948.00	320,535.39	47	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 001-535 Budget Year: 2022

Budget Version 10: Working

CODE ENFORCEMENT		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category Description		Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	88,336.05	14,870.47	82,274.87	0.00	188,697.00	106,422.13	56	
4050	Salaries - Overtime	1,922.53	0.00	23.14	0.00	0.00	-23.14	0	Over
4690	Employee Benefits Other	59,085.50	10,210.65	55,472.04	0.00	122,911.00	67,438.96	55	
Salaries & Employee Benefits		149,344.08	25,081.12	137,770.05	0.00	311,608.00	173,837.95	56	50
5000 Materials & Supplies									
5000	Office Expense	157.61	123.00	418.53	0.00	528.00	109.47	21	
5005	Postage & Mailing	321.77	0.00	161.30	0.00	1,100.00	938.70	85	
5010	Outside Printing Expense	144.79	32.18	121.09	0.00	600.00	478.91	80	
5050	Books/Periodicals/Software	0.00	0.00	0.00	0.00	300.00	300.00	100	
5105	Small Tools and Equipment	444.14	176.96	1,224.08	0.00	920.00	-304.08	-33	Over
5110	Safety Equipment	52.55	0.00	290.64	0.00	748.00	457.36	61	
Materials & Supplies		1,120.86	332.14	2,215.64	0.00	4,196.00	1,980.36	47	50
5400 Purchased Services									
5330	Contractual	0.00	0.00	0.00	0.00	27,600.00	27,600.00	100	
Purchased Services		0.00	0.00	0.00	0.00	27,600.00	27,600.00	100	50
8900 Other Expenses									
5370	Memberships/Dues	285.00	190.00	390.00	0.00	270.00	-120.00	-44	Over
5385	Business Expenses	10.19	228.06	399.15	0.00	4,500.00	4,100.85	91	
5390	Training	442.00	218.03	798.35	0.00	3,750.00	2,951.65	79	
5480	Communications	1,950.13	499.96	1,467.63	0.00	1,710.00	242.37	14	
Other Expenses		2,687.32	1,136.05	3,055.13	0.00	10,230.00	7,174.87	70	50
End Fund - Dept 001-535		153,152.26	26,549.31	143,040.82	0.00	353,634.00	210,593.18	60	50

Department Expense Report

Fund - Dept 213-535 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

ABANDON VEHICLE ABATEMENT		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	30,785.24	6,195.41	33,954.61	0.00	100,110.00	66,155.39	66	
4050	Salaries - Overtime	0.00	0.00	17.36	0.00	0.00	-17.36	0	Over
4690	Employee Benefits Other	20,215.99	3,955.74	23,254.50	0.00	67,124.00	43,869.50	65	
	Salaries & Employee Benefits	51,001.23	10,151.15	57,226.47	0.00	167,234.00	110,007.53	66	50
5000 Materials & Supplies									
5000	Office Expense	430.92	0.00	0.00	0.00	522.00	522.00	100	
5050	Books/Periodicals/Software	0.00	0.00	0.00	0.00	237.00	237.00	100	
5105	Small Tools and Equipment	10.00	0.00	37.91	0.00	900.00	862.09	96	
5110	Safety Equipment	0.00	0.00	0.00	0.00	900.00	900.00	100	
	Materials & Supplies	440.92	0.00	37.91	0.00	2,559.00	2,521.09	99	50
5400 Purchased Services									
5330	Contractual	11,105.00	4,970.00	30,965.00	0.00	25,000.00	-5,965.00	-24	Over
	Purchased Services	11,105.00	4,970.00	30,965.00	0.00	25,000.00	-5,965.00	-24	50 Over
8900 Other Expenses									
5390	Training	198.00	0.00	0.00	0.00	1,250.00	1,250.00	100	
5480	Communications	0.00	0.00	0.00	0.00	2,000.00	2,000.00	100	
	Other Expenses	198.00	0.00	0.00	0.00	3,250.00	3,250.00	100	50
End Fund - Dept 213-535		62,745.15	15,121.15	88,229.38	0.00	198,043.00	109,813.62	55	50

Department Expense Report

Fund - Dept 316-520 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

CASp Cert & Training		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent		
Category	Description	Actuals	Month	Actuals	brances			Remaining		
		Thru 12/2020	Actuals	Actuals				Budg / Time		
4000 Salaries & Employee Benefits										
4000	Salaries - Permanent	0.00	949.31	1,638.68	0.00	15,761.00	14,122.32	90		
4690	Employee Benefits Other	0.00	247.72	662.58	0.00	10,391.00	9,728.42	94		
Salaries & Employee Benefits		0.00	1,197.03	2,301.26	0.00	26,152.00	23,850.74	91	50	
5000 Materials & Supplies										
5000	Office Expense	0.00	0.00	0.00	0.00	500.00	500.00	100		
Materials & Supplies		0.00	0.00	0.00	0.00	500.00	500.00	100	50	
5400 Purchased Services										
5400	Professional Services	0.00	0.00	0.00	0.00	15,000.00	15,000.00	100		
Purchased Services		0.00	0.00	0.00	0.00	15,000.00	15,000.00	100	50	
8900 Other Expenses										
5370	Memberships/Dues	0.00	0.00	0.00	0.00	1,000.00	1,000.00	100		
5385	Business Expenses	0.00	0.00	0.00	0.00	500.00	500.00	100		
5390	Training	0.00	0.00	0.00	0.00	3,500.00	3,500.00	100		
Other Expenses		0.00	0.00	0.00	0.00	5,000.00	5,000.00	100	50	
End Fund - Dept 316-520		0.00	1,197.03	2,301.26	0.00	46,652.00	44,350.74	95	50	

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 392-540 Budget Year: 2022

Budget Version 10: Working

LOW-MOD HOUSING ASSET FUND		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	60,129.78	9,090.82	54,897.39	0.00	146,728.00	91,830.61	63	
4020	Salaries - Hourly Pay	0.00	0.00	18.50	0.00	0.00	-18.50	0	Over
4690	Employee Benefits Other	35,628.50	5,704.93	34,426.13	0.00	92,278.00	57,851.87	63	
Salaries & Employee Benefits		95,758.28	14,795.75	89,342.02	0.00	239,006.00	149,663.98	63	50
5000 Materials & Supplies									
5000	Office Expense	191.59	0.00	676.19	0.00	1,200.00	523.81	44	
5005	Postage & Mailing	169.31	49.91	88.54	0.00	600.00	511.46	85	
5010	Outside Printing Expense	584.69	0.00	24.28	0.00	1,000.00	975.72	98	
5050	Books/Periodicals/Software	0.00	0.00	0.00	0.00	475.00	475.00	100	
Materials & Supplies		945.59	49.91	789.01	0.00	3,275.00	2,485.99	76	50
5400 Purchased Services									
5400	Professional Services	11,800.00	4,129.00	19,468.40	53,348.60	97,959.00	25,142.00	26	
5401	Audit Services	153.66	0.00	0.00	0.00	167.00	167.00	100	
Purchased Services		11,953.66	4,129.00	19,468.40	53,348.60	98,126.00	25,309.00	26	50
8900 Other Expenses									
5160	Licenses/Permits/Fees	0.00	0.00	101.00	0.00	0.00	-101.00	0	Over
5370	Memberships/Dues	940.00	0.00	940.00	0.00	700.00	-240.00	-34	Over
5385	Business Expenses	0.00	173.06	418.96	0.00	5,000.00	4,581.04	92	
5390	Training	241.40	0.00	0.00	0.00	5,375.00	5,375.00	100	
5480	Communications	955.34	68.05	813.74	0.00	855.00	41.26	5	
Other Expenses		2,136.74	241.11	2,273.70	0.00	11,930.00	9,656.30	81	50
End Fund - Dept 392-540		110,794.27	19,215.77	111,873.13	53,348.60	352,337.00	187,115.27	53	50

Department Expense Report

Fund - Dept 863-510 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

SUBDIVISION PLANNING		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	23,895.37	7,076.74	39,501.70	0.00	93,605.00	54,103.30	58	
4690	Employee Benefits Other	15,800.12	4,685.07	26,596.75	0.00	63,310.00	36,713.25	58	
	Salaries & Employee Benefits	39,695.49	11,761.81	66,098.45	0.00	156,915.00	90,816.55	58	50
5000 Materials & Supplies									
5000	Office Expense	71.37	276.42	449.99	0.00	1,153.00	703.01	61	
5005	Postage & Mailing	0.00	0.00	1,160.07	0.00	4,800.00	3,639.93	76	
5050	Books/Periodicals/Software	119.00	0.00	0.00	0.00	900.00	900.00	100	
	Materials & Supplies	190.37	276.42	1,610.06	0.00	6,853.00	5,242.94	77	50
5400 Purchased Services									
5400	Professional Services	85,347.49	2,695.00	48,628.68	59,066.17	318,574.00	210,879.15	66	
	Purchased Services	85,347.49	2,695.00	48,628.68	59,066.17	318,574.00	210,879.15	66	50
8900 Other Expenses									
5140	Advertising/Marketing	0.00	1,453.73	3,668.85	0.00	7,600.00	3,931.15	52	
5370	Memberships/Dues	790.00	0.00	354.00	0.00	1,200.00	846.00	70	
5390	Training	50.00	0.00	0.00	0.00	7,500.00	7,500.00	100	
5480	Communications	551.11	50.45	469.34	0.00	1,580.00	1,110.66	70	
6056	Meeting Expenses	0.00	0.00	0.00	0.00	180.00	180.00	100	
	Other Expenses	1,391.11	1,504.18	4,492.19	0.00	18,060.00	13,567.81	75	50
End Fund - Dept 863-510		126,624.46	16,237.41	120,829.38	59,066.17	500,402.00	320,506.45	64	50

Department Expense Report

Fund - Dept 871-520 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

PRIVATE DEVELOPMENT-BLDG		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	362,802.48	58,482.85	335,088.98	0.00	784,861.00	449,772.02	57	
4020	Salaries - Hourly Pay	37,231.05	0.00	16,598.32	0.00	138,736.00	122,137.68	88	
4050	Salaries - Overtime	2,367.90	1,182.04	4,434.24	0.00	12,500.00	8,065.76	65	
4056	Salaries - CTO Payout	0.00	0.00	1,226.10	0.00	0.00	-1,226.10	0	Over
4690	Employee Benefits Other	138,521.19	33,088.95	211,537.42	0.00	593,143.00	381,605.58	64	
Salaries & Employee Benefits		540,922.62	92,753.84	568,885.06	0.00	1,529,240.00	960,354.94	63	50
5000 Materials & Supplies									
5000	Office Expense	848.36	106.32	342.59	0.00	2,990.00	2,647.41	89	
5005	Postage & Mailing	270.48	49.91	695.31	0.00	1,283.00	587.69	46	
5010	Outside Printing Expense	26.81	91.16	91.16	0.00	1,454.00	1,362.84	94	
5050	Books/Periodicals/Software	393.85	0.00	0.00	0.00	5,700.00	5,700.00	100	
5105	Small Tools and Equipment	606.28	0.00	399.46	0.00	342.00	-57.46	-17	Over
5110	Safety Equipment	573.73	0.00	76.13	0.00	342.00	265.87	78	
5505	Equipment Maintenance/Repair	117.92	0.00	0.00	0.00	855.00	855.00	100	
Materials & Supplies		2,837.43	247.39	1,604.65	0.00	12,966.00	11,361.35	88	50
5400 Purchased Services									
5400	Professional Services	2,551.50	0.00	18,154.25	10,851.01	260,851.00	231,845.74	89	
5401	Audit Services	120.13	0.00	0.00	0.00	894.00	894.00	100	
Purchased Services		2,671.63	0.00	18,154.25	10,851.01	261,745.00	232,739.74	89	50
8900 Other Expenses									
5370	Memberships/Dues	930.00	0.00	435.00	0.00	2,000.00	1,565.00	78	
5385	Business Expenses	353.06	0.00	0.00	0.00	342.00	342.00	100	
5390	Training	1,890.00	0.00	372.00	0.00	12,500.00	12,128.00	97	
5480	Communications	2,929.53	809.55	2,907.79	0.00	8,037.00	5,129.21	64	
Other Expenses		6,102.59	809.55	3,714.79	0.00	22,879.00	19,164.21	84	50
8910 Non-Recurring Operating									
7500	Non-Recurring Operating	77,271.13	0.00	20,299.95	-0.00	50,000.00	29,700.05	59	
Non-Recurring Operating		77,271.13	0.00	20,299.95	-0.00	50,000.00	29,700.05	59	50
End Fund - Dept 871-520		629,805.40	93,810.78	612,658.70	10,851.01	1,876,830.00	1,253,320.29	67	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 872-510 Budget Year: 2022

Budget Version 10: Working

PRIVATE DEVELOPMENT - PLANNING		Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
4000 Salaries & Employee Benefits								
4000	Salaries - Permanent	120,051.33	22,177.34	139,365.57	0.00	243,163.00	103,797.43	43
4050	Salaries - Overtime	258.98	0.00	0.00	0.00	3,987.00	3,987.00	100
4690	Employee Benefits Other	50,177.73	14,377.03	89,972.90	0.00	164,961.00	74,988.10	45
Salaries & Employee Benefits		170,488.04	36,554.37	229,338.47	0.00	412,111.00	182,772.53	44 50
5000 Materials & Supplies								
5000	Office Expense	484.69	118.81	491.22	0.00	1,200.00	708.78	59
5005	Postage & Mailing	4,107.09	49.91	1,546.05	0.00	9,700.00	8,153.95	84
5010	Outside Printing Expense	60.59	0.00	48.57	0.00	200.00	151.43	76
5050	Books/Periodicals/Software	119.00	0.00	0.00	0.00	750.00	750.00	100
Materials & Supplies		4,771.37	168.72	2,085.84	0.00	11,850.00	9,764.16	82 50
5400 Purchased Services								
5400	Professional Services	0.00	0.00	16,607.48	-0.03	240,000.00	223,392.55	93
5401	Audit Services	120.13	0.00	0.00	0.00	314.00	314.00	100
Purchased Services		120.13	0.00	16,607.48	-0.03	240,314.00	223,706.55	93 50
8900 Other Expenses								
5140	Advertising/Marketing	7,710.58	856.41	1,400.62	0.00	12,625.00	11,224.38	89
5370	Memberships/Dues	790.00	0.00	354.00	0.00	1,286.00	932.00	72
5385	Business Expenses	44.50	0.00	0.00	0.00	0.00	0.00	0
5390	Training	50.00	0.00	0.00	0.00	6,869.00	6,869.00	100
5480	Communications	551.17	50.46	469.40	0.00	1,300.00	830.60	64
6056	Meeting Expenses	105.01	0.00	31.10	0.00	240.00	208.90	87
Other Expenses		9,251.26	906.87	2,255.12	0.00	22,320.00	20,064.88	90 50
8910 Non-Recurring Operating								
7500	Non-Recurring Operating	0.00	0.00	0.00	-0.00	50,000.00	50,000.00	100
Non-Recurring Operating		0.00	0.00	0.00	-0.00	50,000.00	50,000.00	100 50
End Fund - Dept 872-510		184,630.80	37,629.96	250,286.91	-0.03	736,595.00	486,308.12	66 50

Department Expense Report

Fund - Dept 935-185 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

INFO TECH - GIS		Prior Year's Actuals	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining	
Category	Description	Thru 12/2020						Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	34,498.79	5,580.81	34,228.13	0.00	131,098.00	96,869.87	74	
4690	Employee Benefits Other	8,961.19	4,258.42	25,642.29	0.00	96,064.00	70,421.71	73	
Salaries & Employee Benefits		43,459.98	9,839.23	59,870.42	0.00	227,162.00	167,291.58	74	50
5000 Materials & Supplies									
5000	Office Expense	0.00	162.90	623.92	0.00	417.00	-206.92	-50	Over
5050	Books/Periodicals/Software	145.00	0.00	58.00	0.00	3,000.00	2,942.00	98	
5505	Equipment Maintenance/Repair	0.00	0.00	0.00	0.00	750.00	750.00	100	
7165	Maint Agmt - GIS Website	0.00	0.00	0.00	0.00	8,500.00	8,500.00	100	
Materials & Supplies		145.00	162.90	681.92	0.00	12,667.00	11,985.08	95	50
5400 Purchased Services									
5400	Professional Services	30,292.50	0.00	0.00	1,922.00	55,577.00	53,655.00	97	
Purchased Services		30,292.50	0.00	0.00	1,922.00	55,577.00	53,655.00	97	50
8900 Other Expenses									
5160	Licenses/Permits/Fees	29.00	0.00	0.00	0.00	200.00	200.00	100	
5390	Training	0.00	0.00	0.00	0.00	1,875.00	1,875.00	100	
Other Expenses		29.00	0.00	0.00	0.00	2,075.00	2,075.00	100	50
End Fund - Dept 935-185		73,926.48	10,002.13	60,552.34	1,922.00	297,481.00	235,006.66	79	50

Department Expense Report

Fund - Dept 935-185 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

INFO TECH - GIS

Category Description

Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
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Grand Totals : Community Devlp	1,672,588.28	243,333.28	1,746,084.53	128,287.75	5,041,922.00	3,167,549.72	63	50
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End Of Report Prepared for Community Development

Current Year Data Through 12/31/2021

**** End of Report ****

Monthly Budget Monitoring Report

Administrative Services Department

Fiscal Year 2021-22 Monthly Report for the period ending: December 2021

Department Contact: Steve Standridge, Fire Chief

Purpose: The purpose of the review is to identify any expenditure trends which would hinder a department's ability to meet their approved budget targets or to highlight any trends of interest for the governing body. Budget overages are monitored and controlled at the category level, not object (account) level. Therefore, the analysis considers the category level.

Overall Summary: The areas requiring explanation are listed below.

Items of Interest:

NEW

Item #1

Location: **Fund/Dept 874-400 – Private Development - Fire**

Expenditure Item: **Category – Salaries and Benefits**

Description: This category is trending high due to high volume of activity. This Fund-dept is fee based so there are revenues to offset overages. If necessary, a supplemental will be brought to City Council to increase the expense budget.

Item #2

Location: **Fund/Dept 874-400 – Private Development - Fire**

Expenditure Item: **Category – Contractual**

Description: This category is trending high due to high volume of activity. This Fund-dept is fee based so there are revenues to offset overages. A supplemental will be brought to City Council to increase the expense budget.

PREVIOUS


Item #1

Location: **Fund/Dept 001-410 – Fire Reimbursable Response**

Expenditure Item: **Category – Salaries and Benefits**

Description: 001-410 tracks the reimbursable responses for OES incidents. Due to the manner in which this is presented, it shows as over-budget but in reality, it is not. Chico Fire-Rescue personnel assist Cal Fire and the U.S. Forest Service through the California Fire Assistance Agreement. These costs are proportional to incidents and are fully reimbursable. As such, costs will not be over reimbursements. When reimbursement is received, the budget will be adjusted to reflect actuals.

APPROVALS:

Review	Signature	Date
Department Director Steve Standridge, Fire Chief		1/20/22

City of Chico
2021-22 Annual Budget
Department Operating Summary

Data Through 12/31/2021

		Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time	
Prepared for Fire								
<u>Expenditure by Category</u>								
4000	Salaries & Employee Benefits	952,689	6,404,879	0	12,251,360	5,846,481	48	
5000	Materials & Supplies	8,505	42,958	0	182,620	139,662	76	
5400	Purchased Services	8,538	-30,084	0	69,035	99,119	144	
8900	Other Expenses	3,280	46,755	0	201,761	155,006	77	
8910	Non-Recurring Operating	0	7,695	0	57,650	49,955	87	
Total For Department(s)		973,012	6,472,203	0	12,762,426	6,290,223	49	50

Expenditure Summary by Fund - Dept

Fund - Dept	Title							
001 - 400	General-Fire	954,877	5,766,777	0	12,524,685	6,757,908	54	
001 - 410	General-Fire Reimbursable	0	595,959	0	60,960	-534,999	-878	Over
Fund 001 Sub-Totals		954,877	6,362,736	0	12,585,645	6,222,909	49	
874 - 400	-Fire	18,136	109,468	0	176,781	67,313	38	
Total For Fund/Department		973,013	6,472,204	0	12,762,426	6,290,222	49	50

Expenditure Summary by Fund

Fund	Title							
001	General	954,877	6,362,736	0	12,585,645	6,222,909	49	
874	Private Development - Fire	18,136	109,468	0	176,781	67,313	38	
Total For Fund(s)		973,013	6,472,204	0	12,762,426	6,290,222	49	50

** End of Report **

Department Expense Report

Multi Fund/Dept Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

Fire Category Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining Budg / Time		
Fund - Dept 001-400 GENERAL-FIRE									
Salaries & Employee Benefits	5,905,962.14	942,028.17	5,737,354.63	0.00	12,060,040.00	6,322,685.37	52	50	
Materials & Supplies	120,245.92	8,505.40	42,900.18	0.00	179,020.00	136,119.82	76	50	
Purchased Services	21,888.05	1,063.37	-65,101.08	0.00	36,938.00	102,039.08	276	50	
Debt Service	0.00	0.00	0.00	0.00	0.00	0.00	0	50	
Other Expenses	59,541.96	3,279.63	43,927.93	0.00	191,037.00	147,109.07	77	50	
Non-Recurring Operating	0.00	0.00	7,695.19	0.00	57,650.00	49,954.81	87	50	
End Fund - Dept 001-400	6,107,638.07	954,876.57	5,766,776.85	0.00	12,524,685.00	6,757,908.15	54	50	
Fund - Dept 001-410 FIRE REIMBURSABLE RESPONSE									
Salaries & Employee Benefits	564,728.27	0.00	593,590.26	0.00	57,036.00	-536,554.26	-941	50	Over
Other Expenses	3,515.12	0.00	2,368.74	0.00	3,924.00	1,555.26	40	50	
End Fund - Dept 001-410	568,243.39	0.00	595,959.00	0.00	60,960.00	-534,999.00	-878	50	OVER
Fund - Dept 874-400 Private Development - Fire									
Salaries & Employee Benefits	71,714.01	10,660.80	73,934.47	0.00	134,284.00	60,349.53	45	50	
Materials & Supplies	0.00	0.00	57.89	0.00	3,600.00	3,542.11	98	50	
Purchased Services	11,780.00	7,475.00	35,017.50	0.00	32,097.00	-2,920.50	-9	50	Over
Other Expenses	0.00	0.00	458.00	0.00	6,800.00	6,342.00	93	50	
End Fund - Dept 874-400	83,494.01	18,135.80	109,467.86	0.00	176,781.00	67,313.14	38	50	
Grand Totals : Fire	6,759,375.47	973,012.37	6,472,203.71	0.00	12,762,426.00	6,290,222.29	49	50	

End Of Report Prepared for Fire

Current Year Data Through 12/31/2021

**** End of Report ****

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 001-400 Budget Year: 2022

Budget Version 10: Working

GENERAL-FIRE		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	2,322,231.02	382,167.87	2,370,527.92	0.00	5,511,052.00	3,140,524.08	57	
4010	Salaries-Temporary Disability	202,826.31	5,217.40	16,933.98	0.00	0.00	-16,933.98	0	Over
4015	Salaries - Holiday Pay	203,049.44	30,200.56	189,879.85	0.00	433,067.00	243,187.15	56	
4020	Salaries - Hourly Pay	19,830.58	4,440.00	24,872.49	0.00	117,580.00	92,707.51	79	
4050	Salaries - Overtime	735,024.07	132,331.30	684,841.86	0.00	563,524.00	-121,317.86	-22	Over
4053	OT - Special Event/Emergency	1,698.35	311.22	605.02	0.00	0.00	-605.02	0	Over
4055	Salaries - Overtime - FLSA	92,746.73	10,258.03	83,060.66	0.00	160,000.00	76,939.34	48	
4056	Salaries - CTO Payout	0.00	0.00	561.60	0.00	0.00	-561.60	0	Over
4080	Salaries - Light Duty	40,837.46	2,543.55	29,392.31	0.00	0.00	-29,392.31	0	Over
4585	Empl. Benefit-Fitness Reimb	1,036.00	117.00	2,369.50	0.00	12,000.00	9,630.50	80	
4590	Employee Benefit-Wellness Phys	125.00	0.00	0.00	0.00	29,000.00	29,000.00	100	
4690	Employee Benefits Other	2,285,857.18	374,441.24	2,334,309.44	0.00	5,227,817.00	2,893,507.56	55	
4695	Vol Fire Length of Serv Award	700.00	0.00	0.00	0.00	6,000.00	6,000.00	100	
Salaries & Employee Benefits		5,905,962.14	942,028.17	5,737,354.63	0.00	12,060,040.00	6,322,685.37	52	50
5000 Materials & Supplies									
5000	Office Expense	1,742.57	26.01	1,335.54	0.00	7,315.00	5,979.46	82	
5005	Postage & Mailing	907.86	66.01	514.54	0.00	1,500.00	985.46	66	
5010	Outside Printing Expense	16.16	0.00	101.59	0.00	500.00	398.41	80	
5050	Books/Periodicals/Software	1,962.74	5,840.00	14,036.87	0.00	36,840.00	22,803.13	62	
5070	Special Department Expenses	116.74	0.00	2,022.03	0.00	500.00	-1,522.03	-304	Over
5100	Materials and Supplies	10,341.65	360.32	5,713.71	0.00	37,379.00	31,665.29	85	
5105	Small Tools and Equipment	187.59	203.78	203.78	0.00	10,000.00	9,796.22	98	
5110	Safety Equipment	96,843.95	1,992.78	16,753.77	0.00	65,736.00	48,982.23	75	
5120	Clothing/Uniforms	0.00	0.00	167.04	0.00	0.00	-167.04	0	Over
5505	Equipment Maintenance/Repair	7,318.23	16.50	1,602.73	0.00	14,250.00	12,647.27	89	
5515	Building Maintenance/Repair	808.43	0.00	448.58	0.00	5,000.00	4,551.42	91	
Materials & Supplies		120,245.92	8,505.40	42,900.18	0.00	179,020.00	136,119.82	76	50
5400 Purchased Services									
5330	Contractual	16,500.00	0.00	-70,384.00	0.00	14,563.00	84,947.00	583	
5400	Professional Services	0.00	0.00	0.00	0.00	2,375.00	2,375.00	100	
5420	Laundry Services	5,388.05	1,063.37	5,282.92	0.00	20,000.00	14,717.08	74	
Purchased Services		21,888.05	1,063.37	-65,101.08	0.00	36,938.00	102,039.08	276	50
8000 Debt Service									
Debt Service		0.00	0.00	0.00	0.00	0.00	0.00	0	50
8900 Other Expenses									
5370	Memberships/Dues	915.00	0.00	2,085.10	0.00	2,020.00	-65.10	-3	Over
5385	Business Expenses	3,785.29	0.00	776.87	0.00	5,000.00	4,223.13	84	
5386	Conference Expenses	0.00	69.00	4,121.53	0.00	12,000.00	7,878.47	66	
5390	Training	33,993.78	286.00	17,601.27	0.00	112,656.00	95,054.73	84	
5480	Communications	20,847.89	2,924.63	19,343.16	0.00	59,361.00	40,017.84	67	
Other Expenses		59,541.96	3,279.63	43,927.93	0.00	191,037.00	147,109.07	77	50
8910 Non-Recurring Operating									
7500	Non-Recurring Operating	0.00	0.00	7,695.19	0.00	57,650.00	49,954.81	87	
Non-Recurring Operating		0.00	0.00	7,695.19	0.00	57,650.00	49,954.81	87	50
End Fund - Dept 001-400		6,107,638.07	954,876.57	5,766,776.85	0.00	12,524,685.00	6,757,908.15	54	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 001-410 Budget Year: 2022

Budget Version 10: Working

FIRE REIMBURSABLE RESPONSE		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4050	Salaries - Overtime	3,624.37	0.00	4,896.79	0.00	0.00	-4,896.79	0	Over
4051	Salaries - OT Reimbursable	511,803.85	0.00	535,436.42	0.00	24,000.00	-511,436.42	-2131	Over
4070	Salaries- OES	0.00	0.00	0.00	0.00	28,300.00	28,300.00	100	
4690	Employee Benefits Other	49,300.05	0.00	53,257.05	0.00	4,736.00	-48,521.05	-1025	Over
Salaries & Employee Benefits		564,728.27	0.00	593,590.26	0.00	57,036.00	-536,554.26	-941	50 Over
8900 Other Expenses									
5385	Business Expenses	3,515.12	0.00	2,368.74	0.00	3,924.00	1,555.26	40	
Other Expenses		3,515.12	0.00	2,368.74	0.00	3,924.00	1,555.26	40	50
End Fund - Dept 001-410		568,243.39	0.00	595,959.00	0.00	60,960.00	-534,999.00	-878	50 OVER

Department Expense Report

Fund - Dept 874-400 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

Private Development - Fire		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	30,612.99	5,534.47	36,408.28	0.00	72,711.00	36,302.72	50	
4020	Salaries - Hourly Pay	14,170.89	0.00	2,635.13	0.00	0.00	-2,635.13	0	Over
4050	Salaries - Overtime	125.50	250.98	941.16	0.00	0.00	-941.16	0	Over
4585	Empl. Benefit-Fitness Reimb	0.00	0.00	49.50	0.00	0.00	-49.50	0	Over
4690	Employee Benefits Other	26,804.63	4,875.35	33,900.40	0.00	61,573.00	27,672.60	45	
Salaries & Employee Benefits		71,714.01	10,660.80	73,934.47	0.00	134,284.00	60,349.53	45	50
5000 Materials & Supplies									
5000	Office Expense	0.00	0.00	0.00	0.00	500.00	500.00	100	
5005	Postage & Mailing	0.00	0.00	0.00	0.00	300.00	300.00	100	
5010	Outside Printing Expense	0.00	0.00	0.00	0.00	100.00	100.00	100	
5050	Books/Periodicals/Software	0.00	0.00	0.00	0.00	1,000.00	1,000.00	100	
5070	Special Department Expenses	0.00	0.00	0.00	0.00	100.00	100.00	100	
5105	Small Tools and Equipment	0.00	0.00	0.00	0.00	500.00	500.00	100	
5110	Safety Equipment	0.00	0.00	32.15	0.00	500.00	467.85	94	
5120	Clothing/Uniforms	0.00	0.00	25.74	0.00	600.00	574.26	96	
Materials & Supplies		0.00	0.00	57.89	0.00	3,600.00	3,542.11	98	50
5400 Purchased Services									
5330	Contractual	11,780.00	7,475.00	35,017.50	0.00	32,000.00	-3,017.50	-9	Over
5401	Audit Services	0.00	0.00	0.00	0.00	97.00	97.00	100	
Purchased Services		11,780.00	7,475.00	35,017.50	0.00	32,097.00	-2,920.50	-9	50 Over
8900 Other Expenses									
5370	Memberships/Dues	0.00	0.00	0.00	0.00	600.00	600.00	100	
5385	Business Expenses	0.00	0.00	0.00	0.00	200.00	200.00	100	
5386	Conference Expenses	0.00	0.00	0.00	0.00	2,500.00	2,500.00	100	
5390	Training	0.00	0.00	458.00	0.00	3,500.00	3,042.00	87	
Other Expenses		0.00	0.00	458.00	0.00	6,800.00	6,342.00	93	50
End Fund - Dept 874-400		83,494.01	18,135.80	109,467.86	0.00	176,781.00	67,313.14	38	50

Department Expense Report

Fund - Dept 874-400 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

Private Development - Fire

Category Description

Prior Year's
Actuals
Thru 12/2020

Current
Month
Actuals

Year To Date
Actuals

Encum-
brances

Budget

Balance

Percent
Remaining
Budg / Time

Grand Totals : Fire

6,759,375.47	973,012.37	6,472,203.71	0.00	12,762,426.00	6,290,222.29	49	50
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End Of Report Prepared for Fire

Current Year Data Through 12/31/2021

**** End of Report ****

Monthly Budget Monitoring Report

Human Resources & Risk Management Department

Fiscal Year 2021-22 Monthly Report for the period ending December 31, 2021.

Department Contacts: Director of Human Resources & Risk Management (879-7901)

Purpose: The purpose of the review is to identify any expenditure trends which would hinder a department's ability to meet their approved budget targets or to highlight any trends of interest for the governing body. Budget overages are monitored and controlled at the category level, not object (account) level. Therefore, the analysis considers the category level.

Overall Summary: The Human Resources & Risk Management Department do not believe current expenditure trends will exceed budget appropriations.

Items of Interest:

NEW

Item #1

Location: **Fund/Dept 901-130 – Workers' Compensation Insurance Reserve**

Expenditure Item: **Category 8900 – Other Expenses**

Description & Analysis: Our State Workers' Comp Surcharges came in higher than expected. We do not anticipate any overages at the category level this year.

Action Plan: No action necessary.

PREVIOUS

Item #1

Location: **Fund/Dept 900-140 – General Liability Insurance Reserve**

Expenditure Item: **Category 5000 – Materials and Supplies**

Description & Analysis: Postage expenses occurred within first quarter. We do not anticipate any overages this year.

Action Plan: No action necessary.

Item #2

Location: **Fund/Dept 900-140 – General Liability Insurance Reserve**

Expenditure Item: **Category 8900 – Other Expenses**

Description & Analysis: Annual premiums are paid at the start of the fiscal year. We do not anticipate any overages this year.

Action Plan: No action necessary.

//

Item #3

Location: **Fund/Dept 001-130 – General Human Resources**

Expenditure Item: **Category 5000 – Materials and Supplies**

Description & Analysis: Office expense along with our Employee recognition pins had early fiscal year purchases, thus resulting in the initial overage. We do not anticipate any overages this year.

Action Plan: No action necessary.

Item #4

Location: **Fund/Dept 001-130 – General Human Resources**

Expenditure Item: **Category 8900 – Other Expenses**

Description & Analysis: Recruitment costs, due to the PW Director vacancy, have exceeded the fiscal year budgeted amount. The charges specific to the Executive Recruitment will be recoded to Professional Services, thus eliminating any overage.

Action Plan: No action necessary.

APPROVALS:

Review	Signature	Date
Department Director Jamie Cannon/HR Dir	<i>Jamie Cannon</i> <small>Jamie Cannon (Jan 13, 2022 15:03 PST)</small>	Jan 13, 2022

City of Chico
2021-22 Annual Budget
Department Operating Summary

Data Through 12/31/2021

		Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time	
Prepared for Human Resources								
<u>Expenditure by Category</u>								
4000	Salaries & Employee Benefits	41,638	257,183	0	853,391	596,208	70	
5000	Materials & Supplies	222	5,482	0	8,770	3,288	37	
5400	Purchased Services	74,021	883,340	0	1,432,680	549,340	38	
8900	Other Expenses	75,099	1,236,843	49,018	1,908,494	622,633	33	
8910	Non-Recurring Operating	13,720	57,040	22,280	76,160	-3,160	-4	Over
Total For Department(s)		204,700	2,439,888	71,298	4,279,495	1,768,309	41	50
<u>Expenditure Summary by Fund - Dept</u>								
Fund - Dept	Title							
001 - 130	General-Human Resources	65,260	385,030	22,280	878,265	470,955	54	
	Fund 001 Sub-Totals	65,260	385,030	22,280	878,265	470,955	54	
900 - 140	Gen Liab Ins Rsrv-Risk Mgmt	2,807	1,015,622	49,018	1,598,288	533,648	33	
901 - 130	Work Comp Ins-Human Resources	136,633	1,036,670	0	1,752,942	716,272	41	
902 - 130	Unemployment Insurance Reserve-	0	2,565	0	50,000	47,435	95	
Total For Fund/Department		204,700	2,439,887	71,298	4,279,495	1,768,310	41	50
<u>Expenditure Summary by Fund</u>								
Fund	Title							
001	General	65,260	385,030	22,280	878,265	470,955	54	
900	General Liability Insurance Reserve	2,807	1,015,622	49,018	1,598,288	533,648	33	
901	Work Compensation Insurance Reserve	136,633	1,036,670	0	1,752,942	716,272	41	
902	Unemployment Insurance Reserve	0	2,565	0	50,000	47,435	95	
Total For Fund(s)		204,700	2,439,887	71,298	4,279,495	1,768,310	41	50

** End of Report **

Department Expense Report

Multi Fund/Dept Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

Human Resources Category Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time		
Fund - Dept 001-130 GENERAL-HUMAN RESOURCES									
Salaries & Employee Benefits	240,949.03	41,637.90	257,182.61	0.00	554,870.00	297,687.39	54	50	
Materials & Supplies	7,635.89	171.81	5,158.31	0.00	8,220.00	3,061.69	37	50	
Purchased Services	69,426.04	9,243.49	59,875.00	0.00	210,180.00	150,305.00	72	50	
Other Expenses	3,866.54	487.02	5,773.96	0.00	28,835.00	23,061.04	80	50	
Non-Recurring Operating	0.00	13,720.00	57,040.00	22,280.00	76,160.00	-3,160.00	-4	50	Over
End Fund - Dept 001-130	321,877.50	65,260.22	385,029.88	22,280.00	878,265.00	470,955.12	54	50	
Fund - Dept 900-140 GEN LIAB INS RSV-RISK MGMT									
Materials & Supplies	67.12	49.91	323.63	0.00	400.00	76.37	19	50	
Purchased Services	45,659.00	0.00	45,659.00	0.00	52,500.00	6,841.00	13	50	
Other Expenses	743,878.43	2,756.80	969,639.35	49,018.43	1,545,388.00	526,730.22	34	50	
End Fund - Dept 900-140	789,604.55	2,806.71	1,015,621.98	49,018.43	1,598,288.00	533,647.59	33	50	
Fund - Dept 901-130 WORK COMP INS RSRV-HUMAN RES									
Salaries & Employee Benefits	0.00	0.00	0.00	0.00	298,521.00	298,521.00	100	50	
Materials & Supplies	0.00	0.00	0.00	0.00	150.00	150.00	100	50	
Purchased Services	392,096.79	64,777.67	775,240.80	0.00	1,120,000.00	344,759.20	31	50	
Other Expenses	206,416.66	71,855.19	261,429.59	0.00	334,271.00	72,841.41	22	50	
End Fund - Dept 901-130	598,513.45	136,632.86	1,036,670.39	0.00	1,752,942.00	716,271.61	41	50	
Fund - Dept 902-130 UNEMPNT INS RSV-HUMAN RESOURC									
Purchased Services	39,570.60	0.00	2,565.00	0.00	50,000.00	47,435.00	95	50	
End Fund - Dept 902-130	39,570.60	0.00	2,565.00	0.00	50,000.00	47,435.00	95	50	
Grand Totals : Human Resources	1,749,566.10	204,699.79	2,439,887.25	71,298.43	4,279,495.00	1,768,309.32	41	50	

End Of Report Prepared for Human Resources

Current Year Data Through 12/31/2021

**** End of Report ****

Department Expense Report

Fund - Dept 001-130 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

GENERAL-HUMAN RESOURCES		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
4000 Salaries & Employee Benefits								
4000	Salaries - Permanent	141,242.29	24,576.94	149,824.62	0.00	320,709.00	170,884.38	53
4050	Salaries - Overtime	283.59	52.35	508.93	0.00	5,000.00	4,491.07	90
4056	Salaries - CTO Payout	0.00	0.00	2,655.20	0.00	0.00	-2,655.20	0 Over
4690	Employee Benefits Other	99,423.15	17,008.61	104,193.86	0.00	229,161.00	124,967.14	55
Salaries & Employee Benefits		240,949.03	41,637.90	257,182.61	0.00	554,870.00	297,687.39	54 50
5000 Materials & Supplies								
5000	Office Expense	5,482.30	10.41	3,270.45	0.00	2,470.00	-800.45	-32 Over
5005	Postage & Mailing	580.35	49.91	316.29	0.00	1,900.00	1,583.71	83
5010	Outside Printing Expense	45.62	0.00	1,199.56	0.00	750.00	-449.56	-60 Over
5050	Books/Periodicals/Software	0.00	0.00	157.95	0.00	1,410.00	1,252.05	89
6261	Records Purge	121.59	105.89	197.15	0.00	690.00	492.85	71
6721	Related Exam Costs	1,406.03	5.60	16.91	0.00	1,000.00	983.09	98
Materials & Supplies		7,635.89	171.81	5,158.31	0.00	8,220.00	3,061.69	37 50
5400 Purchased Services								
5400	Professional Services	43,074.61	3,003.35	33,746.34	0.00	150,000.00	116,253.66	78
5405	Legal & Court Costs	0.00	0.00	0.00	0.00	7,000.00	7,000.00	100
6430	Claims Medical/Legal Costs	-207.00	0.00	0.00	0.00	0.00	0.00	0
6701	Pre Employment Physicals	1,640.00	0.00	4,098.00	0.00	8,390.00	4,292.00	51
6702	Psychological Eval & Services	7,200.00	2,000.00	3,200.00	0.00	9,500.00	6,300.00	66
6703	Employee Counseling	5,159.28	859.88	4,299.40	0.00	9,000.00	4,700.60	52
6704	In-Service Medical	6,957.15	2,900.26	10,483.26	0.00	10,000.00	-483.26	-5 Over
6706	Drug & Alcohol Testing	1,921.00	0.00	1,630.00	0.00	3,990.00	2,360.00	59
6708	Polygraphs	2,400.00	0.00	0.00	0.00	3,000.00	3,000.00	100
6710	Fingerprinting	1,281.00	480.00	1,989.00	0.00	3,800.00	1,811.00	48
6720	Testing	0.00	0.00	429.00	0.00	5,500.00	5,071.00	92
Purchased Services		69,426.04	9,243.49	59,875.00	0.00	210,180.00	150,305.00	72 50
8900 Other Expenses								
5140	Advertising/Marketing	1,489.95	0.00	4,377.86	0.00	12,000.00	7,622.14	64
5160	Licenses/Permits/Fees	0.00	0.00	0.00	0.00	760.00	760.00	100
5370	Memberships/Dues	0.00	0.00	0.00	0.00	300.00	300.00	100
5385	Business Expenses	1,123.47	0.00	237.24	0.00	2,375.00	2,137.76	90
5390	Training	-151.00	391.99	391.99	0.00	5,550.00	5,158.01	93
5391	City-Wide Training Program	271.00	0.00	0.00	0.00	5,000.00	5,000.00	100
5480	Communications	1,133.12	95.03	766.87	0.00	2,375.00	1,608.13	68
6730	Damaged Property Reimbursement	0.00	0.00	0.00	0.00	475.00	475.00	100
Other Expenses		3,866.54	487.02	5,773.96	0.00	28,835.00	23,061.04	80 50
8910 Non-Recurring Operating								
7500	Non-Recurring Operating	0.00	13,720.00	57,040.00	22,280.00	76,160.00	-3,160.00	-4 Over
Non-Recurring Operating		0.00	13,720.00	57,040.00	22,280.00	76,160.00	-3,160.00	-4 50 Over
End Fund - Dept 001-130		321,877.50	65,260.22	385,029.88	22,280.00	878,265.00	470,955.12	54 50

Department Expense Report

Fund - Dept 900-140 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

GEN LIAB INS RSV-RISK MGMT		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
5000 Materials & Supplies								
5000	Office Expense	0.00	0.00	133.26	0.00	400.00	266.74	67
5005	Postage & Mailing	67.12	49.91	190.37	0.00	0.00	-190.37	0 Over
Materials & Supplies		67.12	49.91	323.63	0.00	400.00	76.37	19 50
5400 Purchased Services								
5330	Contractual	45,659.00	0.00	45,659.00	0.00	50,000.00	4,341.00	9
5400	Professional Services	0.00	0.00	0.00	0.00	2,500.00	2,500.00	100
Purchased Services		45,659.00	0.00	45,659.00	0.00	52,500.00	6,841.00	13 50
8900 Other Expenses								
5031	Insurance - Contractual	582,222.25	2,637.31	935,151.25	0.00	850,000.00	-85,151.25	-10 Over
5032	Claim Loss Expense	142,511.46	90.94	30,458.62	0.00	588,875.00	558,416.38	95
5035	INBR	15,910.85	0.00	3,115.68	49,018.43	99,018.00	46,883.89	47
5370	Memberships/Dues	0.00	0.00	0.00	0.00	500.00	500.00	100
5390	Training	600.00	0.00	742.76	0.00	1,520.00	777.24	51
5470	Bio Hazard Waste Disposal	2,433.45	0.00	0.00	0.00	5,000.00	5,000.00	100
5480	Communications	200.42	28.55	171.04	0.00	475.00	303.96	64
Other Expenses		743,878.43	2,756.80	969,639.35	49,018.43	1,545,388.00	526,730.22	34 50
End Fund - Dept 900-140		789,604.55	2,806.71	1,015,621.98	49,018.43	1,598,288.00	533,647.59	33 50

Department Expense Report

Fund - Dept 901-130 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

WORK COMP INS RSRV-HUMAN RES		Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
4000 Salaries & Employee Benefits								
4010	Salaries-Temporary Disability	0.00	0.00	0.00	0.00	212,500.00	212,500.00	100
4080	Salaries - Light Duty	0.00	0.00	0.00	0.00	65,000.00	65,000.00	100
4690	Employee Benefits Other	0.00	0.00	0.00	0.00	21,021.00	21,021.00	100
Salaries & Employee Benefits		0.00	0.00	0.00	0.00	298,521.00	298,521.00	100 50
5000 Materials & Supplies								
5005	Postage & Mailing	0.00	0.00	0.00	0.00	150.00	150.00	100
Materials & Supplies		0.00	0.00	0.00	0.00	150.00	150.00	100 50
5400 Purchased Services								
5400	Professional Services	94,842.00	0.00	94,842.00	0.00	100,000.00	5,158.00	5
6430	Claims Medical/Legal Costs	297,254.79	64,777.67	680,398.80	0.00	1,020,000.00	339,601.20	33
Purchased Services		392,096.79	64,777.67	775,240.80	0.00	1,120,000.00	344,759.20	31 50
8900 Other Expenses								
5031	Insurance - Contractual	142,842.00	0.00	185,258.00	0.00	247,271.00	62,013.00	25
6427	State Worker Comp Surcharges	55,071.75	71,751.32	71,751.32	0.00	67,000.00	-4,751.32	-7 Over
6436	Safety Equipment	5,357.74	103.87	4,955.27	0.00	10,000.00	5,044.73	50
6437	Safety & Wellness Program	3,145.17	0.00	-535.00	0.00	10,000.00	10,535.00	105
Other Expenses		206,416.66	71,855.19	261,429.59	0.00	334,271.00	72,841.41	22 50
End Fund - Dept 901-130		598,513.45	136,632.86	1,036,670.39	0.00	1,752,942.00	716,271.61	41 50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 902-130 Budget Year: 2022

Budget Version 10: Working

UNEMPMT INS RSV-HUMAN RESOURC

Category	Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
5400 Purchased Services								
6707	Unemployment Claims Expense	39,570.60	0.00	2,565.00	0.00	50,000.00	47,435.00	95
	Purchased Services	39,570.60	0.00	2,565.00	0.00	50,000.00	47,435.00	95 50
End Fund - Dept 902-130		39,570.60	0.00	2,565.00	0.00	50,000.00	47,435.00	95 50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 902-130 Budget Year: 2022

Budget Version 10: Working

UNEMPMT INS RSV-HUMAN RESOURC

Category	Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
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Grand Totals : Human Resources		1,749,566.10	204,699.79	2,439,887.25	71,298.43	4,279,495.00	1,768,309.32	41 50
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End Of Report Prepared for Human Resources

Current Year Data Through 12/31/2021

**** End of Report ****

Monthly Budget Monitoring Report

POLICE

(Department)

Fiscal Year 2021/22 Monthly Report for the **period ending 12/31/2021**

Department Contact: Matthew Madden, Chief of Police

Purpose: The purpose of the review is to identify any expenditure trends which would hinder a department's ability to meet their approved budget targets or to highlight any trends of interest for the governing body.


