



# Town of Paradise Town Council Adjourned Meeting Agenda 6:00 P.M. – July 11, 2017

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Paradise Performing Arts Center – 777 Nunneley, Paradise, CA

Mayor, Scott Lotter  
Vice Mayor, Jody Jones  
Council Member, Greg Bolin  
Council Member, Melissa Schuster  
Council Member, Mike Zuccolillo

Town Manager, Lauren Gill  
Town Attorney, Dwight L. Moore  
Town Clerk, Dina Volenski  
Community Development Director, Craig Baker  
Finance Director/Town Treasurer, Gina Will  
Public Works Director/Town Engineer, Marc Mattox  
Division Chief, CAL FIRE/Paradise Fire, David Hawks  
Chief of Police, Gabriela Tazzari-Dineen

## Meeting Procedures

- I. The Mayor is the Presiding Chair and is responsible for maintaining an orderly meeting. The Mayor calls the meeting to order and introduces each item on the agenda.
- II. The Town staff then provides a report to Council and answers questions from the Council.
- III. Citizens are encouraged to participate in the meeting process and are provided several opportunities to address Council. Any speaker addressing the Council is limited to three minutes per speaker - fifteen minutes per agenda item
  - A. If you wish to address the Council regarding a specific agenda item, please complete a “Request to Address Council” card and give it to the Town Clerk prior to the beginning of the meeting. This process is voluntary and allows for citizens to be called to the speaker podium in alphabetical order. Comments and questions from the public must be directed to the Presiding Chair and Town Council Members (please do not address staff.) Town staff is available to address citizen concerns Monday through Thursday at Town Hall between the hours of 8am and 5pm.
  - B. If you wish to address Council regarding an item not on the agenda, you may do so under Item 4, “Public Communication.” Again, please fill out a card and give it to the Town Clerk before the meeting. State Law prohibits Council action on items not listed on a public agenda.

In compliance with the Americans with Disabilities Act (ADA) Compliance, persons who need special accommodations to participate in the Town Council meeting may contact the Town Clerk at least three business days prior to the date of the meeting to provide time for any such accommodation.

**1. OPENING**

- 1a. Call to Order
- 1b. Pledge of Allegiance to the Flag of the United States of America
- 1c. Invocation
- 1d. Roll Call

**2. CONSENT CALENDAR**

One roll call vote is taken for all items. Consent items are considered to be routine business that does not call for discussion.

- 2a. p5 Approve Minutes of the June 13, 2017 Regular and June 27, 2017 Adjourned Town Council Meetings.
- 2b. p16 Approve June 2017 Cash Disbursements in the amount of \$3,640,462.35.
- 2c. p23 1. Adopt Resolution No. 17-\_\_, A Resolution of the Town Council of the Town of Paradise Allowing the Town of Paradise to Complete the Police Department Roof Replacement Project without complying with State Public Works Bidding Requirements; and, 2. Authorize the Town Manager to select a private contractor to complete the project; and, 3. To enter into an agreement relating thereto at a price not to exceed \$45,000.
- 2d. p26 1. Approve the Program Supplement Agreement No. P91 to Administering Agency-State Agreement No. 00449S for State-Funded Project SSARPL 5425 (037) (Systemic Safety Analysis Report Program) to assure receipt of \$225,000 in state funds and authorize the Town Manager to execute. (The Paradise SSAR will study the Town's extremely underdeveloped and narrow two-lane roadways, including historical collision data and potential improvements eligible for future grant opportunities.)
- 2e. p35 1. Award Contract No. 17-10, Greenwood Drive Storm Damage Repairs, to Franklin Construction, Inc. of Chico, CA in the amount of their Bid of \$100,551.00; and, 2. Authorize the Town Manager to execute an agreement with Franklin Construction relating to Contract No. 17-10 and to approve contingency expenditures not exceeding 10%. (Funding for the Greenwood Dr. Storm Damage Drain Repair Project will be shared with FEMA-75%, Cal OES-18.75% and Town of Paradise Gas Tax-6.25%)
- 2f. p37 1. Award Contract No. 17-11, Paradise PD Window Replacement, to The Screen and Door Shop of Paradise, CA in the amount of their Bid of \$9,974.23; and, 2. Authorize the Town Manager to execute an agreement with The Screen and Door Shop relating to Contract No. 17-11 and to approve contingency expenditures not exceeding 15%.
- 2g. p38 1. Consider Concurring with staff's recommendation of Harris & Associates to perform pavement management services for the Town's 100 centerline mile roadway network; and, 2. Approve the attached Professional Services Agreement with Harris & Associates and authorize the Town Manager to execute same; and, 3. Authorize the Town Manager to execute additional work orders up to 10% of the contract amount.