Overall Summary:

Items of Interest:

217-300 Asset Forfeiture

The Police Department annual BINTF participation fee is budgeted in this category. The entire fee of \$10,000 is paid in July, so this is a one-time expenditure.

APPROVAL:

	Review	Signature	Date
X	Matthew Madden, Chief of Police		1/12/22

City of Chico
2021-22 Annual Budget
Department Operating Summary

Data Through 12/31/2021

		Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
Prepared for Police							
Expenditure by Category							
4000	Salaries & Employee Benefits	1,849,589	11,097,855	0	25,161,143	14,063,288	56
5000	Materials & Supplies	25,056	272,339	11,864	676,132	391,929	58
5400	Purchased Services	17,816	61,427	9,910	406,631	335,294	82
8900	Other Expenses	27,648	239,738	0	691,472	451,734	65
8910	Non-Recurring Operating	0	23,248	117,275	184,292	43,769	24
Total For Department(s)		1,920,109	11,694,607	139,049	27,119,670	15,286,014	56 50

Expenditure Summary by Fund - Dept

Fund - Dept	Title						
001 - 300	General-Police General	1,701,515	10,335,369	139,049	25,261,902	14,787,484	59
001 - 322	General-Police Dept-Patrol	84,599	569,260	0	0	-569,260	0 Over
001 - 342	General-Police Communications	18,626	108,236	0	0	-108,236	0 Over
001 - 345	General-Police Inv	8,284	59,971	0	0	-59,971	0 Over
001 - 348	General-PD-Animal Services	44,774	281,690	0	668,229	386,539	58
Fund 001 Sub-Totals		1,857,798	11,354,526	139,049	25,930,131	14,436,556	56
002 - 300	Park-Police General	18,715	107,484	0	252,433	144,949	57
050 - 300	Donations-Police General	14,077	79,144	0	184,964	105,820	57
050 - 348	Donations-PD-Animal Services	1,756	20,354	0	34,438	14,084	41
098 - 300	Justice Assist Grant (JAG)-Police	0	0	0	26,851	26,851	100
099 - 300	Supp Law Enforcement Service-	16,081	94,203	0	286,111	191,908	67
100 - 300	Grants-Oper Activities-Police	9,855	19,972	0	237,986	218,014	92
100 - 348	Grants-Oper Activities-PD-Animal	150	525	0	24,700	24,175	98
217 - 300	Asset Forfeiture-Police General	0	10,000	0	10,000	0	0
853 - 300	Parking Revenue-Police General	1,679	8,400	0	132,056	123,656	94
Total For Fund/Department		1,920,111	11,694,608	139,049	27,119,670	15,286,013	56 50

Expenditure Summary by Fund

Fund	Title						
001	General	1,857,798	11,354,526	139,049	25,930,131	14,436,556	56
002	Park	18,715	107,484	0	252,433	144,949	57
050	Donations	15,832	99,498	0	219,402	119,904	55
098	Justice Assist Grant (JAG)	0	0	0	26,851	26,851	100
099	Supp Law Enforcement Service	16,081	94,203	0	286,111	191,908	67
100	Grants-Operating Activities	10,005	20,497	0	262,686	242,189	92
217	Asset Forfeiture	0	10,000	0	10,000	0	0
853	Parking Revenue	1,679	8,400	0	132,056	123,656	94
Total For Fund(s)		1,920,110	11,694,608	139,049	27,119,670	15,286,013	56 50

** End of Report **

Department Expense Report

Multi Fund/Dept Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

Police Category Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining Budget / Time		
Fund - Dept 001-300 POLICE									
Salaries & Employee Benefits	9,246,263.86	1,640,487.96	9,797,834.36	0.00	23,577,646.00	13,779,811.64	58	50	
Materials & Supplies	222,994.69	18,802.06	225,479.11	11,864.23	507,728.00	270,384.66	53	50	
Purchased Services	139,533.74	14,884.87	51,701.69	9,909.80	383,467.00	321,855.51	84	50	
Other Expenses	184,623.11	27,340.25	237,105.41	0.00	634,432.00	397,326.59	63	50	
Non-Recurring Operating	0.00	0.00	23,248.25	117,274.72	158,629.00	18,106.03	11	50	
End Fund - Dept 001-300	9,793,415.40	1,701,515.14	10,335,368.82	139,048.75	25,261,902.00	14,787,484.43	59	50	
Fund - Dept 001-322 GENERAL-PD/PATROL									
Salaries & Employee Benefits	553,636.35	84,598.58	569,260.16	0.00	0.00	-569,260.16	0	50	Over
End Fund - Dept 001-322	553,636.35	84,598.58	569,260.16	0.00	0.00	-569,260.16	0	50	OVER
Fund - Dept 001-342 GENERAL-PD/COMMUNICATIONS									
Salaries & Employee Benefits	112,870.62	18,625.60	108,235.99	0.00	0.00	-108,235.99	0	50	Over
End Fund - Dept 001-342	112,870.62	18,625.60	108,235.99	0.00	0.00	-108,235.99	0	50	OVER
Fund - Dept 001-345 GENERAL-PD/DETECTIVE BUREAU									
Salaries & Employee Benefits	38,905.87	8,284.41	59,971.07	0.00	0.00	-59,971.07	0	50	Over
End Fund - Dept 001-345	38,905.87	8,284.41	59,971.07	0.00	0.00	-59,971.07	0	50	OVER
Fund - Dept 001-348 GENERAL-PD/ANIMAL SERVICES									
Salaries & Employee Benefits	229,554.48	37,186.77	253,627.86	0.00	561,405.00	307,777.14	55	50	
Materials & Supplies	19,920.65	4,348.24	16,727.92	0.00	69,700.00	52,972.08	76	50	
Purchased Services	7,426.00	2,931.25	9,725.35	0.00	23,164.00	13,438.65	58	50	
Other Expenses	1,523.26	307.80	1,608.39	0.00	13,960.00	12,351.61	88	50	
End Fund - Dept 001-348	258,424.39	44,774.06	281,689.52	0.00	668,229.00	386,539.48	58	50	
Fund - Dept 002-300 PARKS - POLICE									
Salaries & Employee Benefits	44,314.90	18,714.57	107,483.99	0.00	251,383.00	143,899.01	57	50	
Materials & Supplies	0.00	0.00	0.00	0.00	1,050.00	1,050.00	100	50	
End Fund - Dept 002-300	44,314.90	18,714.57	107,483.99	0.00	252,433.00	144,949.01	57	50	
Fund - Dept 050-300 DONATIONS-POLICE									
Salaries & Employee Benefits	72,480.99	14,076.56	79,891.09	0.00	156,952.00	77,060.91	49	50	
Materials & Supplies	4,761.99	0.00	-747.01	0.00	28,012.00	28,759.01	103	50	
End Fund - Dept 050-300	77,242.98	14,076.56	79,144.08	0.00	184,964.00	105,819.92	57	50	
Fund - Dept 050-348 DONATIONS - PD/ANIMAL SVCS									
Materials & Supplies	19,419.80	1,755.53	20,354.35	0.00	34,438.00	14,083.65	41	50	
End Fund - Dept 050-348	19,419.80	1,755.53	20,354.35	0.00	34,438.00	14,083.65	41	50	
Fund - Dept 098-300 JAG JUSTICE ASSISTANCE GRANT									
Salaries & Employee Benefits	0.00	0.00	0.00	0.00	1,188.00	1,188.00	100	50	
Non-Recurring Operating	2,432.64	0.00	0.00	0.00	25,663.00	25,663.00	100	50	
End Fund - Dept 098-300	2,432.64	0.00	0.00	0.00	26,851.00	26,851.00	100	50	

Department Expense Report

Multi Fund/Dept Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

Police Category Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining	Budg / Time
Fund - Dept 099-300 SUPP LAW ENFORCE SERVICE ADMIN								
Salaries & Employee Benefits	90,857.50	16,080.62	94,202.65	0.00	286,111.00	191,908.35	67	50
Purchased Services	0.00	0.00	0.00	0.00	0.00	0.00	0	50
Other Expenses	0.00	0.00	0.00	0.00	0.00	0.00	0	50
End Fund - Dept 099-300	90,857.50	16,080.62	94,202.65	0.00	286,111.00	191,908.35	67	50
Fund - Dept 100-300 OPERATING GRANTS - PD								
Salaries & Employee Benefits	268,155.85	9,855.03	18,947.89	0.00	194,906.00	175,958.11	90	50
Materials & Supplies	3,223.10	0.00	0.00	0.00	0.00	0.00	0	50
Other Expenses	0.00	0.00	1,024.00	0.00	43,080.00	42,056.00	98	50
End Fund - Dept 100-300	271,378.95	9,855.03	19,971.89	0.00	237,986.00	218,014.11	92	50
Fund - Dept 100-348 GRANT-ANIMAL SHELTER								
Materials & Supplies	0.00	150.00	525.00	0.00	24,700.00	24,175.00	98	50
End Fund - Dept 100-348	0.00	150.00	525.00	0.00	24,700.00	24,175.00	98	50
Fund - Dept 217-300 ASSET FORFEITURE								
Materials & Supplies	10,000.00	0.00	10,000.00	0.00	10,000.00	0.00	0	50
End Fund - Dept 217-300	10,000.00	0.00	10,000.00	0.00	10,000.00	0.00	0	50
Fund - Dept 853-300 PD Parking Service Specialists								
Salaries & Employee Benefits	4,869.38	1,678.88	8,400.25	0.00	131,552.00	123,151.75	94	50
Materials & Supplies	0.00	0.00	0.00	0.00	504.00	504.00	100	50
End Fund - Dept 853-300	4,869.38	1,678.88	8,400.25	0.00	132,056.00	123,655.75	94	50
Grand Totals : Police	11,277,768.78	1,920,108.98	11,694,607.77	139,048.75	27,119,670.00	15,286,013.48	56	50

End Of Report Prepared for Police

Current Year Data Through 12/31/2021

**** End of Report ****

Department Expense Report

Fund - Dept 001-300 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

POLICE		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	4,836,672.86	835,355.59	4,989,314.24	0.00	11,928,157.00	6,938,842.76	58	
4006	Salaries - Sign On Bonus	4,000.00	750.00	23,642.86	0.00	0.00	-23,642.86	0	Over
4010	Salaries-Temporary Disability	80,097.49	13,240.00	64,391.01	0.00	0.00	-64,391.01	0	Over
4015	Salaries - Holiday Pay	14,960.63	3,883.19	11,837.14	0.00	78,400.00	66,562.86	85	
4020	Salaries - Hourly Pay	93,739.54	12,027.45	98,152.50	0.00	96,830.00	-1,322.50	-1	Over
4030	Salaries-Reserve Officers	0.00	0.00	0.00	0.00	18,000.00	18,000.00	100	
4050	Salaries - Overtime	208,713.42	42,437.69	244,984.89	0.00	1,181,688.00	936,703.11	79	
4051	Salaries - OT Reimbursable	991.44	0.00	0.00	0.00	11,600.00	11,600.00	100	
4053	OT - Special Event/Emergency	649.20	-1,378.36	4,794.46	0.00	30,100.00	25,305.54	84	
4056	Salaries - CTO Payout	0.00	5,306.58	9,603.65	0.00	80,000.00	70,396.35	88	
4080	Salaries - Light Duty	42,605.94	9,530.41	43,192.10	0.00	0.00	-43,192.10	0	Over
4585	Empl. Benefit-Fitness Reimb	6,728.08	0.00	8,029.58	0.00	17,200.00	9,170.42	53	
4590	Employee Benefit-Wellness Phys	0.00	0.00	2,673.00	0.00	23,600.00	20,927.00	89	
4690	Employee Benefits Other	3,957,105.26	721,202.04	4,299,085.56	0.00	10,112,071.00	5,812,985.44	57	
Salaries & Employee Benefits		9,246,263.86	1,642,354.59	9,799,700.99	0.00	23,577,646.00	13,777,945.01	58	50
5000 Materials & Supplies									
5000	Office Expense	6,434.76	1,011.76	7,267.77	0.00	31,720.00	24,452.23	77	
5005	Postage & Mailing	3,734.73	107.21	2,916.85	0.00	10,431.00	7,514.15	72	
5010	Outside Printing Expense	2,537.86	407.55	1,748.68	0.00	9,529.00	7,780.32	82	
5050	Books/Periodicals/Software	2,771.54	0.00	2,618.96	0.00	3,762.00	1,143.04	30	
5070	Special Department Expenses	21,811.19	1,963.43	16,402.22	0.00	16,550.00	147.78	1	
5100	Materials and Supplies	200.95	0.00	0.00	0.00	0.00	0.00	0	
5105	Small Tools and Equipment	9,396.76	0.00	1,571.05	0.00	6,412.00	4,840.95	75	
5505	Equipment Maintenance/Repair	3,652.27	432.05	1,595.75	0.00	11,200.00	9,604.25	86	
6204	Disposal Service Expenses	0.00	0.00	0.00	0.00	900.00	900.00	100	
6235	Prisoner Transport	8,637.78	0.00	4,755.00	0.00	10,593.00	5,838.00	55	
6238	Ammunition	21,465.41	3,610.63	88,634.64	11,864.23	90,896.00	-9,602.87	-11	Over
6239	Jail Supplies	2,483.27	0.00	1,956.43	0.00	6,450.00	4,493.57	70	
6240	CSI Supplies	882.87	0.00	22.91	0.00	3,600.00	3,577.09	99	
6241	Range Supplies	2,301.54	0.00	899.04	0.00	8,400.00	7,500.96	89	
6244	Field Services	1,768.00	75.00	1,415.00	0.00	3,100.00	1,685.00	54	
6246	Battery Supplies	1,031.78	0.00	127.56	0.00	2,430.00	2,302.44	95	
6247	K-9 Supplies	4,044.36	0.00	4,564.64	0.00	15,000.00	10,435.36	70	
6250	Donations - Expense	201.99	0.00	0.00	0.00	0.00	0.00	0	
6260	VIPs	0.00	0.00	0.00	0.00	500.00	500.00	100	
6261	Records Purge	0.00	0.00	0.00	0.00	425.00	425.00	100	
6268	BINTF Expense	15,000.00	0.00	15,000.00	0.00	15,000.00	0.00	0	
6280	Uniform Allow. Sworn	41,297.86	3,360.91	38,569.85	0.00	89,130.00	50,560.15	57	
6282	Uniform Allow Civilian	5,637.04	570.49	4,699.99	0.00	26,350.00	21,650.01	82	
6283	Uniform Safety Equip	63,334.45	2,264.38	17,432.23	0.00	81,800.00	64,367.77	79	
6284	Uniforms - Turnover	2,090.24	0.00	337.44	0.00	4,650.00	4,312.56	93	
6285	Uniform - Safety Vests	2,278.04	4,886.16	12,338.72	0.00	46,900.00	34,561.28	74	
6289	Crisis Response Unit Equipment	0.00	0.00	491.89	0.00	12,000.00	11,508.11	96	
Materials & Supplies		222,994.69	18,689.57	225,366.62	11,864.23	507,728.00	270,497.15	53	50
5400 Purchased Services									
5400	Professional Services	89,310.31	2,247.46	3,943.54	9,909.80	226,287.00	212,433.66	94	
5550	Maint Agreements- Radios	4,138.92	700.63	4,203.78	0.00	40,000.00	35,796.22	89	
5555	Maint Agreements Other	29,971.50	0.00	9,766.00	0.00	5,330.00	-4,436.00	-83	Over
6216	Sexual Assault Exams	11,744.00	7,500.00	25,500.00	0.00	76,500.00	51,000.00	67	
6218	Medical Testing	3,554.00	3,672.00	6,820.00	0.00	32,500.00	25,680.00	79	
6220	Specialized Medical Testing	0.00	0.00	365.00	0.00	850.00	485.00	57	
6224	Veterinary Expenses	815.01	764.78	1,103.37	0.00	2,000.00	896.63	45	
Purchased Services		139,533.74	14,884.87	51,701.69	9,909.80	383,467.00	321,855.51	84	50
8900 Other Expenses									
5140	Advertising/Marketing	0.00	604.00	604.00	0.00	2,000.00	1,396.00	70	
5240	Taxes	406.95	0.00	812.15	0.00	350.00	-462.15	-132	Over
5370	Memberships/Dues	2,509.00	285.00	2,619.00	0.00	3,500.00	881.00	25	
5385	Business Expenses	2,369.64	0.00	2,461.75	0.00	2,500.00	38.25	2	
5390	Training	72,997.31	5,921.00	111,156.52	0.00	384,733.00	273,576.48	71	
5465	Solid Waste Disposal	793.16	79.35	951.86	0.00	2,500.00	1,548.14	62	
5480	Communications	89,747.05	13,862.26	90,611.49	0.00	206,849.00	116,237.51	56	
6200	Background Expenses	15,800.00	6,224.00	27,524.00	0.00	29,500.00	1,976.00	7	
6249	Special Events Expense	0.00	364.64	364.64	0.00	2,500.00	2,135.36	85	

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 001-300 Budget Year: 2022

Budget Version 10: Working

POLICE		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
Other Expenses		184,623.11	27,340.25	237,105.41	0.00	634,432.00	397,326.59	63	50
8910 Non-Recurring Operating									
7500	Non-Recurring Operating	0.00	0.00	23,248.25	117,274.72	158,629.00	18,106.03	11	
Non-Recurring Operating		0.00	0.00	23,248.25	117,274.72	158,629.00	18,106.03	11	50
End Fund - Dept 001-300		9,793,415.40	1,703,269.28	10,337,122.96	139,048.75	25,261,902.00	14,785,730.29	59	50

Department Expense Report

Fund - Dept 001-322 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

GENERAL-PD/PATROL		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
4000 Salaries & Employee Benefits								
4000	Salaries - Permanent	8,230.01	1,100.69	8,873.09	0.00	0.00	-8,873.09	0 Over
4015	Salaries - Holiday Pay	153.50	279.91	525.26	0.00	0.00	-525.26	0 Over
4050	Salaries - Overtime	480,484.06	75,222.28	478,807.61	0.00	0.00	-478,807.61	0 Over
4051	Salaries - OT Reimbursable	0.00	0.00	2,302.56	0.00	0.00	-2,302.56	0 Over
4053	OT - Special Event/Emergency	6,926.94	-1,465.17	14,173.92	0.00	0.00	-14,173.92	0 Over
4690	Employee Benefits Other	57,841.84	9,460.87	64,577.72	0.00	0.00	-64,577.72	0 Over
Salaries & Employee Benefits		553,636.35	84,598.58	569,260.16	0.00	0.00	-569,260.16	0 50 Over
End Fund - Dept 001-322		553,636.35	84,598.58	569,260.16	0.00	0.00	-569,260.16	0 50 OVER

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 001-342 Budget Year: 2022

Budget Version 10: Working

GENERAL-PD/COMMUNICATIONS		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
4000 Salaries & Employee Benefits								
4000	Salaries - Permanent	1,741.88	122.03	1,142.26	0.00	0.00	-1,142.26	0 Over
4015	Salaries - Holiday Pay	1,110.92	547.23	973.16	0.00	0.00	-973.16	0 Over
4050	Salaries - Overtime	104,684.42	16,995.52	100,765.49	0.00	0.00	-100,765.49	0 Over
4690	Employee Benefits Other	5,333.40	960.82	5,355.08	0.00	0.00	-5,355.08	0 Over
Salaries & Employee Benefits		112,870.62	18,625.60	108,235.99	0.00	0.00	-108,235.99	0 50 Over
End Fund - Dept 001-342		112,870.62	18,625.60	108,235.99	0.00	0.00	-108,235.99	0 50 OVER

City of Chico

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 001-345 Budget Year: 2022

Budget Version 10: Working

GENERAL-PD/DETECTIVE BUREAU		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
4000 Salaries & Employee Benefits								
4000	Salaries - Permanent	964.42	76.35	597.54	0.00	0.00	-597.54	0 Over
4050	Salaries - Overtime	33,188.75	7,278.79	51,942.09	0.00	0.00	-51,942.09	0 Over
4053	OT - Special Event/Emergency	377.46	0.00	684.14	0.00	0.00	-684.14	0 Over
4690	Employee Benefits Other	4,375.24	929.27	6,747.30	0.00	0.00	-6,747.30	0 Over
Salaries & Employee Benefits		38,905.87	8,284.41	59,971.07	0.00	0.00	-59,971.07	0 50 Over
End Fund - Dept 001-345		38,905.87	8,284.41	59,971.07	0.00	0.00	-59,971.07	0 50 OVER

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 001-348 Budget Year: 2022

Budget Version 10: Working

GENERAL-PD/ANIMAL SERVICES		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
4000 Salaries & Employee Benefits								
4000	Salaries - Permanent	97,061.61	15,298.74	109,483.68	0.00	299,241.00	189,757.32	63
4015	Salaries - Holiday Pay	262.69	151.62	419.87	0.00	0.00	-419.87	0 Over
4020	Salaries - Hourly Pay	32,261.36	6,811.90	40,992.75	0.00	0.00	-40,992.75	0 Over
4050	Salaries - Overtime	4,185.64	356.04	846.59	0.00	5,000.00	4,153.41	83
4080	Salaries - Light Duty	0.00	0.00	735.00	0.00	0.00	-735.00	0 Over
4690	Employee Benefits Other	95,783.18	14,568.47	101,149.97	0.00	257,164.00	156,014.03	61
Salaries & Employee Benefits		229,554.48	37,186.77	253,627.86	0.00	561,405.00	307,777.14	55 50
5000 Materials & Supplies								
5000	Office Expense	606.43	181.87	811.91	0.00	2,000.00	1,188.09	59
5005	Postage & Mailing	171.81	0.00	58.96	0.00	1,000.00	941.04	94
5010	Outside Printing Expense	0.00	0.00	0.00	0.00	1,700.00	1,700.00	100
5050	Books/Periodicals/Software	348.37	0.00	161.97	0.00	0.00	-161.97	0 Over
5070	Special Department Expenses	239.46	39.91	549.55	0.00	1,000.00	450.45	45
5100	Materials and Supplies	11,886.09	4,126.46	7,330.38	0.00	20,000.00	12,669.62	63
5102	Animal Shelter Food	2,363.84	0.00	3,584.69	0.00	21,000.00	17,415.31	83
5103	Medications/Animal Care Supply	4,272.18	0.00	2,868.89	0.00	15,000.00	12,131.11	81
5105	Small Tools and Equipment	0.00	0.00	269.79	0.00	1,000.00	730.21	73
5505	Equipment Maintenance/Repair	0.00	0.00	52.00	0.00	5,000.00	4,948.00	99
6250	Donations - Expense	0.00	0.00	525.00	0.00	0.00	-525.00	0 Over
6283	Uniform Safety Equip	32.47	0.00	514.78	0.00	2,000.00	1,485.22	74
Materials & Supplies		19,920.65	4,348.24	16,727.92	0.00	69,700.00	52,972.08	76 50
5400 Purchased Services								
5330	Contractual	6,976.00	2,651.25	7,944.25	0.00	15,600.00	7,655.75	49
6220	Specialized Medical Testing	0.00	0.00	0.00	0.00	564.00	564.00	100
6224	Veterinary Expenses	0.00	0.00	1,431.10	0.00	5,500.00	4,068.90	74
7380	Pest Control	450.00	280.00	350.00	0.00	1,500.00	1,150.00	77
Purchased Services		7,426.00	2,931.25	9,725.35	0.00	23,164.00	13,438.65	58 50
8900 Other Expenses								
5370	Memberships/Dues	0.00	0.00	0.00	0.00	300.00	300.00	100
5390	Training	641.26	0.00	0.00	0.00	2,000.00	2,000.00	100
5465	Solid Waste Disposal	0.00	0.00	0.00	0.00	5,160.00	5,160.00	100
5480	Communications	882.00	307.80	1,608.39	0.00	4,500.00	2,891.61	64
6117	Public Relations Expenses	0.00	0.00	0.00	0.00	2,000.00	2,000.00	100
Other Expenses		1,523.26	307.80	1,608.39	0.00	13,960.00	12,351.61	88 50
End Fund - Dept 001-348		258,424.39	44,774.06	281,689.52	0.00	668,229.00	386,539.48	58 50

Department Expense Report

Fund - Dept 002-300 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

PARKS - POLICE		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent		
Category	Description	Actuals	Month	Actuals	brances			Remaining		
		Thru 12/2020	Actuals	Actuals				Budg / Time		
4000 Salaries & Employee Benefits										
4000	Salaries - Permanent	24,620.57	9,398.70	46,778.93	0.00	143,669.00	96,890.07	67		
4015	Salaries - Holiday Pay	823.07	1,146.08	1,531.28	0.00	0.00	-1,531.28	0	Over	
4020	Salaries - Hourly Pay	0.00	0.00	8,488.71	0.00	0.00	-8,488.71	0	Over	
4050	Salaries - Overtime	3,160.78	530.74	6,884.36	0.00	0.00	-6,884.36	0	Over	
4053	OT - Special Event/Emergency	0.00	0.00	529.67	0.00	0.00	-529.67	0	Over	
4690	Employee Benefits Other	15,710.48	7,639.05	43,271.04	0.00	107,714.00	64,442.96	60		
Salaries & Employee Benefits		44,314.90	18,714.57	107,483.99	0.00	251,383.00	143,899.01	57	50	
5000 Materials & Supplies										
6280	Uniform Allow. Sworn	0.00	0.00	0.00	0.00	1,050.00	1,050.00	100		
Materials & Supplies		0.00	0.00	0.00	0.00	1,050.00	1,050.00	100	50	
End Fund - Dept 002-300		44,314.90	18,714.57	107,483.99	0.00	252,433.00	144,949.01	57	50	

Department Expense Report

Fund - Dept 050-300 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

DONATIONS-POLICE		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	31,426.43	5,355.00	32,021.80	0.00	69,846.00	37,824.20	54	
4010	Salaries-Temporary Disability	0.00	0.00	378.00	0.00	0.00	-378.00	0	Over
4050	Salaries - Overtime	10,056.52	2,950.38	13,306.12	0.00	15,000.00	1,693.88	11	
4690	Employee Benefits Other	30,998.04	5,771.18	34,185.17	0.00	72,106.00	37,920.83	53	
Salaries & Employee Benefits		72,480.99	14,076.56	79,891.09	0.00	156,952.00	77,060.91	49	50
5000 Materials & Supplies									
6250	Donations - Expense	4,761.99	0.00	-747.01	0.00	27,112.00	27,859.01	103	
6280	Uniform Allow. Sworn	0.00	0.00	0.00	0.00	900.00	900.00	100	
Materials & Supplies		4,761.99	0.00	-747.01	0.00	28,012.00	28,759.01	103	50
End Fund - Dept 050-300		77,242.98	14,076.56	79,144.08	0.00	184,964.00	105,819.92	57	50

Department Expense Report

Fund - Dept 050-348 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

DONATIONS - PD/ANIMAL SVCS		Prior Year's Actuals	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining		
Category	Description	Thru 12/2020						Budg / Time		
5000 Materials & Supplies										
5103	Medications/Animal Care Supply	436.94	0.00	0.00	0.00	0.00	0.00	0		
6250	Donations - Expense	18,982.86	1,755.53	20,354.35	0.00	34,438.00	14,083.65	41		
	Materials & Supplies	19,419.80	1,755.53	20,354.35	0.00	34,438.00	14,083.65	41	50	
End Fund - Dept 050-348		19,419.80	1,755.53	20,354.35	0.00	34,438.00	14,083.65	41	50	

Department Expense Report

Fund - Dept 098-300 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

JAG JUSTICE ASSISTANCE GRANT		Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
4000 Salaries & Employee Benefits								
4020	Salaries - Hourly Pay	0.00	0.00	0.00	0.00	1,188.00	1,188.00	100
	Salaries & Employee Benefits	0.00	0.00	0.00	0.00	1,188.00	1,188.00	100 50
8910 Non-Recurring Operating								
7500	Non-Recurring Operating	2,432.64	0.00	0.00	0.00	25,663.00	25,663.00	100
	Non-Recurring Operating	2,432.64	0.00	0.00	0.00	25,663.00	25,663.00	100 50
End Fund - Dept 098-300		2,432.64	0.00	0.00	0.00	26,851.00	26,851.00	100 50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 099-300 Budget Year: 2022

Budget Version 10: Working

SUPP LAW ENFORCE SERVICE ADMIN		Prior Year's Actuals	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining	
Category	Description	Thru 12/2020					Budg / Time		
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	49,072.57	8,515.92	49,753.98	0.00	145,675.00	95,921.02	66	
4690	Employee Benefits Other	41,784.93	7,564.70	44,448.67	0.00	140,436.00	95,987.33	68	
	Salaries & Employee Benefits	90,857.50	16,080.62	94,202.65	0.00	286,111.00	191,908.35	67	50
5400 Purchased Services									
	Purchased Services	0.00	0.00	0.00	0.00	0.00	0.00	0	50
8900 Other Expenses									
	Other Expenses	0.00	0.00	0.00	0.00	0.00	0.00	0	50
End Fund - Dept 099-300		90,857.50	16,080.62	94,202.65	0.00	286,111.00	191,908.35	67	50

Department Expense Report

Fund - Dept 100-300 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

OPERATING GRANTS - PD		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	148,085.66	437.57	3,707.36	0.00	18,771.00	15,063.64	80	
4050	Salaries - Overtime	1,108.58	0.00	1,542.92	0.00	0.00	-1,542.92	0	Over
4051	Salaries - OT Reimbursable	0.00	3,468.34	3,468.34	0.00	4,946.00	1,477.66	30	
4053	OT - Special Event/Emergency	0.00	3,071.73	3,071.73	0.00	0.00	-3,071.73	0	Over
4690	Employee Benefits Other	118,961.61	1,010.76	5,290.91	0.00	171,189.00	165,898.09	97	
Salaries & Employee Benefits		268,155.85	7,988.40	17,081.26	0.00	194,906.00	177,824.74	91	50
5000 Materials & Supplies									
5070	Special Department Expenses	1,537.50	0.00	0.00	0.00	0.00	0.00	0	
6283	Uniform Safety Equip	1,685.60	0.00	0.00	0.00	0.00	0.00	0	
Materials & Supplies		3,223.10	0.00	0.00	0.00	0.00	0.00	0	50
8900 Other Expenses									
5390	Training	0.00	0.00	1,024.00	0.00	43,080.00	42,056.00	98	
Other Expenses		0.00	0.00	1,024.00	0.00	43,080.00	42,056.00	98	50
End Fund - Dept 100-300		271,378.95	7,988.40	18,105.26	0.00	237,986.00	219,880.74	92	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 100-348 Budget Year: 2022

Budget Version 10: Working

GRANT-ANIMAL SHELTER		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category Description		Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
5000 Materials & Supplies									
6254	Grant - Expenses	0.00	150.00	525.00	0.00	24,700.00	24,175.00	98	
	Materials & Supplies	0.00	150.00	525.00	0.00	24,700.00	24,175.00	98	50
End Fund - Dept 100-348		0.00	150.00	525.00	0.00	24,700.00	24,175.00	98	50

Department Expense Report

Fund - Dept 217-300 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

ASSET FORFEITURE		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
5000 Materials & Supplies								
6268	BINTF Expense	10,000.00	0.00	10,000.00	0.00	10,000.00	0.00	0
	Materials & Supplies	10,000.00	0.00	10,000.00	0.00	10,000.00	0.00	0 50
End Fund - Dept 217-300		10,000.00	0.00	10,000.00	0.00	10,000.00	0.00	0 50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 853-300 Budget Year: 2022

Budget Version 10: Working

PD Parking Service Specialists		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent		
Category	Description	Actuals	Month	Actuals	brances			Remaining		
		Thru 12/2020	Actuals	Actuals				Budg / Time		
4000 Salaries & Employee Benefits										
4000	Salaries - Permanent	3,444.70	928.31	4,726.62	0.00	66,472.00	61,745.38	93		
4020	Salaries - Hourly Pay	64.00	0.00	0.00	0.00	11,520.00	11,520.00	100		
4690	Employee Benefits Other	1,360.68	750.57	3,673.63	0.00	53,560.00	49,886.37	93		
Salaries & Employee Benefits		4,869.38	1,678.88	8,400.25	0.00	131,552.00	123,151.75	94	50	
5000 Materials & Supplies										
6283	Uniform Safety Equip	0.00	0.00	0.00	0.00	504.00	504.00	100		
Materials & Supplies		0.00	0.00	0.00	0.00	504.00	504.00	100	50	
End Fund - Dept 853-300		4,869.38	1,678.88	8,400.25	0.00	132,056.00	123,655.75	94	50	

Department Expense Report

Fund - Dept 853-300 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

PD Parking Service Specialists		Prior Year's	Current					Percent
Category	Description	Actuals	Month	Year To Date	Encum-	Budget	Balance	Remaining
		Thru 12/2020	Actuals	Actuals	brances			Budg / Time
Grand Totals : Police		11,277,768.78	1,919,996.49	11,694,495.28	139,048.75	27,119,670.00	15,286,125.97	56 50

End Of Report Prepared for Police

Current Year Data Through 12/31/2021

**** End of Report ****

Monthly Budget Monitoring Report

Public Works Department - Engineering

(Dept. Name)

Fiscal Year 2021-22 Monthly Report for the **period ending: 12/31/21**

Department Contact: Leigh Ann Sutton (879-6901)

Purpose: The purpose of the review is to identify any expenditure trends which would hinder a department's ability to meet their approved budget targets or to highlight any trends of interest for the governing body.

Overall Summary: The various budget accounts in the Public Works Department are on track for FY 21-22 except for the few items listed below.

NEW ITEMS

Item #1

Location: Public Works – General – Capital Projects Services

Expenditure Category: 001-610-5000

Description: Materials & Supplies

Analysis: This category is tracking behind due to outside printing expense and books/software purchases.

Action Plan: None needed, this account will be on track by Fiscal Year end.

Item #2

Location: Public Works – General – Capital Projects Services

Expenditure Category: 001-610-8900

Description: Other Expenses

Analysis: This category is tracking behind due to business expenses.

Action Plan: None needed, this account will be on track by Fiscal Year end.

Item #3

Location: Public Works – Subdivision

Expenditure Category: 863-000-4000

Description: Salaries & Employee Benefits

Analysis: This category is tracking behind due to incorrect salary coding.

Action Plan: None needed, this account will be on track by Fiscal Year end.

Item #4

Location: Public Works – Subdivision

Expenditure Category: 863-000-5400

Description: Purchased Services

Analysis: This category is tracking behind due to Professional Services.

Action Plan: None needed, this account will be on track by Fiscal Year end through Real-Time billing.

Item #5

Location: Public Works – City Recreation

Expenditure Category: 876-610-4000

Description: Salaries & Employee Benefits

Analysis: This category is tracking behind due to hourly and overtime.

Action Plan: None needed, this account will be on track by Fiscal Year end.

Item #6

Location: **Public Works – City Recreation**

Expenditure Category: **876-610-5400**

Description: Purchased Services

Analysis: This category is tracking behind due to contractual services.

Action Plan: None needed, this account will be on track by Fiscal Year end

PREVIOUS ITEMS: All items are now on track

Item #1

Location: **Public Works – Transportation – Planning**

Expenditure Category: **212-655-4000**

Description: Salaries & Employee Benefits

Analysis: This category is tracking behind due to hourly salaries.

Action Plan: None needed, this account will be on track by Fiscal Year end.

Item #2

Location: **Public Works – Transportation - Planning**

Expenditure Category: **212-655-8900**

Description: Other Expenses

Analysis: This category is tracking behind due to upfront software costs with subscription renewals.

Action Plan: None needed, this account will be on track by Fiscal Year end.

Item #3

Location: **Public Works – Sewer**


Expenditure Category: **850-000-4000**

Description: Salaries & Employee Benefits

Analysis: This category is tracking behind due to hourly salaries.

Action Plan: None needed, this account will be on track by Fiscal Year end.

APPROVALS:

	Review	Signature	Date
X	Leigh Ann Sutton Department Director- Engineering		1/13/2022

City of Chico
2021-22 Annual Budget
Department Operating Summary

Data Through 12/31/2021

Prepared for DPW - Engineering	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
Expenditure by Category						
4000 Salaries & Employee Benefits	311,974	1,931,596	0	4,444,523	2,512,927	57
5000 Materials & Supplies	2,691	26,783	0	50,749	23,966	47
5400 Purchased Services	80,063	258,240	269,373	600,814	73,201	12
8900 Other Expenses	2,856	27,564	0	115,340	87,776	76
8910 Non-Recurring Operating	2,657	10,820	0	20,000	9,180	46
Total For Department(s)	400,241	2,255,003	269,373	5,231,426	2,707,050	52 50

Expenditure Summary by Fund - Dept

Fund - Dept	Title					
001 - 610	General-Dept Pub Wrks Admin/Eng	15,892	118,288	0	384,407	266,119 69
	Fund 001 Sub-Totals	15,892	118,288	0	384,407	266,119 69
212 - 653	Transportation-Transit Services	292	38,785	13,300	131,856	79,771 60
212 - 654	Transportation-Trans-Bike/Ped	8,621	32,437	0	78,789	46,352 59
212 - 655	Transportation-Trans-Planning	15,581	93,974	0	164,516	70,542 43
400 - 000	-Funds Administration	199,597	1,197,387	0	2,620,150	1,422,763 54
400 - 610	-Dept Pub Wrks Admin/Eng	4,008	28,560	0	85,731	57,171 67
850 - 000	Sewer-Funds Administration	3,742	18,309	0	20,858	2,549 12
850 - 615	Sewer-Dev Eng	18,654	147,658	0	441,666	294,008 67
863 - 000	Subdivisions-Funds Administration	583	6,113	50,004	1,954	-54,163 - Over
863 - 615	Subdivisions-Dev Eng	6,631	96,724	4,846	237,533	135,963 57
873 - 615	-Dev Eng	43,955	274,913	0	648,780	373,867 58
876 - 610	-Dept Pub Wrks Admin/Eng	82,685	201,854	201,222	415,186	12,110 3
Total For Fund/Department		400,241	2,255,002	269,372	5,231,426	2,707,052 52 50

Expenditure Summary by Fund

Fund	Title					
001	General	15,892	118,288	0	384,407	266,119 69
212	Transportation	24,495	165,196	13,300	375,161	196,665 52
400	Capital Projects	203,605	1,225,947	0	2,705,881	1,479,934 55
850	Sewer	22,396	165,967	0	462,524	296,557 64
863	Subdivisions	7,213	102,837	54,850	239,487	81,800 34
873	Private Development - Engineering	43,955	274,913	0	648,780	373,867 58
876		82,685	201,854	201,222	415,186	12,110 3
Total For Fund(s)		400,241	2,255,002	269,372	5,231,426	2,707,052 52 50

** End of Report **

Department Expense Report

Multi Fund/Dept Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

DPW Engineering Category Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining	Budg / Time
Fund - Dept 001-610 GENERAL-CAPITAL PROJECTS SRVCS								
Salaries & Employee Benefits	100,824.12	15,682.44	116,766.36	0.00	384,407.00	267,640.64	70	50
Materials & Supplies	42.73	0.00	62.81	0.00	0.00	-62.81	0	50 Over
Other Expenses	80.00	209.45	1,458.83	0.00	0.00	-1,458.83	0	50 Over
End Fund - Dept 001-610	100,946.85	15,891.89	118,288.00	0.00	384,407.00	266,119.00	69	50
Fund - Dept 212-653 TRANSIT SERVICES								
Salaries & Employee Benefits	882.21	292.07	885.22	0.00	5,656.00	4,770.78	84	50
Materials & Supplies	0.00	0.00	0.00	0.00	1,500.00	1,500.00	100	50
Purchased Services	6,454.00	0.00	37,900.00	13,300.00	124,700.00	73,500.00	59	50
End Fund - Dept 212-653	7,336.21	292.07	38,785.22	13,300.00	131,856.00	79,770.78	60	50
Fund - Dept 212-654 TRANSPORTATION-BIKE/PEDS								
Salaries & Employee Benefits	26,819.94	8,578.52	29,375.08	0.00	72,794.00	43,418.92	60	50
Materials & Supplies	75.41	0.00	41.65	0.00	95.00	53.35	56	50
Other Expenses	0.00	42.83	3,020.11	0.00	5,900.00	2,879.89	49	50
Depreciation	0.00	0.00	0.00	0.00	0.00	0.00	0	50
End Fund - Dept 212-654	26,895.35	8,621.35	32,436.84	0.00	78,789.00	46,352.16	59	50
Fund - Dept 212-655 TRANSPORTATION-PLANNING								
Salaries & Employee Benefits	59,953.59	15,153.53	85,167.08	0.00	147,312.00	62,144.92	42	50
Materials & Supplies	7,560.46	0.00	1,662.79	0.00	8,669.00	7,006.21	81	50
Purchased Services	0.00	0.00	0.00	0.00	0.00	0.00	0	50
Other Expenses	524.76	427.88	7,144.48	0.00	8,535.00	1,390.52	16	50
End Fund - Dept 212-655	68,038.81	15,581.41	93,974.35	0.00	164,516.00	70,541.65	43	50
Fund - Dept 400-000 CAPITAL PROJECTS CLEARING FUND								
Salaries & Employee Benefits	976,270.76	199,597.38	1,197,386.59	0.00	2,620,150.00	1,422,763.41	54	50
Materials & Supplies	0.00	0.00	0.00	0.00	0.00	0.00	0	50
Other Expenses	0.00	0.00	0.00	0.00	0.00	0.00	0	50
End Fund - Dept 400-000	976,270.76	199,597.38	1,197,386.59	0.00	2,620,150.00	1,422,763.41	54	50
Fund - Dept 400-610 CAPITAL-CAPITAL PROJECTS SRVCS								
Materials & Supplies	13,615.15	2,691.24	20,009.87	0.00	24,175.00	4,165.13	17	50
Purchased Services	16,284.33	0.00	0.00	0.00	35,333.00	35,333.00	100	50
Other Expenses	4,564.72	1,316.58	8,550.14	0.00	26,223.00	17,672.86	67	50
End Fund - Dept 400-610	34,464.20	4,007.82	28,560.01	0.00	85,731.00	57,170.99	67	50
Fund - Dept 850-000 SEWER-ADMN								
Salaries & Employee Benefits	7,884.71	3,741.62	18,309.29	0.00	20,858.00	2,548.71	12	50
Purchased Services	850.00	0.00	0.00	0.00	0.00	0.00	0	50
Debt Service	0.00	0.00	0.00	0.00	0.00	0.00	0	50
End Fund - Dept 850-000	8,734.71	3,741.62	18,309.29	0.00	20,858.00	2,548.71	12	50
Fund - Dept 850-615 SEWER-DEVELOPMENT SERVICES								
Salaries & Employee Benefits	142,818.24	18,444.86	143,289.80	0.00	420,977.00	277,687.20	66	50
Materials & Supplies	3,087.18	0.00	2,095.24	0.00	7,710.00	5,614.76	73	50

Department Expense Report

Multi Fund/Dept Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

DPW Engineering Category Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time		
Other Expenses	190.89	209.45	2,272.85	0.00	12,979.00	10,706.15	82	50	
End Fund - Dept 850-615	146,096.31	18,654.31	147,657.89	0.00	441,666.00	294,008.11	67	50	
Fund - Dept 863-000 SUBDIVISION									
Salaries & Employee Benefits	3,258.65	582.63	6,112.57	0.00	0.00	-6,112.57	0	50	Over
Materials & Supplies	0.00	0.00	0.00	0.00	0.00	0.00	0	50	
Purchased Services	0.00	0.00	0.00	50,003.98	1,954.00	-48,049.98	-2,459	50	Over
End Fund - Dept 863-000	3,258.65	582.63	6,112.57	50,003.98	1,954.00	-54,162.55	-2,772	50	OVER
Fund - Dept 863-615 SUBDIVISIONS-DEV ENGINEERING									
Salaries & Employee Benefits	36,645.53	6,588.46	45,157.92	0.00	121,886.00	76,728.08	63	50	
Materials & Supplies	754.61	0.00	82.98	0.00	3,100.00	3,017.02	97	50	
Purchased Services	47,022.85	0.00	49,450.00	4,846.23	105,844.00	51,547.77	49	50	
Other Expenses	700.49	42.24	2,033.14	0.00	6,703.00	4,669.86	70	50	
End Fund - Dept 863-615	85,123.48	6,630.70	96,724.04	4,846.23	237,533.00	135,962.73	57	50	
Fund - Dept 873-615 PRIVATE DEV-ENGINEERING									
Salaries & Employee Benefits	144,761.06	43,284.85	266,315.77	0.00	630,483.00	364,167.23	58	50	
Materials & Supplies	0.00	0.00	2,827.29	0.00	5,500.00	2,672.71	49	50	
Purchased Services	7,100.00	385.00	3,080.00	0.00	7,797.00	4,717.00	60	50	
Other Expenses	152.04	285.47	2,689.87	0.00	5,000.00	2,310.13	46	50	
End Fund - Dept 873-615	152,013.10	43,955.32	274,912.93	0.00	648,780.00	373,867.07	58	50	
Fund - Dept 876-610 City Recreation									
Salaries & Employee Benefits	0.00	27.28	22,829.92	0.00	20,000.00	-2,829.92	-14	50	Over
Purchased Services	0.00	79,678.25	167,809.62	201,222.50	325,186.00	-43,846.12	-13	50	Over
Other Expenses	0.00	321.75	394.68	0.00	50,000.00	49,605.32	99	50	
Non-Recurring Operating	0.00	2,657.29	10,820.04	0.00	20,000.00	9,179.96	46	50	
End Fund - Dept 876-610	0.00	82,684.57	201,854.26	201,222.50	415,186.00	12,109.24	3	50	
Grand Totals : DPW - Engineering	1,609,178.43	400,241.07	2,255,001.99	269,372.71	5,231,426.00	2,707,051.30	52	50	

End Of Report Prepared for DPW Engineering

Current Year Data Through 12/31/2021

**** End of Report ****

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 001-610 Budget Year: 2022

Budget Version 10: Working

GENERAL-CAPITAL PROJECTS SRVCS		Prior Year's Actuals	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining	
Category	Description	Thru 12/2020						Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	60,495.96	9,505.09	73,601.11	0.00	231,848.00	158,246.89	68	
4020	Salaries - Hourly Pay	0.00	36.00	36.00	0.00	0.00	-36.00	0	Over
4690	Employee Benefits Other	40,328.16	6,141.35	43,129.25	0.00	152,559.00	109,429.75	72	
Salaries & Employee Benefits		100,824.12	15,682.44	116,766.36	0.00	384,407.00	267,640.64	70	50
5000 Materials & Supplies									
5000	Office Expense	42.73	0.00	0.00	0.00	0.00	0.00	0	
5010	Outside Printing Expense	0.00	0.00	26.81	0.00	0.00	-26.81	0	Over
5050	Books/Periodicals/Software	0.00	0.00	36.00	0.00	0.00	-36.00	0	Over
Materials & Supplies		42.73	0.00	62.81	0.00	0.00	-62.81	0	50 Over
8900 Other Expenses									
5140	Advertising/Marketing	80.00	0.00	0.00	0.00	0.00	0.00	0	
5385	Business Expenses	0.00	209.45	1,458.83	0.00	0.00	-1,458.83	0	Over
Other Expenses		80.00	209.45	1,458.83	0.00	0.00	-1,458.83	0	50 Over
End Fund - Dept 001-610		100,946.85	15,891.89	118,288.00	0.00	384,407.00	266,119.00	69	50

Department Expense Report

Fund - Dept 212-653 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

TRANSIT SERVICES		Prior Year's Actuals	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining	
Category	Description	Thru 12/2020						Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	458.01	181.03	524.46	0.00	2,916.00	2,391.54	82	
4690	Employee Benefits Other	424.20	111.04	360.76	0.00	2,740.00	2,379.24	87	
Salaries & Employee Benefits		882.21	292.07	885.22	0.00	5,656.00	4,770.78	84	50
5000 Materials & Supplies									
5515	Building Maintenance/Repair	0.00	0.00	0.00	0.00	1,000.00	1,000.00	100	
7320	Custodial Supplies	0.00	0.00	0.00	0.00	500.00	500.00	100	
Materials & Supplies		0.00	0.00	0.00	0.00	1,500.00	1,500.00	100	50
5400 Purchased Services									
5330	Contractual	0.00	0.00	0.00	0.00	1,000.00	1,000.00	100	
5440	Janitorial Services	0.00	0.00	0.00	0.00	2,500.00	2,500.00	100	
7425	Transit Services	6,454.00	0.00	37,900.00	13,300.00	121,200.00	70,000.00	58	
Purchased Services		6,454.00	0.00	37,900.00	13,300.00	124,700.00	73,500.00	59	50
End Fund - Dept 212-653		7,336.21	292.07	38,785.22	13,300.00	131,856.00	79,770.78	60	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 212-654 Budget Year: 2022

Budget Version 10: Working

TRANSPORTATION-BIKE/PEDS		Prior Year's Actuals	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining	
Category	Description	Thru 12/2020						Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	15,744.23	4,618.71	17,145.75	0.00	42,953.00	25,807.25	60	
4020	Salaries - Hourly Pay	0.00	444.00	444.00	0.00	0.00	-444.00	0	Over
4690	Employee Benefits Other	11,075.71	3,515.81	11,785.33	0.00	29,841.00	18,055.67	61	
Salaries & Employee Benefits		26,819.94	8,578.52	29,375.08	0.00	72,794.00	43,418.92	60	50
5000 Materials & Supplies									
5000	Office Expense	75.41	0.00	41.65	0.00	0.00	-41.65	0	Over
5100	Materials and Supplies	0.00	0.00	0.00	0.00	95.00	95.00	100	
Materials & Supplies		75.41	0.00	41.65	0.00	95.00	53.35	56	50
8900 Other Expenses									
5071	Bike Incentive Program	0.00	42.83	192.83	0.00	600.00	407.17	68	
5140	Advertising/Marketing	0.00	0.00	0.00	0.00	300.00	300.00	100	
5390	Training	0.00	0.00	2,827.28	0.00	5,000.00	2,172.72	43	
Other Expenses		0.00	42.83	3,020.11	0.00	5,900.00	2,879.89	49	50
8950 Depreciation									
Depreciation		0.00	0.00	0.00	0.00	0.00	0.00	0	50
End Fund - Dept 212-654		26,895.35	8,621.35	32,436.84	0.00	78,789.00	46,352.16	59	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 212-655 Budget Year: 2022

Budget Version 10: Working

TRANSPORTATION-PLANNING		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	34,976.63	8,296.46	49,450.83	0.00	86,318.00	36,867.17	43	
4020	Salaries - Hourly Pay	236.00	518.00	611.82	0.00	0.00	-611.82	0	Over
4050	Salaries - Overtime	0.49	277.50	277.50	0.00	0.00	-277.50	0	Over
4690	Employee Benefits Other	24,740.47	6,061.57	34,826.93	0.00	60,994.00	26,167.07	43	
Salaries & Employee Benefits		59,953.59	15,153.53	85,167.08	0.00	147,312.00	62,144.92	42	50
5000 Materials & Supplies									
5000	Office Expense	127.98	0.00	0.00	0.00	0.00	0.00	0	
5005	Postage & Mailing	0.00	0.00	1,662.79	0.00	0.00	-1,662.79	0	Over
5050	Books/Periodicals/Software	7,346.30	0.00	0.00	0.00	7,669.00	7,669.00	100	
5105	Small Tools and Equipment	86.18	0.00	0.00	0.00	1,000.00	1,000.00	100	
Materials & Supplies		7,560.46	0.00	1,662.79	0.00	8,669.00	7,006.21	81	50
5400 Purchased Services									
Purchased Services		0.00	0.00	0.00	0.00	0.00	0.00	0	50
8900 Other Expenses									
5140	Advertising/Marketing	0.00	0.00	0.00	0.00	750.00	750.00	100	
5370	Memberships/Dues	0.00	0.00	300.00	0.00	285.00	-15.00	-5	Over
5390	Training	-354.40	0.00	5,744.89	0.00	5,000.00	-744.89	-15	Over
5480	Communications	879.16	427.88	1,099.59	0.00	2,500.00	1,400.41	56	
Other Expenses		524.76	427.88	7,144.48	0.00	8,535.00	1,390.52	16	50
End Fund - Dept 212-655		68,038.81	15,581.41	93,974.35	0.00	164,516.00	70,541.65	43	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 400-000 Budget Year: 2022

Budget Version 10: Working

CAPITAL PROJECTS CLEARING FUND		Prior Year's Actuals	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining	
Category	Description	Thru 12/2020						Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	564,062.80	118,613.12	704,576.39	0.00	1,572,874.00	868,297.61	55	
4020	Salaries - Hourly Pay	28,054.89	4,000.75	28,312.24	0.00	0.00	-28,312.24	0	Over
4050	Salaries - Overtime	8,714.17	439.77	6,025.96	0.00	23,300.00	17,274.04	74	
4690	Employee Benefits Other	375,438.90	76,543.74	458,472.00	0.00	1,023,976.00	565,504.00	55	
	Salaries & Employee Benefits	976,270.76	199,597.38	1,197,386.59	0.00	2,620,150.00	1,422,763.41	54	50
5000 Materials & Supplies									
	Materials & Supplies	0.00	0.00	0.00	0.00	0.00	0.00	0	50
8900 Other Expenses									
	Other Expenses	0.00	0.00	0.00	0.00	0.00	0.00	0	50
End Fund - Dept 400-000		976,270.76	199,597.38	1,197,386.59	0.00	2,620,150.00	1,422,763.41	54	50

Department Expense Report

Fund - Dept 400-610 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

CAPITAL-CAPITAL PROJECTS SRVCS		Prior Year's Actuals	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining	
Category	Description	Thru 12/2020						Budg / Time	
5000 Materials & Supplies									
5000	Office Expense	5,182.13	2,145.55	13,058.63	0.00	12,000.00	-1,058.63	-9	Over
5005	Postage & Mailing	48.22	49.91	49.91	0.00	200.00	150.09	75	
5010	Outside Printing Expense	255.25	26.81	410.08	0.00	475.00	64.92	14	
5050	Books/Periodicals/Software	6,678.63	0.00	4,534.31	0.00	5,000.00	465.69	9	
5100	Materials and Supplies	77.29	0.00	0.00	0.00	0.00	0.00	0	
5105	Small Tools and Equipment	1,373.63	468.97	1,956.94	0.00	5,000.00	3,043.06	61	
5505	Equipment Maintenance/Repair	0.00	0.00	0.00	0.00	1,500.00	1,500.00	100	
Materials & Supplies		13,615.15	2,691.24	20,009.87	0.00	24,175.00	4,165.13	17	50
5400 Purchased Services									
5400	Professional Services	0.00	0.00	0.00	0.00	475.00	475.00	100	
5401	Audit Services	8,072.28	0.00	0.00	0.00	9,858.00	9,858.00	100	
5555	Maint Agreements Other	8,212.05	0.00	0.00	0.00	25,000.00	25,000.00	100	
Purchased Services		16,284.33	0.00	0.00	0.00	35,333.00	35,333.00	100	50
8900 Other Expenses									
5140	Advertising/Marketing	0.00	0.00	29.99	0.00	437.00	407.01	93	
5160	Licenses/Permits/Fees	238.50	350.00	350.00	0.00	950.00	600.00	63	
5370	Memberships/Dues	1,018.00	0.00	0.00	0.00	2,200.00	2,200.00	100	
5385	Business Expenses	0.00	209.45	1,458.83	0.00	95.00	-1,363.83	-1436	Over
5390	Training	920.00	0.00	4,055.00	0.00	15,000.00	10,945.00	73	
5480	Communications	2,388.22	757.13	2,656.32	0.00	7,541.00	4,884.68	65	
Other Expenses		4,564.72	1,316.58	8,550.14	0.00	26,223.00	17,672.86	67	50
End Fund - Dept 400-610		34,464.20	4,007.82	28,560.01	0.00	85,731.00	57,170.99	67	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 850-000 Budget Year: 2022

Budget Version 10: Working

SEWER-ADMN		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	4,761.61	1,604.47	9,206.64	0.00	12,518.00	3,311.36	26	
4020	Salaries - Hourly Pay	0.00	1,026.00	2,924.36	0.00	0.00	-2,924.36	0	Over
4690	Employee Benefits Other	3,123.10	1,111.15	6,178.29	0.00	8,340.00	2,161.71	26	
Salaries & Employee Benefits		7,884.71	3,741.62	18,309.29	0.00	20,858.00	2,548.71	12	50
5400 Purchased Services									
5400	Professional Services	850.00	0.00	0.00	0.00	0.00	0.00	0	
Purchased Services		850.00	0.00	0.00	0.00	0.00	0.00	0	50
8000 Debt Service									
Debt Service		0.00	0.00	0.00	0.00	0.00	0.00	0	50
End Fund - Dept 850-000		8,734.71	3,741.62	18,309.29	0.00	20,858.00	2,548.71	12	50

Department Expense Report

Fund - Dept 850-615 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

SEWER-DEVELOPMENT SERVICES		Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
4000 Salaries & Employee Benefits								
4000	Salaries - Permanent	86,718.43	12,617.03	89,454.32	0.00	261,015.00	171,560.68	66
4020	Salaries - Hourly Pay	6,436.65	288.00	4,763.10	0.00	0.00	-4,763.10	0 Over
4056	Salaries - CTO Payout	0.00	0.00	2.62	0.00	0.00	-2.62	0 Over
4690	Employee Benefits Other	49,663.16	5,539.83	49,069.76	0.00	159,962.00	110,892.24	69
Salaries & Employee Benefits		142,818.24	18,444.86	143,289.80	0.00	420,977.00	277,687.20	66 50
5000 Materials & Supplies								
5000	Office Expense	0.00	0.00	0.00	0.00	310.00	310.00	100
5010	Outside Printing Expense	0.00	0.00	26.81	0.00	0.00	-26.81	0 Over
5050	Books/Periodicals/Software	3,087.18	0.00	0.00	0.00	7,400.00	7,400.00	100
5100	Materials and Supplies	0.00	0.00	2,068.43	0.00	0.00	-2,068.43	0 Over
Materials & Supplies		3,087.18	0.00	2,095.24	0.00	7,710.00	5,614.76	73 50
8900 Other Expenses								
5160	Licenses/Permits/Fees	116.00	0.00	0.00	0.00	570.00	570.00	100
5385	Business Expenses	0.00	209.45	1,458.83	0.00	0.00	-1,458.83	0 Over
5390	Training	0.00	0.00	750.00	0.00	12,159.00	11,409.00	94
5480	Communications	74.89	0.00	64.02	0.00	250.00	185.98	74
Other Expenses		190.89	209.45	2,272.85	0.00	12,979.00	10,706.15	82 50
End Fund - Dept 850-615		146,096.31	18,654.31	147,657.89	0.00	441,666.00	294,008.11	67 50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 863-000 Budget Year: 2022

Budget Version 10: Working

SUBDIVISION		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent		
Category	Description	Actuals	Month	Actuals	brances			Remaining		
		Thru 12/2020	Actuals	Actuals				Budg / Time		
4000 Salaries & Employee Benefits										
4000	Salaries - Permanent	1,842.37	335.78	3,394.70	0.00	0.00	-3,394.70	0	Over	
4690	Employee Benefits Other	1,416.28	246.85	2,717.87	0.00	0.00	-2,717.87	0	Over	
Salaries & Employee Benefits		3,258.65	582.63	6,112.57	0.00	0.00	-6,112.57	0	50	Over
5000 Materials & Supplies										
Materials & Supplies		0.00	0.00	0.00	0.00	0.00	0.00	0	50	
5400 Purchased Services										
5400	Professional Services	0.00	0.00	0.00	50,003.98	1,954.00	-48,049.98	-2459	Over	
Purchased Services		0.00	0.00	0.00	50,003.98	1,954.00	-48,049.98	-2,459	50	Over
End Fund - Dept 863-000		3,258.65	582.63	6,112.57	50,003.98	1,954.00	-54,162.55	-2,772	50	OVER

Department Expense Report

Fund - Dept 863-615 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

SUBDIVISIONS-DEV ENGINEERING		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent		
Category	Description	Actuals	Month	Actuals	brances			Remaining		
		Thru 12/2020	Actuals	Actuals				Budg / Time		
4000 Salaries & Employee Benefits										
4000	Salaries - Permanent	24,068.46	4,220.98	27,578.48	0.00	75,491.00	47,912.52	63		
4020	Salaries - Hourly Pay	24.95	0.00	1,072.28	0.00	0.00	-1,072.28	0	Over	
4050	Salaries - Overtime	829.24	0.00	612.16	0.00	0.00	-612.16	0	Over	
4690	Employee Benefits Other	11,722.88	2,367.48	15,895.00	0.00	46,395.00	30,500.00	66		
Salaries & Employee Benefits		36,645.53	6,588.46	45,157.92	0.00	121,886.00	76,728.08	63	50	
5000 Materials & Supplies										
5000	Office Expense	0.00	0.00	0.00	0.00	500.00	500.00	100		
5005	Postage & Mailing	116.60	0.00	82.98	0.00	300.00	217.02	72		
5010	Outside Printing Expense	0.00	0.00	0.00	0.00	200.00	200.00	100		
5050	Books/Periodicals/Software	638.01	0.00	0.00	0.00	1,600.00	1,600.00	100		
5105	Small Tools and Equipment	0.00	0.00	0.00	0.00	500.00	500.00	100		
Materials & Supplies		754.61	0.00	82.98	0.00	3,100.00	3,017.02	97	50	
5400 Purchased Services										
5400	Professional Services	45,226.90	0.00	49,450.00	4,846.23	104,846.00	50,549.77	48		
5401	Audit Services	1,795.95	0.00	0.00	0.00	998.00	998.00	100		
Purchased Services		47,022.85	0.00	49,450.00	4,846.23	105,844.00	51,547.77	49	50	
8900 Other Expenses										
5140	Advertising/Marketing	0.00	0.00	0.00	0.00	700.00	700.00	100		
5160	Licenses/Permits/Fees	0.00	0.00	78.00	0.00	475.00	397.00	84		
5390	Training	0.00	0.00	1,500.00	0.00	3,928.00	2,428.00	62		
5480	Communications	700.49	42.24	455.14	0.00	1,600.00	1,144.86	72		
Other Expenses		700.49	42.24	2,033.14	0.00	6,703.00	4,669.86	70	50	
End Fund - Dept 863-615		85,123.48	6,630.70	96,724.04	4,846.23	237,533.00	135,962.73	57	50	

Department Expense Report

Fund - Dept 873-615 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

PRIVATE DEV-ENGINEERING

Category	Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining Budg / Time
4000 Salaries & Employee Benefits								
4000	Salaries - Permanent	153,470.85	26,960.14	155,743.16	0.00	391,719.00	235,975.84	60
4020	Salaries - Hourly Pay	0.00	521.25	22,719.07	0.00	0.00	-22,719.07	0 Over
4050	Salaries - Overtime	3,706.10	525.14	1,775.63	0.00	0.00	-1,775.63	0 Over
4056	Salaries - CTO Payout	0.00	0.00	0.29	0.00	0.00	-0.29	0 Over
4690	Employee Benefits Other	-12,415.89	15,278.32	86,077.62	0.00	238,764.00	152,686.38	64
Salaries & Employee Benefits		144,761.06	43,284.85	266,315.77	0.00	630,483.00	364,167.23	58 50
5000 Materials & Supplies								
5000	Office Expense	0.00	0.00	2,827.29	0.00	1,000.00	-1,827.29	-183 Over
5005	Postage & Mailing	0.00	0.00	0.00	0.00	1,500.00	1,500.00	100
5050	Books/Periodicals/Software	0.00	0.00	0.00	0.00	1,500.00	1,500.00	100
5105	Small Tools and Equipment	0.00	0.00	0.00	0.00	500.00	500.00	100
5110	Safety Equipment	0.00	0.00	0.00	0.00	500.00	500.00	100
5505	Equipment Maintenance/Repair	0.00	0.00	0.00	0.00	500.00	500.00	100
Materials & Supplies		0.00	0.00	2,827.29	0.00	5,500.00	2,672.71	49 50
5400 Purchased Services								
5400	Professional Services	7,100.00	385.00	3,080.00	0.00	7,500.00	4,420.00	59
5401	Audit Services	0.00	0.00	0.00	0.00	297.00	297.00	100
Purchased Services		7,100.00	385.00	3,080.00	0.00	7,797.00	4,717.00	60 50
8900 Other Expenses								
5160	Licenses/Permits/Fees	0.00	0.00	41.00	0.00	0.00	-41.00	0 Over
5370	Memberships/Dues	0.00	0.00	0.00	0.00	500.00	500.00	100
5385	Business Expenses	0.00	209.45	1,458.82	0.00	500.00	-958.82	-192 Over
5390	Training	0.00	0.00	1,000.00	0.00	2,500.00	1,500.00	60
5480	Communications	152.04	76.02	190.05	0.00	1,500.00	1,309.95	87
Other Expenses		152.04	285.47	2,689.87	0.00	5,000.00	2,310.13	46 50
End Fund - Dept 873-615		152,013.10	43,955.32	274,912.93	0.00	648,780.00	373,867.07	58 50

Department Expense Report

Fund - Dept 876-610 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

City Recreation		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent		
Category	Description	Actuals	Month	Actuals	brances			Remaining		
		Thru 12/2020	Actuals	Actuals				Budg / Time		
4000 Salaries & Employee Benefits										
4000	Salaries - Permanent	0.00	15.62	5,159.18	0.00	12,000.00	6,840.82	57		
4020	Salaries - Hourly Pay	0.00	0.00	8,787.50	0.00	0.00	-8,787.50	0	Over	
4050	Salaries - Overtime	0.00	0.00	203.14	0.00	0.00	-203.14	0	Over	
4690	Employee Benefits Other	0.00	11.66	8,680.10	0.00	8,000.00	-680.10	-9	Over	
Salaries & Employee Benefits		0.00	27.28	22,829.92	0.00	20,000.00	-2,829.92	-14	50	Over
5400 Purchased Services										
5330	Contractual	0.00	79,678.25	167,809.62	201,222.50	325,186.00	-43,846.12	-13	Over	
Purchased Services		0.00	79,678.25	167,809.62	201,222.50	325,186.00	-43,846.12	-13	50	Over
8900 Other Expenses										
5140	Advertising/Marketing	0.00	0.00	72.93	0.00	10,000.00	9,927.07	99		
5481	Rink Amenities	0.00	321.75	321.75	0.00	40,000.00	39,678.25	99		
Other Expenses		0.00	321.75	394.68	0.00	50,000.00	49,605.32	99	50	
8910 Non-Recurring Operating										
7500	Non-Recurring Operating	0.00	2,657.29	10,820.04	0.00	20,000.00	9,179.96	46		
Non-Recurring Operating		0.00	2,657.29	10,820.04	0.00	20,000.00	9,179.96	46	50	
End Fund - Dept 876-610		0.00	82,684.57	201,854.26	201,222.50	415,186.00	12,109.24	3	50	

Department Expense Report

Fund - Dept 876-610 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

City Recreation		Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
Grand Totals : DPW - Engineering		1,609,178.43	400,241.07	2,255,001.99	269,372.71	5,231,426.00	2,707,051.30	52 50

End Of Report Prepared for DPW Engineering

Current Year Data Through 12/31/2021

**** End of Report ****

Monthly Budget Monitoring Report

Public Works Department – O&M

(Dept. Name)

Fiscal Year 2021-22 Monthly Report for the **period ending:** 12/31/21

Department Contact: Erik Gustafson (894-4202)

Purpose: The purpose of the review is to identify any expenditure trends which would hinder a department's ability to meet their approved budget targets or to highlight any trends of interest for the governing body.

Overall Summary: The various budget accounts in the Public Works Department are on track for FY 21-22 except for the few items listed below.

Items of Interest:

NEW

Item #1

Location: Parking Revenue-Admin

Expenditure Category: 853-000-5400

Description: Purchased Services

Analysis: This category is tracking behind due to the timing of the Dixon Resources consultant payments.

Action Plan: None at this time. The encumbrance for the Dixon contract is less than the overall budget for this Division so the budget should be on track by the end of the fiscal year.

Item #2

Location: Central Garage

Expenditure Category: 929-630-5000

Description: Materials and Supplies

Analysis: This category is tracking just slightly below due to unanticipated needs in the Small Tools and Equipment and Batteries line items.

Action Plan: None at this time. The overall budget for this Division is tracking ahead (60% vs 50%).

Item #3

Location: Building Maintenance

Expenditure Category: 930-6430-5400

Description: Purchased Services

Analysis: This category is tracking just slightly below (47% vs 50%) due to unanticipated needs in the Janitorial Services line items. This is likely due to increased cleanings needed at the City Hall Complex and City Plaza.

Action Plan: None at this time. The overall budget for this Division is tracking ahead (58% vs 50%).

PREVIOUS

Item #1

Location: **Environmental Services**

Expenditure Category: **001-110-8900**

Description: **Other Expenses**

Analysis: This category is over budget due to the City's \$5,000 annual member contribution to the Vina Groundwater Sustainability Agency (GSA) Joint Powers Agreement that was inadvertently not budgeted this year.

Action Plan: The overall budget for this Division is tracking slightly below the remaining time. Staff will monitor this budget and prepare a supplemental appropriation if needed at the end of the fiscal year.

Item #2

Location: **Public Works Administration**

Expenditure Category: **001-601-5000**

Description: **Materials and Supplies**

Analysis: This category is tracking behind due to the Mobile MMS subscription in line item 5050 being paid in July 2021 for Fiscal Year 2021/22.

Action Plan: The annual software subscription price has increased, so O&M will request additional funding for this renewal next FY. The overall budget for this Department should be on track by year end.

Item #3

Location: **Public Right-of-Way Maintenance**

Expenditure Category: **001-650-5000**

Description: **Materials & Supplies**

Analysis: This category is tracking behind due to several unanticipated purchases needed that exceeded the budget for this category so far this year.

Action Plan: None at this time. The overall budget for this Division is tracking ahead 55% vs 50%.

Item #4

Location: **Parking Revenue**

Expenditure Category: **853-660-4000**

Description: **Salaries & Benefits**

Analysis: This category is tracking behind (27% VS 41%) due to unanticipated hourly, overtime that do not have a budget in FY 2020-21 and increased staffing costs to this Division.

Action Plan: This Division's overall budget is on track for the year end. If not, a budget modification will be prepared at the end of the 2021-22 fiscal year. Staff will also review staffing needs for the 2022-23 fiscal year.

Item #5

Location: **Maintenance District Administration**


Expenditure Category: **941-614-4000**

Description: **Salaries & Benefits**

Analysis: This category is tracking behind due to a staff member out on extended medical leave and other staff filling in to complete some of the duties of this Division.

Action Plan: Salaries and Benefits should be on track by year end.

APPROVALS:

	Review	Signature	Date
X	Erik Gustafson Department Director- O&M		1-19-22

City of Chico
2021-22 Annual Budget
Department Operating Summary

Data Through 12/31/2021

Prepared for DPW - Operations	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining Budg / Time
Expenditure by Category						
4000 Salaries & Employee Benefits	672,457	3,857,475	0	9,214,853	5,357,378	58
5000 Materials & Supplies	160,123	815,875	0	1,851,333	1,035,458	56
5400 Purchased Services	198,195	1,058,712	342,249	2,931,618	1,530,657	52
8000 Debt Service	0	265,624	0	0	-265,624	0 Over
8900 Other Expenses	45,135	146,000	0	558,564	412,564	74
8910 Non-Recurring Operating	0	0	0	47,700	47,700	100
Total For Department(s)	1,075,910	6,143,686	342,249	14,604,068	8,118,133	56 50

Expenditure Summary by Fund - Dept

Fund - Dept	Title					
001 - 110	General-Environmental Services	4,728	36,731	0	71,604	34,873 49
001 - 601	General-Gen Svs Dept Admin	10,872	66,890	0	124,967	58,077 46
001 - 620	General-Street Cleaning	105,965	335,147	0	916,448	581,301 63
001 - 650	General-Public Right-of-Way Maint	76,259	567,966	0	1,269,010	701,044 55
	Fund 001 Sub-Totals	197,824	1,006,734	0	2,382,029	1,375,295 58
002 - 682	Park-Parks/Open Spaces	105,546	594,363	0	1,469,564	875,201 60
002 - 686	Park-Street Trees/Public Plantings	79,007	461,181	126,273	1,420,489	833,035 59
050 - 682	Donations-Parks/Open Spaces	0	0	0	89,782	89,782 100
052 - 682	-Parks/Open Spaces	4,783	57,874	0	216,325	158,451 73
100 - 686	Grants-Oper Activities-Street	1,717	25,472	188,272	222,346	8,602 4
212 - 650	Transportation-Public Right-of-Way	9,103	51,959	0	104,862	52,903 50
212 - 659	Transportation-Trans-Depot	2,743	13,303	0	45,411	32,108 71
308 - 000	Street Facility Improvement-Funds	0	265,624	0	0	-265,624 0 Over
850 - 670	Sewer-Water Poll Control Plant	402,429	2,120,540	18,271	4,974,850	2,836,039 57
853 - 000	Parking Revenue-Funds	0	12,176	2,734	21,009	6,099 29
853 - 660	Parking Revenue-Parking Facilities	35,458	238,283	0	436,542	198,259 45
856 - 691	Airport-Aviation Fac Mtnc	31,488	177,634	6,700	540,279	355,945 66
929 - 630	Central Garage-Central Garage	108,704	561,026	0	1,385,932	824,906 60
930 - 640	Muni Bldgs Maint-Bldg/Fac Maint	89,521	511,969	0	1,222,904	710,935 58
941 - 614	Maint Dist Admin-Maint Dist Admin	7,588	45,549	0	71,744	26,195 37
Total For Fund/Department		1,075,911	6,143,687	342,250	14,604,068	8,118,131 56 50

Expenditure Summary by Fund

Fund	Title					
001	General	197,823	1,006,734	0	2,382,029	1,375,295 58
002	Park	184,553	1,055,544	126,273	2,890,053	1,708,236 59
050	Donations	0	0	0	89,782	89,782 100
052	Specialized Community Services	4,783	57,874	0	216,325	158,451 73
100	Grants-Operating Activities	1,717	25,472	188,272	222,346	8,602 4
212	Transportation	11,846	65,262	0	150,273	85,011 57
308	Street Facility Improvement	0	265,624	0	0	-265,624 0 Over
850	Sewer	402,429	2,120,540	18,271	4,974,850	2,836,039 57
853	Parking Revenue	35,458	250,458	2,734	457,551	204,359 45
856	Airport	31,488	177,634	6,700	540,279	355,945 66
929	Central Garage	108,704	561,026	0	1,385,932	824,906 60
930	Municipal Buildings Maintenance	89,521	511,969	0	1,222,904	710,935 58
941	Maintenance District Administration	7,588	45,549	0	71,744	26,195 37
Total For Fund(s)		1,075,910	6,143,686	342,250	14,604,068	8,118,132 56 50

** End of Report **

Department Expense Report

Multi Fund/Dept Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

DPW Operations Category Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining	Budg / Time
Fund - Dept 001-110 GENERAL-ENVIRONMENTAL SVCS								
Salaries & Employee Benefits	29,634.82	4,445.70	31,101.34	0.00	68,254.00	37,152.66	54	50
Materials & Supplies	0.00	0.00	0.00	0.00	0.00	0.00	0	50
Other Expenses	0.00	281.99	5,629.99	0.00	3,350.00	-2,279.99	-68	50 Over
End Fund - Dept 001-110	29,634.82	4,727.69	36,731.33	0.00	71,604.00	34,872.67	49	50
Fund - Dept 001-601 Public Works Administration								
Salaries & Employee Benefits	31,660.51	6,098.63	32,933.13	0.00	88,627.00	55,693.87	63	50
Materials & Supplies	20,847.67	475.22	18,107.46	0.00	26,800.00	8,692.54	32	50
Purchased Services	31,816.35	3,972.43	13,909.22	0.00	0.00	-13,909.22	0	50 Over
Other Expenses	2,373.69	325.41	1,939.82	0.00	9,540.00	7,600.18	80	50
End Fund - Dept 001-601	86,698.22	10,871.69	66,889.63	0.00	124,967.00	58,077.37	46	50
Fund - Dept 001-620 GENERAL-STREET CLEANING								
Salaries & Employee Benefits	273,163.18	88,736.21	288,588.26	0.00	780,423.00	491,834.74	63	50
Materials & Supplies	4,948.49	104.81	1,294.62	0.00	12,700.00	11,405.38	90	50
Purchased Services	44,791.07	6,984.23	34,309.58	0.00	100,425.00	66,115.42	66	50
Other Expenses	6,007.66	10,139.48	10,954.68	0.00	22,900.00	11,945.32	52	50
End Fund - Dept 001-620	328,910.40	105,964.73	335,147.14	0.00	916,448.00	581,300.86	63	50
Fund - Dept 001-650 GENERAL-PUBLIC ROW MTCE								
Salaries & Employee Benefits	440,584.31	57,206.65	430,012.04	0.00	1,042,285.00	612,272.96	59	50
Materials & Supplies	150,726.72	18,157.67	131,885.39	0.00	197,300.00	65,414.61	33	50
Purchased Services	3,080.87	50.72	868.66	0.00	17,500.00	16,631.34	95	50
Other Expenses	3,440.79	843.84	5,200.22	0.00	11,925.00	6,724.78	56	50
End Fund - Dept 001-650	597,832.69	76,258.88	567,966.31	0.00	1,269,010.00	701,043.69	55	50
Fund - Dept 002-682 PARK-PARKS AND OPEN SPACES								
Salaries & Employee Benefits	393,019.06	70,399.50	404,407.71	0.00	942,537.00	538,129.29	57	50
Materials & Supplies	25,933.11	6,604.51	18,266.95	0.00	83,790.00	65,523.05	78	50
Purchased Services	133,441.41	23,148.14	150,160.47	0.00	304,750.00	154,589.53	51	50
Other Expenses	50,297.27	5,393.45	21,527.87	0.00	138,487.00	116,959.13	84	50
End Fund - Dept 002-682	602,690.85	105,545.60	594,363.00	0.00	1,469,564.00	875,201.00	60	50
Fund - Dept 002-686 PARK-STREET TREE/PUB PLNT								
Salaries & Employee Benefits	328,370.87	56,786.04	317,442.97	0.00	858,419.00	540,976.03	63	50
Materials & Supplies	9,476.25	666.85	2,601.59	0.00	16,210.00	13,608.41	84	50
Purchased Services	177,702.18	20,994.00	138,833.92	126,273.00	535,878.00	270,771.08	51	50
Other Expenses	5,138.34	560.39	2,302.28	0.00	9,982.00	7,679.72	77	50
End Fund - Dept 002-686	520,687.64	79,007.28	461,180.76	126,273.00	1,420,489.00	833,035.24	59	50
Fund - Dept 050-682 DONATIONS								
Materials & Supplies	0.00	0.00	0.00	0.00	89,782.00	89,782.00	100	50
End Fund - Dept 050-682	0.00	0.00	0.00	0.00	89,782.00	89,782.00	100	50
Fund - Dept 052-682 Special Com Svcs								
Salaries & Employee Benefits	0.00	4,782.73	57,721.52	0.00	216,325.00	158,603.48	73	50

Department Expense Report

Multi Fund/Dept Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

DPW Operations	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining		
Category Description							Budg / Time		
Materials & Supplies	0.00	0.00	152.02	0.00	0.00	-152.02	0	50	Over
End Fund - Dept 052-682	0.00	4,782.73	57,873.54	0.00	216,325.00	158,451.46	73	50	

Fund - Dept 100-686 GRANTS ST TREE/PUB PLANTING

Salaries & Employee Benefits	35,431.71	0.00	17,503.04	0.00	49,408.00	31,904.96	65	50	
Materials & Supplies	0.00	0.00	0.00	0.00	0.00	0.00	0	50	
Purchased Services	39,849.95	1,717.12	7,969.17	188,272.02	172,938.00	-23,303.19	-13	50	Over
End Fund - Dept 100-686	75,281.66	1,717.12	25,472.21	188,272.02	222,346.00	8,601.77	4	50	

Fund - Dept 212-650 TRANSIT SERVICES - PUBLIC ROW

Salaries & Employee Benefits	51,617.36	9,103.44	51,958.61	0.00	104,862.00	52,903.39	50	50	
End Fund - Dept 212-650	51,617.36	9,103.44	51,958.61	0.00	104,862.00	52,903.39	50	50	

Fund - Dept 212-659 TRANSPORTATION-DEPOT

Salaries & Employee Benefits	882.21	87.24	497.84	0.00	5,656.00	5,158.16	91	50	
Materials & Supplies	0.00	0.00	0.00	0.00	1,800.00	1,800.00	100	50	
Purchased Services	11,528.84	2,655.43	12,805.58	0.00	37,705.00	24,899.42	66	50	
Other Expenses	0.00	0.00	0.00	0.00	250.00	250.00	100	50	
End Fund - Dept 212-659	12,411.05	2,742.67	13,303.42	0.00	45,411.00	32,107.58	71	50	

Fund - Dept 308-000 STREET FACILITY IMPRV-ADMN

Debt Service	0.00	0.00	265,624.00	0.00	0.00	-265,624.00	0	50	Over
End Fund - Dept 308-000	0.00	0.00	265,624.00	0.00	0.00	-265,624.00	0	50	OVER

Fund - Dept 321-000 SEWER FEE/WPCP CAP-ADMN

Debt Service	0.00	0.00	0.00	0.00	0.00	0.00	0	50	
End Fund - Dept 321-000	0.00	0.00	0.00	0.00	0.00	0.00	0	50	

Fund - Dept 850-670 SEWER-WPCP

Salaries & Employee Benefits	834,759.57	197,467.48	1,212,259.79	0.00	2,719,245.00	1,506,985.21	55	50	
Materials & Supplies	329,760.41	91,152.28	410,529.33	0.00	879,091.00	468,561.67	53	50	
Purchased Services	433,597.29	87,456.27	421,217.40	18,270.67	1,093,464.00	653,975.93	60	50	
Other Expenses	52,168.30	26,352.96	76,533.68	0.00	283,050.00	206,516.32	73	50	
End Fund - Dept 850-670	1,650,285.57	402,428.99	2,120,540.20	18,270.67	4,974,850.00	2,836,039.13	57	50	

Fund - Dept 853-000 PARKING REVENUE-ADMN

Purchased Services	11,982.67	0.00	12,175.56	2,733.75	21,009.00	6,099.69	29	50	
End Fund - Dept 853-000	11,982.67	0.00	12,175.56	2,733.75	21,009.00	6,099.69	29	50	

Fund - Dept 853-660 PKG REVENUE-PKG FAC MTCE

Salaries & Employee Benefits	111,858.94	30,930.00	186,404.51	0.00	273,951.00	87,546.49	32	50	
Materials & Supplies	24,016.41	822.68	11,806.76	0.00	46,200.00	34,393.24	74	50	
Purchased Services	30,991.89	3,328.55	38,778.21	0.00	112,991.00	74,212.79	66	50	
Other Expenses	845.24	377.23	1,293.28	0.00	3,400.00	2,106.72	62	50	
End Fund - Dept 853-660	167,712.48	35,458.46	238,282.76	0.00	436,542.00	198,259.24	45	50	

Department Expense Report

Multi Fund/Dept Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

DPW Operations Category Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
Fund - Dept 856-000 AIRPORT-ADMN							
Purchased Services	0.00	0.00	0.00	0.00	0.00	0.00	0 50
End Fund - Dept 856-000	0.00	0.00	0.00	0.00	0.00	0.00	0 50
Fund - Dept 856-691 AIRPORT-AVIATN FAC MTCE							
Salaries & Employee Benefits	84,462.80	23,466.48	134,023.93	0.00	333,016.00	198,992.07	60 50
Materials & Supplies	4,812.87	157.02	8,387.96	0.00	26,120.00	17,732.04	68 50
Purchased Services	32,804.50	7,650.28	29,013.09	6,700.04	153,248.00	117,534.87	77 50
Other Expenses	6,921.61	213.82	6,208.74	0.00	27,895.00	21,686.26	78 50
End Fund - Dept 856-691	129,001.78	31,487.60	177,633.72	6,700.04	540,279.00	355,945.24	66 50
Fund - Dept 929-630 CENTRAL GARAGE							
Salaries & Employee Benefits	311,949.35	62,428.11	333,521.89	0.00	925,812.00	592,290.11	64 50
Materials & Supplies	163,796.63	32,756.29	171,879.22	0.00	336,430.00	164,550.78	49 50
Purchased Services	62,450.27	13,221.28	45,381.45	0.00	91,455.00	46,073.55	50 50
Other Expenses	11,539.40	298.17	10,243.42	0.00	32,235.00	21,991.58	68 50
End Fund - Dept 929-630	549,735.65	108,703.85	561,025.98	0.00	1,385,932.00	824,906.02	60 50
Fund - Dept 930-640 MUNI BLDGS MTCE-BLG/FC MTCE							
Salaries & Employee Benefits	282,285.89	53,006.41	316,389.56	0.00	740,539.00	424,149.44	57 50
Materials & Supplies	44,604.21	9,149.44	40,688.94	0.00	134,360.00	93,671.06	70 50
Purchased Services	180,851.28	27,017.04	150,724.72	0.00	284,755.00	134,030.28	47 50
Other Expenses	4,507.82	348.21	4,165.74	0.00	15,550.00	11,384.26	73 50
Non-Recurring Operating	0.00	0.00	0.00	0.00	47,700.00	47,700.00	100 50
End Fund - Dept 930-640	512,249.20	89,521.10	511,968.96	0.00	1,222,904.00	710,935.04	58 50
Fund - Dept 941-614 MAINTENANCE DISTRICT ADMIN							
Salaries & Employee Benefits	22,502.28	7,512.46	42,709.03	0.00	65,494.00	22,784.97	35 50
Materials & Supplies	277.22	76.02	274.53	0.00	750.00	475.47	63 50
Purchased Services	2,500.00	0.00	2,565.42	0.00	5,500.00	2,934.58	53 50
End Fund - Dept 941-614	25,279.50	7,588.48	45,548.98	0.00	71,744.00	26,195.02	37 50
Grand Totals : DPW - Operations	5,352,011.54	1,075,910.31	6,143,686.11	342,249.48	14,604,068.00	8,118,132.41	56 50

End Of Report Prepared for DPW Operations

Current Year Data Through 12/31/2021

**** End of Report ****

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 001-110 Budget Year: 2022

Budget Version 10: Working

GENERAL-ENVIRONMENTAL SVCS		Prior Year's Actuals	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining		
Category	Description	Thru 12/2020						Budg / Time		
4000 Salaries & Employee Benefits										
4000	Salaries - Permanent	17,852.48	2,807.56	19,693.47	0.00	41,490.00	21,796.53	53		
4690	Employee Benefits Other	11,782.34	1,638.14	11,407.87	0.00	26,764.00	15,356.13	57		
	Salaries & Employee Benefits	29,634.82	4,445.70	31,101.34	0.00	68,254.00	37,152.66	54	50	
5000 Materials & Supplies										
	Materials & Supplies	0.00	0.00	0.00	0.00	0.00	0.00	0	50	
8900 Other Expenses										
5140	Advertising/Marketing	0.00	281.99	5,629.99	0.00	2,500.00	-3,129.99	-125	Over	
5385	Business Expenses	0.00	0.00	0.00	0.00	600.00	600.00	100		
5390	Training	0.00	0.00	0.00	0.00	250.00	250.00	100		
	Other Expenses	0.00	281.99	5,629.99	0.00	3,350.00	-2,279.99	-68	50	Over
End Fund - Dept 001-110		29,634.82	4,727.69	36,731.33	0.00	71,604.00	34,872.67	49	50	

Department Expense Report

Fund - Dept 001-601 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

Public Works Administration		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	19,075.22	3,682.02	19,444.57	0.00	52,704.00	33,259.43	63	
4020	Salaries - Hourly Pay	22.89	0.00	555.00	0.00	0.00	-555.00	0	Over
4050	Salaries - Overtime	280.20	0.00	71.79	0.00	0.00	-71.79	0	Over
4690	Employee Benefits Other	12,282.20	2,416.61	12,861.77	0.00	35,923.00	23,061.23	64	
	Salaries & Employee Benefits	31,660.51	6,098.63	32,933.13	0.00	88,627.00	55,693.87	63	50
5000 Materials & Supplies									
5000	Office Expense	4,145.96	375.40	1,240.89	0.00	9,000.00	7,759.11	86	
5005	Postage & Mailing	644.44	99.82	552.98	0.00	1,500.00	947.02	63	
5010	Outside Printing Expense	177.73	0.00	231.59	0.00	500.00	268.41	54	
5050	Books/Periodicals/Software	15,879.54	0.00	16,082.00	0.00	15,500.00	-582.00	-4	Over
5100	Materials and Supplies	0.00	0.00	0.00	0.00	300.00	300.00	100	
	Materials & Supplies	20,847.67	475.22	18,107.46	0.00	26,800.00	8,692.54	32	50
5400 Purchased Services									
5441	Portable Toilet Program	31,816.35	3,972.43	13,909.22	0.00	0.00	-13,909.22	0	Over
	Purchased Services	31,816.35	3,972.43	13,909.22	0.00	0.00	-13,909.22	0	50 Over
8900 Other Expenses									
5140	Advertising/Marketing	110.00	125.94	536.14	0.00	2,000.00	1,463.86	73	
5160	Licenses/Permits/Fees	0.00	0.00	0.00	0.00	600.00	600.00	100	
5370	Memberships/Dues	0.00	0.00	0.00	0.00	500.00	500.00	100	
5385	Business Expenses	0.00	0.00	0.00	0.00	500.00	500.00	100	
5390	Training	0.00	0.00	0.00	0.00	600.00	600.00	100	
5480	Communications	2,263.69	199.47	1,403.68	0.00	5,340.00	3,936.32	74	
	Other Expenses	2,373.69	325.41	1,939.82	0.00	9,540.00	7,600.18	80	50
End Fund - Dept 001-601		86,698.22	10,871.69	66,889.63	0.00	124,967.00	58,077.37	46	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 001-620 Budget Year: 2022

Budget Version 10: Working

GENERAL-STREET CLEANING		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
4000 Salaries & Employee Benefits								
4000	Salaries - Permanent	144,880.12	41,663.75	149,009.27	0.00	420,427.00	271,417.73	65
4020	Salaries - Hourly Pay	816.00	3,208.00	5,909.75	0.00	0.00	-5,909.75	0 Over
4050	Salaries - Overtime	9,689.60	4,549.92	5,897.32	0.00	12,300.00	6,402.68	52
4080	Salaries - Light Duty	0.00	2,350.48	3,632.56	0.00	0.00	-3,632.56	0 Over
4690	Employee Benefits Other	117,777.46	36,964.06	124,139.36	0.00	347,696.00	223,556.64	64
Salaries & Employee Benefits		273,163.18	88,736.21	288,588.26	0.00	780,423.00	491,834.74	63 50
5000 Materials & Supplies								
5000	Office Expense	17.99	0.00	0.00	0.00	0.00	0.00	0
5005	Postage & Mailing	0.00	0.00	0.00	0.00	500.00	500.00	100
5050	Books/Periodicals/Software	0.00	0.00	0.00	0.00	200.00	200.00	100
5100	Materials and Supplies	3.21	0.00	930.23	0.00	3,000.00	2,069.77	69
5105	Small Tools and Equipment	1,838.97	0.00	259.58	0.00	4,000.00	3,740.42	94
5110	Safety Equipment	2,590.44	104.81	104.81	0.00	3,000.00	2,895.19	97
5120	Clothing/Uniforms	0.00	0.00	0.00	0.00	500.00	500.00	100
7338	Storm Drain Supplies	497.88	0.00	0.00	0.00	1,500.00	1,500.00	100
Materials & Supplies		4,948.49	104.81	1,294.62	0.00	12,700.00	11,405.38	90 50
5400 Purchased Services								
5330	Contractual	27,237.99	0.00	15,346.08	0.00	68,100.00	52,753.92	77
5415	Landscape Maintenance	1,547.00	309.40	1,547.00	0.00	0.00	-1,547.00	0 Over
7202	Fair St Detent Pnd Mon & Main	0.00	0.00	0.00	0.00	1,750.00	1,750.00	100
7347	Weed Control	14,143.26	4,890.62	14,632.29	0.00	21,150.00	6,517.71	31
7375	Sweeping/Trash Disposal	78.33	250.00	250.00	0.00	625.00	375.00	60
7394	Hazardous Materials Disposal	0.00	1,171.60	1,171.60	0.00	1,000.00	-171.60	-17 Over
7413	Outside Repairs/Services Other	1,784.49	362.61	1,362.61	0.00	7,800.00	6,437.39	83
Purchased Services		44,791.07	6,984.23	34,309.58	0.00	100,425.00	66,115.42	66 50
8900 Other Expenses								
5140	Advertising/Marketing	176.31	0.00	0.00	0.00	1,200.00	1,200.00	100
5160	Licenses/Permits/Fees	4,577.00	5,108.00	5,108.00	0.00	5,600.00	492.00	9
5300	Lease/Rental Expense	0.00	4,916.48	4,916.48	0.00	10,000.00	5,083.52	51
5390	Training	731.05	0.00	0.00	0.00	2,000.00	2,000.00	100
5465	Solid Waste Disposal	255.29	14.32	599.38	0.00	2,500.00	1,900.62	76
5480	Communications	268.01	100.68	251.82	0.00	1,600.00	1,348.18	84
7451	Volunteer Mat and Supplies	0.00	0.00	79.00	0.00	0.00	-79.00	0 Over
Other Expenses		6,007.66	10,139.48	10,954.68	0.00	22,900.00	11,945.32	52 50
End Fund - Dept 001-620		328,910.40	105,964.73	335,147.14	0.00	916,448.00	581,300.86	63 50

Department Expense Report

Fund - Dept 001-650 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

GENERAL-PUBLIC ROW MTCE		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	246,890.18	29,859.02	220,217.69	0.00	579,307.00	359,089.31	62	
4020	Salaries - Hourly Pay	0.00	656.75	2,047.57	0.00	0.00	-2,047.57	0	Over
4050	Salaries - Overtime	7,045.39	2,263.94	13,389.29	0.00	20,353.00	6,963.71	34	
4080	Salaries - Light Duty	0.00	427.36	13,835.78	0.00	0.00	-13,835.78	0	Over
4690	Employee Benefits Other	186,648.74	23,999.58	180,521.71	0.00	442,625.00	262,103.29	59	
Salaries & Employee Benefits		440,584.31	57,206.65	430,012.04	0.00	1,042,285.00	612,272.96	59	50
5000 Materials & Supplies									
5000	Office Expense	516.15	0.00	1,024.68	0.00	0.00	-1,024.68	0	Over
5005	Postage & Mailing	81.15	0.00	226.43	0.00	0.00	-226.43	0	Over
5050	Books/Periodicals/Software	112.94	0.00	0.00	0.00	1,300.00	1,300.00	100	
5100	Materials and Supplies	2,885.67	224.68	10,678.49	0.00	9,600.00	-1,078.49	-11	Over
5105	Small Tools and Equipment	5,636.77	151.64	4,027.86	0.00	2,500.00	-1,527.86	-61	Over
5110	Safety Equipment	4,083.30	187.15	777.02	0.00	5,000.00	4,222.98	84	
5120	Clothing/Uniforms	0.00	0.00	1,064.20	0.00	0.00	-1,064.20	0	Over
7317	Graffiti Prevention Expenses	2,975.83	1,983.10	5,194.09	0.00	6,500.00	1,305.91	20	
7330	Aggregate Base	4,043.86	4,078.74	5,431.00	0.00	10,000.00	4,569.00	46	
7331	Asphalt Concrete	4,851.56	0.00	33,878.35	0.00	50,000.00	16,121.65	32	
7332	SS1 Emulsion	49,997.66	0.00	2,800.00	0.00	10,000.00	7,200.00	72	
7334	Road Crack Filler	0.00	0.00	0.00	0.00	6,400.00	6,400.00	100	
7335	Sand	0.00	0.00	2,270.33	0.00	1,000.00	-1,270.33	-127	Over
7340	Traffic Paint	16.77	0.00	429.62	0.00	1,000.00	570.38	57	
7341	Thermoplastic	23,276.22	0.00	31,187.33	0.00	31,000.00	-187.33	-1	Over
7344	Traffic Signs/Hardware	12,009.85	7,053.98	10,002.02	0.00	14,000.00	3,997.98	29	
7345	Traffic Signal Hardware/Supp.	31,272.68	0.00	3,227.55	0.00	33,000.00	29,772.45	90	
7346	Street Lighting Supplies	6,740.37	4,478.38	19,666.42	0.00	16,000.00	-3,666.42	-23	Over
7370	Collection System Materials	2,225.94	0.00	0.00	0.00	0.00	0.00	0	
Materials & Supplies		150,726.72	18,157.67	131,885.39	0.00	197,300.00	65,414.61	33	50
5400 Purchased Services									
5420	Laundry Services	216.54	50.72	232.12	0.00	1,000.00	767.88	77	
7394	Hazardous Materials Disposal	0.00	0.00	636.54	0.00	4,500.00	3,863.46	86	
7413	Outside Repairs/Services Other	2,864.33	0.00	0.00	0.00	12,000.00	12,000.00	100	
Purchased Services		3,080.87	50.72	868.66	0.00	17,500.00	16,631.34	95	50
8900 Other Expenses									
5140	Advertising/Marketing	0.00	0.00	0.00	0.00	250.00	250.00	100	
5160	Licenses/Permits/Fees	0.00	0.00	150.00	0.00	0.00	-150.00	0	Over
5300	Lease/Rental Expense	195.74	0.00	0.00	0.00	950.00	950.00	100	
5370	Memberships/Dues	0.00	0.00	140.25	0.00	1,250.00	1,109.75	89	
5390	Training	764.18	0.00	2,254.24	0.00	6,000.00	3,745.76	62	
5465	Solid Waste Disposal	0.00	0.00	0.00	0.00	475.00	475.00	100	
5480	Communications	2,480.87	843.84	2,655.73	0.00	3,000.00	344.27	11	
Other Expenses		3,440.79	843.84	5,200.22	0.00	11,925.00	6,724.78	56	50
End Fund - Dept 001-650		597,832.69	76,258.88	567,966.31	0.00	1,269,010.00	701,043.69	55	50

Department Expense Report

Fund - Dept 002-682 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

PARK-PARKS AND OPEN SPACES		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
4000 Salaries & Employee Benefits								
4000	Salaries - Permanent	189,583.00	30,487.00	177,263.45	0.00	492,897.00	315,633.55	64
4015	Salaries - Holiday Pay	1,250.80	1,304.28	1,304.28	0.00	12,500.00	11,195.72	90
4020	Salaries - Hourly Pay	35,651.71	6,909.50	35,988.46	0.00	30,000.00	-5,988.46	-20 Over
4050	Salaries - Overtime	7,202.31	1,346.84	5,592.61	0.00	13,075.00	7,482.39	57
4080	Salaries - Light Duty	0.00	1,709.44	18,271.55	0.00	0.00	-18,271.55	0 Over
4690	Employee Benefits Other	159,331.24	28,642.44	165,987.36	0.00	394,065.00	228,077.64	58
Salaries & Employee Benefits		393,019.06	70,399.50	404,407.71	0.00	942,537.00	538,129.29	57 50
5000 Materials & Supplies								
5000	Office Expense	212.49	0.00	41.18	0.00	1,000.00	958.82	96
5005	Postage & Mailing	42.48	0.00	0.00	0.00	500.00	500.00	100
5010	Outside Printing Expense	0.00	0.00	0.00	0.00	1,000.00	1,000.00	100
5050	Books/Periodicals/Software	0.00	0.00	18.00	0.00	800.00	782.00	98
5100	Materials and Supplies	11,960.16	4,736.73	8,004.59	0.00	35,000.00	26,995.41	77
5105	Small Tools and Equipment	2,936.75	0.00	1,497.95	0.00	7,230.00	5,732.05	79
5110	Safety Equipment	2,589.08	112.30	217.46	0.00	4,075.00	3,857.54	95
5120	Clothing/Uniforms	2,177.33	1,755.48	2,640.05	0.00	4,085.00	1,444.95	35
5505	Equipment Maintenance/Repair	120.87	0.00	493.18	0.00	2,100.00	1,606.82	77
5515	Building Maintenance/Repair	2,400.79	0.00	1,547.00	0.00	10,000.00	8,453.00	85
7320	Custodial Supplies	1,935.20	0.00	3,306.03	0.00	8,000.00	4,693.97	59
7371	Landscape Maintenance Supplies	1,557.96	0.00	501.51	0.00	10,000.00	9,498.49	95
Materials & Supplies		25,933.11	6,604.51	18,266.95	0.00	83,790.00	65,523.05	78 50
5400 Purchased Services								
5330	Contractual	58,717.59	9,777.70	63,684.20	0.00	120,000.00	56,315.80	47
5400	Professional Services	373.23	0.00	112.50	0.00	2,250.00	2,137.50	95
5415	Landscape Maintenance	63,647.43	11,620.97	75,678.18	0.00	150,000.00	74,321.82	50
5420	Laundry Services	385.00	71.53	375.53	0.00	1,500.00	1,124.47	75
5440	Janitorial Services	8,843.16	1,677.94	9,552.66	0.00	18,000.00	8,447.34	47
7203	Elderberry Site Monitor & Main	0.00	0.00	0.00	0.00	500.00	500.00	100
7372	Compost Testing Service	275.00	0.00	0.00	0.00	0.00	0.00	0
7375	Sweeping/Trash Disposal	1,200.00	0.00	757.40	0.00	5,000.00	4,242.60	85
7413	Outside Repairs/Services Other	0.00	0.00	0.00	0.00	7,500.00	7,500.00	100
Purchased Services		133,441.41	23,148.14	150,160.47	0.00	304,750.00	154,589.53	51 50
8900 Other Expenses								
5140	Advertising/Marketing	18.00	302.26	302.26	0.00	500.00	197.74	40
5160	Licenses/Permits/Fees	1,775.57	4,125.64	5,014.14	0.00	5,000.00	-14.14	0 Over
5300	Lease/Rental Expense	103.03	0.00	0.00	0.00	8,000.00	8,000.00	100
5370	Memberships/Dues	0.00	0.00	0.00	0.00	1,000.00	1,000.00	100
5390	Training	94.80	0.00	912.41	0.00	4,000.00	3,087.59	77
5465	Solid Waste Disposal	0.00	0.00	406.79	0.00	0.00	-406.79	0 Over
5480	Communications	4,448.30	785.55	8,549.56	0.00	20,000.00	11,450.44	57
7322	CARD Park Expenses	41,211.24	0.00	3,195.34	0.00	90,700.00	87,504.66	96
7451	Volunteer Mat and Supplies	530.40	0.00	152.37	0.00	2,185.00	2,032.63	93
7452	Volunteer Small Tools & Equip	107.93	0.00	0.00	0.00	2,520.00	2,520.00	100
7453	Volunteer Training	0.00	0.00	0.00	0.00	582.00	582.00	100
7454	Water Quality Testing	2,008.00	180.00	2,995.00	0.00	4,000.00	1,005.00	25
Other Expenses		50,297.27	5,393.45	21,527.87	0.00	138,487.00	116,959.13	84 50
End Fund - Dept 002-682		602,690.85	105,545.60	594,363.00	0.00	1,469,564.00	875,201.00	60 50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 002-686 Budget Year: 2022

Budget Version 10: Working

PARK-STREET TREE/PUB PLNT		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	154,220.30	27,945.96	157,813.49	0.00	417,120.00	259,306.51	62	
4020	Salaries - Hourly Pay	20,721.72	0.00	0.00	0.00	41,400.00	41,400.00	100	
4050	Salaries - Overtime	8,394.79	1,649.97	21,519.84	0.00	17,124.00	-4,395.84	-26	Over
4080	Salaries - Light Duty	0.00	2,938.10	6,906.90	0.00	0.00	-6,906.90	0	Over
4690	Employee Benefits Other	145,034.06	24,252.01	131,202.74	0.00	382,775.00	251,572.26	66	
Salaries & Employee Benefits		328,370.87	56,786.04	317,442.97	0.00	858,419.00	540,976.03	63	50
5000 Materials & Supplies									
5000	Office Expense	39.34	0.00	0.00	0.00	0.00	0.00	0	
5005	Postage & Mailing	0.00	0.00	30.59	0.00	0.00	-30.59	0	Over
5100	Materials and Supplies	3,837.58	502.16	1,583.77	0.00	4,000.00	2,416.23	60	
5105	Small Tools and Equipment	1,005.57	0.00	146.84	0.00	3,000.00	2,853.16	95	
5110	Safety Equipment	3,491.10	164.69	164.69	0.00	5,000.00	4,835.31	97	
5120	Clothing/Uniforms	51.47	0.00	152.02	0.00	1,500.00	1,347.98	90	
5505	Equipment Maintenance/Repair	1,020.10	0.00	523.68	0.00	2,710.00	2,186.32	81	
7371	Landscape Maintenance Supplies	31.09	0.00	0.00	0.00	0.00	0.00	0	
Materials & Supplies		9,476.25	666.85	2,601.59	0.00	16,210.00	13,608.41	84	50
5400 Purchased Services									
5330	Contractual	67,740.00	0.00	29,920.00	126,273.00	305,898.00	149,705.00	49	
5400	Professional Services	0.00	0.00	0.00	0.00	380.00	380.00	100	
5415	Landscape Maintenance	108,762.18	20,922.45	107,815.01	0.00	226,000.00	118,184.99	52	
5420	Laundry Services	350.00	71.55	411.41	0.00	1,600.00	1,188.59	74	
7375	Sweeping/Trash Disposal	850.00	0.00	687.50	0.00	2,000.00	1,312.50	66	
Purchased Services		177,702.18	20,994.00	138,833.92	126,273.00	535,878.00	270,771.08	51	50
8900 Other Expenses									
5160	Licenses/Permits/Fees	40.00	0.00	0.00	0.00	617.00	617.00	100	
5300	Lease/Rental Expense	0.00	0.00	0.00	0.00	665.00	665.00	100	
5370	Memberships/Dues	444.00	0.00	0.00	0.00	700.00	700.00	100	
5390	Training	1,983.13	0.00	380.22	0.00	3,000.00	2,619.78	87	
5465	Solid Waste Disposal	0.00	0.00	0.00	0.00	500.00	500.00	100	
5480	Communications	2,671.21	560.39	1,922.06	0.00	4,500.00	2,577.94	57	
Other Expenses		5,138.34	560.39	2,302.28	0.00	9,982.00	7,679.72	77	50
End Fund - Dept 002-686		520,687.64	79,007.28	461,180.76	126,273.00	1,420,489.00	833,035.24	59	50

Department Expense Report

Fund - Dept 052-682 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

Special Com Svcs		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent		
Category	Description	Actuals	Month	Actuals	brances			Remaining		
		Thru 12/2020	Actuals	Actuals				Budg / Time		
4000 Salaries & Employee Benefits										
4000	Salaries - Permanent	0.00	2,985.45	33,463.63	0.00	118,700.00	85,236.37	72		
4050	Salaries - Overtime	0.00	0.00	82.26	0.00	0.00	-82.26	0	Over	
4056	Salaries - CTO Payout	0.00	0.00	844.94	0.00	0.00	-844.94	0	Over	
4690	Employee Benefits Other	0.00	1,797.28	23,330.69	0.00	97,625.00	74,294.31	76		
Salaries & Employee Benefits		0.00	4,782.73	57,721.52	0.00	216,325.00	158,603.48	73	50	
5000 Materials & Supplies										
5120	Clothing/Uniforms	0.00	0.00	152.02	0.00	0.00	-152.02	0	Over	
Materials & Supplies		0.00	0.00	152.02	0.00	0.00	-152.02	0	50	Over
End Fund - Dept 052-682		0.00	4,782.73	57,873.54	0.00	216,325.00	158,451.46	73	50	

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 100-686 Budget Year: 2022

Budget Version 10: Working

GRANTS ST TREE/PUB PLANTING		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	12,358.47	0.00	9,487.30	0.00	-3,071.00	-12,558.30	409	Over
4020	Salaries - Hourly Pay	11,476.06	0.00	383.87	0.00	27,600.00	27,216.13	99	
4050	Salaries - Overtime	0.00	0.00	289.96	0.00	0.00	-289.96	0	Over
4690	Employee Benefits Other	11,597.18	0.00	7,341.91	0.00	24,879.00	17,537.09	70	
Salaries & Employee Benefits		35,431.71	0.00	17,503.04	0.00	49,408.00	31,904.96	65	50
5000 Materials & Supplies									
Materials & Supplies		0.00	0.00	0.00	0.00	0.00	0.00	0	50
5400 Purchased Services									
5330	Contractual	39,849.95	1,717.12	7,969.17	188,272.02	172,938.00	-23,303.19	-13	Over
Purchased Services		39,849.95	1,717.12	7,969.17	188,272.02	172,938.00	-23,303.19	-13	50 Over
End Fund - Dept 100-686		75,281.66	1,717.12	25,472.21	188,272.02	222,346.00	8,601.77	4	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 212-650 Budget Year: 2022

Budget Version 10: Working

TRANSIT SERVICES - PUBLIC ROW		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	28,286.65	4,614.40	26,443.32	0.00	56,531.00	30,087.68	53	
4050	Salaries - Overtime	543.17	560.55	2,849.73	0.00	0.00	-2,849.73	0	Over
4690	Employee Benefits Other	22,787.54	3,928.49	22,665.56	0.00	48,331.00	25,665.44	53	
Salaries & Employee Benefits		51,617.36	9,103.44	51,958.61	0.00	104,862.00	52,903.39	50	50
End Fund - Dept 212-650		51,617.36	9,103.44	51,958.61	0.00	104,862.00	52,903.39	50	50

Department Expense Report

Fund - Dept 212-659 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

TRANSPORTATION-DEPOT		Prior Year's Actuals	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining	
Category	Description	Thru 12/2020						Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	458.00	46.96	271.11	0.00	2,916.00	2,644.89	91	
4690	Employee Benefits Other	424.21	40.28	226.73	0.00	2,740.00	2,513.27	92	
	Salaries & Employee Benefits	882.21	87.24	497.84	0.00	5,656.00	5,158.16	91	50
5000 Materials & Supplies									
5515	Building Maintenance/Repair	0.00	0.00	0.00	0.00	500.00	500.00	100	
7320	Custodial Supplies	0.00	0.00	0.00	0.00	1,300.00	1,300.00	100	
	Materials & Supplies	0.00	0.00	0.00	0.00	1,800.00	1,800.00	100	50
5400 Purchased Services									
5330	Contractual	8,926.19	1,841.00	9,027.00	0.00	28,315.00	19,288.00	68	
5440	Janitorial Services	2,502.65	500.53	2,502.65	0.00	6,100.00	3,597.35	59	
7375	Sweeping/Trash Disposal	0.00	213.90	1,150.93	0.00	2,600.00	1,449.07	56	
7380	Pest Control	100.00	100.00	125.00	0.00	190.00	65.00	34	
7413	Outside Repairs/Services Other	0.00	0.00	0.00	0.00	500.00	500.00	100	
	Purchased Services	11,528.84	2,655.43	12,805.58	0.00	37,705.00	24,899.42	66	50
8900 Other Expenses									
5465	Solid Waste Disposal	0.00	0.00	0.00	0.00	250.00	250.00	100	
	Other Expenses	0.00	0.00	0.00	0.00	250.00	250.00	100	50
End Fund - Dept 212-659		12,411.05	2,742.67	13,303.42	0.00	45,411.00	32,107.58	71	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 308-000 Budget Year: 2022

Budget Version 10: Working

STREET FACILITY IMPRV-ADMN		Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time	
8000 Debt Service									
8000	Debt Principal	0.00	0.00	265,624.00	0.00	0.00	-265,624.00	0	Over
	Debt Service	0.00	0.00	265,624.00	0.00	0.00	-265,624.00	0	50 Over
End Fund - Dept 308-000		0.00	0.00	265,624.00	0.00	0.00	-265,624.00	0	50 OVER

Department Expense Report

Fund - Dept 850-670 Budget Year: 2022

Current Year Data Through 12/31/2021

Budget Version 10: Working

SEWER-WPCP		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category Description		Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
4000 Salaries & Employee Benefits								
4000	Salaries - Permanent	576,027.24	113,669.79	676,241.30	0.00	1,552,070.00	875,828.70	56
4006	Salaries - Sign On Bonus	4,000.00	0.00	31,000.00	0.00	0.00	-31,000.00	0 Over
4015	Salaries - Holiday Pay	3,249.85	2,518.01	4,538.33	0.00	7,200.00	2,661.67	37
4020	Salaries - Hourly Pay	0.00	0.00	68.71	0.00	0.00	-68.71	0 Over
4050	Salaries - Overtime	10,985.43	2,921.79	24,961.73	0.00	7,500.00	-17,461.73	-233 Over
4080	Salaries - Light Duty	29,009.63	0.00	3,016.87	0.00	0.00	-3,016.87	0 Over
4690	Employee Benefits Other	211,487.42	78,357.89	472,432.85	0.00	1,152,475.00	680,042.15	59
Salaries & Employee Benefits		834,759.57	197,467.48	1,212,259.79	0.00	2,719,245.00	1,506,985.21	55 50
5000 Materials & Supplies								
5000	Office Expense	803.42	456.37	1,784.03	0.00	3,610.00	1,825.97	51
5005	Postage & Mailing	2,201.80	221.41	1,681.03	0.00	4,000.00	2,318.97	58
5010	Outside Printing Expense	80.77	407.40	920.16	0.00	2,000.00	1,079.84	54
5050	Books/Periodicals/Software	549.71	0.00	572.63	0.00	826.00	253.37	31
5100	Materials and Supplies	6,223.61	2,146.63	6,840.39	0.00	8,374.00	1,533.61	18
5105	Small Tools and Equipment	2,477.24	3,805.79	7,584.07	0.00	7,500.00	-84.07	-1 Over
5110	Safety Equipment	4,011.18	513.42	1,454.83	0.00	11,425.00	9,970.17	87
5120	Clothing/Uniforms	48.16	0.00	721.73	0.00	0.00	-721.73	0 Over
5505	Equipment Maintenance/Repair	11,490.69	0.00	9,556.47	0.00	60,177.00	50,620.53	84
6282	Uniform Allow Civilian	112.51	0.00	0.00	0.00	2,400.00	2,400.00	100
7303	Stand By Fuels	0.00	0.00	1,599.21	0.00	10,000.00	8,400.79	84
7305	Lubricants/Cleaners/Soaps/Oil	0.00	0.00	10.39	0.00	500.00	489.61	98
7310	Oil and Fluids Disposal	160.00	0.00	95.00	0.00	1,000.00	905.00	90
7320	Custodial Supplies	907.68	0.00	455.44	0.00	1,235.00	779.56	63
7350	Plant Ops- Materials & Supply	257.34	0.00	6,539.03	0.00	0.00	-6,539.03	0 Over
7351	Plant Ops- Chemicals	237,969.90	75,188.22	277,167.36	0.00	540,000.00	262,832.64	49
7352	Plant Ops- Lab Equipment	6,355.56	1,786.69	5,036.87	0.00	15,000.00	9,963.13	66
7355	Plant Ops- Equip Main Supply	32,694.21	3,846.39	50,016.62	0.00	125,000.00	74,983.38	60
7360	Cogeneration Supplies/Material	0.00	461.00	8,792.20	0.00	25,044.00	16,251.80	65
7365	Building/Grounds Materials	3,977.66	0.00	594.81	0.00	6,000.00	5,405.19	90
7370	Collection System Materials	10,812.66	2,318.96	10,272.26	0.00	25,000.00	14,727.74	59
7371	Landscape Maintenance Supplies	0.00	0.00	866.50	0.00	0.00	-866.50	0 Over
7419	Lift Station Expenses	8,626.31	0.00	17,968.30	0.00	30,000.00	12,031.70	40
Materials & Supplies		329,760.41	91,152.28	410,529.33	0.00	879,091.00	468,561.67	53 50
5400 Purchased Services								
5330	Contractual	140,497.22	23,991.79	143,432.63	0.00	279,082.00	135,649.37	49
5400	Professional Services	44,307.95	9,867.30	28,795.23	18,270.67	177,335.00	130,269.10	73
5401	Audit Services	5,507.03	0.00	0.00	0.00	7,080.00	7,080.00	100
5415	Landscape Maintenance	21,968.43	4,055.74	18,542.15	0.00	42,000.00	23,457.85	56
5420	Laundry Services	3,232.07	736.43	3,362.02	0.00	11,000.00	7,637.98	69
5440	Janitorial Services	1,969.63	384.97	2,004.67	0.00	7,125.00	5,120.33	72
5555	Maint Agreements Other	29,699.50	906.72	34,667.52	0.00	71,217.00	36,549.48	51
7347	Weed Control	11,969.00	4,171.00	11,941.00	0.00	14,250.00	2,309.00	16
7380	Pest Control	847.00	640.00	800.00	0.00	10,250.00	9,450.00	92
7384	Fire Alarm/Base Station/Camera	560.00	120.00	625.00	0.00	2,375.00	1,750.00	74
7400	Outfall Diffuser Inspection	0.00	0.00	0.00	0.00	5,000.00	5,000.00	100
7403	Testing Services	5,276.00	3,445.00	4,128.20	0.00	6,000.00	1,871.80	31
7404	Sludge Analysis	675.00	0.00	0.00	0.00	3,500.00	3,500.00	100
7405	Industrial Waste Analysis	20,862.50	3,632.00	19,687.00	0.00	28,500.00	8,813.00	31
7413	Outside Repairs/Services Other	8,083.08	400.00	24,763.20	0.00	65,000.00	40,236.80	62
7415	Lab Equipment Repairs	290.00	0.00	0.00	0.00	3,000.00	3,000.00	100
7416	Co-Generator Repair	2,340.00	0.00	0.00	0.00	10,750.00	10,750.00	100
7417	Biosolids Disposal	135,512.88	35,105.32	128,468.78	0.00	350,000.00	221,531.22	63
Purchased Services		433,597.29	87,456.27	421,217.40	18,270.67	1,093,464.00	653,975.93	60 50
8900 Other Expenses								
5140	Advertising/Marketing	1,314.99	0.00	25.00	0.00	4,000.00	3,975.00	99
5160	Licenses/Permits/Fees	24,897.30	17,834.00	19,357.00	0.00	25,000.00	5,643.00	23
5300	Lease/Rental Expense	0.00	0.00	0.00	0.00	1,425.00	1,425.00	100
5370	Memberships/Dues	9,352.00	768.00	4,791.00	0.00	10,000.00	5,209.00	52
5385	Business Expenses	47.47	0.00	0.00	0.00	285.00	285.00	100
5390	Training	443.00	0.00	6,531.48	0.00	16,000.00	9,468.52	59
5465	Solid Waste Disposal	0.00	0.00	675.00	0.00	5,630.00	4,955.00	88
5480	Communications	11,406.54	6,847.66	17,975.10	0.00	19,000.00	1,024.90	5
7211	Sewer Backup Claims	0.00	0.00	0.00	0.00	18,810.00	18,810.00	100

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 850-670 Budget Year: 2022

Budget Version 10: Working

SEWER-WPCP		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent		
Category	Description	Actuals	Month	Actuals	brances			Remaining		
		Thru 12/2020	Actuals	Actuals				Budg / Time		
7406	State Certification	397.00	364.00	881.00	0.00	3,400.00	2,519.00	74		
7407	NPDES Fees	0.00	0.00	0.00	0.00	75,000.00	75,000.00	100		
7408	Lab Registration	4,310.00	0.00	0.00	0.00	4,500.00	4,500.00	100		
7420	WPCP Compliance Requirements	0.00	539.30	26,298.10	0.00	20,000.00	-6,298.10	-31	Over	
7421	WPCP Fines	0.00	0.00	0.00	0.00	80,000.00	80,000.00	100		
Other Expenses		52,168.30	26,352.96	76,533.68	0.00	283,050.00	206,516.32	73	50	
End Fund - Dept 850-670		1,650,285.57	402,428.99	2,120,540.20	18,270.67	4,974,850.00	2,836,039.13	57	50	

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 853-000 Budget Year: 2022

Budget Version 10: Working

PARKING REVENUE-ADMN		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
5400 Purchased Services								
5330	Contractual	10,305.17	0.00	10,623.80	0.00	21,009.00	10,385.20	49
5400	Professional Services	1,677.50	0.00	1,551.76	2,733.75	0.00	-4,285.51	0 Over
Purchased Services		11,982.67	0.00	12,175.56	2,733.75	21,009.00	6,099.69	29 50
End Fund - Dept 853-000		11,982.67	0.00	12,175.56	2,733.75	21,009.00	6,099.69	29 50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 853-660 Budget Year: 2022

Budget Version 10: Working

PKG REVENUE-PKG FAC MTCE		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	77,683.16	18,602.26	111,039.82	0.00	162,286.00	51,246.18	32	
4020	Salaries - Hourly Pay	0.00	0.00	490.25	0.00	0.00	-490.25	0	Over
4050	Salaries - Overtime	230.69	0.00	302.12	0.00	0.00	-302.12	0	Over
4690	Employee Benefits Other	33,945.09	12,327.74	74,572.32	0.00	111,665.00	37,092.68	33	
Salaries & Employee Benefits		111,858.94	30,930.00	186,404.51	0.00	273,951.00	87,546.49	32	50
5000 Materials & Supplies									
5000	Office Expense	198.00	0.00	0.00	0.00	0.00	0.00	0	
5005	Postage & Mailing	0.00	0.00	2.52	0.00	300.00	297.48	99	
5010	Outside Printing Expense	737.25	0.00	369.80	0.00	3,000.00	2,630.20	88	
5100	Materials and Supplies	20,784.05	693.98	11,128.40	0.00	40,000.00	28,871.60	72	
5105	Small Tools and Equipment	2,297.11	0.00	46.12	0.00	500.00	453.88	91	
5110	Safety Equipment	0.00	128.70	259.92	0.00	100.00	-159.92	-160	Over
5120	Clothing/Uniforms	0.00	0.00	0.00	0.00	500.00	500.00	100	
5515	Building Maintenance/Repair	0.00	0.00	0.00	0.00	1,500.00	1,500.00	100	
7320	Custodial Supplies	0.00	0.00	0.00	0.00	300.00	300.00	100	
Materials & Supplies		24,016.41	822.68	11,806.76	0.00	46,200.00	34,393.24	74	50
5400 Purchased Services									
5330	Contractual	13,643.49	2,806.28	13,438.42	0.00	37,950.00	24,511.58	65	
5400	Professional Services	0.00	0.00	0.00	0.00	5,770.00	5,770.00	100	
5401	Audit Services	662.14	0.00	0.00	0.00	611.00	611.00	100	
5440	Janitorial Services	2,390.82	467.27	2,433.39	0.00	7,000.00	4,566.61	65	
5555	Maint Agreements Other	14,075.44	0.00	22,686.40	0.00	60,000.00	37,313.60	62	
7384	Fire Alarm/Base Station/Camera	220.00	55.00	220.00	0.00	660.00	440.00	67	
7413	Outside Repairs/Services Other	0.00	0.00	0.00	0.00	1,000.00	1,000.00	100	
Purchased Services		30,991.89	3,328.55	38,778.21	0.00	112,991.00	74,212.79	66	50
8900 Other Expenses									
5390	Training	-94.18	0.00	161.46	0.00	1,400.00	1,238.54	88	
5480	Communications	939.42	377.23	1,131.82	0.00	2,000.00	868.18	43	
Other Expenses		845.24	377.23	1,293.28	0.00	3,400.00	2,106.72	62	50
End Fund - Dept 853-660		167,712.48	35,458.46	238,282.76	0.00	436,542.00	198,259.24	45	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 856-691 Budget Year: 2022

Budget Version 10: Working

AIRPORT-AVIATN FAC MTCE		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	48,622.31	13,874.63	74,998.28	0.00	197,300.00	122,301.72	62	
4020	Salaries - Hourly Pay	24,188.04	372.25	8,914.66	0.00	0.00	-8,914.66	0	Over
4050	Salaries - Overtime	525.73	143.73	1,104.26	0.00	4,800.00	3,695.74	77	
4690	Employee Benefits Other	11,126.72	9,075.87	49,006.73	0.00	130,916.00	81,909.27	63	
Salaries & Employee Benefits		84,462.80	23,466.48	134,023.93	0.00	333,016.00	198,992.07	60	50
5000 Materials & Supplies									
5000	Office Expense	163.70	0.00	51.15	0.00	1,690.00	1,638.85	97	
5005	Postage & Mailing	85.14	49.91	49.91	0.00	380.00	330.09	87	
5010	Outside Printing Expense	0.00	0.00	0.00	0.00	500.00	500.00	100	
5050	Books/Periodicals/Software	201.81	0.00	0.00	0.00	0.00	0.00	0	
5100	Materials and Supplies	3,362.90	107.11	7,766.57	0.00	17,050.00	9,283.43	54	
5105	Small Tools and Equipment	631.76	0.00	384.65	0.00	500.00	115.35	23	
5110	Safety Equipment	0.00	0.00	0.00	0.00	400.00	400.00	100	
5120	Clothing/Uniforms	0.00	0.00	50.68	0.00	0.00	-50.68	0	Over
5515	Building Maintenance/Repair	367.56	0.00	85.00	0.00	4,000.00	3,915.00	98	
7320	Custodial Supplies	0.00	0.00	0.00	0.00	1,600.00	1,600.00	100	
Materials & Supplies		4,812.87	157.02	8,387.96	0.00	26,120.00	17,732.04	68	50
5400 Purchased Services									
5330	Contractual	0.00	0.00	0.00	0.00	10,000.00	10,000.00	100	
5400	Professional Services	9,087.22	1,006.25	7,700.05	6,700.04	84,640.00	70,239.91	83	
5401	Audit Services	1,424.25	0.00	0.00	0.00	4,195.00	4,195.00	100	
5415	Landscape Maintenance	0.00	0.00	7.95	0.00	15,000.00	14,992.05	100	
5420	Laundry Services	774.24	146.16	767.34	0.00	3,000.00	2,232.66	74	
5440	Janitorial Services	6,106.89	1,200.98	6,186.64	0.00	12,908.00	6,721.36	52	
5555	Maint Agreements Other	3,300.90	1,092.73	2,333.63	0.00	6,500.00	4,166.37	64	
7347	Weed Control	9,600.00	3,864.16	11,592.48	0.00	8,000.00	-3,592.48	-45	Over
7380	Pest Control	419.00	340.00	425.00	0.00	350.00	-75.00	-21	Over
7394	Hazardous Materials Disposal	0.00	0.00	0.00	0.00	475.00	475.00	100	
7413	Outside Repairs/Services Other	2,092.00	0.00	0.00	0.00	8,180.00	8,180.00	100	
Purchased Services		32,804.50	7,650.28	29,013.09	6,700.04	153,248.00	117,534.87	77	50
8900 Other Expenses									
5140	Advertising/Marketing	176.31	0.00	0.00	0.00	2,000.00	2,000.00	100	
5160	Licenses/Permits/Fees	581.50	0.00	618.00	0.00	3,500.00	2,882.00	82	
5370	Memberships/Dues	1,000.00	0.00	1,710.00	0.00	945.00	-765.00	-81	Over
5385	Business Expenses	904.80	0.00	72.80	0.00	500.00	427.20	85	
5386	Conference Expenses	0.00	0.00	0.00	0.00	8,000.00	8,000.00	100	
5390	Training	0.00	0.00	0.00	0.00	4,000.00	4,000.00	100	
5465	Solid Waste Disposal	0.00	0.00	0.00	0.00	950.00	950.00	100	
5480	Communications	4,259.00	213.82	3,807.94	0.00	8,000.00	4,192.06	52	
Other Expenses		6,921.61	213.82	6,208.74	0.00	27,895.00	21,686.26	78	50
End Fund - Dept 856-691		129,001.78	31,487.60	177,633.72	6,700.04	540,279.00	355,945.24	66	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 929-630 Budget Year: 2022

Budget Version 10: Working

CENTRAL GARAGE		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	192,389.27	35,829.80	182,561.89	0.00	512,479.00	329,917.11	64	
4006	Salaries - Sign On Bonus	3,000.00	0.00	8,000.00	0.00	0.00	-8,000.00	0	Over
4050	Salaries - Overtime	2,528.90	120.83	356.17	0.00	16,724.00	16,367.83	98	
4690	Employee Benefits Other	114,031.18	26,477.48	142,603.83	0.00	396,609.00	254,005.17	64	
	Salaries & Employee Benefits	311,949.35	62,428.11	333,521.89	0.00	925,812.00	592,290.11	64	50
5000 Materials & Supplies									
5000	Office Expense	381.19	0.00	29.00	0.00	500.00	471.00	94	
5005	Postage & Mailing	95.41	36.12	160.17	0.00	300.00	139.83	47	
5050	Books/Periodicals/Software	3,727.65	0.00	968.79	0.00	7,000.00	6,031.21	86	
5100	Materials and Supplies	0.00	0.00	0.00	0.00	1,045.00	1,045.00	100	
5105	Small Tools and Equipment	368.45	0.00	4,586.75	0.00	2,660.00	-1,926.75	-72	Over
5110	Safety Equipment	1,285.61	0.00	918.58	0.00	2,710.00	1,791.42	66	
5120	Clothing/Uniforms	577.01	0.00	0.00	0.00	285.00	285.00	100	
5505	Equipment Maintenance/Repair	1,126.68	0.00	125.78	0.00	2,505.00	2,379.22	95	
7305	Lubricants/Cleaners/Soaps/Oil	6,327.09	1,068.29	5,895.63	0.00	13,965.00	8,069.37	58	
7306	Fuel Dispensing System	1,279.38	383.45	3,788.60	0.00	4,275.00	486.40	11	
7307	Outside Fuel	374.29	0.00	83.86	0.00	1,900.00	1,816.14	96	
7308	Stock Items	10,556.70	2,593.63	12,805.90	0.00	18,335.00	5,529.10	30	
7309	Filters	2,372.90	566.52	3,020.31	0.00	9,975.00	6,954.69	70	
7310	Oil and Fluids Disposal	1,790.22	95.00	737.55	0.00	1,900.00	1,162.45	61	
7312	Batteries	15,168.53	7,196.02	20,061.42	0.00	14,075.00	-5,986.42	-43	Over
7313	Tires	33,888.21	5,419.28	27,268.90	0.00	70,000.00	42,731.10	61	
7315	Vehicle Parts	84,477.31	15,397.98	91,427.98	0.00	185,000.00	93,572.02	51	
	Materials & Supplies	163,796.63	32,756.29	171,879.22	0.00	336,430.00	164,550.78	49	50
5400 Purchased Services									
5420	Laundry Services	1,367.40	339.48	1,635.31	0.00	5,200.00	3,564.69	69	
5440	Janitorial Services	0.00	0.00	0.00	0.00	3,100.00	3,100.00	100	
5550	Maint Agreements- Radios	0.00	0.00	0.00	0.00	3,800.00	3,800.00	100	
5555	Maint Agreements Other	495.07	0.00	0.00	0.00	0.00	0.00	0	
7377	Vehicle Washing	2,875.63	767.00	5,162.50	0.00	4,770.00	-392.50	-8	Over
7378	Vehicle Detailing	429.95	110.00	522.96	0.00	2,470.00	1,947.04	79	
7379	Vehicle Painting	0.00	0.00	0.00	0.00	475.00	475.00	100	
7384	Fire Alarm/Base Station/Camera	100.00	25.00	100.00	0.00	285.00	185.00	65	
7391	Underground Storage Tank Fees	837.84	0.00	0.00	0.00	4,095.00	4,095.00	100	
7394	Hazardous Materials Disposal	85.00	0.00	0.00	0.00	0.00	0.00	0	
7413	Outside Repairs/Services Other	2,067.50	0.00	300.00	0.00	0.00	-300.00	0	Over
7414	Outside Repairs - Garage	53,417.24	11,979.80	37,660.68	0.00	67,260.00	29,599.32	44	
7417	Biosolids Disposal	774.64	0.00	0.00	0.00	0.00	0.00	0	
	Purchased Services	62,450.27	13,221.28	45,381.45	0.00	91,455.00	46,073.55	50	50
8900 Other Expenses									
5160	Licenses/Permits/Fees	5,132.43	0.00	4,292.40	0.00	15,190.00	10,897.60	72	
5300	Lease/Rental Expense	95.00	21.00	3,094.77	0.00	0.00	-3,094.77	0	Over
5390	Training	2,914.89	0.00	543.40	0.00	9,795.00	9,251.60	94	
5465	Solid Waste Disposal	613.00	174.00	356.50	0.00	950.00	593.50	62	
5480	Communications	897.04	103.17	811.37	0.00	4,500.00	3,688.63	82	
6800	Reimbursable costs	0.00	0.00	0.00	0.00	1,800.00	1,800.00	100	
7412	Tools	1,887.04	0.00	1,144.98	0.00	0.00	-1,144.98	0	Over
	Other Expenses	11,539.40	298.17	10,243.42	0.00	32,235.00	21,991.58	68	50
End Fund - Dept 929-630		549,735.65	108,703.85	561,025.98	0.00	1,385,932.00	824,906.02	60	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 930-640 Budget Year: 2022

Budget Version 10: Working

MUNI BLDGS MTCE-BLG/FC MTCE		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	168,271.00	22,152.80	149,674.18	0.00	344,972.00	195,297.82	57	
4020	Salaries - Hourly Pay	18,790.58	2,911.25	14,073.89	0.00	60,000.00	45,926.11	77	
4050	Salaries - Overtime	4,150.14	742.81	3,509.96	0.00	0.00	-3,509.96	0	Over
4080	Salaries - Light Duty	6,762.65	3,985.90	10,339.49	0.00	0.00	-10,339.49	0	Over
4690	Employee Benefits Other	84,311.52	23,213.65	138,792.04	0.00	335,567.00	196,774.96	59	
Salaries & Employee Benefits		282,285.89	53,006.41	316,389.56	0.00	740,539.00	424,149.44	57	50
5000 Materials & Supplies									
5050	Books/Periodicals/Software	0.00	0.00	0.00	0.00	1,000.00	1,000.00	100	
5100	Materials and Supplies	23,119.30	7,384.74	20,013.52	0.00	60,000.00	39,986.48	67	
5105	Small Tools and Equipment	4,101.39	0.00	982.38	0.00	7,360.00	6,377.62	87	
5110	Safety Equipment	1,865.99	89.83	265.73	0.00	3,500.00	3,234.27	92	
5120	Clothing/Uniforms	0.00	0.00	253.38	0.00	0.00	-253.38	0	Over
5505	Equipment Maintenance/Repair	1,141.91	0.00	908.40	0.00	5,000.00	4,091.60	82	
5515	Building Maintenance/Repair	7,593.31	822.60	15,434.64	0.00	19,500.00	4,065.36	21	
7320	Custodial Supplies	0.00	41.43	41.43	0.00	6,000.00	5,958.57	99	
7321	Flags	0.00	0.00	0.00	0.00	2,000.00	2,000.00	100	
7323	Stansbury Home Expenses	242.10	100.00	125.00	0.00	3,000.00	2,875.00	96	
7324	Chico Museum Expenses	0.00	0.00	0.00	0.00	1,400.00	1,400.00	100	
7325	Ballast/Light Bulb Supplies	288.15	16.84	206.69	0.00	2,100.00	1,893.31	90	
7371	Landscape Maintenance Supplies	5,319.60	556.00	2,312.35	0.00	10,000.00	7,687.65	77	
7387	Animal Shelter	932.46	0.00	7.42	0.00	3,500.00	3,492.58	100	
7418	Electric Gate Door Repair	0.00	138.00	138.00	0.00	10,000.00	9,862.00	99	
Materials & Supplies		44,604.21	9,149.44	40,688.94	0.00	134,360.00	93,671.06	70	50
5400 Purchased Services									
5330	Contractual	2,848.77	587.40	2,880.20	0.00	7,000.00	4,119.80	59	
5415	Landscape Maintenance	292.25	0.00	0.00	0.00	0.00	0.00	0	
5420	Laundry Services	3,344.60	768.74	4,025.61	0.00	25,875.00	21,849.39	84	
5440	Janitorial Services	97,446.99	18,460.51	95,467.15	0.00	122,500.00	27,032.85	22	
5555	Maint Agreements Other	630.00	0.00	350.00	0.00	15,000.00	14,650.00	98	
7375	Sweeping/Trash Disposal	1,952.63	0.00	458.32	0.00	14,400.00	13,941.68	97	
7380	Pest Control	5,920.00	3,565.00	4,970.00	0.00	12,000.00	7,030.00	59	
7382	Museum Pest Control	773.00	100.00	125.00	0.00	280.00	155.00	55	
7383	Air Conditioning Maintenance	32,043.88	0.00	0.00	0.00	24,000.00	24,000.00	100	
7384	Fire Alarm/Base Station/Camera	3,983.56	972.90	4,663.43	0.00	15,000.00	10,336.57	69	
7385	Stansbury Home Sec. System	800.28	190.00	760.00	0.00	2,000.00	1,240.00	62	
7388	Traffic Signal Maintenance	2,432.50	0.00	0.00	0.00	0.00	0.00	0	
7394	Hazardous Materials Disposal	0.00	0.00	0.00	0.00	700.00	700.00	100	
7413	Outside Repairs/Services Other	28,382.82	2,372.49	37,025.01	0.00	46,000.00	8,974.99	20	
Purchased Services		180,851.28	27,017.04	150,724.72	0.00	284,755.00	134,030.28	47	50
8900 Other Expenses									
5160	Licenses/Permits/Fees	225.00	0.00	0.00	0.00	0.00	0.00	0	
5300	Lease/Rental Expense	1,560.00	0.00	2,340.00	0.00	6,000.00	3,660.00	61	
5390	Training	0.00	0.00	331.03	0.00	5,000.00	4,668.97	93	
5465	Solid Waste Disposal	423.60	0.00	0.00	0.00	0.00	0.00	0	
5480	Communications	2,299.22	348.21	1,494.71	0.00	4,550.00	3,055.29	67	
Other Expenses		4,507.82	348.21	4,165.74	0.00	15,550.00	11,384.26	73	50
8910 Non-Recurring Operating									
7500	Non-Recurring Operating	0.00	0.00	0.00	0.00	47,700.00	47,700.00	100	
Non-Recurring Operating		0.00	0.00	0.00	0.00	47,700.00	47,700.00	100	50
End Fund - Dept 930-640		512,249.20	89,521.10	511,968.96	0.00	1,222,904.00	710,935.04	58	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 941-614 Budget Year: 2022

Budget Version 10: Working

MAINTENANCE DISTRICT ADMIN		Prior Year's Actuals	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining	
Category	Description	Thru 12/2020						Budg / Time	
4000 Salaries & Employee Benefits									
4000	Salaries - Permanent	11,452.08	4,320.50	23,102.26	0.00	37,915.00	14,812.74	39	
4050	Salaries - Overtime	2,920.70	0.00	1,361.12	0.00	0.00	-1,361.12	0	Over
4080	Salaries - Light Duty	0.00	0.00	977.28	0.00	0.00	-977.28	0	Over
4690	Employee Benefits Other	8,129.50	3,191.96	17,268.37	0.00	27,579.00	10,310.63	37	
Salaries & Employee Benefits		22,502.28	7,512.46	42,709.03	0.00	65,494.00	22,784.97	35	50
5000 Materials & Supplies									
5100	Materials and Supplies	154.31	0.00	84.48	0.00	450.00	365.52	81	
5105	Small Tools and Equipment	122.91	76.02	190.05	0.00	300.00	109.95	37	
Materials & Supplies		277.22	76.02	274.53	0.00	750.00	475.47	63	50
5400 Purchased Services									
5400	Professional Services	2,500.00	0.00	2,500.00	0.00	5,500.00	3,000.00	55	
5415	Landscape Maintenance	0.00	0.00	65.42	0.00	0.00	-65.42	0	Over
Purchased Services		2,500.00	0.00	2,565.42	0.00	5,500.00	2,934.58	53	50
End Fund - Dept 941-614		25,279.50	7,588.48	45,548.98	0.00	71,744.00	26,195.02	37	50

Department Expense Report

Current Year Data Through 12/31/2021

Fund - Dept 941-614 Budget Year: 2022

Budget Version 10: Working

MAINTENANCE DISTRICT ADMIN

Category Description

Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
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Grand Totals : DPW - Operations	5,352,011.54	1,075,910.31	6,143,686.11	342,249.48	14,604,068.00	8,118,132.41	56	50
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End Of Report Prepared for DPW Operations

Current Year Data Through 12/31/2021

**** End of Report ****

City of Chico
Department Expense Category Summary

Multi Fund/Dept Budget Year: 2022

Data Through 12/31/2021

Budget Version 10: Working

Administrative Services		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
8990 Allocations		Thru 12/2020	Actuals	Actuals				Budg / Time
5030	Insurance	60,290.00	0.00	74,400.00	0.00	111,092.00	36,692.00	33
5260	Fuel	531.57	0.00	428.65	0.00	1,244.00	815.35	66
5510	Vehicle Maintenance/Repair	268.06	0.00	1,310.69	0.00	664.00	-646.69	-97 Over
7993	Indirect Cost Allocation	-995,398.98	0.00	-532,739.76	0.00	-2,130,959.00	-1,598,219.24	75 Over
7994	Building Main Allocation	34,890.00	0.00	16,416.00	0.00	73,233.00	56,817.00	78
7996	Info Systems Allocation	86,400.00	0.00	52,729.00	0.00	163,997.00	111,268.00	68
		<u>-813,019.35</u>	<u>0.00</u>	<u>-387,455.42</u>	<u>0.00</u>	<u>-1,780,729.00</u>	<u>-1,393,273.58</u>	
7995	Interest Alloc to other Funds	0.00	0.00	0.00	0.00	1,199,730.00	1,199,730.00	100
		<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>1,199,730.00</u>	<u>1,199,730.00</u>	
Allocations		-813,019.35	0.00	-387,455.42	0.00	-580,999.00	-193,543.58	33 50 Over

End Of Report Prepared for Administrative Services

Data Through 12/31/2021

**** End of Report ****

Prepared for ASD - 001

City of Chico
Department Expense By Category

Multi Fund/Dept Budget Year: 2022

Data Through 12/31/2021

Budget Version 10: Working

Administrative Services Category Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining Budg / Time
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Fund - Dept 001-150 GENERAL-FINANCE

8990 Allocations

5030 Insurance	32,637.00	0.00	38,763.00	0.00	57,883.00	19,120.00	33
7994 Building Main Allocation	34,890.00	0.00	16,416.00	0.00	73,233.00	56,817.00	78
7996 Info Systems Allocation	86,400.00	0.00	52,729.00	0.00	163,997.00	111,268.00	68
	153,927.00	0.00	107,908.00	0.00	295,113.00	187,205.00	
Allocations	153,927.00	0.00	107,908.00	0.00	295,113.00	187,205.00	63 50
End Fund - Dept 001-150	153,927.00	0.00	107,908.00	0.00	295,113.00	187,205.00	63 50

Fund - Dept 001-995 INDIRECT COST ALLOCATION

8990 Allocations

7993 Indirect Cost Allocation	-995,398.98	0.00	-532,739.76	0.00	-2,130,959.00	-1,598,219.24	75 Over
	-995,398.98	0.00	-532,739.76	0.00	-2,130,959.00	-1,598,219.24	
Allocations	-995,398.98	0.00	-532,739.76	0.00	-2,130,959.00	-1,598,219.24	75 50 Over
End Fund - Dept 001-995	-995,398.98	0.00	-532,739.76	0.00	-2,130,959.00	-1,598,219.24	75 50 OVER

Fund - Dept 010-000 CITY TREASURY-ADMINISTRATION

8990 Allocations

7995 Interest Alloc to other Funds	0.00	0.00	0.00	0.00	1,199,730.00	1,199,730.00	100
	0.00	0.00	0.00	0.00	1,199,730.00	1,199,730.00	
Allocations	0.00	0.00	0.00	0.00	1,199,730.00	1,199,730.00	100 50
End Fund - Dept 010-000	0.00	0.00	0.00	0.00	1,199,730.00	1,199,730.00	100 50

Fund - Dept 050-150 DONATIONS-FINANCE

8990 Allocations

5030 Insurance	0.00	0.00	4,401.00	0.00	6,572.00	2,171.00	33
	0.00	0.00	4,401.00	0.00	6,572.00	2,171.00	
Allocations	0.00	0.00	4,401.00	0.00	6,572.00	2,171.00	33 50
End Fund - Dept 050-150	0.00	0.00	4,401.00	0.00	6,572.00	2,171.00	33 50

Fund - Dept 935-180 INFORMATION TECHNOLOGY

8990 Allocations

5030 Insurance	24,299.00	0.00	27,173.00	0.00	40,571.00	13,398.00	33
5260 Fuel	531.57	0.00	428.65	0.00	1,244.00	815.35	66
5510 Vehicle Maintenance/Repair	268.06	0.00	1,310.69	0.00	664.00	-646.69	-97 Over
	25,098.63	0.00	28,912.34	0.00	42,479.00	13,566.66	
Allocations	25,098.63	0.00	28,912.34	0.00	42,479.00	13,566.66	32 50
End Fund - Dept 935-180	25,098.63	0.00	28,912.34	0.00	42,479.00	13,566.66	32 50

Fund - Dept 935-182 INFORMATION TECHNOLOGY - RADIO

8990 Allocations

Department_Expense_Category

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Report Date: 1/18/2022

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Prepared for ASD - 001

City of Chico
Department Expense By Category

Multi Fund/Dept Budget Year: 2022

Data Through 12/31/2021

Budget Version 10: Working

Administrative Services		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
5030	Insurance	3,354.00	0.00	4,063.00	0.00	6,066.00	2,003.00	33	
		3,354.00	0.00	4,063.00	0.00	6,066.00	2,003.00		
	Allocations	3,354.00	0.00	4,063.00	0.00	6,066.00	2,003.00	33	50
	End Fund - Dept 935-182	3,354.00	0.00	4,063.00	0.00	6,066.00	2,003.00	33	50
Grand Totals : Admin Services		-813,019.35	0.00	-387,455.42	0.00	-580,999.00	-193,543.58	33	50 *OVR*

End Of Report Prepared for Administrative Services

Data Through 12/31/2021

** End of Report **

Prepared for City Attorney - 002

City of Chico

Department Expense Category Summary

Multi Fund/Dept Budget Year: 2022

Data Through 12/31/2021

Budget Version 10: Working

City Attorney Category Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budg / Time
8990 Allocations							
7994 Building Main Allocation	9,644.00	0.00	4,538.00	0.00	20,244.00	15,706.00	78
7996 Info Systems Allocation	4,544.00	0.00	2,000.00	0.00	5,221.00	3,221.00	62
	14,188.00	0.00	6,538.00	0.00	25,465.00	18,927.00	
Allocations	14,188.00	0.00	6,538.00	0.00	25,465.00	18,927.00	74 50

End Of Report Prepared for City Attorney

Data Through 12/31/2021

**** End of Report ****

Prepared for City Attorney - 002

City of Chico
Department Expense By Category

Multi Fund/Dept Budget Year: 2022

Data Through 12/31/2021

Budget Version 10: Working

City Attorney		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent		
Category	Description	Actuals	Month	Actuals	brances			Remaining		
		Thru 12/2020	Actuals	Actuals				Budg / Time		
Fund - Dept 001-160 GENERAL-CITY ATTORNEY										
8990 Allocations										
<hr/>										
7994	Building Main Allocation	9,644.00	0.00	4,538.00	0.00	20,244.00	15,706.00	78		
7996	Info Systems Allocation	4,544.00	0.00	2,000.00	0.00	5,221.00	3,221.00	62		
		<u>14,188.00</u>	<u>0.00</u>	<u>6,538.00</u>	<u>0.00</u>	<u>25,465.00</u>	<u>18,927.00</u>			
Allocations		14,188.00	0.00	6,538.00	0.00	25,465.00	18,927.00	74	50	
End Fund - Dept 001-160		14,188.00	0.00	6,538.00	0.00	25,465.00	18,927.00	74	50	
<hr/>										
Grand Totals : City Attorney		14,188.00	0.00	6,538.00	0.00	25,465.00	18,927.00	74	50	

End Of Report Prepared for City Attorney

Data Through 12/31/2021

** End of Report **

Prepared for City Clerk - 003

City of Chico
Department Expense Category Summary

Multi Fund/Dept Budget Year: 2022

Data Through 12/31/2021

Budget Version 10: Working

City Clerk		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category Description		Actuals	Month	Actuals	brances			Remaining	
8990 Allocations		Thru 12/2020	Actuals	Actuals				Budg / Time	
5030	Insurance	10,888.00	0.00	13,941.00	0.00	20,813.00	6,872.00	33	
7994	Building Main Allocation	34,809.00	0.00	16,379.00	0.00	73,064.00	56,685.00	78	
7996	Info Systems Allocation	25,298.00	0.00	28,047.00	0.00	82,889.00	54,842.00	66	
		<u>70,995.00</u>	<u>0.00</u>	<u>58,367.00</u>	<u>0.00</u>	<u>176,766.00</u>	<u>118,399.00</u>		
Allocations		70,995.00	0.00	58,367.00	0.00	176,766.00	118,399.00	67	50

End Of Report Prepared for City Clerk

Data Through 12/31/2021

**** End of Report ****

Prepared for City Clerk - 003

City of Chico
Department Expense By Category

Multi Fund/Dept		Budget Year: 2022		Data Through 12/31/2021			Budget Version 10: Working	
City Clerk		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
Fund - Dept 001-101		GENERAL-CITY COUNCIL						
8990 Allocations								
7994 Building Main Allocation		21,539.00	0.00	10,135.00	0.00	45,210.00	35,075.00	78
7996 Info Systems Allocation		13,938.00	0.00	12,833.00	0.00	41,606.00	28,773.00	69
		<u>35,477.00</u>	<u>0.00</u>	<u>22,968.00</u>	<u>0.00</u>	<u>86,816.00</u>	<u>63,848.00</u>	
Allocations		35,477.00	0.00	22,968.00	0.00	86,816.00	63,848.00	74 50
End Fund - Dept 001-101		35,477.00	0.00	22,968.00	0.00	86,816.00	63,848.00	74 50
Fund - Dept 001-103		GENERAL-CITY CLERK						
8990 Allocations								
5030 Insurance		10,888.00	0.00	13,941.00	0.00	20,813.00	6,872.00	33
7994 Building Main Allocation		13,270.00	0.00	6,244.00	0.00	27,854.00	21,610.00	78
7996 Info Systems Allocation		11,360.00	0.00	15,214.00	0.00	41,283.00	26,069.00	63
		<u>35,518.00</u>	<u>0.00</u>	<u>35,399.00</u>	<u>0.00</u>	<u>89,950.00</u>	<u>54,551.00</u>	
Allocations		35,518.00	0.00	35,399.00	0.00	89,950.00	54,551.00	61 50
End Fund - Dept 001-103		35,518.00	0.00	35,399.00	0.00	89,950.00	54,551.00	61 50
Grand Totals : City Clerk		70,995.00	0.00	58,367.00	0.00	176,766.00	118,399.00	67 50

End Of Report Prepared for City Clerk

Data Through 12/31/2021

** End of Report **

Prepared for City Manager - 005

City of Chico
Department Expense Category Summary

Multi Fund/Dept Budget Year: 2022

Data Through 12/31/2021

Budget Version 10: Working

City Manager		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent		
Category Description		Actuals	Month	Actuals	brances			Remaining		
8990 Allocations		Thru 12/2020	Actuals	Actuals				Budg / Time		
5030 Insurance		24,292.00	0.00	22,116.00	0.00	33,020.00	10,904.00	33		
7994 Building Main Allocation		19,147.00	0.00	9,009.00	0.00	40,187.00	31,178.00	78		
7996 Info Systems Allocation		24,923.00	0.00	18,654.00	0.00	60,891.00	42,237.00	69		
		<u>68,362.00</u>	<u>0.00</u>	<u>49,779.00</u>	<u>0.00</u>	<u>134,098.00</u>	<u>84,319.00</u>			
Allocations		68,362.00	0.00	49,779.00	0.00	134,098.00	84,319.00	63	50	

End Of Report Prepared for City Manager

Data Through 12/31/2021

**** End of Report ****

Prepared for City Manager - 005

City of Chico
Department Expense By Category

Multi Fund/Dept		Budget Year: 2022		Data Through 12/31/2021			Budget Version 10: Working	
City Manager		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
Fund - Dept 001-106		GENERAL-CITY MANAGER						
8990 Allocations								
5030	Insurance	20,588.00	0.00	22,116.00	0.00	33,020.00	10,904.00	33
7994	Building Main Allocation	19,147.00	0.00	9,009.00	0.00	40,187.00	31,178.00	78
7996	Info Systems Allocation	24,179.00	0.00	18,476.00	0.00	59,117.00	40,641.00	69
		63,914.00	0.00	49,601.00	0.00	132,324.00	82,723.00	
Allocations		63,914.00	0.00	49,601.00	0.00	132,324.00	82,723.00	63 50
End Fund - Dept 001-106		63,914.00	0.00	49,601.00	0.00	132,324.00	82,723.00	63 50
Fund - Dept 001-112		GENERAL-ECONOMIC DEVEL						
8990 Allocations								
7996	Info Systems Allocation	744.00	0.00	178.00	0.00	1,774.00	1,596.00	90
		744.00	0.00	178.00	0.00	1,774.00	1,596.00	
Allocations		744.00	0.00	178.00	0.00	1,774.00	1,596.00	90 50
End Fund - Dept 001-112		744.00	0.00	178.00	0.00	1,774.00	1,596.00	90 50
Fund - Dept 050-106		DONATIONS-CITY MANAGER						
8990 Allocations								
5030	Insurance	3,704.00	0.00	0.00	0.00	0.00	0.00	0
		3,704.00	0.00	0.00	0.00	0.00	0.00	
Allocations		3,704.00	0.00	0.00	0.00	0.00	0.00	0 50
End Fund - Dept 050-106		3,704.00	0.00	0.00	0.00	0.00	0.00	0 50
Grand Totals : City Manager		68,362.00	0.00	49,779.00	0.00	134,098.00	84,319.00	63 50

End Of Report Prepared for City Manager

Data Through 12/31/2021

**** End of Report ****

Prepared for Comm Devlp - 004

City of Chico

Department Expense Category Summary

Multi Fund/Dept Budget Year: 2022

Data Through 12/31/2021

Budget Version 10: Working

Community Development		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
8990 Allocations								
5030	Insurance	70,639.00	0.00	84,696.00	0.00	126,453.00	41,757.00	33
5260	Fuel	4,793.91	0.00	5,703.68	0.00	11,819.00	6,115.32	52
5510	Vehicle Maintenance/Repair	11,820.22	0.00	5,232.96	0.00	31,086.00	25,853.04	83
7993	Indirect Cost Allocation	145,691.46	0.00	76,216.74	0.00	304,867.00	228,650.26	75
7994	Building Main Allocation	78,494.00	0.00	36,936.00	0.00	164,761.00	127,825.00	78
7996	Info Systems Allocation	122,084.00	0.00	85,378.00	0.00	379,656.00	294,278.00	78
		433,522.59	0.00	294,163.38	0.00	1,018,642.00	724,478.62	
Allocations		433,522.59	0.00	294,163.38	0.00	1,018,642.00	724,478.62	71 50

End Of Report Prepared for Community Development**Data Through 12/31/2021****** End of Report ****

Prepared for Comm Devlp - 004

City of Chico
Department Expense By Category

Multi Fund/Dept Budget Year: 2022

Data Through 12/31/2021

Budget Version 10: Working

Community Development Category Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining Budg / Time
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Fund - Dept 001-510 GENERAL-PLANNING**8990 Allocations**

5030 Insurance	8,814.00	0.00	9,159.00	0.00	13,674.00	4,515.00	33
7996 Info Systems Allocation	43,319.00	0.00	23,354.00	0.00	159,523.00	136,169.00	85
	<u>52,133.00</u>	<u>0.00</u>	<u>32,513.00</u>	<u>0.00</u>	<u>173,197.00</u>	<u>140,684.00</u>	
Allocations	52,133.00	0.00	32,513.00	0.00	173,197.00	140,684.00	81 50
End Fund - Dept 001-510	52,133.00	0.00	32,513.00	0.00	173,197.00	140,684.00	81 50

Fund - Dept 001-535 CODE ENFORCEMENT**8990 Allocations**

5030 Insurance	6,188.00	0.00	8,342.00	0.00	12,456.00	4,114.00	33
5260 Fuel	2,486.80	0.00	3,042.48	0.00	5,118.00	2,075.52	41
5510 Vehicle Maintenance/Repair	7,486.73	0.00	3,834.87	0.00	11,358.00	7,523.13	66
7994 Building Main Allocation	1,135.00	0.00	534.00	0.00	2,381.00	1,847.00	78
7996 Info Systems Allocation	13,311.00	0.00	10,774.00	0.00	33,838.00	23,064.00	68
	<u>30,607.53</u>	<u>0.00</u>	<u>26,527.35</u>	<u>0.00</u>	<u>65,151.00</u>	<u>38,623.65</u>	
Allocations	30,607.53	0.00	26,527.35	0.00	65,151.00	38,623.65	59 50
End Fund - Dept 001-535	30,607.53	0.00	26,527.35	0.00	65,151.00	38,623.65	59 50

Fund - Dept 201-995 INDIRECT COST ALLOCATION**8990 Allocations**

7993 Indirect Cost Allocation	23,597.52	0.00	7,879.50	0.00	31,518.00	23,638.50	75
	<u>23,597.52</u>	<u>0.00</u>	<u>7,879.50</u>	<u>0.00</u>	<u>31,518.00</u>	<u>23,638.50</u>	
Allocations	23,597.52	0.00	7,879.50	0.00	31,518.00	23,638.50	75 50
End Fund - Dept 201-995	23,597.52	0.00	7,879.50	0.00	31,518.00	23,638.50	75 50

Fund - Dept 206-995 INDIRECT COST ALLOCATION**8990 Allocations**

7993 Indirect Cost Allocation	5,359.98	0.00	2,021.25	0.00	8,085.00	6,063.75	75
	<u>5,359.98</u>	<u>0.00</u>	<u>2,021.25</u>	<u>0.00</u>	<u>8,085.00</u>	<u>6,063.75</u>	
Allocations	5,359.98	0.00	2,021.25	0.00	8,085.00	6,063.75	75 50
End Fund - Dept 206-995	5,359.98	0.00	2,021.25	0.00	8,085.00	6,063.75	75 50

Fund - Dept 213-535 ABANDON VEHICLE ABATEMENT**8990 Allocations**

5030 Insurance	3,102.00	0.00	4,420.00	0.00	6,599.00	2,179.00	33
5260 Fuel	276.32	0.00	338.05	0.00	546.00	207.95	38
5510 Vehicle Maintenance/Repair	831.85	0.00	426.10	0.00	879.00	452.90	52
7994 Building Main Allocation	1,446.00	0.00	681.00	0.00	3,037.00	2,356.00	78
7996 Info Systems Allocation	2,271.00	0.00	2,000.00	0.00	5,221.00	3,221.00	62
	<u>7,927.17</u>	<u>0.00</u>	<u>7,865.15</u>	<u>0.00</u>	<u>16,282.00</u>	<u>8,416.85</u>	
Allocations	7,927.17	0.00	7,865.15	0.00	16,282.00	8,416.85	52 50

Prepared for Comm Devlp - 004

City of Chico
Department Expense By Category

Multi Fund/Dept		Budget Year: 2022		Data Through 12/31/2021			Budget Version 10: Working		
Community Development Category	Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encumbrances	Budget	Balance	Percent Remaining	Budg / Time
End Fund - Dept 213-535		7,927.17	0.00	7,865.15	0.00	16,282.00	8,416.85	52	50
Fund - Dept 213-995		INDIRECT COST ALLOCATION							
8990 Allocations									
7993 Indirect Cost Allocation		4,251.48	0.00	2,383.74	0.00	9,535.00	7,151.26	75	
		4,251.48	0.00	2,383.74	0.00	9,535.00	7,151.26		
Allocations		4,251.48	0.00	2,383.74	0.00	9,535.00	7,151.26	75	50
End Fund - Dept 213-995		4,251.48	0.00	2,383.74	0.00	9,535.00	7,151.26	75	50
Fund - Dept 316-520		CASp Cert & Training							
8990 Allocations									
5030 Insurance		0.00	0.00	725.00	0.00	1,082.00	357.00	33	
		0.00	0.00	725.00	0.00	1,082.00	357.00		
Allocations		0.00	0.00	725.00	0.00	1,082.00	357.00	33	50
End Fund - Dept 316-520		0.00	0.00	725.00	0.00	1,082.00	357.00	33	50
Fund - Dept 392-540		LOW-MOD HOUSING ASSET FUND							
8990 Allocations									
5030 Insurance		5,758.00	0.00	6,418.00	0.00	9,582.00	3,164.00	33	
7994 Building Main Allocation		13,635.00	0.00	6,417.00	0.00	28,621.00	22,204.00	78	
7996 Info Systems Allocation		6,090.00	0.00	3,790.00	0.00	23,110.00	19,320.00	84	
		25,483.00	0.00	16,625.00	0.00	61,313.00	44,688.00		
Allocations		25,483.00	0.00	16,625.00	0.00	61,313.00	44,688.00	73	50
End Fund - Dept 392-540		25,483.00	0.00	16,625.00	0.00	61,313.00	44,688.00	73	50
Fund - Dept 392-995		INDIRECT COST ALLOCATION							
8990 Allocations									
7993 Indirect Cost Allocation		19,215.00	0.00	10,302.99	0.00	41,212.00	30,909.01	75	
		19,215.00	0.00	10,302.99	0.00	41,212.00	30,909.01		
Allocations		19,215.00	0.00	10,302.99	0.00	41,212.00	30,909.01	75	50
End Fund - Dept 392-995		19,215.00	0.00	10,302.99	0.00	41,212.00	30,909.01	75	50
Fund - Dept 863-510		SUBDIVISION PLANNING							
8990 Allocations									
5030 Insurance		3,448.00	0.00	4,105.00	0.00	6,130.00	2,025.00	33	
5260 Fuel		20.12	0.00	12.50	0.00	132.00	119.50	91	
7996 Info Systems Allocation		10,173.00	0.00	6,871.00	0.00	24,365.00	17,494.00	72	
		13,641.12	0.00	10,988.50	0.00	30,627.00	19,638.50		
Allocations		13,641.12	0.00	10,988.50	0.00	30,627.00	19,638.50	64	50
End Fund - Dept 863-510		13,641.12	0.00	10,988.50	0.00	30,627.00	19,638.50	64	50

Prepared for Comm Devlp - 004

City of Chico

Department Expense By Category

Multi Fund/Dept		Budget Year: 2022		Data Through 12/31/2021			Budget Version 10: Working	
Community Development		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
Fund - Dept 871-520		PRIVATE DEVELOPMENT-BLDG						
8990 Allocations								
5030	Insurance	31,982.00	0.00	35,110.00	0.00	52,420.00	17,310.00	33
5260	Fuel	1,990.55	0.00	2,298.15	0.00	5,891.00	3,592.85	61
5510	Vehicle Maintenance/Repair	3,501.64	0.00	971.99	0.00	16,784.00	15,812.01	94
7994	Building Main Allocation	19,092.00	0.00	8,984.00	0.00	40,075.00	31,091.00	78
7996	Info Systems Allocation	23,460.00	0.00	20,810.00	0.00	81,939.00	61,129.00	75
		80,026.19	0.00	68,174.14	0.00	197,109.00	128,934.86	
Allocations		80,026.19	0.00	68,174.14	0.00	197,109.00	128,934.86	65 50
End Fund - Dept 871-520		80,026.19	0.00	68,174.14	0.00	197,109.00	128,934.86	65 50
Fund - Dept 871-995		INDIRECT COST ALLOCATION						
8990 Allocations								
7993	Indirect Cost Allocation	55,539.00	0.00	34,958.25	0.00	139,833.00	104,874.75	75
		55,539.00	0.00	34,958.25	0.00	139,833.00	104,874.75	
Allocations		55,539.00	0.00	34,958.25	0.00	139,833.00	104,874.75	75 50
End Fund - Dept 871-995		55,539.00	0.00	34,958.25	0.00	139,833.00	104,874.75	75 50
Fund - Dept 872-510		PRIVATE DEVELOPMENT - PLANNING						
8990 Allocations								
5030	Insurance	8,588.00	0.00	10,631.00	0.00	15,871.00	5,240.00	33
5260	Fuel	20.12	0.00	12.50	0.00	132.00	119.50	91
5510	Vehicle Maintenance/Repair	0.00	0.00	0.00	0.00	2,065.00	2,065.00	100
7994	Building Main Allocation	43,186.00	0.00	20,320.00	0.00	90,647.00	70,327.00	78
7996	Info Systems Allocation	23,460.00	0.00	17,779.00	0.00	51,660.00	33,881.00	66
		75,254.12	0.00	48,742.50	0.00	160,375.00	111,632.50	
Allocations		75,254.12	0.00	48,742.50	0.00	160,375.00	111,632.50	70 50
End Fund - Dept 872-510		75,254.12	0.00	48,742.50	0.00	160,375.00	111,632.50	70 50
Fund - Dept 872-995		INDIRECT COST ALLOCATION						
8990 Allocations								
7993	Indirect Cost Allocation	37,728.48	0.00	18,671.01	0.00	74,684.00	56,012.99	75
		37,728.48	0.00	18,671.01	0.00	74,684.00	56,012.99	
Allocations		37,728.48	0.00	18,671.01	0.00	74,684.00	56,012.99	75 50
End Fund - Dept 872-995		37,728.48	0.00	18,671.01	0.00	74,684.00	56,012.99	75 50
Fund - Dept 935-185		INFO TECH - GIS						
8990 Allocations								
5030	Insurance	2,759.00	0.00	5,786.00	0.00	8,639.00	2,853.00	33
		2,759.00	0.00	5,786.00	0.00	8,639.00	2,853.00	
Allocations		2,759.00	0.00	5,786.00	0.00	8,639.00	2,853.00	33 50

Prepared for Comm Devlp - 004

City of Chico
Department Expense By Category

Multi Fund/Dept Budget Year: 2022

Data Through 12/31/2021

Budget Version 10: Working

Community Development		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	Remaining
Category	Description	Actuals	Month	Actuals	brances			Budg / Time	
		Thru 12/2020	Actuals	Actuals					
End Fund - Dept	935-185	2,759.00	0.00	5,786.00	0.00	8,639.00	2,853.00	33	50
Grand Totals : Community Devlp		433,522.59	0.00	294,163.38	0.00	1,018,642.00	724,478.62	71	50

End Of Report Prepared for Community Development

Data Through 12/31/2021

**** End of Report ****

Prepared for Fire - 007

City of Chico

Department Expense Category Summary

Multi Fund/Dept Budget Year: 2022

Data Through 12/31/2021

Budget Version 10: Working

Fire Category Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining	
							Budg /	Time
8990 Allocations								
5030 Insurance	219,150.00	0.00	246,304.00	0.00	367,741.00	121,437.00	33	
5260 Fuel	29,317.64	0.00	32,215.33	0.00	80,069.00	47,853.67	60	
5455 Electric	37,431.05	4,812.30	40,536.31	0.00	84,779.00	44,242.69	52	
5456 Natural Gas	2,585.68	1,043.84	3,343.79	0.00	19,513.00	16,169.21	83	
5460 Water	11,165.37	2,867.42	14,892.21	0.00	25,694.00	10,801.79	42	
5510 Vehicle Maintenance/Repair	140,650.23	0.00	82,696.77	0.00	349,338.00	266,641.23	76	
7993 Indirect Cost Allocation	5,103.00	0.00	2,607.99	0.00	10,432.00	7,824.01	75	
7994 Building Main Allocation	96,792.00	0.00	45,541.00	0.00	203,161.00	157,620.00	78	
7996 Info Systems Allocation	115,971.00	0.00	94,551.00	0.00	292,948.00	198,397.00	68	
	<u>658,165.97</u>	<u>8,723.56</u>	<u>562,688.40</u>	<u>0.00</u>	<u>1,433,675.00</u>	<u>870,986.60</u>		
Allocations	658,165.97	8,723.56	562,688.40	0.00	1,433,675.00	870,986.60	61	50

End Of Report Prepared for Fire

Data Through 12/31/2021

** End of Report **

Prepared for Fire - 007

City of Chico

Department Expense By Category

Multi Fund/Dept		Budget Year: 2022		Data Through 12/31/2021			Budget Version 10: Working	
Fire		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
Fund - Dept 001-400		GENERAL-FIRE						
8990 Allocations								
5030	Insurance	215,425.00	0.00	243,096.00	0.00	362,950.00	119,854.00	33
5260	Fuel	29,317.64	0.00	32,215.33	0.00	80,069.00	47,853.67	60
5455	Electric	37,431.05	4,812.30	40,536.31	0.00	84,779.00	44,242.69	52
5456	Natural Gas	2,585.68	1,043.84	3,343.79	0.00	19,513.00	16,169.21	83
5460	Water	11,165.37	2,867.42	14,892.21	0.00	25,694.00	10,801.79	42
5510	Vehicle Maintenance/Repair	140,650.23	0.00	82,696.77	0.00	349,338.00	266,641.23	76
7994	Building Main Allocation	96,792.00	0.00	45,541.00	0.00	203,161.00	157,620.00	78
7996	Info Systems Allocation	115,971.00	0.00	94,551.00	0.00	292,948.00	198,397.00	68
		649,337.97	8,723.56	556,872.41	0.00	1,418,452.00	861,579.59	
Allocations		649,337.97	8,723.56	556,872.41	0.00	1,418,452.00	861,579.59	61 50
End Fund - Dept 001-400		649,337.97	8,723.56	556,872.41	0.00	1,418,452.00	861,579.59	61 50
Fund - Dept 874-400		Private Development - Fire						
8990 Allocations								
5030	Insurance	3,725.00	0.00	3,208.00	0.00	4,791.00	1,583.00	33
		3,725.00	0.00	3,208.00	0.00	4,791.00	1,583.00	
Allocations		3,725.00	0.00	3,208.00	0.00	4,791.00	1,583.00	33 50
End Fund - Dept 874-400		3,725.00	0.00	3,208.00	0.00	4,791.00	1,583.00	33 50
Fund - Dept 874-995		INDIRECT COST ALLOCATION						
8990 Allocations								
7993	Indirect Cost Allocation	5,103.00	0.00	2,607.99	0.00	10,432.00	7,824.01	75
		5,103.00	0.00	2,607.99	0.00	10,432.00	7,824.01	
Allocations		5,103.00	0.00	2,607.99	0.00	10,432.00	7,824.01	75 50
End Fund - Dept 874-995		5,103.00	0.00	2,607.99	0.00	10,432.00	7,824.01	75 50
Grand Totals : Fire		658,165.97	8,723.56	562,688.40	0.00	1,433,675.00	870,986.60	61 50

End Of Report Prepared for Fire

Data Through 12/31/2021

** End of Report **

Prepared for Human Resources - 130

City of Chico
Department Expense Category Summary

Multi Fund/Dept Budget Year: 2022

Data Through 12/31/2021

Budget Version 10: Working

Human Resources		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
8990 Allocations		Thru 12/2020	Actuals	Actuals				Budg / Time
5030	Insurance	11,697.00	0.00	14,072.00	0.00	21,009.00	6,937.00	33
7994	Building Main Allocation	10,314.00	0.00	4,853.00	0.00	21,650.00	16,797.00	78
7996	Info Systems Allocation	18,175.00	0.00	12,001.00	0.00	31,327.00	19,326.00	62
		<u>40,186.00</u>	<u>0.00</u>	<u>30,926.00</u>	<u>0.00</u>	<u>73,986.00</u>	<u>43,060.00</u>	
Allocations		40,186.00	0.00	30,926.00	0.00	73,986.00	43,060.00	58 50

End Of Report Prepared for Human Resources

Data Through 12/31/2021

**** End of Report ****

City of Chico

Prepared for Human Resources & Risk Management

Department Expense By Category

Multi Fund/Dept		Budget Year: 2022	Data Through 12/31/2021				Budget Version 10: Working	
Human Resources		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
Fund - Dept 001-130		GENERAL-HUMAN RESOURCES						
8990 Allocations								
5030	Insurance	11,697.00	0.00	14,072.00	0.00	21,009.00	6,937.00	33
7994	Building Main Allocation	10,314.00	0.00	4,853.00	0.00	21,650.00	16,797.00	78
7996	Info Systems Allocation	18,175.00	0.00	12,001.00	0.00	31,327.00	19,326.00	62
		40,186.00	0.00	30,926.00	0.00	73,986.00	43,060.00	
Allocations		40,186.00	0.00	30,926.00	0.00	73,986.00	43,060.00	58 50
End Fund - Dept 001-130		40,186.00	0.00	30,926.00	0.00	73,986.00	43,060.00	58 50
Grand Totals : Human Resources		40,186.00	0.00	30,926.00	0.00	73,986.00	43,060.00	58 50

End Of Report Prepared for Human Resources

Data Through 12/31/2021

**** End of Report ****

Prepared for Police - 008

City of Chico

Department Expense Category Summary

Multi Fund/Dept		Budget Year: 2022		Data Through 12/31/2021			Budget Version 10: Working	
Police		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
8990 Allocations								
5030	Insurance	476,761.00	0.00	525,738.00	0.00	784,939.00	259,201.00	33
5260	Fuel	97,625.19	0.00	100,611.58	0.00	227,782.00	127,170.42	56
5455	Electric	60,361.13	6,877.23	61,769.22	0.00	133,910.00	72,140.78	54
5456	Natural Gas	1,288.69	1,189.11	2,025.79	0.00	9,259.00	7,233.21	78
5460	Water	2,377.92	527.16	3,189.65	0.00	10,137.00	6,947.35	69
5510	Vehicle Maintenance/Repair	184,093.42	0.00	112,302.59	0.00	460,460.00	348,157.41	76
7993	Indirect Cost Allocation	4,303.98	0.00	12,393.27	0.00	49,573.00	37,179.73	75
7994	Building Main Allocation	267,129.00	0.00	125,688.00	0.00	560,707.00	435,019.00	78
7996	Info Systems Allocation	499,279.00	0.00	305,854.00	0.00	883,179.00	577,325.00	65
		1,593,219.33	8,593.50	1,249,572.10	0.00	3,119,946.00	1,870,373.90	
Allocations		1,593,219.33	8,593.50	1,249,572.10	0.00	3,119,946.00	1,870,373.90	60 50

End Of Report Prepared for Police

Data Through 12/31/2021

** End of Report **

City of Chico

Prepared for Police - 008

Department Expense By Category

Multi Fund/Dept		Budget Year: 2022		Data Through 12/31/2021			Budget Version 10: Working	
Police		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
Fund - Dept 001-300		POLICE						
8990 Allocations								
5030	Insurance	454,869.00	0.00	500,324.00	0.00	746,998.00	246,674.00	33
5260	Fuel	97,625.19	0.00	100,611.58	0.00	227,782.00	127,170.42	56
5455	Electric	49,634.20	5,780.29	52,114.04	0.00	107,110.00	54,995.96	51
5456	Natural Gas	423.67	535.76	840.87	0.00	3,547.00	2,706.13	76
5460	Water	1,291.91	317.19	1,876.77	0.00	6,422.00	4,545.23	71
5510	Vehicle Maintenance/Repair	184,093.42	0.00	112,302.59	0.00	460,460.00	348,157.41	76
7994	Building Main Allocation	267,129.00	0.00	125,688.00	0.00	560,707.00	435,019.00	78
7996	Info Systems Allocation	487,919.00	0.00	298,853.00	0.00	864,905.00	566,052.00	65
		1,542,985.39	6,633.24	1,192,610.85	0.00	2,977,931.00	1,785,320.15	
Allocations		1,542,985.39	6,633.24	1,192,610.85	0.00	2,977,931.00	1,785,320.15	60 50
End Fund - Dept 001-300		1,542,985.39	6,633.24	1,192,610.85	0.00	2,977,931.00	1,785,320.15	60 50
Fund - Dept 001-348		GENERAL-PD/ANIMAL SERVICES						
8990 Allocations								
5030	Insurance	11,274.00	0.00	13,207.00	0.00	19,718.00	6,511.00	33
5455	Electric	10,726.93	1,096.94	9,655.18	0.00	26,800.00	17,144.82	64
5456	Natural Gas	865.02	653.35	1,184.92	0.00	5,712.00	4,527.08	79
5460	Water	1,086.01	209.97	1,312.88	0.00	3,715.00	2,402.12	65
7996	Info Systems Allocation	11,360.00	0.00	7,001.00	0.00	18,274.00	11,273.00	62
		35,311.96	1,960.26	32,360.98	0.00	74,219.00	41,858.02	
Allocations		35,311.96	1,960.26	32,360.98	0.00	74,219.00	41,858.02	56 50
End Fund - Dept 001-348		35,311.96	1,960.26	32,360.98	0.00	74,219.00	41,858.02	56 50
Fund - Dept 002-300		PARKS - POLICE						
8990 Allocations								
5030	Insurance	5,590.00	0.00	6,341.00	0.00	9,467.00	3,126.00	33
		5,590.00	0.00	6,341.00	0.00	9,467.00	3,126.00	
Allocations		5,590.00	0.00	6,341.00	0.00	9,467.00	3,126.00	33 50
End Fund - Dept 002-300		5,590.00	0.00	6,341.00	0.00	9,467.00	3,126.00	33 50
Fund - Dept 050-300		DONATIONS-POLICE						
8990 Allocations								
5030	Insurance	2,512.00	0.00	2,965.00	0.00	4,426.00	1,461.00	33
		2,512.00	0.00	2,965.00	0.00	4,426.00	1,461.00	
Allocations		2,512.00	0.00	2,965.00	0.00	4,426.00	1,461.00	33 50
End Fund - Dept 050-300		2,512.00	0.00	2,965.00	0.00	4,426.00	1,461.00	33 50
Fund - Dept 098-995		INDIRECT COST ALLOCATION						
8990 Allocations								
7993	Indirect Cost Allocation	82.98	0.00	1,539.00	0.00	6,156.00	4,617.00	75
		82.98	0.00	1,539.00	0.00	6,156.00	4,617.00	

Prepared for Police - 008

City of Chico

Department Expense By Category

Multi Fund/Dept		Budget Year: 2022		Data Through 12/31/2021			Budget Version 10: Working		
Police		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
	Allocations	82.98	0.00	1,539.00	0.00	6,156.00	4,617.00	75	50
End Fund - Dept 098-995		82.98	0.00	1,539.00	0.00	6,156.00	4,617.00	75	50
Fund - Dept 099-995		INDIRECT COST ALLOCATION							
8990 Allocations									
	7993 Indirect Cost Allocation	3,642.00	0.00	2,407.26	0.00	9,629.00	7,221.74	75	
		3,642.00	0.00	2,407.26	0.00	9,629.00	7,221.74		
	Allocations	3,642.00	0.00	2,407.26	0.00	9,629.00	7,221.74	75	50
End Fund - Dept 099-995		3,642.00	0.00	2,407.26	0.00	9,629.00	7,221.74	75	50
Fund - Dept 100-995		INDIRECT COST ALLOCATION							
8990 Allocations									
	7993 Indirect Cost Allocation	418.50	0.00	8,396.01	0.00	33,584.00	25,187.99	75	
		418.50	0.00	8,396.01	0.00	33,584.00	25,187.99		
	Allocations	418.50	0.00	8,396.01	0.00	33,584.00	25,187.99	75	50
End Fund - Dept 100-995		418.50	0.00	8,396.01	0.00	33,584.00	25,187.99	75	50
Fund - Dept 217-995		INDIRECT COST ALLOCATION							
8990 Allocations									
	7993 Indirect Cost Allocation	160.50	0.00	51.00	0.00	204.00	153.00	75	
		160.50	0.00	51.00	0.00	204.00	153.00		
	Allocations	160.50	0.00	51.00	0.00	204.00	153.00	75	50
End Fund - Dept 217-995		160.50	0.00	51.00	0.00	204.00	153.00	75	50
Fund - Dept 853-300		PD Parking Service Specialists							
8990 Allocations									
	5030 Insurance	2,516.00	0.00	2,901.00	0.00	4,330.00	1,429.00	33	
		2,516.00	0.00	2,901.00	0.00	4,330.00	1,429.00		
	Allocations	2,516.00	0.00	2,901.00	0.00	4,330.00	1,429.00	33	50
End Fund - Dept 853-300		2,516.00	0.00	2,901.00	0.00	4,330.00	1,429.00	33	50

Prepared for Police - 008

City of Chico
Department Expense By Category

Multi Fund/Dept	Budget Year: 2022	Data Through 12/31/2021				Budget	Budget Version 10: Working	
		Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encumbrances		Balance	Percent Remaining Budg / Time
Police Category	Description							
Grand Totals : Police		1,593,219.33	8,593.50	1,249,572.10	0.00	3,119,946.00	1,870,373.90	60 50

End Of Report Prepared for Police

Data Through 12/31/2021

** End of Report **

Prepared for DPW Engineering - 009

City of Chico

Department Expense Category Summary

Multi Fund/Dept Budget Year: 2022

Data Through 12/31/2021

Budget Version 10: Working

Public Works Engineering		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent		
Category	Description	Actuals	Month	Actuals	brances			Remaining		
		Thru 12/2020	Actuals	Actuals				Budg / Time		
8990 Allocations										
5030	Insurance	89,110.00	0.00	117,926.00	0.00	176,064.00	58,138.00	33		
5260	Fuel	997.14	0.00	1,662.82	0.00	2,929.00	1,266.18	43		
5455	Electric	50.99	20.96	66.11	0.00	12,275.00	12,208.89	99		
5460	Water	248.98	61.44	321.21	0.00	1,090.00	768.79	71		
5510	Vehicle Maintenance/Repair	9,952.66	0.00	1,944.01	0.00	14,440.00	12,495.99	87		
7993	Indirect Cost Allocation	212,940.48	0.00	118,632.51	0.00	474,530.00	355,897.49	75		
7994	Building Main Allocation	46,445.00	0.00	21,853.00	0.00	97,489.00	75,636.00	78		
7996	Info Systems Allocation	69,324.00	0.00	81,375.00	0.00	281,044.00	199,669.00	71		
		429,069.25	82.40	343,780.66	0.00	1,059,861.00	716,080.34			
Allocations		429,069.25	82.40	343,780.66	0.00	1,059,861.00	716,080.34	68	50	

End Of Report Prepared for DPW Engineering**Data Through 12/31/2021****** End of Report ****

Prepared for DPW Engineering - 009

City of Chico
Department Expense By Category

Multi Fund/Dept		Budget Year: 2022		Data Through 12/31/2021			Budget Version 10: Working	
Public Works Engineering		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
Fund - Dept 001-610		GENERAL-CAPITAL PROJECTS SRVCS						
8990 Allocations								
5030	Insurance	8,802.00	0.00	10,233.00	0.00	15,278.00	5,045.00	33
		8,802.00	0.00	10,233.00	0.00	15,278.00	5,045.00	
Allocations		8,802.00	0.00	10,233.00	0.00	15,278.00	5,045.00	33 50
End Fund - Dept 001-610		8,802.00	0.00	10,233.00	0.00	15,278.00	5,045.00	33 50
Fund - Dept 212-653		TRANSIT SERVICES						
8990 Allocations								
5030	Insurance	115.00	0.00	129.00	0.00	192.00	63.00	33
5455	Electric	50.99	20.96	66.11	0.00	275.00	208.89	76
5460	Water	248.98	61.44	321.21	0.00	1,090.00	768.79	71
		414.97	82.40	516.32	0.00	1,557.00	1,040.68	
Allocations		414.97	82.40	516.32	0.00	1,557.00	1,040.68	67 50
End Fund - Dept 212-653		414.97	82.40	516.32	0.00	1,557.00	1,040.68	67 50
Fund - Dept 212-654		TRANSPORTATION-BIKE/PEDS						
8990 Allocations								
5030	Insurance	1,994.00	0.00	1,896.00	0.00	2,830.00	934.00	33
7994	Building Main Allocation	3,071.00	0.00	1,445.00	0.00	6,448.00	5,003.00	78
7996	Info Systems Allocation	2,271.00	0.00	1,000.00	0.00	2,611.00	1,611.00	62
		7,336.00	0.00	4,341.00	0.00	11,889.00	7,548.00	
Allocations		7,336.00	0.00	4,341.00	0.00	11,889.00	7,548.00	63 50
End Fund - Dept 212-654		7,336.00	0.00	4,341.00	0.00	11,889.00	7,548.00	63 50
Fund - Dept 212-655		TRANSPORTATION-PLANNING						
8990 Allocations								
5030	Insurance	2,913.00	0.00	3,809.00	0.00	5,688.00	1,879.00	33
7994	Building Main Allocation	3,071.00	0.00	1,445.00	0.00	6,448.00	5,003.00	78
7996	Info Systems Allocation	2,641.00	0.00	456.00	0.00	4,555.00	4,099.00	90
		8,625.00	0.00	5,710.00	0.00	16,691.00	10,981.00	
Allocations		8,625.00	0.00	5,710.00	0.00	16,691.00	10,981.00	66 50
End Fund - Dept 212-655		8,625.00	0.00	5,710.00	0.00	16,691.00	10,981.00	66 50
Fund - Dept 212-995		INDIRECT COST ALLOCATION						
8990 Allocations								
7993	Indirect Cost Allocation	35,870.52	0.00	6,908.25	0.00	27,633.00	20,724.75	75
		35,870.52	0.00	6,908.25	0.00	27,633.00	20,724.75	
Allocations		35,870.52	0.00	6,908.25	0.00	27,633.00	20,724.75	75 50
End Fund - Dept 212-995		35,870.52	0.00	6,908.25	0.00	27,633.00	20,724.75	75 50

Prepared for DPW Engineering - 009

City of Chico

Department Expense By Category

Multi Fund/Dept Budget Year: 2022

Data Through 12/31/2021

Budget Version 10: Working

Public Works Engineering Category Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining Budget / Time
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Fund - Dept 400-000 CAPITAL PROJECTS CLEARING FUND

8990 Allocations

5030 Insurance	48,879.00	0.00	69,165.00	0.00	103,265.00	34,100.00	33
7996 Info Systems Allocation	13,632.00	0.00	18,704.00	0.00	53,995.00	35,291.00	65
	<u>62,511.00</u>	<u>0.00</u>	<u>87,869.00</u>	<u>0.00</u>	<u>157,260.00</u>	<u>69,391.00</u>	
Allocations	62,511.00	0.00	87,869.00	0.00	157,260.00	69,391.00	44 50
End Fund - Dept 400-000	62,511.00	0.00	87,869.00	0.00	157,260.00	69,391.00	44 50

Fund - Dept 400-610 CAPITAL-CAPITAL PROJECTS SRVCS

8990 Allocations

5260 Fuel	997.14	0.00	1,662.82	0.00	2,929.00	1,266.18	43
5510 Vehicle Maintenance/Repair	9,952.66	0.00	1,944.01	0.00	14,440.00	12,495.99	87
7994 Building Main Allocation	22,156.00	0.00	10,425.00	0.00	46,504.00	36,079.00	78
7996 Info Systems Allocation	27,511.00	0.00	36,070.00	0.00	94,631.00	58,561.00	62
	<u>60,616.80</u>	<u>0.00</u>	<u>50,101.83</u>	<u>0.00</u>	<u>158,504.00</u>	<u>108,402.17</u>	
Allocations	60,616.80	0.00	50,101.83	0.00	158,504.00	108,402.17	68 50
End Fund - Dept 400-610	60,616.80	0.00	50,101.83	0.00	158,504.00	108,402.17	68 50

Fund - Dept 400-995 INDIRECT COST ALLOCATION

8990 Allocations

7993 Indirect Cost Allocation	131,236.98	0.00	78,242.76	0.00	312,971.00	234,728.24	75
	<u>131,236.98</u>	<u>0.00</u>	<u>78,242.76</u>	<u>0.00</u>	<u>312,971.00</u>	<u>234,728.24</u>	
Allocations	131,236.98	0.00	78,242.76	0.00	312,971.00	234,728.24	75 50
End Fund - Dept 400-995	131,236.98	0.00	78,242.76	0.00	312,971.00	234,728.24	75 50

Fund - Dept 850-000 SEWER-ADMN

8990 Allocations

5030 Insurance	491.00	0.00	553.00	0.00	825.00	272.00	33
	<u>491.00</u>	<u>0.00</u>	<u>553.00</u>	<u>0.00</u>	<u>825.00</u>	<u>272.00</u>	
Allocations	491.00	0.00	553.00	0.00	825.00	272.00	33 50
End Fund - Dept 850-000	491.00	0.00	553.00	0.00	825.00	272.00	33 50

Fund - Dept 850-615 SEWER-DEVELOPMENT SERVICES

8990 Allocations

5030 Insurance	7,304.00	0.00	11,520.00	0.00	17,200.00	5,680.00	33
7994 Building Main Allocation	7,689.00	0.00	3,618.00	0.00	16,139.00	12,521.00	78
7996 Info Systems Allocation	18,434.00	0.00	14,821.00	0.00	51,629.00	36,808.00	71
	<u>33,427.00</u>	<u>0.00</u>	<u>29,959.00</u>	<u>0.00</u>	<u>84,968.00</u>	<u>55,009.00</u>	
Allocations	33,427.00	0.00	29,959.00	0.00	84,968.00	55,009.00	65 50
End Fund - Dept 850-615	33,427.00	0.00	29,959.00	0.00	84,968.00	55,009.00	65 50

Prepared for DPW Engineering - 009

City of Chico
Department Expense By Category

Multi Fund/Dept		Budget Year: 2022		Data Through 12/31/2021			Budget Version 10: Working	
Public Works Engineering		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
Fund - Dept 863-000		SUBDIVISION						
8990 Allocations								
7996 Info Systems Allocation		291.00	0.00	6,324.00	0.00	63,181.00	56,857.00	90
		291.00	0.00	6,324.00	0.00	63,181.00	56,857.00	
Allocations		291.00	0.00	6,324.00	0.00	63,181.00	56,857.00	90 50
End Fund - Dept 863-000		291.00	0.00	6,324.00	0.00	63,181.00	56,857.00	90 50
Fund - Dept 863-615		SUBDIVISIONS-DEV ENGINEERING						
8990 Allocations								
5030 Insurance		5,046.00	0.00	3,332.00	0.00	4,974.00	1,642.00	33
7994 Building Main Allocation		10,458.00	0.00	4,920.00	0.00	21,950.00	17,030.00	78
7996 Info Systems Allocation		4,544.00	0.00	4,000.00	0.00	10,442.00	6,442.00	62
		20,048.00	0.00	12,252.00	0.00	37,366.00	25,114.00	
Allocations		20,048.00	0.00	12,252.00	0.00	37,366.00	25,114.00	67 50
End Fund - Dept 863-615		20,048.00	0.00	12,252.00	0.00	37,366.00	25,114.00	67 50
Fund - Dept 863-995		INDIRECT COST ALLOCATION						
8990 Allocations								
7993 Indirect Cost Allocation		26,020.50	0.00	18,299.25	0.00	73,197.00	54,897.75	75
		26,020.50	0.00	18,299.25	0.00	73,197.00	54,897.75	
Allocations		26,020.50	0.00	18,299.25	0.00	73,197.00	54,897.75	75 50
End Fund - Dept 863-995		26,020.50	0.00	18,299.25	0.00	73,197.00	54,897.75	75 50
Fund - Dept 873-615		PRIVATE DEV-ENGINEERING						
8990 Allocations								
5030 Insurance		13,566.00	0.00	17,289.00	0.00	25,812.00	8,523.00	33
		13,566.00	0.00	17,289.00	0.00	25,812.00	8,523.00	
Allocations		13,566.00	0.00	17,289.00	0.00	25,812.00	8,523.00	33 50
End Fund - Dept 873-615		13,566.00	0.00	17,289.00	0.00	25,812.00	8,523.00	33 50
Fund - Dept 873-995		INDIRECT COST ALLOCATION						
8990 Allocations								
7993 Indirect Cost Allocation		19,812.48	0.00	15,182.25	0.00	60,729.00	45,546.75	75
		19,812.48	0.00	15,182.25	0.00	60,729.00	45,546.75	
Allocations		19,812.48	0.00	15,182.25	0.00	60,729.00	45,546.75	75 50
End Fund - Dept 873-995		19,812.48	0.00	15,182.25	0.00	60,729.00	45,546.75	75 50
Fund - Dept 876-610		City Recreation						
8990 Allocations								

Prepared for DPW Engineering - 009

City of Chico
Department Expense By Category

Multi Fund/Dept Budget Year: 2022

Data Through 12/31/2021

Budget Version 10: Working

Public Works Engineering		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent	
Category	Description	Actuals	Month	Actuals	brances			Remaining	
		Thru 12/2020	Actuals	Actuals				Budg / Time	
5455	Electric	0.00	0.00	0.00	0.00	12,000.00	12,000.00	100	
		0.00	0.00	0.00	0.00	12,000.00	12,000.00		
	Allocations	0.00	0.00	0.00	0.00	12,000.00	12,000.00	100	50
	End Fund - Dept 876-610	0.00	0.00	0.00	0.00	12,000.00	12,000.00	100	50
Grand Totals : DPW - Engineering		429,069.25	82.40	343,780.66	0.00	1,059,861.00	716,080.34	68	50

End Of Report Prepared for DPW Engineering

Data Through 12/31/2021

**** End of Report ****

Prepared for DPW Operations - 006

City of Chico

Department Expense Category Summary

Multi Fund/Dept Budget Year: 2022

Data Through 12/31/2021

Budget Version 10: Working

Public Works Operations		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent		
Category	Description	Actuals	Month	Actuals	brances			Remaining		
		Thru 12/2020	Actuals	Actuals				Budg / Time		
8990 Allocations										
5030	Insurance	185,718.00	0.00	219,772.00	0.00	328,122.00	108,350.00	33		
5260	Fuel	66,273.84	220.25	61,506.14	0.00	188,883.00	127,376.86	67		
5265	Fuel - City Wide	180,823.49	59,372.49	313,291.37	0.00	512,723.00	199,431.63	39		
5455	Electric	570,430.42	119,840.08	609,354.10	0.00	1,695,661.00	1,086,306.90	64		
5456	Natural Gas	13,521.36	19,523.24	40,375.15	0.00	186,249.00	145,873.85	78		
5460	Water	89,670.24	17,563.50	131,084.01	0.00	238,129.00	107,044.99	45		
5510	Vehicle Maintenance/Repair	259,719.87	0.00	115,188.03	0.00	664,507.00	549,318.97	83		
7993	Indirect Cost Allocation	557,934.06	0.00	294,310.02	0.00	1,177,240.00	882,929.98	75		
7994	Building Main Allocation	138,567.00	0.00	65,197.00	0.00	290,844.00	225,647.00	78		
7996	Info Systems Allocation	164,723.00	0.00	71,983.00	0.00	227,374.00	155,391.00	68		
		2,227,381.28	216,519.56	1,922,060.82	0.00	5,509,732.00	3,587,671.18			
Allocations		2,227,381.28	216,519.56	1,922,060.82	0.00	5,509,732.00	3,587,671.18	65	50	

End Of Report Prepared for DPW Operations**Data Through 12/31/2021****** End of Report ****

Prepared for DPW Operations - 006

City of Chico

Department Expense By Category

Multi Fund/Dept		Budget Year: 2022		Data Through 12/31/2021			Budget Version 10: Working	
Public Works Operations		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
Fund - Dept 001-110		GENERAL-ENVIRONMENTAL SVCS						
8990 Allocations								
5030	Insurance	1,559.00	0.00	1,832.00	0.00	2,734.00	902.00	33
		1,559.00	0.00	1,832.00	0.00	2,734.00	902.00	
Allocations		1,559.00	0.00	1,832.00	0.00	2,734.00	902.00	33 50
End Fund - Dept 001-110		1,559.00	0.00	1,832.00	0.00	2,734.00	902.00	33 50
Fund - Dept 001-601		Public Works Administration						
8990 Allocations								
5030	Insurance	2,093.00	0.00	2,326.00	0.00	3,473.00	1,147.00	33
5260	Fuel	0.00	0.00	0.00	0.00	1,762.00	1,762.00	100
5455	Electric	7,506.63	1,275.87	11,705.56	0.00	18,990.00	7,284.44	38
5456	Natural Gas	195.98	121.44	243.04	0.00	2,225.00	1,981.96	89
5460	Water	1,463.06	569.55	2,650.51	0.00	3,753.00	1,102.49	29
5510	Vehicle Maintenance/Repair	3,827.11	0.00	578.49	0.00	9,371.00	8,792.51	94
7994	Building Main Allocation	16,030.00	0.00	7,542.00	0.00	33,645.00	26,103.00	78
7996	Info Systems Allocation	30,958.00	0.00	12,191.00	0.00	54,879.00	42,688.00	78
		62,073.78	1,966.86	37,236.60	0.00	128,098.00	90,861.40	
Allocations		62,073.78	1,966.86	37,236.60	0.00	128,098.00	90,861.40	71 50
End Fund - Dept 001-601		62,073.78	1,966.86	37,236.60	0.00	128,098.00	90,861.40	71 50
Fund - Dept 001-620		GENERAL-STREET CLEANING						
8990 Allocations								
5030	Insurance	17,163.00	0.00	18,534.00	0.00	27,672.00	9,138.00	33
5260	Fuel	11,765.00	0.00	10,880.51	0.00	43,166.00	32,285.49	75
5510	Vehicle Maintenance/Repair	59,930.16	0.00	22,010.87	0.00	190,525.00	168,514.13	88
7994	Building Main Allocation	2,313.00	0.00	1,088.00	0.00	4,855.00	3,767.00	78
		91,171.16	0.00	52,513.38	0.00	266,218.00	213,704.62	
Allocations		91,171.16	0.00	52,513.38	0.00	266,218.00	213,704.62	80 50
End Fund - Dept 001-620		91,171.16	0.00	52,513.38	0.00	266,218.00	213,704.62	80 50
Fund - Dept 001-650		GENERAL-PUBLIC ROW MTCE						
8990 Allocations								
5030	Insurance	21,419.00	0.00	25,547.00	0.00	38,142.00	12,595.00	33
5260	Fuel	23,400.29	0.00	16,666.63	0.00	56,029.00	39,362.37	70
5455	Electric	262,745.79	54,241.82	281,763.53	0.00	652,086.00	370,322.47	57
5510	Vehicle Maintenance/Repair	90,650.60	0.00	37,274.58	0.00	204,614.00	167,339.42	82
7994	Building Main Allocation	30,889.00	0.00	14,533.00	0.00	64,836.00	50,303.00	78
7996	Info Systems Allocation	67,323.00	0.00	31,158.00	0.00	85,714.00	54,556.00	64
		496,427.68	54,241.82	406,942.74	0.00	1,101,421.00	694,478.26	
Allocations		496,427.68	54,241.82	406,942.74	0.00	1,101,421.00	694,478.26	63 50
End Fund - Dept 001-650		496,427.68	54,241.82	406,942.74	0.00	1,101,421.00	694,478.26	63 50
Fund - Dept 002-682		PARK-PARKS AND OPEN SPACES						
8990 Allocations								

Prepared for DPW Operations - 006

City of Chico
Department Expense By Category

Multi Fund/Dept		Data Through 12/31/2021					Budget Version 10: Working	
		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Public Works Operations		Actuals	Month	Actuals	brances		Remaining	
Category	Description	Thru 12/2020	Actuals	Actuals			Budg / Time	
5030	Insurance	18,346.00	0.00	21,540.00	0.00	32,161.00	10,621.00	33
5260	Fuel	8,490.68	183.54	8,928.51	0.00	23,903.00	14,974.49	63
5455	Electric	14,093.91	1,116.39	10,126.72	0.00	38,768.00	28,641.28	74
5460	Water	31,616.81	4,472.69	50,065.68	0.00	77,578.00	27,512.32	35
5510	Vehicle Maintenance/Repair	19,440.21	0.00	18,574.06	0.00	57,005.00	38,430.94	67
7994	Building Main Allocation	13,627.00	0.00	6,412.00	0.00	28,603.00	22,191.00	78
7996	Info Systems Allocation	19,289.00	0.00	7,437.00	0.00	30,005.00	22,568.00	75
		<u>124,903.61</u>	<u>5,772.62</u>	<u>123,083.97</u>	<u>0.00</u>	<u>288,023.00</u>	<u>164,939.03</u>	
Allocations		124,903.61	5,772.62	123,083.97	0.00	288,023.00	164,939.03	57 50
End Fund - Dept 002-682		124,903.61	5,772.62	123,083.97	0.00	288,023.00	164,939.03	57 50

Fund - Dept 002-686 PARK-STREET TREE/PUB PLNT**8990 Allocations**

5030	Insurance	15,387.00	0.00	18,239.00	0.00	27,232.00	8,993.00	33
5260	Fuel	7,562.57	36.71	8,018.37	0.00	22,271.00	14,252.63	64
5455	Electric	577.77	215.05	895.27	0.00	2,216.00	1,320.73	60
5460	Water	28,378.17	7,449.72	39,666.87	0.00	76,312.00	36,645.13	48
5510	Vehicle Maintenance/Repair	38,326.63	0.00	21,816.69	0.00	63,862.00	42,045.31	66
7994	Building Main Allocation	3,698.00	0.00	1,740.00	0.00	7,760.00	6,020.00	78
7996	Info Systems Allocation	4,628.00	0.00	2,066.00	0.00	5,872.00	3,806.00	65
		<u>98,558.14</u>	<u>7,701.48</u>	<u>92,442.20</u>	<u>0.00</u>	<u>205,525.00</u>	<u>113,082.80</u>	
Allocations		98,558.14	7,701.48	92,442.20	0.00	205,525.00	113,082.80	55 50
End Fund - Dept 002-686		98,558.14	7,701.48	92,442.20	0.00	205,525.00	113,082.80	55 50

Fund - Dept 002-995 INDIRECT COST ALLOCATION**8990 Allocations**

7993	Indirect Cost Allocation	138,304.02	0.00	72,715.50	0.00	290,862.00	218,146.50	75
		<u>138,304.02</u>	<u>0.00</u>	<u>72,715.50</u>	<u>0.00</u>	<u>290,862.00</u>	<u>218,146.50</u>	
Allocations		138,304.02	0.00	72,715.50	0.00	290,862.00	218,146.50	75 50
End Fund - Dept 002-995		138,304.02	0.00	72,715.50	0.00	290,862.00	218,146.50	75 50

Fund - Dept 052-682 Special Com Svcs**8990 Allocations**

5030	Insurance	0.00	0.00	5,239.00	0.00	7,822.00	2,583.00	33
		<u>0.00</u>	<u>0.00</u>	<u>5,239.00</u>	<u>0.00</u>	<u>7,822.00</u>	<u>2,583.00</u>	
Allocations		0.00	0.00	5,239.00	0.00	7,822.00	2,583.00	33 50
End Fund - Dept 052-682		0.00	0.00	5,239.00	0.00	7,822.00	2,583.00	33 50

Fund - Dept 212-650 TRANSIT SERVICES - PUBLIC ROW**8990 Allocations**

5030	Insurance	2,224.00	0.00	2,495.00	0.00	3,725.00	1,230.00	33
		<u>2,224.00</u>	<u>0.00</u>	<u>2,495.00</u>	<u>0.00</u>	<u>3,725.00</u>	<u>1,230.00</u>	
Allocations		2,224.00	0.00	2,495.00	0.00	3,725.00	1,230.00	33 50

Prepared for DPW Operations - 006

City of Chico
Department Expense By Category

Multi Fund/Dept Budget Year: 2022

Data Through 12/31/2021

Budget Version 10: Working

Public Works Operations Category Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining	
							Budg / Time	
End Fund - Dept 212-650	2,224.00	0.00	2,495.00	0.00	3,725.00	1,230.00	33	50

Fund - Dept 212-659 TRANSPORTATION-DEPOT**8990 Allocations**

5030 Insurance	115.00	0.00	129.00	0.00	192.00	63.00	33	
5455 Electric	1,022.81	153.58	1,602.33	0.00	6,380.00	4,777.67	75	
	1,137.81	153.58	1,731.33	0.00	6,572.00	4,840.67		
Allocations	1,137.81	153.58	1,731.33	0.00	6,572.00	4,840.67	74	50
End Fund - Dept 212-659	1,137.81	153.58	1,731.33	0.00	6,572.00	4,840.67	74	50

Fund - Dept 850-670 SEWER-WPCP**8990 Allocations**

5030 Insurance	59,314.00	0.00	68,501.00	0.00	102,274.00	33,773.00	33	
5260 Fuel	8,901.85	0.00	9,220.66	0.00	24,050.00	14,829.34	62	
5455 Electric	118,413.98	41,207.26	154,167.60	0.00	626,878.00	472,710.40	75	
5456 Natural Gas	6,382.16	13,898.88	25,669.83	0.00	114,130.00	88,460.17	78	
5460 Water	415.25	83.64	464.30	0.00	1,621.00	1,156.70	71	
5510 Vehicle Maintenance/Repair	31,858.87	0.00	9,195.35	0.00	89,453.00	80,257.65	90	
7994 Building Main Allocation	17,424.00	0.00	8,198.00	0.00	36,569.00	28,371.00	78	
7996 Info Systems Allocation	36,351.00	0.00	16,001.00	0.00	41,769.00	25,768.00	62	
	279,061.11	55,189.78	291,417.74	0.00	1,036,744.00	745,326.26		
Allocations	279,061.11	55,189.78	291,417.74	0.00	1,036,744.00	745,326.26	72	50
End Fund - Dept 850-670	279,061.11	55,189.78	291,417.74	0.00	1,036,744.00	745,326.26	72	50

Fund - Dept 850-995 INDIRECT COST ALLOCATION**8990 Allocations**

7993 Indirect Cost Allocation	222,121.50	0.00	122,008.53	0.00	488,034.00	366,025.47	75	
	222,121.50	0.00	122,008.53	0.00	488,034.00	366,025.47		
Allocations	222,121.50	0.00	122,008.53	0.00	488,034.00	366,025.47	75	50
End Fund - Dept 850-995	222,121.50	0.00	122,008.53	0.00	488,034.00	366,025.47	75	50

Fund - Dept 853-000 PARKING REVENUE-ADMN**8990 Allocations**

End Fund - Dept 853-000	0.00	0.00	0.00	0.00	0.00	0.00	0	50
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Fund - Dept 853-660 PKG REVENUE-PKG FAC MTCE**8990 Allocations**

5030 Insurance	8,310.00	0.00	7,163.00	0.00	10,694.00	3,531.00	33	
5260 Fuel	507.30	0.00	740.85	0.00	1,702.00	961.15	56	
5455 Electric	4,539.00	2,088.17	10,383.63	0.00	10,756.00	372.37	3	
5460 Water	1,959.98	457.07	2,842.23	0.00	5,129.00	2,286.77	45	
5510 Vehicle Maintenance/Repair	1,937.78	0.00	688.09	0.00	2,329.00	1,640.91	70	
7994 Building Main Allocation	47,655.00	0.00	22,424.00	0.00	100,031.00	77,607.00	78	
7996 Info Systems Allocation	2,271.00	0.00	1,000.00	0.00	2,611.00	1,611.00	62	

Prepared for DPW Operations - 006

City of Chico
Department Expense By Category

Multi Fund/Dept Budget Year: 2022

Data Through 12/31/2021

Budget Version 10: Working

Public Works Operations Category Description	Prior Year's Actuals Thru 12/2020	Current Month Actuals	Year To Date Actuals	Encum- brances	Budget	Balance	Percent Remaining	
							Budg / Time	
	67,180.06	2,545.24	45,241.80	0.00	133,252.00	88,010.20		
Allocations	67,180.06	2,545.24	45,241.80	0.00	133,252.00	88,010.20	66	50
End Fund - Dept 853-660	67,180.06	2,545.24	45,241.80	0.00	133,252.00	88,010.20	66	50

Fund - Dept 853-995 INDIRECT COST ALLOCATION

8990 Allocations

7993 Indirect Cost Allocation	58,496.52	0.00	22,759.74	0.00	91,039.00	68,279.26	75	
	58,496.52	0.00	22,759.74	0.00	91,039.00	68,279.26		
Allocations	58,496.52	0.00	22,759.74	0.00	91,039.00	68,279.26	75	50
End Fund - Dept 853-995	58,496.52	0.00	22,759.74	0.00	91,039.00	68,279.26	75	50

Fund - Dept 856-691 AIRPORT-AVIATN FAC MTCE

8990 Allocations

5030 Insurance	8,074.00	0.00	8,708.00	0.00	13,001.00	4,293.00	33	
5260 Fuel	1,042.88	0.00	2,168.43	0.00	4,733.00	2,564.57	54	
5455 Electric	23,548.72	3,313.98	23,377.85	0.00	53,767.00	30,389.15	57	
5456 Natural Gas	432.50	580.54	789.00	0.00	7,214.00	6,425.00	89	
5460 Water	13,350.14	2,408.49	17,265.66	0.00	33,249.00	15,983.34	48	
5510 Vehicle Maintenance/Repair	6,955.44	0.00	2,914.76	0.00	37,265.00	34,350.24	92	
7994 Building Main Allocation	6,931.00	0.00	3,260.00	0.00	14,545.00	11,285.00	78	
7996 Info Systems Allocation	2,766.00	0.00	1,130.00	0.00	3,913.00	2,783.00	71	
	63,100.68	6,303.01	59,613.70	0.00	167,687.00	108,073.30		
Allocations	63,100.68	6,303.01	59,613.70	0.00	167,687.00	108,073.30	64	50
End Fund - Dept 856-691	63,100.68	6,303.01	59,613.70	0.00	167,687.00	108,073.30	64	50

Fund - Dept 856-995 INDIRECT COST ALLOCATION

8990 Allocations

7993 Indirect Cost Allocation	79,771.50	0.00	48,669.51	0.00	194,678.00	146,008.49	75	
	79,771.50	0.00	48,669.51	0.00	194,678.00	146,008.49		
Allocations	79,771.50	0.00	48,669.51	0.00	194,678.00	146,008.49	75	50
End Fund - Dept 856-995	79,771.50	0.00	48,669.51	0.00	194,678.00	146,008.49	75	50

Fund - Dept 929-630 CENTRAL GARAGE

8990 Allocations

5030 Insurance	16,663.00	0.00	22,619.00	0.00	33,770.00	11,151.00	33	
5260 Fuel	894.91	0.00	814.18	0.00	3,464.00	2,649.82	76	
5265 Fuel - City Wide	180,823.49	59,372.49	313,291.37	0.00	512,723.00	199,431.63	39	
5455 Electric	30,574.69	3,805.71	26,687.42	0.00	69,094.00	42,406.58	61	
5456 Natural Gas	1,612.50	928.65	1,694.45	0.00	22,505.00	20,810.55	92	
	230,568.59	64,106.85	365,106.42	0.00	641,556.00	276,449.58		
Allocations	230,568.59	64,106.85	365,106.42	0.00	641,556.00	276,449.58	43	50
End Fund - Dept 929-630	230,568.59	64,106.85	365,106.42	0.00	641,556.00	276,449.58	43	50

Fund - Dept 930-640 MUNI BLDGS MTCE-BLG/FC MTCE

Prepared for DPW Operations - 006

City of Chico
Department Expense By Category

Multi Fund/Dept		Budget Year: 2022		Data Through 12/31/2021			Budget Version 10: Working	
Public Works Operations		Prior Year's	Current	Year To Date	Encum-	Budget	Balance	Percent
Category	Description	Actuals	Month	Actuals	brances			Remaining
		Thru 12/2020	Actuals	Actuals				Budg / Time
8990 Allocations								
5030	Insurance	13,564.00	0.00	15,226.00	0.00	22,732.00	7,506.00	33
5260	Fuel	3,708.36	0.00	4,068.00	0.00	7,803.00	3,735.00	48
5455	Electric	107,407.12	12,422.25	88,644.19	0.00	216,726.00	128,081.81	59
5456	Natural Gas	4,898.22	3,993.73	11,978.83	0.00	40,175.00	28,196.17	70
5460	Water	12,486.83	2,122.34	18,128.76	0.00	40,487.00	22,358.24	55
5510	Vehicle Maintenance/Repair	6,793.07	0.00	2,135.14	0.00	10,083.00	7,947.86	79
		<u>148,857.60</u>	<u>18,538.32</u>	<u>140,180.92</u>	<u>0.00</u>	<u>338,006.00</u>	<u>197,825.08</u>	
Allocations		148,857.60	18,538.32	140,180.92	0.00	338,006.00	197,825.08	59 50
End Fund - Dept 930-640		148,857.60	18,538.32	140,180.92	0.00	338,006.00	197,825.08	59 50
Fund - Dept 941-614		MAINTENANCE DISTRICT ADMIN						
8990 Allocations								
5030	Insurance	1,487.00	0.00	1,674.00	0.00	2,498.00	824.00	33
7996	Info Systems Allocation	1,137.00	0.00	1,000.00	0.00	2,611.00	1,611.00	62
		<u>2,624.00</u>	<u>0.00</u>	<u>2,674.00</u>	<u>0.00</u>	<u>5,109.00</u>	<u>2,435.00</u>	
Allocations		2,624.00	0.00	2,674.00	0.00	5,109.00	2,435.00	48 50
End Fund - Dept 941-614		2,624.00	0.00	2,674.00	0.00	5,109.00	2,435.00	48 50
Fund - Dept 941-995		INDIRECT COST ALLOCATION						
8990 Allocations								
7993	Indirect Cost Allocation	59,240.52	0.00	28,156.74	0.00	112,627.00	84,470.26	75
		<u>59,240.52</u>	<u>0.00</u>	<u>28,156.74</u>	<u>0.00</u>	<u>112,627.00</u>	<u>84,470.26</u>	
Allocations		59,240.52	0.00	28,156.74	0.00	112,627.00	84,470.26	75 50
End Fund - Dept 941-995		59,240.52	0.00	28,156.74	0.00	112,627.00	84,470.26	75 50
Grand Totals : DPW - Operations		2,227,381.28	216,519.56	1,922,060.82	0.00	5,509,732.00	3,587,671.18	65 50

End Of Report Prepared for DPW Operations

Data Through 12/31/2021

** End of Report **

City of Chico
2021-22 Annual Budget
Fund Revenues
GENERAL FUND

Fund 001 GENERAL	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		% of Budget	% Prior Yr Actual	% Fiscal Year
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021			
Revenues								
40201 Current Secured 1%	3,985,075	4,749,942	4,808,011	4,951,000	9	0.0	0.0	
40204 Current Unsecured 1%	690,855	775,800	848,477	784,282	680,204	86.7	80.2	
40205 Current Unitary	259,479	249,698	267,337	270,130	0	0.0	0.0	
40206 Current Supplemental	115,234	170,862	201,664	100,000	33,753	33.8	16.7	
40215 Residual Tax Increment	3,369,877	3,707,173	4,211,298	3,900,000	10,893	0.3	0.3	
40221 RDA Tax Increment - Unsecured	0	2	0	0	0	0.0	0.0	
40225 RDA Pass Thru - Secured	312,029	297,453	415,023	326,827	1,225	0.4	0.3	
40226 RDA Pass Thru - Unsecured	2,154	13	716	0	4	0.0	0.6	
40228 CAMRPA Statutory Pass-Thru	307,317	386,882	326,067	407,110	0	0.0	0.0	
40230 Prior Secured 1%	3,367	0	0	0	0	0.0	0.0	
40231 Prior Unsecured 1%	8,246	17,549	17,296	10,000	7,841	78.4	45.3	
40234 Prior Unsecured Supp 1%	991	639	2,192	1,000	922	92.2	42.1	
40260 In Lieu Dept of Fish and Game	6,831	0	7,759	0	0	0.0	0.0	
40265 In Lieu Butte Housing Auth	6,726	6,526	6,830	6,500	0	0.0	0.0	
40270 Payment In Lieu of Taxes	3,869	4,708	4,868	3,000	2,476	82.5	50.9	
40290 Property Tax In Lieu of VLF	7,796,660	8,368,366	8,873,568	8,965,499	0	0.0	0.0	
40295 Property Tax Admin Fee	(114,815)	(114,542)	(114,563)	(126,635)	0	0.0	0.0	
Total Property Taxes	16,753,895	18,621,071	19,876,543	19,598,713	737,327	3.8	3.7	50
40101 Sales Tax	24,986,851	24,280,757	27,957,130	26,300,000	7,481,286	28.4	26.8	
40102 Sales Tax Audit	(9,539)	(13,862)	(20,671)	(50,000)	(10,546)	21.1	51.0	
40103 Public Safety Augmentation	196,543	167,790	240,072	220,000	68,003	30.9	28.3	
40104 Sales Tax Compensation Fund	0	0	0	0	0	0.0	0.0	
Total Sales and Use Taxes	25,173,855	24,434,685	28,176,531	26,470,000	7,538,743	28.5	26.8	50
40460 UUT Refunds	(3,458)	(2,398)	(2,499)	(2,000)	(279)	14.0	11.2	
40461 UUT Cell Phone Refunds	0	0	0	0	0	0.0	0.0	
40490 Utility User Tax - Gas	1,191,772	1,184,370	1,316,095	1,161,300	242,548	20.9	18.4	
40491 Utility User Tax - Electric	4,604,462	4,726,202	5,317,295	4,911,302	2,437,579	49.6	45.8	
40492 Utility User Tax - Telecom	385,689	324,555	318,791	200,000	123,394	61.7	38.7	
40493 Utility User Tax - Water	1,021,275	1,084,374	1,169,340	1,214,617	656,793	54.1	56.2	
Total Utility Users Tax	7,199,740	7,317,103	8,119,022	7,485,219	3,460,035	46.2	42.6	50
40301 Business License Tax	297,600	267,262	279,869	278,000	202,215	72.7	72.3	
40302 DPBIA Bus License Tax - Zone A	17,725	16,388	17,781	17,000	8,057	47.4	45.3	
40303 DPBIA Bus License Tax - Zone B	10,333	8,681	8,027	8,000	2,579	32.2	32.1	
40403 Frnch Fees-Cable	921,673	969,125	989,060	950,000	251,123	26.4	25.4	
40404 Franchise Fees-Gas/Electric	713,505	787,861	806,960	775,000	0	0.0	0.0	
40405 Franchise Fees-Waste Hauler	1,806,225	1,980,313	2,079,520	2,000,000	545,676	27.3	26.2	
40406 Franchise Fee Refund Reserve	0	0	0	0	0	0.0	0.0	
40407 Real Property Transfer Tax	530,743	454,049	531,967	340,000	251,497	74.0	47.3	
40410 Transient Occupancy Tax	3,459,330	2,841,981	2,875,643	2,800,000	1,770,215	63.2	61.6	
40411 Transient Occupancy Tax Audit	3,221	11,270	0	0	0	0.0	0.0	
40414 TOT Short Term Rental	106,067	146,319	187,870	130,000	199,636	153.6	106.3	
Total Other Taxes	7,866,422	7,483,249	7,776,697	7,298,000	3,230,998	44.3	41.5	50
40314 Business License Tax HdL	360	0	525	0	0	0.0	0.0	
40501 Animal License	30,584	29,869	28,019	32,000	12,985	40.6	46.3	
40504 Bicycle License	818	684	440	0	528	0.0	120.0	
40506 Bingo License	50	0	50	0	25	0.0	50.0	
40509 Cardroom License	3,128	1,704	5,082	0	0	0.0	0.0	
40510 Cardroom Employee Work Permit	2,752	1,474	1,554	1,200	212	17.7	13.6	
40513 Vending Permit	1,967	1,583	907	2,000	341	17.0	37.6	
40514 Solicitor Permit	685	385	77	200	0	0.0	0.0	
40519 Uniform Fire Code Permit	74,308	30,827	33,640	35,000	8,994	25.7	26.7	
40523 Alarm Permit	0	0	0	0	0	0.0	0.0	
40525 Overload/Wide Load Permit	9,320	13,846	12,278	8,000	4,379	54.7	35.7	
40528 Vehicle for Hire Permit	1,979	730	544	3,000	602	20.1	110.7	
40534 Hydrant Permit	2,718	2,512	2,467	1,900	895	47.1	36.3	
40540 Parade Permits	5,678	2,362	2,344	1,000	0	0.0	0.0	
40541 Street Banner Permit Fees	304	190	148	100	0	0.0	0.0	
40599 Other Licenses & Permits	4,284	5,126	3,100	5,000	5,217	104.3	168.3	
Total Licenses and Permits	138,935	91,292	91,175	89,400	34,178	38.2	37.5	50
41220 Motor Vehicle In Lieu	44,328	88,731	80,917	60,000	0	0.0	0.0	
41228 Homeowners - 1%	142,486	150,945	149,564	169,930	0	0.0	0.0	
41235 Peace Officers Standards & Trg	20,771	86,056	30,358	20,000	0	0.0	0.0	
41245 Highway Maintenance St Payment	19,500	16,500	18,000	18,000	7,500	41.7	41.7	
41250 Mandated Cost Reimbursement	44,022	42,390	69,673	40,000	0	0.0	0.0	
41254 Beverage Container Recycling	0	0	0	0	0	0.0	0.0	

City of Chico
2021-22 Annual Budget
Fund Revenues
GENERAL FUND

Fund 001 GENERAL	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
41256 Pers-Emergency Response	937,389	189,153	801,982	30,000	0	0.0	0.0	
41257 Supp-Emergency Response	143,787	51,590	62,840	30,000	0	0.0	0.0	
41258 Mgmt-Emergency Response	108,270	0	0	30,000	0	0.0	0.0	
41291 BINTF OCJP Byrnes Grant	0	0	0	0	0	0.0	0.0	
41299 Other State Revenue	4,086	3,000,015	1,378,162	0	3,201	0.0	0.2	
41499 Other Payments from Gov't Agy	13,292	16,141	1,082	1,000	122	12.2	11.3	
44522 Bullet Proof Vest Grant Prog	12,981	0	0	0	0	0.0	0.0	
Total Intergovernmental	1,490,912	3,641,521	2,592,578	398,930	10,823	2.7	0.4	50
42101 DUI Response Fee	0	0	0	0	0	0.0	0.0	
42102 Public Safety 2nd Response Fee	0	0	0	0	0	0.0	0.0	
42104 Weed & Lot Cleaning Fee	5,300	2,372	4,319	1,700	950	55.9	22.0	
42105 State Mandated Fire Inspection	49,876	80,329	76,791	60,000	40,362	67.3	52.6	
42106 Code Enforcement Reinspect Fee	0	0	0	0	0	0.0	0.0	
42107 Animal Control Impound Fees	21,006	19,541	13,444	20,000	6,656	33.3	49.5	
42108 Feed and Care	8,638	7,030	5,662	8,000	2,334	29.2	41.2	
42109 Dog Spay/Neuter Fines	7,225	6,823	4,620	8,000	1,928	24.1	41.7	
42110 Impound Fees	38,680	31,205	11,922	35,000	3,456	9.9	29.0	
42111 Repossession of Vehicle Fee	1,753	1,200	1,005	800	480	60.0	47.8	
42112 Parking Citation Sign-Off Fee	1,018	823	44	0	450	0.0	1,022	
42113 VIN Verification Fee	0	0	0	0	0	0.0	0.0	
42120 Surrenders	0	200	0	0	0	0.0	0.0	
42121 Animal Disposal Fees	3,182	1,963	1,575	2,500	1,692	67.7	107.4	
42122 Cremation Services	4,403	4,968	5,422	4,000	4,235	105.9	78.1	
42123 Animal Adoptions	17,596	12,436	10,095	15,000	7,859	52.4	77.9	
42124 Micro-chipping	639	646	298	1,000	0	0.0	0.0	
42207 Parking Meters-Lots	817	0	(775)	0	0	0.0	0.0	
42220 Parking Meter In Lieu	32	0	(32)	0	0	0.0	0.0	
42304 Sewer Trunk Dev. Fees	0	0	15	0	0	0.0	0.0	
42406 Planning - RT	0	0	0	0	0	0.0	0.0	
42416 Annexation Fees	0	0	5,735	0	0	0.0	0.0	
42417 Abandonment Fee	4,646	2,517	0	0	0	0.0	0.0	
42485 Accounts Rec. Write Off	(169,800)	0	0	0	0	0.0	0.0	
42501 Park Use Fees	11	0	0	0	0	0.0	0.0	
42600 Other Charges	0	0	550	0	0	0.0	0.0	
42601 Parking Fine Admin Fee	601	1,064	1,309	0	(215)	0.0	-16.4	
42603 Fingerprinting Fee	16,552	10,370	1,336	18,000	3,626	20.1	271.4	
42604 Sale of Docs/Publications	14,318	12,479	12,752	13,000	6,065	46.7	47.6	
42605 Appeals Fee	768	1,456	640	500	17,312	3,462.	2,705	
42670 Franchise Review Fee Event	1,445	879	1,174	1,000	616	61.6	52.5	
42690 Health Insurance Admin Fees	0	0	0	0	0	0.0	0.0	
42699 Other Service Charges	3,137	1,173	0	5,000	0	0.0	0.0	
43019 Administrative Fees(PBID/TBID)	21,766	19,147	20,910	13,740	8,375	61.0	40.1	
Total Charges for Services	53,609	218,621	178,811	207,240	106,181	51.2	59.4	50
40524 False Alarm Fines	32,777	49,739	59,268	45,000	15,548	34.6	26.2	
43001 Motor Vehicle Fines-Court	0	0	0	0	0	0.0	0.0	
43004 Criminal Fines-Court	180,002	152,240	119,198	100,000	50,282	50.3	42.2	
43011 Restitution-Court	0	1,125	0	0	0	0.0	0.0	
43013 Other Court Fines	250	0	0	0	0	0.0	0.0	
43016 Parking Fines	649,042	491,279	290,001	300,000	200,349	66.8	69.1	
43018 Administrative Citations	2,058	5,329	0	1,000	2,185	218.5	0.0	
43055 Asset Forfeitures	0	0	0	0	0	0.0	0.0	
Total Fines & Forfeitures	864,129	699,712	468,467	446,000	268,364	60.2	57.3	50
44101 Interest on Investments	147,459	304,734	189,749	125,000	0	0.0	0.0	
44120 Interest on Loans Receivable	0	0	0	0	0	0.0	0.0	
44129 Other Interest Earnings	0	0	76	0	11	0.0	14.5	
44130 Rental & Lease Income	102,319	133,422	202,087	110,000	72,450	65.9	35.9	
44140 Concession Income	0	0	0	0	0	0.0	0.0	
44202 Late Fee-Business License	6,857	9,507	12,503	3,000	4,248	141.6	34.0	
44203 Late Fee-DPBIA	481	722	1,054	0	119	0.0	11.3	
44204 Late Fee-Dog License	1,584	1,480	1,727	0	398	0.0	23.0	
44207 Late Fee-TOT	7,443	21,996	26,990	0	17,301	0.0	64.1	
44220 Bad Check Fee	180	302	324	0	74	0.0	22.8	
Total Use of Money & Property	266,323	472,163	434,510	238,000	94,601	39.7	21.8	50
44501 Cash Over/Short	58	113	46	0	51	0.0	110.9	
44505 Miscellaneous Revenues	269,611	79,486	53,714	10,000	9,575	95.8	17.8	
44506 Credit Card Fees	0	0	7	0	303	0.0	4,328	
44512 Reimbursement-Subpeona/Jury Dty	1,604	0	2,296	0	534	0.0	23.3	

City of Chico
2021-22 Annual Budget
Fund Revenues
GENERAL FUND

Fund 001 GENERAL	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
44513 Reimb-Postage/Copies	8,799	0	0	0	0	0.0	0.0	
44516 Police Officer-Reimbursement	287	135	0	0	0	0.0	0.0	
44517 Firefighter-Reimbursement	0	169	0	0	0	0.0	0.0	
44518 NCEDC Reimbursement	40,000	107,380	(19,312)	0	(820)	0.0	4.2	
44519 Reimbursement-Other	96,561	56,244	211,314	50,000	406	0.8	0.2	
44520 Extradition Revenue	0	0	0	0	0	0.0	0.0	
44521 Crossing Guard Reimbursement	4,906	3,961	5,495	4,500	1,527	33.9	27.8	
44523 Reimbursement - Planning	0	0	0	0	0	0.0	0.0	
44531 Graffiti Reimbursement Rev	0	0	0	0	0	0.0	0.0	
44580 Settlement Proceeds	4,989	13,849	24,477	0	17,998	0.0	73.5	
45011 Levy Fee	0	0	0	0	0	0.0	0.0	
46001 Donation from Private Source	366	0	0	0	0	0.0	0.0	
46007 Sale of Real/Personal Property	18,947	11,629	11,655	0	3,105	0.0	26.6	
46010 Reimb of Damage to City Prop	11,991	5,413	778	5,000	15,129	302.6	1,944	
49998 Revenue from Prior Year	0	0	0	0	0	0.0	0.0	
Total Other Revenues	458,119	278,379	290,470	69,500	47,808	68.8	16.5	50
46014 Capital Lease Proceeds	870,306	0	0	0	0	0.0	0.0	
49991 Prior Year Revenue Correction	0	0	0	0	(5)	0.0	0.0	
Total Other Financing Sources	870,306	0	0	0	(5)	0.0	0.0	50
Total Revenues	61,136,245	63,257,796	68,004,804	62,301,002	15,529,053	24.9	22.8	50
Variance from Prior Year		3.5%	7.5%	-8.4%				

City of Chico
2021-22 Annual Budget
Fund Revenues
PARK FUND

Fund 002 PARK	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42441 Tree Replacement In-Lieu Fee	0	0	0	0	0	0.0	0.0	
42501 Park Use Fees	15,720	9,725	4,144	10,000	5,234	52.3	126.3	
42604 Sale of Docs/Publications	0	0	0	0	0	0.0	0.0	
42605 Appeals Fee	0	0	0	0	0	0.0	0.0	
42691 CalPERS UAL Svc Chg - Misc.	0	0	0	0	0	0.0	0.0	
42699 Other Service Charges	4,115	1,992	(224)	1,000	301	30.1	-	
Total Charges for Services	19,835	11,717	3,920	11,000	5,535	50.3	141.	50
43018 Administrative Citations	3,064	0	325	0	0	0.0	0.0	
Total Fines & Forfeitures	3,064	0	325	0	0	0.0	0.0	50
44101 Interest on Investments	(4,891)	(1,669)	(1,971)	0	0	0.0	0.0	
44130 Rental & Lease Income	4,920	0	0	0	0	0.0	0.0	
44131 Lease-Bidwell Park Golf Course	41,204	45,452	44,421	40,000	15,000	37.5	33.8	
44140 Concession Income	2,833	807	0	1,500	0	0.0	0.0	
Total Use of Money & Property	44,066	44,590	42,450	41,500	15,000	36.1	35.3	50
44501 Cash Over/Short	0	0	0	0	0	0.0	0.0	
44505 Miscellaneous Revenues	0	0	0	0	0	0.0	0.0	
44506 Credit Card Fees	0	0	0	0	0	0.0	0.0	
46001 Donation from Private Source	0	0	0	0	0	0.0	0.0	
46010 Reimb of Damage to City Prop	0	4,208	0	1,000	0	0.0	0.0	
Total Other Revenues	0	4,208	0	1,000	0	0.0	0.0	50
Total Revenues	66,965	60,515	46,695	53,500	20,535	38.4	44.0	50
Variance from Prior Year		-9.6%	-22.8%	14.6%				

**City of Chico
2021-22 Annual Budget
Fund Revenues
EMERGENCY RESERVE FUND**

Fund 003 EMERGENCY RESERVE	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
Total Revenues	0	0	0	0	0	0.0	0.0	50
Variance from Prior Year		Undefined	Undefined	Undefined				

City of Chico
2021-22 Annual Budget
Fund Revenues
GENERAL FUND DEFICIT FUND

Fund 004 GENERAL FUND DEFICIT	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
44101 Interest on Investments	0	0	0	0	0	0.0	0.0	
46001 Donation from Private Source	0	0	0	0	0	0.0	0.0	
Total Revenues	0	0	0	0	0	0.0	0.0	50
Variance from Prior Year		Undefined	Undefined	Undefined				

City of Chico
2021-22 Annual Budget
Fund Revenues
COMPENSATED ABSENCE RESERVE FUND

Fund 006 COMPENSATED ABSENCE	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
44101 Interest on Investments	22,119	20,750	13,524	0	0	0.0	0.0	
Total Use of Money & Property	22,119	20,750	13,524	0	0	0.0	0.0	50
Total Revenues	22,119	20,750	13,524	0	0	0.0	0.0	50
Variance from Prior Year		-6.2%	-34.8%	-100.0%				

City of Chico
2021-22 Annual Budget
Fund Revenues
Gen Fund-Non-Cash Transactions FUND

Fund 007 Gen Fund-Non-Cash Transactions	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
Total Revenues	0	0	0	0	0	0.0	0.0	50
Variance from Prior Year		Undefined	Undefined	Undefined				

City of Chico
2021-22 Annual Budget
Fund Revenues
AMERICAN RESCUE PLAN FUND

Fund 008 AMERICAN RESCUE PLAN	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
41199 Other Federal Payments	0	0	14,514	12,582,944	536,404	4.3	3,695	
Total Intergovernmental	0	0	14,514	12,582,944	536,404	4.3	3,69	50
44101 Interest on Investments	0	0	11,746	0	0	0.0	0.0	
Total Use of Money & Property	0	0	11,746	0	0	0.0	0.0	50
Total Revenues	0	0	26,260	12,582,944	536,404	4.3	2,04	50
Variance from Prior Year		Undefined	Undefined	47,816.8%				

**City of Chico
2021-22 Annual Budget
Fund Revenues
DEBT SERVICE FUND**

Fund 009 DEBT SERVICE	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
46014 Capital Lease Proceeds	0	0	0	0	4,446,970	0.0	0.0	
Total Revenues	0	0	0	0	4,446,970	0.0	0.0	50
Variance from Prior Year		Undefined	Undefined	Undefined				

City of Chico
2021-22 Annual Budget
Fund Revenues
CITY TREASURY FUND

Fund 010 CITY TREASURY	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
40506 Bingo License	1	0	0	0	0	0.0	0.0	
Total Licenses and Permits	1	0	0	0	0	0.0	0.0	50
44101 Interest on Investments	1,814,939	1,954,930	976,013	1,200,000	264,553	22.0	27.1	
44107 Gain on Sale of Investments	0	0	0	0	0	0.0	0.0	
44110 Change in FMV of Investments	260,431	523,135	313,117	0	0	0.0	0.0	
Total Use of Money & Property	2,075,370	2,478,065	1,289,130	1,200,000	264,553	22.0	20.5	50
44506 Credit Card Fees	23,538	29,510	38,710	28,000	26,457	94.5	68.3	
Total Other Revenues	23,538	29,510	38,710	28,000	26,457	94.5	68.3	50
46019 Premiums on Bonds Sold	0	(4,383)	(98,096)	0	0	0.0	0.0	
Total Other Financing Sources	0	(4,383)	(98,096)	0	0	0.0	0.0	50
Total Revenues	2,098,909	2,503,192	1,229,744	1,228,000	291,010	23.7	23.7	50
Variance from Prior Year		19.3%	-50.9%	-0.1%				

City of Chico
2021-22 Annual Budget
Fund Revenues
DONATIONS FUND

Fund 050 DONATIONS	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42441 Tree Replacement In-Lieu Fee	50,047	63,980	59,690	0	41,497	0.0	69.5	
Total Charges for Services	50,047	63,980	59,690	0	41,497	0.0	69.5	50
44101 Interest on Investments	9,011	16,999	5,726	0	0	0.0	0.0	
Total Use of Money & Property	9,011	16,999	5,726	0	0	0.0	0.0	50
44506 Credit Card Fees	0	0	0	0	0	0.0	0.0	
46001 Donation from Private Source	80,352	227,452	155,656	114,679	34,953	30.5	22.5	
46003 General Park Donations	0	0	0	0	0	0.0	0.0	
46008 Donations - Police	579,416	77,316	79,011	60,000	33,434	55.7	42.3	
46009 Police Canine Bequest	0	0	0	0	0	0.0	0.0	
Total Other Revenues	659,768	304,768	234,667	174,679	68,387	39.2	29.1	50
Total Revenues	718,826	385,747	300,083	174,679	109,884	62.9	36.6	50
Variance from Prior Year		-46.3%	-22.2%	-41.8%				

City of Chico
2021-22 Annual Budget
Fund Revenues
ARTS AND CULTURE FUND

Fund 051 ARTS AND CULTURE	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
44101 Interest on Investments	(148)	72	65	0	0	0.0	0.0	
Total Use of Money & Property	(148)	72	65	0	0	0.0	0.0	50
Total Revenues	(148)	72	65	0	0	0.0	0.0	50
Variance from Prior Year		-148.6%	-9.7%	-100.0%				

City of Chico
2021-22 Annual Budget
Fund Revenues
SPECIALIZED COMMUNITY SERVICE FUND

Fund 052 SPECIALIZED COMMUNITY	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
44101 Interest on Investments	0	2,031	473	0	0	0.0	0.0	
Total Use of Money & Property	0	2,031	473	0	0	0.0	0.0	50
Total Revenues	0	2,031	473	0	0	0.0	0.0	50
Variance from Prior Year		Undefined	-76.7%	-100.0%				

**City of Chico
2021-22 Annual Budget
Fund Revenues
SAFER GRANT FUND**

Fund 097 SAFER GRANT	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
41259 FEMA	0	0	0	0	0	0.0	0.0	
Total Revenues	0	0	0	0	0	0.0	0.0	50
Variance from Prior Year		Undefined	Undefined	Undefined				

City of Chico
2021-22 Annual Budget
Fund Revenues
JUSTICE ASSISTANCE GRANT (JAG) FUND

Fund 098 JUSTICE ASSISTANCE GRANT	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
41298 Federal Stimulus	0	0	0	0	0	0.0	0.0	
41499 Other Payments from Gov't Agy	0	89,416	79,249	97,350	42,666	43.8	53.8	
Total Intergovernmental	0	89,416	79,249	97,350	42,666	43.8	53.8	50
44101 Interest on Investments	(38)	(518)	(570)	0	0	0.0	0.0	
Total Use of Money & Property	(38)	(518)	(570)	0	0	0.0	0.0	50
Total Revenues	(38)	88,898	78,679	97,350	42,666	43.8	54.2	50
Variance from Prior Year		-234,042.1	-11.5%	23.7%				

City of Chico
2021-22 Annual Budget
Fund Revenues
SUPP LAW ENFORCEMENT SERVICE FUND

Fund 099 SUPP LAW ENFORCEMENT	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
41299 Other State Revenue	193,938	290,779	171,446	286,111	283,138	99.0	165.1	
41310 AB109 Municipal Police Funding	0	0	0	0	0	0.0	0.0	
Total Intergovernmental	193,938	290,779	171,446	286,111	283,138	99.0	165.	50
Total Revenues	193,938	290,779	171,446	286,111	283,138	99.0	165.	50
Variance from Prior Year		49.9%	-41.0%	66.9%				

City of Chico
2021-22 Annual Budget
Fund Revenues
GRANTS-OPERATING ACTIVITIES FUND

Fund 100 GRANTS-OPERATING ACTIVITIES	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
41244 Office of Traffic Safety	0	0	0	0	0	0.0	0.0	
41259 FEMA	270,195	5,654	0	0	0	0.0	0.0	
41290 ABC Grant Revenue	0	0	0	19,000	0	0.0	0.0	
41298 Federal Stimulus	0	0	0	0	0	0.0	0.0	
41299 Other State Revenue	0	95,647	148,518	500,631	7,586	1.5	5.1	
41499 Other Payments from Gov't Agy	0	0	0	0	0	0.0	0.0	
Total Intergovernmental	270,195	101,301	148,518	519,631	7,586	1.5	5.1	50
44524 SRO Reimbursement	465,523	615,838	677,389	0	0	0.0	0.0	
46004 Contribution from Private Src	0	2,000	29,450	10,000	0	0.0	0.0	
Total Other Revenues	465,523	617,838	706,839	10,000	0	0.0	0.0	50
Total Revenues	735,718	719,139	855,357	529,631	7,586	1.4	0.9	50
Variance from Prior Year		-2.3%	18.9%	-38.1%				

City of Chico
2021-22 Annual Budget
Fund Revenues
COMMUNITY DEVELOPMENT BLK GRNT FUND

Fund 201 COMMUNITY DEVELOPMENT BLK	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
41100 Prior Year Allotment Carryover	0	0	0	1,631,940	0	0.0	0.0	
41101 CDBG Annual Allotment	1,132,518	435,315	786,972	909,866	0	0.0	0.0	
41103 CDBG-CV Covid-19	0	0	68,917	935,565	0	0.0	0.0	
Total Intergovernmental	1,132,518	435,315	855,889	3,477,371	0	0.0	0.0	50
44120 Interest on Loans Receivable	0	145	0	150	0	0.0	0.0	
Total Use of Money & Property	0	145	0	150	0	0.0	0.0	50
44505 Miscellaneous Revenues	0	0	0	0	0	0.0	0.0	
46007 Sale of Real/Personal Property	0	0	0	0	0	0.0	0.0	
Total Revenues	1,132,518	435,460	855,889	3,477,521	0	0.0	0.0	50
Variance from Prior Year		-61.5%	96.5%	306.3%				

**City of Chico
2021-22 Annual Budget
Fund Revenues
CDBG-DR FUND**

Fund 203 CDBG-DR	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
41263 CDBG-DR	0	0	0	32,496,114	0	0.0	0.0	
Total Intergovernmental	0	0	0	32,496,114	0	0.0	0.0	50
Total Revenues	0	0	0	32,496,114	0	0.0	0.0	50
Variance from Prior Year		Undefined	Undefined	Undefined				

City of Chico
2021-22 Annual Budget
Fund Revenues
HOME - STATE GRANTS FUND

Fund 204 HOME - STATE GRANTS	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
44120 Interest on Loans Receivable	15,000	15,000	31,580	15,000	0	0.0	0.0	
Total Use of Money & Property	15,000	15,000	31,580	15,000	0	0.0	0.0	50
Total Revenues	15,000	15,000	31,580	15,000	0	0.0	0.0	50
Variance from Prior Year		0.0%	110.5%	-52.5%				

City of Chico
2021-22 Annual Budget
Fund Revenues
HOME - FEDERAL GRANTS FUND

Fund 206 HOME - FEDERAL GRANTS	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
41100 Prior Year Allotment Carryover	0	0	0	2,129,939	0	0.0	0.0	
41104 HOME Fed Grants/ARPA	0	0	0	96,560	0	0.0	0.0	
41248 HOME Program Annual Allotment	155,518	88,807	50,516	532,834	1,019,421	191.3	2,018	
Total Intergovernmental	155,518	88,807	50,516	2,759,333	1,019,421	36.9	2,01	50
44120 Interest on Loans Receivable	1,950	46,866	45,746	230	6,172	2,683.	13.5	
Total Use of Money & Property	1,950	46,866	45,746	230	6,172	2,683.	13.5	50
44505 Miscellaneous Revenues	0	0	0	0	0	0.0	0.0	
49992 Principal on Loans Receivable	0	0	0	4,900	0	0.0	0.0	
Total Other Financing Sources	0	0	0	4,900	0	0.0	0.0	50
Total Revenues	157,468	135,673	96,262	2,764,463	1,025,593	37.1	1,06	50
Variance from Prior Year		-13.8%	-29.0%	2,771.8%				

City of Chico
2021-22 Annual Budget
Fund Revenues
PEG - PUBLIC EDUC & GOVT ACCS FUND

Fund 210 PEG - PUBLIC EDUC & GOVT ACCS	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42600 Other Charges	185,385	191,279	198,537	100,000	50,888	50.9	25.6	
Total Charges for Services	185,385	191,279	198,537	100,000	50,888	50.9	25.6	50
44101 Interest on Investments	10,150	9,764	3,985	0	0	0.0	0.0	
Total Use of Money & Property	10,150	9,764	3,985	0	0	0.0	0.0	50
Total Revenues	195,535	201,043	202,522	100,000	50,888	50.9	25.1	50
Variance from Prior Year		2.8%	0.7%	-50.6%				

City of Chico
2021-22 Annual Budget
Fund Revenues
TRAFFIC SAFETY FUND

Fund 211 TRAFFIC SAFETY	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
43001 Motor Vehicle Fines-Court	22,739	27,135	15,872	20,000	11,234	56.2	70.8	
43011 Restitution-Court	0	0	0	0	0	0.0	0.0	
Total Fines & Forfeitures	22,739	27,135	15,872	20,000	11,234	56.2	70.8	50
44101 Interest on Investments	(367)	(570)	(30)	0	0	0.0	0.0	
Total Use of Money & Property	(367)	(570)	(30)	0	0	0.0	0.0	50
Total Revenues	22,372	26,565	15,842	20,000	11,234	56.2	70.9	50
Variance from Prior Year		18.7%	-40.4%	26.2%				

City of Chico
2021-22 Annual Budget
Fund Revenues
TRANSPORTATION FUND

Fund 212 TRANSPORTATION	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
41239 TDA-SB325 (LTF)	2,654,716	1,892,345	3,193,856	3,025,374	1,010,397	33.4	31.6	
41240 TDA-SB620 (STA)	835,747	0	0	0	0	0.0	0.0	
41399 Other County Payments	1,680	1,260	2,100	1,200	840	70.0	40.0	
Total Intergovernmental	3,492,143	1,893,605	3,195,956	3,026,574	1,011,237	33.4	31.6	50
42216 Bicycle Locker Lease	466	270	30	0	240	0.0	800.0	
Total Charges for Services	466	270	30	0	240	0.0	800.0	50
44101 Interest on Investments	33,719	51,995	30,792	0	0	0.0	0.0	
44130 Rental & Lease Income	25,230	690	7,200	20,820	4,200	20.2	58.3	
Total Use of Money & Property	58,949	52,685	37,992	20,820	4,200	20.2	11.1	50
44519 Reimbursement-Other	0	0	0	0	0	0.0	0.0	
46010 Reimb of Damage to City Prop	0	0	0	0	0	0.0	0.0	
Total Revenues	3,551,558	1,946,560	3,233,978	3,047,394	1,015,677	33.3	31.4	50
Variance from Prior Year		-45.2%	66.1%	-5.8%				

City of Chico
2021-22 Annual Budget
Fund Revenues
ABANDON VEHICLE ABATEMENT FUND

Fund 213 ABANDON VEHICLE ABATEMENT	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42115 Abandoned Vehicle Abatement	68,298	71,774	74,623	60,000	16,446	27.4	22.0	
Total Charges for Services	68,298	71,774	74,623	60,000	16,446	27.4	22.0	50
44101 Interest on Investments	3,219	1,310	(110)	0	0	0.0	0.0	
Total Use of Money & Property	3,219	1,310	(110)	0	0	0.0	0.0	50
Total Revenues	71,517	73,084	74,513	60,000	16,446	27.4	22.1	50
Variance from Prior Year		2.2%	2.0%	-19.5%				

City of Chico
2021-22 Annual Budget
Fund Revenues
Private Activity Bond Admin FUND

Fund 214 Private Activity Bond Admin	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
44101 Interest on Investments	0	0	0	0	0	0.0	0.0	
Total Revenues	0	0	0	0	0	0.0	0.0	50
Variance from Prior Year		Undefined	Undefined	Undefined				

City of Chico
2021-22 Annual Budget
Fund Revenues
ASSET FORFEITURE FUND

Fund 217 ASSET FORFEITURE	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
43050 Drug Asset Forfeiture	13,738	4,003	7,367	0	9,842	0.0	133.6	
43051 Drug Asset Forfeiture - Fed	0	0	0	0	0	0.0	0.0	
Total Fines & Forfeitures	13,738	4,003	7,367	0	9,842	0.0	133.	50
44101 Interest on Investments	660	538	189	0	0	0.0	0.0	
Total Use of Money & Property	660	538	189	0	0	0.0	0.0	50
Total Revenues	14,398	4,541	7,556	0	9,842	0.0	130.	50
Variance from Prior Year		-68.5%	66.4%	-100.0%				

City of Chico
2021-22 Annual Budget
Fund Revenues
ASSESSMENT DISTRICT ADMIN FUND

Fund 220 ASSESSMENT DISTRICT ADMIN	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
44101 Interest on Investments	483	600	312	0	0	0.0	0.0	
44120 Interest on Loans Receivable	1,916	1,680	1,433	1,174	1,174	100.0	81.9	
Total Use of Money & Property	2,399	2,280	1,745	1,174	1,174	100.0	67.3	50
45007 AD Redemption	0	0	0	0	0	0.0	0.0	
Total Revenues	2,399	2,280	1,745	1,174	1,174	100.0	67.3	50
Variance from Prior Year		-5.0%	-23.5%	-32.7%				

City of Chico
2021-22 Annual Budget
Fund Revenues
CAPITAL GRANTS/REIMBURSEMENTS FUND

Fund 300 CAPITAL	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
41185 Federal CMAQ Revenue	1,630,463	1,016,385	2,269,500	11,882,838	1,101,119	9.3	48.5	
41190 Dept of Transportation Revenue	1,340,163	86,007	92,722	6,487,205	685,979	10.6	739.8	
41196 Economic Development Admin	0	0	0	13,301,106	0	0.0	0.0	
41199 Other Federal Payments	14,606	0	0	600,000	0	0.0	0.0	
41213 State Gas Tax - SB1	0	181,041	0	0	0	0.0	0.0	
41254 Beverage Container Recycling	13,272	15,468	14,715	53,058	0	0.0	0.0	
41259 FEMA	0	0	0	62,644	0	0.0	0.0	
41261 Infill Infrastructure Grant	0	0	0	22,000,000	0	0.0	0.0	
41262 Local Early Action Plan (LEAP)	0	0	0	299,999	0	0.0	0.0	
41276 CA Integ Waste Mgmt Board	25,185	26,155	30,159	7,686	0	0.0	0.0	
41282 Bicycle Transportation Program	0	0	0	0	0	0.0	0.0	
41283 CalTrans-Safe Routes to School	0	0	0	0	0	0.0	0.0	
41288 Cal Trans - Bridge	138,216	118,915	596,057	1,753,514	51,157	2.9	8.6	
41294 St Water Resource Contol Bd	64,731	19,284	0	706,351	0	0.0	0.0	
41297 Park Bond Funding	0	0	0	0	0	0.0	0.0	
41298 Federal Stimulus	0	0	0	0	0	0.0	0.0	
41299 Other State Revenue	187,717	6,660,175	9,787,380	751,407	0	0.0	0.0	
41498 SB2-Planning Grants Program	0	0	103,361	206,639	0	0.0	0.0	
41499 Other Payments from Gov't Agy	431,813	0	0	300,000	0	0.0	0.0	
Total Intergovernmental	3,846,166	8,123,430	12,893,894	58,412,447	1,838,255	3.1	14.3	50
46004 Contribution from Private Src	0	10,000	0	10,000	0	0.0	0.0	
Total Other Revenues	0	10,000	0	10,000	0	0.0	0.0	50
Total Revenues	3,846,166	8,133,430	12,893,894	58,422,447	1,838,255	3.1	14.3	50
Variance from Prior Year		111.5%	58.5%	353.1%				

City of Chico
2021-22 Annual Budget
Fund Revenues
BUILDING/FACILITY IMPROVEMENT FUND

Fund 301 BUILDING/FACILITY	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
44101 Interest on Investments	3,496	3,165	1,316	0	0	0.0	0.0	
Total Use of Money & Property	3,496	3,165	1,316	0	0	0.0	0.0	50
44505 Miscellaneous Revenues	0	0	0	0	0	0.0	0.0	
44519 Reimbursement-Other	0	0	0	0	0	0.0	0.0	
Total Revenues	3,496	3,165	1,316	0	0	0.0	0.0	50
Variance from Prior Year		-9.5%	-58.4%	-100.0%				

City of Chico
2021-22 Annual Budget
Fund Revenues
PASSENGER FACILITY CHARGES FUND

Fund 303 PASSENGER FACILITY CHARGES	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42260 Passenger Facility Chgs-UNITED	0	0	0	0	0	0.0	0.0	
42261 Passenger Facility Chgs-Other	0	0	0	0	0	0.0	0.0	
44101 Interest on Investments	8,240	7,730	3,228	0	0	0.0	0.0	
Total Use of Money & Property	8,240	7,730	3,228	0	0	0.0	0.0	50
Total Revenues	8,240	7,730	3,228	0	0	0.0	0.0	50
Variance from Prior Year		-6.2%	-58.2%	-100.0%				

City of Chico
2021-22 Annual Budget
Fund Revenues
BIKEWAY IMPROVEMENT FUND

Fund 305 BIKEWAY IMPROVEMENT	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42421 Bikeway Improvement Dev Fees	285,977	521,097	361,162	345,000	157,552	45.7	43.6	
Total Charges for Services	285,977	521,097	361,162	345,000	157,552	45.7	43.6	50
44101 Interest on Investments	21,555	27,982	13,097	0	0	0.0	0.0	
Total Use of Money & Property	21,555	27,982	13,097	0	0	0.0	0.0	50
Total Revenues	307,532	549,079	374,259	345,000	157,552	45.7	42.1	50
Variance from Prior Year		78.5%	-31.8%	-7.8%				

City of Chico
2021-22 Annual Budget
Fund Revenues
IN LIEU OFFSITE IMPROVEMENT FUND

Fund 306 IN LIEU OFFSITE IMPROVEMENT	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42425 Offsite Street In-Lieu Fees	(53,582)	26,879	14,411	20,000	0	0.0	0.0	
42429 Offsite Alley In-Lieu Fees	1,229	18,367	5,937	20,000	2,905	14.5	48.9	
Total Charges for Services	(52,353)	45,246	20,348	40,000	2,905	7.3	14.3	50
44101 Interest on Investments	7,028	7,106	3,026	0	0	0.0	0.0	
Total Use of Money & Property	7,028	7,106	3,026	0	0	0.0	0.0	50
Total Revenues	(45,325)	52,352	23,374	40,000	2,905	7.3	12.4	50
Variance from Prior Year		-215.5%	-55.4%	71.1%				

City of Chico
2021-22 Annual Budget
Fund Revenues
GAS TAX FUND

Fund 307 GAS TAX	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
41181 RSTP Exchange	982,326	1,279,469	1,321,744	1,080,000	0	0.0	0.0	
41201 State Gas Tax-Sec 2105	506,679	571,888	562,073	624,545	276,597	44.3	49.2	
41204 State Gas Tax-Sec 2106	361,084	320,768	318,448	345,047	162,664	47.1	51.1	
41207 State Gas Tax-Sec 2107	637,204	722,117	760,580	1,494,305	281,158	18.8	37.0	
41210 State Gas Tax-Sec 2107.5	7,500	10,000	10,000	10,000	10,000	100.0	100.0	
41211 State Gas Tax-Sec 2103	308,511	773,047	736,065	850,179	446,842	52.6	60.7	
41213 State Gas Tax - SB1	1,666,742	1,928,513	2,028,657	2,119,395	756,820	35.7	37.3	
41214 State Gas Tax-SB1 Loan Repaymt	104,141	126,037	0	0	0	0.0	0.0	
41299 Other State Revenue	0	0	0	0	0	0.0	0.0	
Total Intergovernmental	4,574,187	5,731,839	5,737,567	6,523,471	1,934,081	29.6	33.7	50
44101 Interest on Investments	27,804	84,369	38,599	0	0	0.0	0.0	
Total Use of Money & Property	27,804	84,369	38,599	0	0	0.0	0.0	50
44519 Reimbursement-Other	0	0	0	0	0	0.0	0.0	
Total Revenues	4,601,991	5,816,208	5,776,166	6,523,471	1,934,081	29.6	33.5	50
Variance from Prior Year		26.4%	-0.7%	12.9%				

City of Chico
2021-22 Annual Budget
Fund Revenues
STREET FACILITY IMPROVEMENT FUND

Fund 308 STREET FACILITY IMPROVEMENT	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42419 Street Facility Improv Dev Fee	2,279,717	4,991,221	4,972,807	4,967,700	2,284,998	46.0	45.9	
42480 Fee Reimbursements	(1,216,920)	(1,234,924)	(492,939)	(1,000,000)	0	0.0	0.0	
Total Charges for Services	1,062,797	3,756,297	4,479,868	3,967,700	2,284,998	57.6	51.0	50
44101 Interest on Investments	157,481	198,728	97,182	0	0	0.0	0.0	
Total Use of Money & Property	157,481	198,728	97,182	0	0	0.0	0.0	50
Total Revenues	1,220,278	3,955,025	4,577,050	3,967,700	2,284,998	57.6	49.9	50
Variance from Prior Year		224.1%	15.7%	-13.3%				

City of Chico
2021-22 Annual Budget
Fund Revenues
STORM DRAINAGE FACILITY FUND

Fund 309 STORM DRAINAGE FACILITY	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42422 Storm Drainage Facil Dev Fees	232,976	560,739	743,215	300,000	261,016	87.0	35.1	
Total Charges for Services	232,976	560,739	743,215	300,000	261,016	87.0	35.1	50
44101 Interest on Investments	31,230	38,026	20,596	0	0	0.0	0.0	
Total Use of Money & Property	31,230	38,026	20,596	0	0	0.0	0.0	50
Total Revenues	264,206	598,765	763,811	300,000	261,016	87.0	34.2	50
Variance from Prior Year		126.6%	27.6%	-60.7%				

City of Chico
2021-22 Annual Budget
Fund Revenues
REMEDATION FUND

Fund 312 REMEDATION	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
44101 Interest on Investments	3,755	(32)	2	0	0	0.0	0.0	
Total Use of Money & Property	3,755	(32)	2	0	0	0.0	0.0	50
44519 Reimbursement-Other	0	0	0	0	0	0.0	0.0	
Total Revenues	3,755	(32)	2	0	0	0.0	0.0	50
Variance from Prior Year		-100.9%	-106.3%	-100.0%				

**City of Chico
2021-22 Annual Budget
Fund Revenues
GENERAL PLAN RESERVE FUND**

Fund 315 GENERAL PLAN RESERVE	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
44101 Interest on Investments	6,965	11,420	6,306	0	0	0.0	0.0	
Total Use of Money & Property	6,965	11,420	6,306	0	0	0.0	0.0	50
Total Revenues	6,965	11,420	6,306	0	0	0.0	0.0	50
Variance from Prior Year		64.0%	-44.8%	-100.0%				

City of Chico
2021-22 Annual Budget
Fund Revenues
CASp FUND

Fund 316 CASp	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42435 CASp (SB 1186) Revenue	0	0	0	24,000	0	0.0	0.0	
Total Charges for Services	0	0	0	24,000	0	0.0	0.0	50
49991 Prior Year Revenue Correction	0	0	102,890	0	7,175	0.0	7.0	
Total Other Financing Sources	0	0	102,890	0	7,175	0.0	7.0	50
Total Revenues	0	0	102,890	24,000	7,175	29.9	7.0	50
Variance from Prior Year		Undefined	Undefined	-76.7%				

City of Chico
2021-22 Annual Budget
Fund Revenues
SEWER-TRUNK LINE CAPACITY FUND

Fund 320 SEWER-TRUNK LINE CAPACITY	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
41275 WPCP Expansion Loan Receipts	0	0	0	0	0	0.0	0.0	
42303 Assmnt In-Lieu of San Swr Fee	119,815	129,786	140,306	98,000	1,843	1.9	1.3	
42304 Sewer Trunk Dev. Fees	763,579	1,054,347	894,328	850,000	391,957	46.1	43.8	
42426 Park Dev Fees-Community	0	0	2,488	0	0	0.0	0.0	
Total Charges for Services	883,394	1,184,133	1,037,122	948,000	393,800	41.5	38.0	50
44101 Interest on Investments	135,553	103,653	48,766	0	0	0.0	0.0	
Total Use of Money & Property	135,553	103,653	48,766	0	0	0.0	0.0	50
Total Revenues	1,018,947	1,287,786	1,085,888	948,000	393,800	41.5	36.3	50
Variance from Prior Year		26.4%	-15.7%	-12.7%				

City of Chico
2021-22 Annual Budget
Fund Revenues
SEWER-WPCP CAPACITY FUND

Fund 321 SEWER-WPCP CAPACITY	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
41275 WPCP Expansion Loan Receipts	0	0	0	0	0	0.0	0.0	
42303 Assmnt In-Lieu of San Swr Fee	52,031	51,436	46,646	33,700	0	0.0	0.0	
42304 Sewer Trunk Dev. Fees	(2,322)	0	0	0	0	0.0	0.0	
42307 WPCP Capacity Dev Fees	1,140,844	1,453,196	3,901,765	1,250,000	551,997	44.2	14.1	
Total Charges for Services	1,190,553	1,504,632	3,948,411	1,283,700	551,997	43.0	14.0	50
44101 Interest on Investments	(18,342)	(8,981)	(9,044)	0	0	0.0	0.0	
Total Use of Money & Property	(18,342)	(8,981)	(9,044)	0	0	0.0	0.0	50
Total Revenues	1,172,211	1,495,651	3,939,367	1,283,700	551,997	43.0	14.0	50
Variance from Prior Year		27.6%	163.4%	-67.4%				

City of Chico
2021-22 Annual Budget
Fund Revenues
SEWER-MAIN INSTALLATION FUND

Fund 322 SEWER-MAIN INSTALLATION	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42303 Assmnt In-Lieu of San Swr Fee	48,930	72,761	32,633	36,900	0	0.0	0.0	
42310 Sewer Main Install Fees	78,056	208,302	143,318	65,000	68,281	105.0	47.6	
42414 Bidwell Park Land Acq Dev Fee	0	0	0	0	0	0.0	0.0	
42480 Fee Reimbursements	0	(3,531)	(21,141)	0	(1,227)	0.0	5.8	
Total Charges for Services	126,986	277,532	154,810	101,900	67,054	65.8	43.3	50
44101 Interest on Investments	16,542	19,558	6,347	0	0	0.0	0.0	
Total Use of Money & Property	16,542	19,558	6,347	0	0	0.0	0.0	50
Total Revenues	143,528	297,090	161,157	101,900	67,054	65.8	41.6	50
Variance from Prior Year		107.0%	-45.8%	-36.8%				

City of Chico
2021-22 Annual Budget
Fund Revenues
SEWER-LIFT STATIONS FUND

Fund 323 SEWER-LIFT STATIONS	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42303 Assmnt In-Lieu of San Swr Fee	8,139	8,361	25,782	6,800	0	0.0	0.0	
42310 Sewer Main Install Fees	0	0	(179)	0	0	0.0	0.0	
42450 Northwest Chico Lift Station	68,485	48,937	148,459	50,000	24,050	48.1	16.2	
42452 Henshaw/Guyann Lift Station	616	0	0	0	0	0.0	0.0	
42455 Oates Business Park Lift Stat	0	0	0	0	0	0.0	0.0	
42456 McKinney Ranch Lift Station	0	0	0	0	0	0.0	0.0	
42457 Holly Ave Lift Station	1,003	3,009	0	0	0	0.0	0.0	
42458 Lassen Ave Lift Station	5,125	3,875	4,665	0	3,518	0.0	75.4	
42460 Northwest Chico Reimbursement	0	0	0	0	0	0.0	0.0	
42466 McKinney Ranch Reimbursement	0	0	0	0	0	0.0	0.0	
42473 Cussick-Lassen Lift Station	557	9,473	0	0	0	0.0	0.0	
Total Charges for Services	83,925	73,655	178,727	56,800	27,568	48.5	15.4	50
44101 Interest on Investments	1,482	2,904	2,442	0	0	0.0	0.0	
Total Use of Money & Property	1,482	2,904	2,442	0	0	0.0	0.0	50
Total Revenues	85,407	76,559	181,169	56,800	27,568	48.5	15.2	50
Variance from Prior Year		-10.4%	136.6%	-68.6%				

City of Chico
2021-22 Annual Budget
Fund Revenues
COMMUNITY PARK FUND

Fund 330 COMMUNITY PARK	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42426 Park Dev Fees-Community	883,044	1,967,112	1,352,488	800,000	391,294	48.9	28.9	
Total Charges for Services	883,044	1,967,112	1,352,488	800,000	391,294	48.9	28.9	50
44101 Interest on Investments	153,161	186,896	83,670	0	0	0.0	0.0	
Total Use of Money & Property	153,161	186,896	83,670	0	0	0.0	0.0	50
Total Revenues	1,036,205	2,154,008	1,436,158	800,000	391,294	48.9	27.2	50
Variance from Prior Year		107.9%	-33.3%	-44.3%				

City of Chico
2021-22 Annual Budget
Fund Revenues
BIDWELL PARK LAND ACQUISITION FUND

Fund 332 BIDWELL PARK LAND	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42303 Assmnt In-Lieu of San Swr Fee	0	0	0	0	0	0.0	0.0	
42310 Sewer Main Install Fees	0	0	0	0	0	0.0	0.0	
42414 Bidwell Park Land Acq Dev Fee	95,445	100,182	48,946	70,000	11,197	16.0	22.9	
42426 Park Dev Fees-Community	153	0	0	0	0	0.0	0.0	
Total Charges for Services	95,598	100,182	48,946	70,000	11,197	16.0	22.9	50
Total Revenues	95,598	100,182	48,946	70,000	11,197	16.0	22.9	50
Variance from Prior Year		4.8%	-51.1%	43.0%				

City of Chico
2021-22 Annual Budget
Fund Revenues
LINEAR PARKS/GREENWAYS FUND

Fund 333 LINEAR PARKS/GREENWAYS	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42414 Bidwell Park Land Acq Dev Fee	0	0	0	0	0	0.0	0.0	
42426 Park Dev Fees-Community	0	0	0	0	0	0.0	0.0	
42432 Park Dev Fees - Greenway	136,502	252,728	184,031	100,000	59,842	59.8	32.5	
Total Charges for Services	136,502	252,728	184,031	100,000	59,842	59.8	32.5	50
44101 Interest on Investments	17,928	17,378	8,237	0	0	0.0	0.0	
Total Use of Money & Property	17,928	17,378	8,237	0	0	0.0	0.0	50
Total Revenues	154,430	270,106	192,268	100,000	59,842	59.8	31.1	50
Variance from Prior Year		74.9%	-28.8%	-48.0%				

City of Chico
2021-22 Annual Budget
Fund Revenues
STREET MAINTENANCE EQUIPMENT FUND

Fund 335 STREET MAINTENANCE	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42420 Major Mtce Equip Dev Fees	73,373	171,631	130,785	60,000	58,673	97.8	44.9	
Total Charges for Services	73,373	171,631	130,785	60,000	58,673	97.8	44.9	50
44101 Interest on Investments	36,242	32,281	13,161	0	0	0.0	0.0	
Total Use of Money & Property	36,242	32,281	13,161	0	0	0.0	0.0	50
Total Revenues	109,615	203,912	143,946	60,000	58,673	97.8	40.8	50
Variance from Prior Year		86.0%	-29.4%	-58.3%				

City of Chico
2021-22 Annual Budget
Fund Revenues
ADMINISTRATIVE BUILDING FUND

Fund 336 ADMINISTRATIVE BUILDING	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42431 Admin Building Dev Fees	91,054	77,904	33,011	100,000	7,170	7.2	21.7	
Total Charges for Services	91,054	77,904	33,011	100,000	7,170	7.2	21.7	50
44101 Interest on Investments	(13,512)	(10,678)	(4,048)	0	0	0.0	0.0	
Total Use of Money & Property	(13,512)	(10,678)	(4,048)	0	0	0.0	0.0	50
Total Revenues	77,542	67,226	28,963	100,000	7,170	7.2	24.8	50
Variance from Prior Year		-13.3%	-56.9%	245.3%				

City of Chico
2021-22 Annual Budget
Fund Revenues
FIRE PROTECTION BLDG & EQUIP FUND

Fund 337 FIRE PROTECTION BLDG & EQUIP	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42433 Fire Protect Bldg/Eq Dev Fees	378,041	446,317	291,073	350,000	101,800	29.1	35.0	
Total Charges for Services	378,041	446,317	291,073	350,000	101,800	29.1	35.0	50
44101 Interest on Investments	2,514	12,620	8,110	0	0	0.0	0.0	
Total Use of Money & Property	2,514	12,620	8,110	0	0	0.0	0.0	50
Total Revenues	380,555	458,937	299,183	350,000	101,800	29.1	34.0	50
Variance from Prior Year		20.6%	-34.8%	17.0%				

City of Chico
2021-22 Annual Budget
Fund Revenues
POLICE PROTECTION BLDG & EQUIP FUND

Fund 338 POLICE PROTECTION BLDG &	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42436 Police Protection Dev Fees	523,646	579,807	301,339	600,000	150,001	25.0	49.8	
Total Charges for Services	523,646	579,807	301,339	600,000	150,001	25.0	49.8	50
44101 Interest on Investments	85,328	84,961	37,826	0	0	0.0	0.0	
Total Use of Money & Property	85,328	84,961	37,826	0	0	0.0	0.0	50
44505 Miscellaneous Revenues	0	0	0	0	0	0.0	0.0	
Total Revenues	608,974	664,768	339,165	600,000	150,001	25.0	44.2	50
Variance from Prior Year		9.2%	-49.0%	76.9%				

City of Chico
2021-22 Annual Budget
Fund Revenues
NEIGHBORHOOD PARK FUND FUND

Fund 340 NEIGHBORHOOD PARK FUND	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42427 Park Dev Fees-Neighborhood	0	992,775	608,597	215,000	145,413	67.6	23.9	
42480 Fee Reimbursements	0	0	(729,019)	0	(285,613)	0.0	39.2	
Total Charges for Services	0	992,775	(120,422)	215,000	(140,200)	-65.2	116.	50
44101 Interest on Investments	0	89,328	38,918	0	0	0.0	0.0	
44120 Interest on Loans Receivable	0	0	4,759	0	0	0.0	0.0	
Total Use of Money & Property	0	89,328	43,677	0	0	0.0	0.0	50
Total Revenues	0	1,082,103	(76,745)	215,000	(140,200)	-65.2	182.	50
Variance from Prior Year		Undefined	-107.1%	-380.1%				

City of Chico
2021-22 Annual Budget
Fund Revenues
ZONE A-NEIGHBORHOOD PARKS FUND

Fund 341 ZONE A-NEIGHBORHOOD PARKS	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42427 Park Dev Fees-Neighborhood	9,700	0	0	0	0	0.0	0.0	
Total Charges for Services	9,700	0	0	0	0	0.0	0.0	50
44101 Interest on Investments	4,779	0	0	0	0	0.0	0.0	
Total Use of Money & Property	4,779	0	0	0	0	0.0	0.0	50
Total Revenues	14,479	0	0	0	0	0.0	0.0	50
Variance from Prior Year		-100.0%	Undefined	Undefined				

City of Chico
2021-22 Annual Budget
Fund Revenues
ZONE B-NEIGHBORHOOD PARKS FUND

Fund 342 ZONE B-NEIGHBORHOOD PARKS	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42427 Park Dev Fees-Neighborhood	14,908	0	0	0	0	0.0	0.0	
Total Charges for Services	14,908	0	0	0	0	0.0	0.0	50
44101 Interest on Investments	13,407	0	0	0	0	0.0	0.0	
Total Use of Money & Property	13,407	0	0	0	0	0.0	0.0	50
Total Revenues	28,315	0	0	0	0	0.0	0.0	50
Variance from Prior Year		-100.0%	Undefined	Undefined				

City of Chico
2021-22 Annual Budget
Fund Revenues
ZONE C-NEIGHBORHOOD PARKS FUND

Fund 343 ZONE C-NEIGHBORHOOD PARKS	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42427 Park Dev Fees-Neighborhood	2,981	0	0	0	0	0.0	0.0	
Total Charges for Services	2,981	0	0	0	0	0.0	0.0	50
44101 Interest on Investments	4,189	0	0	0	0	0.0	0.0	
Total Use of Money & Property	4,189	0	0	0	0	0.0	0.0	50
Total Revenues	7,170	0	0	0	0	0.0	0.0	50
Variance from Prior Year		-100.0%	Undefined	Undefined				

City of Chico
2021-22 Annual Budget
Fund Revenues
ZONE D & E-NEIGHBORHOOD PARKS FUND

Fund 344 ZONE D & E-NEIGHBORHOOD	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42427 Park Dev Fees-Neighborhood	69,280	0	0	0	0	0.0	0.0	
42480 Fee Reimbursements	(36,191)	0	0	0	0	0.0	0.0	
Total Charges for Services	33,089	0	0	0	0	0.0	0.0	50
44101 Interest on Investments	9,469	0	0	0	0	0.0	0.0	
Total Use of Money & Property	9,469	0	0	0	0	0.0	0.0	50
Total Revenues	42,558	0	0	0	0	0.0	0.0	50
Variance from Prior Year		-100.0%	Undefined	Undefined				

City of Chico
2021-22 Annual Budget
Fund Revenues
ZONE F & G-NEIGHBORHOOD PARKS FUND

Fund 345 ZONE F & G-NEIGHBORHOOD	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42427 Park Dev Fees-Neighborhood	134,757	0	0	0	0	0.0	0.0	
Total Charges for Services	134,757	0	0	0	0	0.0	0.0	50
44101 Interest on Investments	22,859	0	0	0	0	0.0	0.0	
Total Use of Money & Property	22,859	0	0	0	0	0.0	0.0	50
Total Revenues	157,616	0	0	0	0	0.0	0.0	50
Variance from Prior Year		-100.0%	Undefined	Undefined				

City of Chico
2021-22 Annual Budget
Fund Revenues
ZONE I-NEIGHBORHOOD PARKS FUND

Fund 347 ZONE I-NEIGHBORHOOD PARKS	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42427 Park Dev Fees-Neighborhood	152,483	0	0	0	(544)	0.0	0.0	
Total Charges for Services	152,483	0	0	0	(544)	0.0	0.0	50
44101 Interest on Investments	24,781	0	0	0	0	0.0	0.0	
44120 Interest on Loans Receivable	2,631	2,466	(2,466)	0	0	0.0	0.0	
Total Use of Money & Property	27,412	2,466	(2,466)	0	0	0.0	0.0	50
Total Revenues	179,895	2,466	(2,466)	0	(544)	0.0	22.1	50
Variance from Prior Year		-98.6%	-200.0%	-100.0%				

City of Chico
2021-22 Annual Budget
Fund Revenues
ZONE J-NEIGHBORHOOD PARKS FUND

Fund 348 ZONE J-NEIGHBORHOOD PARKS	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42427 Park Dev Fees-Neighborhood	6,057	0	0	0	0	0.0	0.0	
Total Charges for Services	6,057	0	0	0	0	0.0	0.0	50
Total Revenues	6,057	0	0	0	0	0.0	0.0	50
Variance from Prior Year		-100.0%	Undefined	Undefined				

City of Chico
2021-22 Annual Budget
Fund Revenues
SEWER FUND

Fund 850 SEWER	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
41275 WPCP Expansion Loan Receipts	0	0	0	0	0	0.0	0.0	
42301 Sewer Service Fees	11,708,388	11,799,472	12,520,977	11,710,000	3,612,652	30.9	28.9	
42302 Sewer Application Fee	54,315	46,184	56,857	30,000	30,241	100.8	53.2	
42303 Assmnt In-Lieu of San Swr Fee	9,658	0	0	9,000	0	0.0	0.0	
42305 Sewer Assessment Payoffs	0	0	0	0	0	0.0	0.0	
42306 Sewer Lift Station Mtce Fee	122,015	127,162	133,403	100,000	67,891	67.9	50.9	
42308 Sewer In-Lieu Petition Fee	4,930	15,998	14,682	6,000	346	5.8	2.4	
42370 Industrial User Waste Test Fee	460,113	380,944	9,938	200,000	4,232	2.1	42.6	
42427 Park Dev Fees-Neighborhood	0	0	0	0	735	0.0	0.0	
42604 Sale of Docs/Publications	0	0	0	0	0	0.0	0.0	
Total Charges for Services	12,359,419	12,369,760	12,735,857	12,055,000	3,716,097	30.8	29.2	50
44101 Interest on Investments	203,735	197,752	90,477	0	0	0.0	0.0	
44120 Interest on Loans Receivable	0	0	0	0	0	0.0	0.0	
44130 Rental & Lease Income	22,547	23,262	276	0	0	0.0	0.0	
Total Use of Money & Property	226,282	221,014	90,753	0	0	0.0	0.0	50
44505 Miscellaneous Revenues	121,035	0	0	0	0	0.0	0.0	
44519 Reimbursement-Other	0	0	0	0	0	0.0	0.0	
44529 Refund-Other	0	0	0	0	0	0.0	0.0	
46004 Contribution from Private Src	0	0	0	0	0	0.0	0.0	
46007 Sale of Real/Personal Property	131	0	0	0	0	0.0	0.0	
46010 Reimb of Damage to City Prop	0	0	0	0	0	0.0	0.0	
Total Other Revenues	121,166	0	0	0	0	0.0	0.0	50
Total Revenues	12,706,867	12,590,774	12,826,610	12,055,000	3,716,097	30.8	29.0	50
Variance from Prior Year		-0.9%	1.9%	-6.0%				

City of Chico
2021-22 Annual Budget
Fund Revenues
WPCP CAPITAL RESERVE FUND

Fund 851 WPCP CAPITAL RESERVE	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
44101 Interest on Investments	340,994	354,121	159,733	0	0	0.0	0.0	
Total Use of Money & Property	340,994	354,121	159,733	0	0	0.0	0.0	50
Total Revenues	340,994	354,121	159,733	0	0	0.0	0.0	50
Variance from Prior Year		3.8%	-54.9%	-100.0%				

City of Chico
2021-22 Annual Budget
Fund Revenues
SEWER DEBT SERVICE FUND

Fund 852 SEWER DEBT SERVICE	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
44102 Interest on Inv for Trust Fund	0	0	21	0	0	0.0	0.0	
Total Use of Money & Property	0	0	21	0	0	0.0	0.0	50
Total Revenues	0	0	21	0	0	0.0	0.0	50
Variance from Prior Year		Undefined	Undefined	-100.0%				

City of Chico
2021-22 Annual Budget
Fund Revenues
PARKING REVENUE FUND

Fund 853 PARKING REVENUE	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42204 Parking Meters-Streets	625,534	494,018	233,765	200,000	216,815	108.4	92.7	
42207 Parking Meters-Lots	418,219	324,374	89,272	100,000	99,209	99.2	111.1	
42210 Parking Permits-Preferred	7,138	4,447	8,632	5,000	3,538	70.8	41.0	
42211 Parking Permits-Limited	142,443	92,668	3,650	75,000	24,425	32.6	669.2	
42213 Parking Space Lease	38,784	32,440	37,872	30,000	8,360	27.9	22.1	
42220 Parking Meter In Lieu	9,802	8,508	0	1,000	0	0.0	0.0	
Total Charges for Services	1,241,920	956,455	373,191	411,000	352,347	85.7	94.4	50
44101 Interest on Investments	31,837	31,438	10,378	0	0	0.0	0.0	
Total Use of Money & Property	31,837	31,438	10,378	0	0	0.0	0.0	50
44519 Reimbursement-Other	5,000	5,000	0	5,000	5,000	100.0	0.0	
46010 Reimb of Damage to City Prop	0	0	0	0	0	0.0	0.0	
Total Other Revenues	5,000	5,000	0	5,000	5,000	100.0	0.0	50
Total Revenues	1,278,757	992,893	383,569	416,000	357,347	85.9	93.2	50
Variance from Prior Year		-22.4%	-61.4%	8.5%				

City of Chico
2021-22 Annual Budget
Fund Revenues
PARKING REVENUE RESERVE FUND

Fund 854 PARKING REVENUE RESERVE	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
44101 Interest on Investments	22,104	25,111	10,475	0	0	0.0	0.0	
Total Use of Money & Property	22,104	25,111	10,475	0	0	0.0	0.0	50
Total Revenues	22,104	25,111	10,475	0	0	0.0	0.0	50
Variance from Prior Year		13.6%	-58.3%	-100.0%				

City of Chico
2021-22 Annual Budget
Fund Revenues
AIRPORT FUND

Fund 856 AIRPORT	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
41186 Airport Improvement Program	0	0	0	0	0	0.0	0.0	
41187 CARES Act	0	0	20,000	0	0	0.0	0.0	
Total Intergovernmental	0	0	20,000	0	0	0.0	0.0	50
42250 Fuel Flowage Fees	38,809	26,594	41,765	35,000	35,815	102.3	85.8	
42251 Landing Fees	33,783	16,936	31,097	35,000	38,416	109.8	123.5	
42604 Sale of Docs/Publications	0	0	0	0	0	0.0	0.0	
Total Charges for Services	72,592	43,530	72,862	70,000	74,231	106.0	101.5	50
44101 Interest on Investments	5,881	14,634	5,703	0	0	0.0	0.0	
44130 Rental & Lease Income	753,895	943,023	423,958	350,000	253,487	72.4	59.8	
44132 T-Hanger Rental & Lease Income	81,360	87,727	84,496	80,000	74,240	92.8	87.9	
44140 Concession Income	48,664	66,324	37,122	60,000	30,192	50.3	81.3	
Total Use of Money & Property	889,800	1,111,708	551,279	490,000	357,919	73.0	64.9	50
44505 Miscellaneous Revenues	0	0	0	0	0	0.0	0.0	
44519 Reimbursement-Other	6,596	8,124	22,970	5,000	2,555	51.1	11.1	
46010 Reimb of Damage to City Prop	0	0	0	0	0	0.0	0.0	
Total Other Revenues	6,596	8,124	22,970	5,000	2,555	51.1	11.1	50
Total Revenues	968,988	1,163,362	667,111	565,000	434,705	76.9	65.2	50
Variance from Prior Year		20.1%	-42.7%	-15.3%				

City of Chico
2021-22 Annual Budget
Fund Revenues
AIRPORT IMPROVEMENT GRANTS FUND

Fund 857 AIRPORT IMPROVEMENT GRANTS	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
41186 Airport Improvement Program	77,051	2,588,349	3,031,067	15,868,448	2,608,628	16.4	86.1	
41187 CARES Act	0	0	783	314,130	155,851	49.6	19.90	
41190 Dept of Transportation Revenue	0	0	49,782	219	218	99.5	0.4	
Total Intergovernmental	77,051	2,588,349	3,081,632	16,182,797	2,764,697	17.1	89.7	50
Total Revenues	77,051	2,588,349	3,081,632	16,182,797	2,764,697	17.1	89.7	50
Variance from Prior Year		3,259.3%	19.1%	425.1%				

City of Chico
2021-22 Annual Budget
Fund Revenues
PRIVATE DEVELOPMENT FUND

Fund 862 PRIVATE DEVELOPMENT	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
40507 Construction Permit	1,508,487	0	(342)	0	551,437	0.0	-	
40531 Encroachment Permit	131,684	0	0	0	69,040	0.0	0.0	
Total Licenses and Permits	1,640,171	0	(342)	0	620,477	0.0	-	50
42302 Sewer Application Fee	0	0	0	0	0	0.0	0.0	
42370 Industrial User Waste Test Fee	0	0	0	0	0	0.0	0.0	
42403 Environmental Review Study Fee	4,389	0	0	0	0	0.0	0.0	
42404 Planning Filing Fees	422,507	0	(107)	0	113,674	0.0	-	
42407 Engineering Fees	144,872	0	0	0	6,220	0.0	0.0	
42410 Plan Check Fees	979,856	0	0	0	232,533	0.0	0.0	
42411 Plan Maintenance Fee	23,625	0	(8)	0	11,758	0.0	-	
42412 Residential Housing Report Fee	0	0	0	0	0	0.0	0.0	
42423 Storm Drain Calc Fee	0	0	0	0	0	0.0	0.0	
42428 2% Deferred Development Fee	18,462	0	0	0	0	0.0	0.0	
42435 CASp (SB 1186) Revenue	110	0	0	0	0	0.0	0.0	
42439 Northwest Chico Specific Plan	37,508	0	0	0	14,597	0.0	0.0	
42440 Storm Water Plan Review Fees	65,007	0	0	0	0	0.0	0.0	
42441 Tree Replacement In-Lieu Fee	807	0	0	0	0	0.0	0.0	
42442 Fire Plan Check Fees	182,843	0	0	0	0	0.0	0.0	
42604 Sale of Docs/Publications	245	0	0	0	0	0.0	0.0	
Total Charges for Services	1,880,231	0	(115)	0	378,782	0.0	-	50
44101 Interest on Investments	40,717	40,232	163	0	0	0.0	0.0	
Total Use of Money & Property	40,717	40,232	163	0	0	0.0	0.0	50
44505 Miscellaneous Revenues	3,181	0	0	0	0	0.0	0.0	
44519 Reimbursement-Other	0	0	0	0	0	0.0	0.0	
49998 Revenue from Prior Year	0	0	0	0	0	0.0	0.0	
Total Other Revenues	3,181	0	0	0	0	0.0	0.0	50
Total Revenues	3,564,300	40,232	(294)	0	999,259	0.0	-	50
Variance from Prior Year		-98.9%	-100.7%	-100.0%				

City of Chico
2021-22 Annual Budget
Fund Revenues
SUBDIVISIONS FUND

Fund 863 SUBDIVISIONS	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42204 Parking Meters-Streets	0	0	0	0	0	0.0	0.0	
42406 Planning - RT	0	0	0	0	0	0.0	0.0	
42409 Real Time Billing	630,457	904,383	697,861	1,131,333	0	0.0	0.0	
42440 Storm Water Plan Review Fees	(343)	10,268	1,515	0	403	0.0	26.6	
42479 Real Time Billings - Priv Dev	22,388	0	0	0	0	0.0	0.0	
Total Charges for Services	652,502	914,651	699,376	1,131,333	403	0.0	0.1	50
44101 Interest on Investments	4,484	7,279	3,818	0	0	0.0	0.0	
Total Use of Money & Property	4,484	7,279	3,818	0	0	0.0	0.0	50
44519 Reimbursement-Other	0	0	0	0	0	0.0	0.0	
Total Revenues	656,986	921,930	703,194	1,131,333	403	0.0	0.1	50
Variance from Prior Year		40.3%	-23.7%	60.9%				

City of Chico
2021-22 Annual Budget
Fund Revenues
PRIVATE DEVELOPMENT-BUILDING FUND

Fund 871 PRIVATE DEVELOPMENT-	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
40507 Construction Permit	0	1,535,027	1,532,316	1,100,000	447,759	40.7	29.2	
40531 Encroachment Permit	0	12,485	18,546	4,000	3,862	96.6	20.8	
Total Licenses and Permits	0	1,547,512	1,550,862	1,104,000	451,621	40.9	29.1	50
42410 Plan Check Fees	0	614,705	689,295	730,000	153,485	21.0	22.3	
42411 Plan Maintenance Fee	0	42,324	54,780	20,000	27,219	136.1	49.7	
42439 Northwest Chico Specific Plan	0	32,760	32,760	35,000	8,320	23.8	25.4	
42604 Sale of Docs/Publications	0	43	1,126	100	30	30.0	2.7	
Total Charges for Services	0	689,832	777,961	785,100	189,054	24.1	24.3	50
44101 Interest on Investments	0	8,975	14,555	0	0	0.0	0.0	
Total Use of Money & Property	0	8,975	14,555	0	0	0.0	0.0	50
44505 Miscellaneous Revenues	0	1,566	0	0	0	0.0	0.0	
Total Other Revenues	0	1,566	0	0	0	0.0	0.0	50
Total Revenues	0	2,247,885	2,343,378	1,889,100	640,675	33.9	27.3	50
Variance from Prior Year		Undefined	4.2%	-19.4%				

City of Chico
2021-22 Annual Budget
Fund Revenues
PRIVATE DEVELOPMENT-PLANNING FUND

Fund 872 PRIVATE DEVELOPMENT-	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
40507 Construction Permit	0	409,340	408,618	316,000	119,402	37.8	29.2	
Total Licenses and Permits	0	409,340	408,618	316,000	119,402	37.8	29.2	50
42404 Planning Filing Fees	0	345,585	287,464	268,600	80,481	30.0	28.0	
42410 Plan Check Fees	0	175,630	196,998	210,800	43,853	20.8	22.3	
42604 Sale of Docs/Publications	0	45	0	0	0	0.0	0.0	
Total Charges for Services	0	521,260	484,462	479,400	124,334	25.9	25.7	50
44101 Interest on Investments	0	4,011	5,865	0	0	0.0	0.0	
Total Use of Money & Property	0	4,011	5,865	0	0	0.0	0.0	50
44505 Miscellaneous Revenues	0	1,476	3,571	0	2,437	0.0	68.2	
Total Other Revenues	0	1,476	3,571	0	2,437	0.0	68.2	50
Total Revenues	0	936,087	902,516	795,400	246,173	30.9	27.3	50
Variance from Prior Year		Undefined	-3.6%	-11.9%				

City of Chico
2021-22 Annual Budget
Fund Revenues
PRIVATE DEVELOPMENT-ENGINEER FUND

Fund 873 PRIVATE DEVELOPMENT-	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
40531 Encroachment Permit	0	237,222	352,373	230,000	73,374	31.9	20.8	
Total Licenses and Permits	0	237,222	352,373	230,000	73,374	31.9	20.8	50
42302 Sewer Application Fee	0	5,910	980	0	245	0.0	25.0	
42404 Planning Filing Fees	0	40,657	33,109	31,600	9,468	30.0	28.6	
42407 Engineering Fees	0	184,873	323,874	165,000	164,340	99.6	50.7	
42410 Plan Check Fees	0	47,631	49,249	52,700	10,963	20.8	22.3	
42428 2% Deferred Development Fee	0	11,359	0	13,700	0	0.0	0.0	
42440 Storm Water Plan Review Fees	0	55,535	79,887	62,000	47,046	75.9	58.9	
42442 Fire Plan Check Fees	0	1,463	0	0	630	0.0	0.0	
Total Charges for Services	0	347,428	487,099	325,000	232,692	71.6	47.8	50
44101 Interest on Investments	0	1,017	3,633	0	0	0.0	0.0	
Total Use of Money & Property	0	1,017	3,633	0	0	0.0	0.0	50
Total Revenues	0	585,667	843,105	555,000	306,066	55.1	36.3	50
Variance from Prior Year		Undefined	44.0%	-34.2%				

City of Chico
2021-22 Annual Budget
Fund Revenues
PRIVATE DEVELOPMENT-FIRE FUND

Fund 874 PRIVATE DEVELOPMENT-FIRE	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
40507 Construction Permit	0	102,335	102,154	79,000	29,851	37.8	29.2	
40518 Fire System Compliance Fee	0	0	1,023	0	1,272	0.0	124.3	
Total Licenses and Permits	0	102,335	103,177	79,000	31,123	39.4	30.2	50
42404 Planning Filing Fees	0	20,329	16,555	15,800	4,734	30.0	28.6	
42410 Plan Check Fees	0	43,908	49,249	52,700	10,963	20.8	22.3	
42440 Storm Water Plan Review Fees	0	0	1,781	0	0	0.0	0.0	
42442 Fire Plan Check Fees	0	224,386	167,912	185,000	125,111	67.6	74.5	
Total Charges for Services	0	288,623	235,497	253,500	140,808	55.5	59.8	50
44101 Interest on Investments	0	2,837	3,967	0	0	0.0	0.0	
Total Use of Money & Property	0	2,837	3,967	0	0	0.0	0.0	50
Total Revenues	0	393,795	342,641	332,500	171,931	51.7	50.2	50
Variance from Prior Year		Undefined	-13.0%	-3.0%				

City of Chico
2021-22 Annual Budget
Fund Revenues
CANNABIS PERMIT PROGRAM FUND

Fund 875 CANNABIS PERMIT PROGRAM	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
42443 Cannabis Application Fees	0	0	0	101,368	0	0.0	0.0	
Total Charges for Services	0	0	0	101,368	0	0.0	0.0	50
44101 Interest on Investments	0	0	49	0	0	0.0	0.0	
Total Use of Money & Property	0	0	49	0	0	0.0	0.0	50
Total Revenues	0	0	49	101,368	0	0.0	0.0	50
Variance from Prior Year		Undefined	Undefined	206,773.5%				

City of Chico
2021-22 Annual Budget
Fund Revenues
CITY RECREATION FUND

Fund 876 CITY RECREATION	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
44141 Rink Sponsorships	0	0	0	287,500	74,200	25.8	0.0	
44142 Rink Admissions	0	0	0	108,000	49,067	45.4	0.0	
44143 Rink Rentals	0	0	0	112,200	0	0.0	0.0	
44144 Special Event Tent Rentals	0	0	0	72,000	0	0.0	0.0	
Total Use of Money & Property	0	0	0	579,700	123,267	21.3	0.0	50
Total Revenues	0	0	0	579,700	123,267	21.3	0.0	50
Variance from Prior Year		Undefined	Undefined	Undefined				

**City of Chico
2021-22 Annual Budget
Fund Revenues
Broadband FUND**

Fund 877 Broadband	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22		%	%	%
	Actual	Actual	Actual	Modified Adopted	YTD Actuals 12/31/2021	of Budget	Prior Yr Actual	Fiscal Year
Revenues								
Total Revenues	0	0	0	0	0	0.0	0.0	50
Variance from Prior Year		Undefined	Undefined	Undefined				

**CITY OF CHICO
CASH FLOW PROJECTION
FY2021-22**

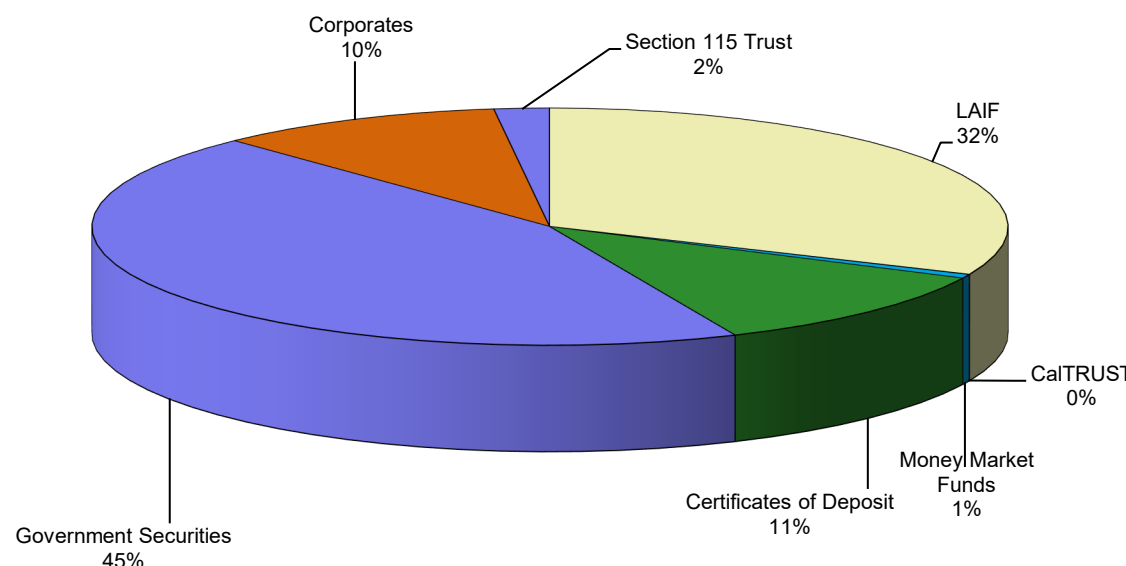
	Jul - Sept			October			November			December			January	February	March	April	May	June
Operating Cash Flow	<i>Projected</i>	Actuals	Dif.	<i>Projected</i>	Actuals	Dif.	Actuals	Dif.	Actuals	Dif.	Actuals	Dif.						
Cash Receipts																		
Beginning Balance	155,956,020	155,956,020		144,045,955	144,045,955		143,921,335	143,921,335		143,228,529	143,228,529		140,575,604	152,992,687	152,405,583	150,491,520	152,576,684	175,007,245
Sales Tax	6,905,983	7,746,476	12.2%	2,695,259	2,921,905	8.4%	1,758,460	2,213,880	25.9%	2,185,699	2,523,764	15.5%	2,378,815	2,449,911	2,021,738	2,473,769	2,592,192	2,414,885
Property Tax	732,284	635,136	-13.3%	701,050	726,423	3.6%	-	-	0.0%	210,561	-	-100.0%	8,040,859	-	109,903	35,806	6,405,068	147,283
Residual Property Tax Increment	-	-	0.0%	-	-	0.0%	-	-	0.0%	-	-	0.0%	2,257,932	-	-	-	1,953,366	-
ROPS Payment	-	-	0.0%	-	-	0.0%	-	-	0.0%	-	-	0.0%	3,238,152	-	-	-	-	5,042,733
Utility Users Tax	2,316,056	2,598,937	12.2%	813,809	833,205	2.4%	715,901	656,778	-8.3%	554,426	541,281	-2.4%	725,064	690,064	599,604	653,490	448,519	559,622
Transient Occupancy Tax	718,115	1,231,167	71.4%	365,419	438,543	20.0%	358,637	629,356	75.5%	391,140	367,738	-6.0%	332,750	260,895	297,312	236,377	272,989	335,271
Franchise Fees (Cable, Electric, Gas & Waste)	949,103	790,172	-16.7%	575,217	192,816	-66.5%	267,854	603,983	125.5%	-	-	0.0%	502,032	240,258	-	1,320,401	249,217	-
Other Taxes	214,840	245,966	14.5%	67,530	59,956	-11.2%	61,703	73,618	19.3%	67,045	53,178	-20.7%	72,891	48,735	58,108	62,986	61,322	122,743
Licenses & Permits	543,693	690,740	27.0%	152,041	271,622	78.7%	145,890	193,123	32.4%	308,830	174,843	-43.4%	161,829	169,343	215,112	256,180	164,893	292,966
Gas Tax	1,439,119	2,402,675	67.0%	196,180	209,447	6.8%	185,399	605,372	226.5%	620,436	-	-100.0%	114,091	194,884	284,320	104,057	100,664	332,341
TDA, STA	-	-	0.0%	951,960	550,720	-42.1%	556,796	-	-100.0%	350,075	459,677	31.3%	302,528	369,089	369,089	332,381	354,257	-
Intergov't Revenue	1,320,730	6,537,256	395.0%	778,397	3,333,953	328.3%	566,829	28,193	-95.0%	169,513	52,319	-69.1%	44,651	262,484	635,939	186,327	11,553,627	161,170
CDBG Annual Allotment	105,979	380,240	258.8%	-	-	0.0%	-	-	0.0%	338,176	-	-100.0%	-	-	-	246,148	-	-
Home Program Annual Allotment	92,264	1,566	-98.3%	-	-	0.0%	-	1,019,421	100.0%	14,178	-	-100.0%	-	-	-	-	-	-
Emergency Response - Mutual Aid	-	-	0.0%	-	-	0.0%	-	-	0.0%	-	-	0.0%	-	91,590	424,926	169,094	144,203	-
Sewer Service Fees	3,431,254	3,590,675	4.6%	1,295,947	1,102,569	-14.9%	1,103,439	1,141,714	3.5%	1,691,942	1,281,905	-24.2%	1,143,213	1,143,587	1,332,161	1,199,094	1,102,532	1,110,056
Charges for Services	546,892	695,023	27.1%	114,223	241,266	111.2%	261,451	209,938	-19.7%	386,317	271,247	-29.8%	109,947	179,143	233,426	202,190	255,650	290,243
Development Fees	1,748,246	2,073,971	18.6%	325,964	221,824	-31.9%	235,382	840,662	257.1%	2,650,824	536,447	-79.8%	177,471	471,089	2,002,544	354,207	168,409	251,808
Parking Meters	33,579	131,962	293.0%	25,209	55,706	121.0%	16,173	46,204	185.7%	21,118	44,686	111.6%	21,388	18,020	23,781	36,534	28,964	39,601
Parking Fines	36,701	128,491	250.1%	24,479	48,185	96.8%	33,402	55,269	65.5%	20,608	2,035	-90.1%	31,769	38,256	14,443	23,649	29,647	29,958
Fines & Forfeitures	56,101	54,802	-2.3%	16,708	24,193	44.8%	28,613	10,811	-62.2%	23,302	26,419	13.4%	13,712	6,596	29,641	12,375	22,949	20,068
Investment Interest Earnings	245,076	235,568	-3.9%	159,905	184,104	15.1%	21,256	45,762	115.3%	67,152	158,206	135.6%	87,692	32,646	33,807	120,049	18,004	18,725
Other Receipts	1,738,173	2,169,734	24.8%	668,149	416,791	-37.6%	328,391	973,652	196.5%	506,121	247,544	-51.1%	1,407,907	310,648	611,038	653,509	1,299,758	553,355
Total Cash Receipts	23,174,187	32,340,557	39.6%	9,927,446	11,833,228	19.2%	6,645,575	9,347,736	40.7%	10,577,462	6,741,289	-36.3%	21,164,693	6,608,149	9,296,893	8,678,622	27,226,230	11,722,828
Cash Disbursements																		
Payroll Expenses	11,492,379	11,648,348	1.4%	3,313,580	3,243,660	-2.1%	3,536,804	3,387,317	-4.2%	3,645,101	3,803,646	4.3%	3,457,891	3,166,436	3,159,848	4,449,864	3,153,838	3,389,988
Debt Service	-	-	0.0%	3,150,653	3,150,548	0.0%	2,056,250	2,056,250	0.0%	-	-	0.0%	-	-	5,483,153	-	-	406,000
CalPERS UAL Payment	10,602,176	10,602,176	0.0%	-	-	0.0%	-	-	0.0%	-	-	0.0%	-	-	-	-	-	-
Other Disbursements	16,838,102	22,000,098	30.7%	5,122,797	5,563,640	8.6%	4,076,580	4,596,975	12.8%	5,425,649	5,590,568	3.0%	5,289,719	4,028,817	2,567,955	2,143,593	1,641,832	5,303,667
Total Cash Disbursements	38,932,657	44,250,622	13.7%	11,587,030	11,957,848	3.2%	9,669,634	10,040,542	3.8%	9,070,750	9,394,214	3.6%	8,747,610	7,195,253	11,210,956	6,593,457	4,795,670	9,099,656
Total Cash Flow	(15,758,470)	(11,910,065)		(1,659,585)	(124,620)		(3,024,058)	(692,806)		1,506,713	(2,652,925)		12,417,083	(587,104)	(1,914,063)	2,085,164	22,430,560	2,623,172
Total Cash Balance End of Month	140,197,550	144,045,955		142,386,370	143,921,335		140,897,277	143,228,529		144,735,241	140,575,604		152,992,687	152,405,583	150,491,520	152,576,684	175,007,245	177,630,417
Restricted Bond Proceeds Included	132,465	124,176		124,176	124,176		124,176	124,176		124,176	124,176		124,176	124,176	124,176	124,176	124,176	124,176
"Spendable" Cash Balance	140,065,085	143,921,779	2.8%	142,262,194	143,797,159	1.1%	140,773,101	143,104,353	1.7%	144,611,065	140,451,428	-2.9%	152,868,511	152,281,407	150,367,344	152,452,508	174,883,069	177,506,241

City of Chico Investment Portfolio Report December 31, 2021

<u>Summary of Investments</u>	<u>Cost Basis*</u>	<u>Fair Value**</u>	<u>Interest Received</u>	<u>Gain/(Loss) on Investment</u>
Local Agency Investment Fund (LAIF)	41,205,539.88	41,205,539.88	0.00	0.00
CalTRUST	50,189.23	49,702.18	17.14	0.00
Money Market Mutual Fund	678,357.58	678,357.58	4.67	0.00
Certificates of Deposit	14,500,000.00	14,607,885.69	36,900.37	0.00
Government Securities	58,555,000.00	58,030,961.69	50,587.50	0.00
Corporates	13,000,000.00	13,247,406.35	26,500.00	0.00
CA Public Entity Stabilization Trust (Section 115 Trust)	2,453,859.68	2,541,166.23	44,196.15	0.00
Total Pooled Investments	130,442,946.37	130,361,019.60	158,205.83	0.00
Investments Held In Trust	2,632,534.65	2,632,534.65	20.03	0.00
Total Investments	133,075,481.02	132,993,554.25	158,225.86	0.00

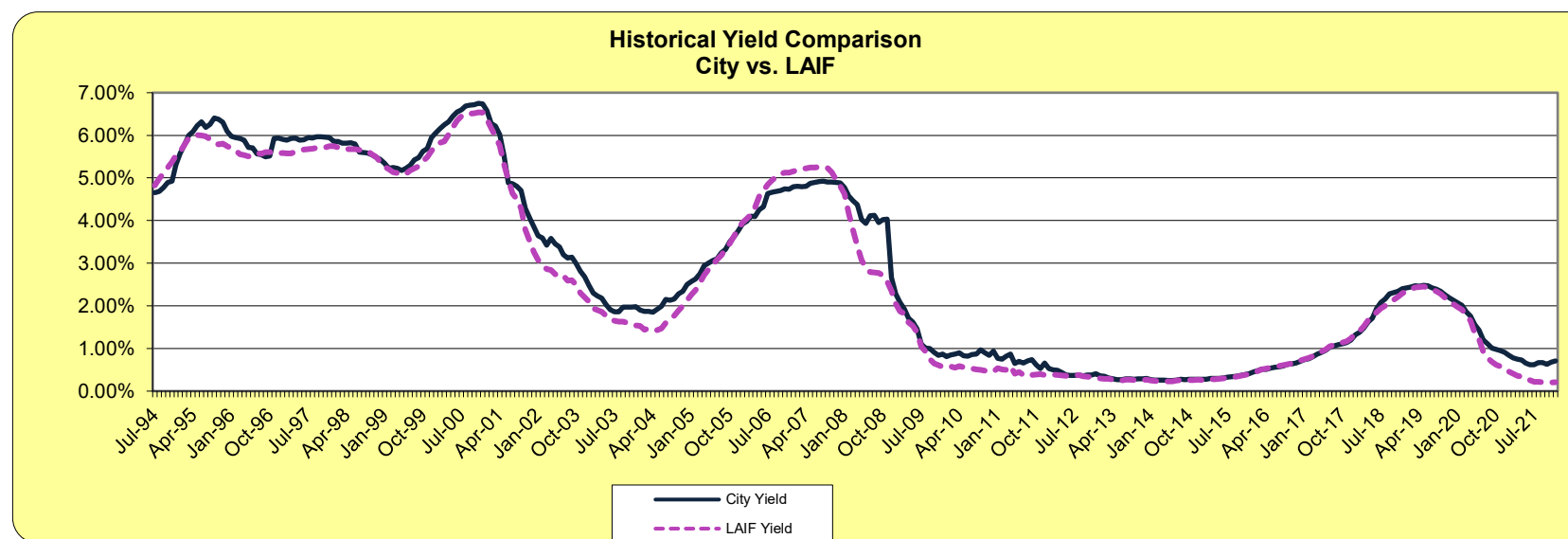
Distribution of Pooled Investments

	<u>Fair Value</u>	<u>% Split</u>
LAIF	41,205,539.88	31.6%
CalTRUST	49,702.18	0.0%
Money Market Funds	678,357.58	0.5%
Certificates of Deposit	14,607,885.69	11.2%
Government Securities	58,030,961.69	44.5%
Corporates	13,247,406.35	10.2%
Section 115 Trust	2,541,166.23	1.9%
Total Pooled Investments	130,361,019.60	



Weighted Annual Yield

Current Month	0.71%
Prior Month	0.68%
Average Days to Maturity	887



* Cost Basis: The value paid on the purchase date of the asset.

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City of Chico
Investment Portfolio Report
December 31, 2021

Type of Investment / Financial Institution	Yield to Maturity	Cost Basis*	Fair Value**	Interest Received	Gain/(Loss) On Investment	Maturity Date
<i>City Investment Portfolio - Pooled Investments</i>						
<i>State of California Local Agency Investment Fund (LAIF)</i>						
City of Chico	0.212%	34,648,152.40	34,648,152.40			N/A
Chico Urban Area JPFA	0.212%	6,557,387.48	6,557,387.48			N/A
Total Local Agency Investment Fund		41,205,539.88	41,205,539.88	0.00	0.00	
<i>CalTRUST</i>						
CalTRUST Medium Term Fund	0.410%	50,189.23	49,702.18	17.14		N/A
Total CalTRUST		50,189.23	49,702.18	17.14	0.00	
<i>Money Market Mutual Fund</i>						
Wells Fargo Bank, N.A.	0.010%	206,957.48	206,957.48	2.71		N/A
Bank of America	0.005%	471,400.10	471,400.10	1.96		N/A
Total Money Market Fund		678,357.58	678,357.58	4.67	0.00	
<i>Certificates of Deposit</i>						
Berkshire Bank/Pittfield			<i>cd matured 12/9/2021</i>	433.22		12/9/2021
Wells Fargo Natl Bk			<i>cd matured 12/13/2021</i>	349.32		12/13/2021
Patriot Bank NA/Stamford	2.950%	250,000.00	250,580.50			1/31/2022
Sterling Bank	3.000%	250,000.00	250,648.72			2/3/2022
Citizens N/B Bluffton	1.500%	250,000.00	250,459.45			2/22/2022
Commerce Bank	3.000%	250,000.00	251,679.86	616.44		3/28/2022
Cadence Bank	1.200%	250,000.00	250,685.15			4/14/2022
Cross River Bank	2.500%	250,000.00	252,013.06			5/9/2022
Discover Bank	3.100%	250,000.00	253,241.70	3,885.62		6/13/2022
Comenity Capital Bank	3.100%	250,000.00	253,263.40	636.99		6/15/2022
New York Community Bank	0.300%	250,000.00	250,059.88			7/5/2022
TIAA FSB	2.100%	250,000.00	252,656.80			7/29/2022
Hardin Cty Savings Bank	3.000%	250,000.00	255,017.65	616.44		9/28/2022
First National Bank Ord Neb	1.250%	250,000.00	251,851.34	256.85		10/14/2022
Amerant Bank NA	1.850%	250,000.00	253,640.28	380.14		12/20/2022
ServisFirst Bank	1.550%	250,000.00	253,280.32	318.49		2/21/2023
Encore Bank	1.150%	250,000.00	252,288.48	236.30		4/17/2023
American Expr Natl Bk	3.250%	250,000.00	259,985.93	4,073.63		6/12/2023
Goldman Sachs Bank USA	3.250%	250,000.00	260,001.98	4,073.63		6/13/2023
Sallie Mae Bank	3.300%	250,000.00	260,183.05	4,136.30		6/13/2023
Morgan Stanley Bank NA	3.200%	250,000.00	259,836.60	4,010.96		6/14/2023
Wells Fargo Bank NA	3.250%	250,000.00	260,009.59	667.81		6/14/2023
Citibank NA	3.250%	250,000.00	260,034.05	4,073.63		6/15/2023
Western Nebraska Bank	3.100%	250,000.00	260,100.89	636.99		7/27/2023
Bank of New England NH	3.200%	250,000.00	260,553.66	679.45		7/31/2023

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City of Chico
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Enerbank USA	3.200%	250,000.00	260,553.66	679.45	7/31/2023
Medallion Bank Utah	3.250%	250,000.00	260,751.06	690.07	7/31/2023
Bank of Deerfield	3.100%	250,000.00	260,860.50	636.99	9/21/2023
Midsouth Bank	3.100%	250,000.00	260,929.70	636.99	9/26/2023
Bankwell Bank	0.400%	250,000.00	248,602.90		1/30/2024
Alma Bank	1.550%	250,000.00	254,592.92	318.49	2/21/2024
Evergreen Bank	1.200%	250,000.00	252,708.16	246.58	4/2/2024
Luana Savings Bank	0.400%	250,000.00	247,619.53		7/10/2024
Northwest Bank	2.100%	250,000.00	258,254.60	431.51	7/11/2024
Commercial Bank Harrogate	2.000%	250,000.00	257,644.09	410.96	7/15/2024
Raymond James Bank NA	2.000%	250,000.00	257,775.02		8/23/2024
First National Bank of America	0.350%	250,000.00	246,730.10	71.92	9/25/2024
Live Oak Banking Company	1.850%	250,000.00	256,984.19	380.14	11/27/2024
Texas Exchange Bank SSB	0.500%	250,000.00	247,192.17	102.74	12/11/2024
BMO Harris Bank NA	0.500%	250,000.00	246,366.33	311.64	3/28/2025
Thomaston Savings Bank	1.200%	250,000.00	251,880.57		4/14/2025
Horizon Bank/Waverly NE	1.300%	250,000.00	252,691.15	267.12	4/15/2025
Pacific Western Bank	1.350%	250,000.00	253,086.16		4/16/2025
Centerstate Bank	1.300%	250,000.00	252,678.84		4/17/2025
Preferred Bank LA Calif	0.500%	250,000.00	245,408.42	102.74	7/17/2025
BMW Bank North America	0.800%	250,000.00	247,829.12		8/13/2025
Bank Hapoalim BM NY	0.450%	250,000.00	244,417.91		9/15/2025
JP Morgan Chase Bank NA	0.500%	250,000.00	243,967.58	626.71	12/15/2025
Chambers Bank	0.450%	250,000.00	243,071.33		1/27/2026
Bank OZK	0.550%	250,000.00	243,902.42	113.01	2/13/2026
1st Security Bank of Washington	0.500%	250,000.00	243,288.88	102.74	2/25/2026
Bankunited NA	0.800%	250,000.00	246,164.14	164.38	3/19/2026
CFG Community Bank	0.700%	250,000.00	245,050.02		3/30/2026
Toyota Financial SGS Bk	0.900%	250,000.00	246,962.00		4/22/2026
Bank of Princeton	0.600%	250,000.00	242,910.56	123.29	3/30/2026
Meridian Bank	0.700%	250,000.00	244,022.88	143.84	4/22/2026
Exchange Bank	0.600%	250,000.00	242,828.53	123.29	8/6/2026
Merrick Bank	0.650%	250,000.00	243,153.17	133.56	8/31/2026
Synchrony Bank	0.950%	250,000.00	246,489.63		9/10/2026
State Bank of India	1.150%	250,000.00	248,445.11		10/29/2026
Total Certificates of Deposit		14,500,000.00	14,607,885.69	36,900.37	0.00

Government Securities

Inter-American Devel Bank	0.300%	1,000,000.00	987,048.52		4/16/2024
International Bank Recon & Development	0.375%	1,000,000.00	1,014,568.42		8/28/2024
Federal Farm Credit Bank	0.315%	2,000,000.00	1,961,715.80		11/12/2024
Federal Home Loan Bank	0.500%	2,000,000.00	1,978,225.38	5,000.00	12/30/2024
Freddie Mac	0.450%	850,000.00	837,514.78		2/27/2025
Federal Farm Credit Bank	0.362%	2,150,000.00	2,110,038.17		3/3/2025
California State Taxable GO Bonds	0.710%	3,400,000.00	3,648,094.60		4/1/2025
University of California CA Revenue Bonds	0.446%	1,000,000.00	988,924.90		5/15/2025

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City of Chico
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Florida St Board of Ed	0.549%	700,000.00	683,983.44	1,925.00	6/1/2025
Federal Farm Credit Bank	0.384%	1,000,000.00	980,555.41	3,400.00	6/10/2025
Federal Home Loan Bank	0.340%	1,000,000.00	981,452.53	1,562.50	6/27/2025
Fannie Mae	1.053%	1,000,000.00	983,368.91		7/24/2025
Los Angeles CA Community College Dist	0.700%	2,000,000.00	1,971,191.00		8/1/2025
Fannie Mae	0.500%	1,000,000.00	979,985.64		8/27/2025
Freddie Mac	0.535%	1,000,000.00	973,149.74		9/23/2025
Federal Farm Credit Bank	0.529%	1,650,000.00	1,609,727.77		9/29/2025
Federal Farm Credit Bank	0.636%	2,000,000.00	1,946,559.08		10/21/2025
Freddie Mac	0.616%	1,000,000.00	982,420.68		10/27/2025
Fannie Mae	0.565%	1,000,000.00	975,916.22		11/7/2025
Federal Home Loan Bank	0.406%	2,000,000.00	1,966,032.92	7,500.00	11/28/2025
Freddie Mac	0.409%	1,250,000.00	1,228,737.63	3,875.00	12/1/2025
Freddie Mac	0.681%	1,000,000.00	982,679.81	3,125.00	12/17/2025
Federal Home Loan Bank	0.729%	2,305,000.00	2,264,067.35		1/28/2026
International Bank Recon & Development	0.781%	1,000,000.00	975,281.20		2/10/2026
International Bank Recon & Development	0.725%	2,000,000.00	1,943,648.70		2/24/2026
Federal Home Loan Bank	0.820%	2,000,000.00	1,972,456.86	8,200.00	3/16/2026
Federal Home Loan Bank	0.850%	2,000,000.00	1,970,708.78	8,500.00	3/30/2026
Federal Home Loan Bank	0.875%	1,000,000.00	985,007.50		5/18/2026
Federal Home Loan Bank	0.985%	1,000,000.00	986,209.08		5/19/2026
Freddie Mac	0.813%	2,000,000.00	1,956,121.68	7,500.00	6/23/2026
Inter-American Devel Bank	0.750%	2,000,000.00	2,063,221.60		7/23/2026
Federal Farm Credit Bank	0.830%	2,000,000.00	1,976,398.38		8/10/2026
Inter-American Devel Bank	0.750%	2,000,000.00	1,954,829.20		8/19/2026
Federal Home Loan Bank	1.080%	2,000,000.00	1,977,941.92		9/15/2026
Federal Home Loan Bank	1.500%	1,000,000.00	1,006,674.74		9/29/2026
California State Taxable Bid Group A	0.978%	500,000.00	522,316.90		10/1/2026
Federal Farm Credit Bank	1.031%	1,000,000.00	984,847.20		10/7/2026
Federal Home Loan Bank	1.065%	1,750,000.00	1,728,320.23		10/28/2026
Federal Home Loan Bank	1.270%	2,000,000.00	1,991,019.02		11/24/2026
Total Government Securities		58,555,000.00	58,030,961.69	50,587.50	0.00

Corporates

Goldman Sachs Group Inc	1.000%	1,000,000.00	975,544.07		11/12/2024
Wells Fargo and Company	0.786%	1,000,000.00	1,044,414.88		2/19/2025
Apple Inc	0.864%	1,000,000.00	973,183.89		8/20/2025
Johnson & Johnson	0.676%	1,000,000.00	977,572.93		9/1/2025
Merck & Co Inc	0.800%	1,000,000.00	980,683.76		2/24/2026
JP Morgan Chase & Co.	1.008%	2,000,000.00	2,132,835.74		4/1/2026
Wells Fargo and Company	1.176%	2,000,000.00	2,101,940.96		4/22/2026
Amazon.com Inc	1.000%	1,000,000.00	990,732.41		5/12/2026
John Deere Capital Corp	0.854%	2,000,000.00	2,092,051.30	26,500.00	6/10/2026
Goldman Sachs Group Inc	1.500%	1,000,000.00	978,446.41		8/30/2026
Total Corporates		13,000,000.00	13,247,406.35	26,500.00	0.00

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**City of Chico
Investment Portfolio Report
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Section 115 Trust

City of Chico CA Public Entity Pension Stabiliz:	2.400%	2,453,859.68	2,541,166.23	44,196.15		N/A
Total Section 115 Trust		2,453,859.68	2,541,166.23	44,196.15	0.00	
Total City Pooled Investments		130,442,946.37	130,361,019.60	158,205.83	0.00	

* Cost Basis: The value paid on the purchase date of the asset.

** Fair Value: The value at which a financial instrument could be exchanged in a current transaction.

City of Chico
Investment Portfolio Report
December 31, 2021

Type of Investment / Financial Institution	Yield to Maturity	Cost Basis*	Fair Value**	Interest Earned	Gain/(Loss) On Investment	Maturity Date
<i>City Investment Portfolio - Investments held in Trust</i>						
2017 Tax Allocation Refunding Bonds						
First American Government Oblig Fund	0.010%	2,332,530.40	2,332,530.40	19.69		N/A
2020 Sewer Refunding Bonds						
First American Government Oblig Fund	0.010%	4.25	4.25	0.34		N/A
General Liability Insurance Reserve						
Umpqua Bank	N/A	100,000.00	100,000.00			N/A
Workers' Compensation Insurance Reserve						
Golden Valley Bank	N/A	200,000.00	200,000.00			N/A
Total Investments Held In Trust		2,632,534.65	2,632,534.65	20.03	0.00	
TOTAL INVESTMENTS		133,075,481.02	132,993,554.25	158,225.86	0.00	

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