**3. ITEMS REMOVED FROM CONSENT CALENDAR**

**4. PUBLIC COMMUNICATION**

For matters that are not on the Council business agenda, speakers are allowed three (3) minutes to address the Council. The Town Council is prohibited from taking action on matters that are not listed on the public agenda. The Council may briefly respond for clarification and may refer the matter to the Town staff.

**5. PUBLIC HEARINGS - NONE**

**6. COUNCIL CONSIDERATION**

Action items are presented by staff and the vote of each Council Member must be announced. A roll call vote is taken for each item on the action calendar. Citizens are allowed three (3) minutes to comment on agenda items.

6a. p71 Consider a motion to approve the following:

1. Acknowledge and accept Bennett Engineering's Town of Paradise Sewer Project, Alternatives Analysis and Feasibility Report: Determining a Preferred Option for Implementation; and,
2. Concur with staff recommendation to:
  - a. Select the Direct Connection to the City of Chico Water Pollution Control Plant alternative as the preferred alternative
  - b. Commence efforts with the City of Chico to determine with certainty if they are willing to negotiate a regional connection
  - c. Defer Special Assessment District Formation until adequate funding has been secured for construction of the selected alternative.
  - d. Engage state and federal representatives on project need and alternative grant funding options
  - e. Secure additional grant funding for preliminary design and environmental studies. (ROLL CALL VOTE)

**7. COUNCIL INITIATED ITEMS AND REPORTS**

7a. Council initiated agenda items

p258 a. Consider authorizing the Mayor to sign the letter prepared by the Oroville Dam Coalition and Assemblyman Gallagher's office to the Federal Energy Regulatory Commission (FERC) to delay Relicensing of the Oroville Dam. (LOTTER)

7b. Council reports on committee representation

7c. Future Agenda Items

**8. STAFF COMMUNICATION**

- 8a. Town Manager Report
  - Community Development Director

**9. CLOSED SESSION**

- 9a. Pursuant to Government Code Section 54956.9(d)(1), the Town Council will hold a closed session with the Town Manager and Town Attorney regarding the following existing litigation:

Town of Paradise v. Wendy Jane Baker, et al. County of Butte, Superior Court Case No. 16V02070

**10. ADJOURNMENT**

STATE OF CALIFORNIA )	SS.
COUNTY OF BUTTE )	
I declare under penalty of perjury that I am employed by the Town of Paradise in the Town Clerk's Department and that I posted this Agenda on the bulletin Board both inside and outside of Town Hall on the following date:	
_____	
TOWN/ASSISTANT TOWN CLERK SIGNATURE	

**MINUTES  
PARADISE TOWN COUNCIL  
REGULAR MEETING – 6:00 PM – June 13, 2017**

**1. OPENING**

The Regular Meeting of the Paradise Town Council was called to order by Mayor Lotter at 6:01 p.m. in the Town Council Chamber located at 5555 Skyway, Paradise, California who led the Pledge of Allegiance to the Flag of the United States of America. An invocation was offered by Council Member Bolin.

**COUNCIL MEMBER PRESENT:** Greg Bolin, Jody Jones, Melissa Schuster, Michael Zuccolillo and Scott Lotter, Mayor.

**COUNCIL MEMBERS ABSENT:** None

**STAFF PRESENT:** Town Attorney Dwight Moore, Town Clerk Dina Volenski, Public Works Director/Town Engineer Marc Mattox as Acting Town Manager, Administrative Services Director/Town Treasurer Gina Will, Administrative Analyst Colette Curtis, Business and Housing Services Director Kate Anderson, Battalion Chief Curtis Lawrie, Police Chief Gabriela Tazzari-Dineen and Community Development Director Craig Baker.

At 6:03 p.m. Council Members Bolin and Zuccolillo recused themselves from the dais.

- 1a. An update on the Paradise Sewer Project was presented by Town Engineer Marc Mattox. The final report and staff recommendation will be presented at the July 11, 2017 Town Council meeting which will be held at the Paradise Performing Arts Center at 777 Nunneley Road, Paradise, California.

At 6:05 p.m. Council Members Bolin and Zuccolillo returned to the dais.

**2. CONSENT CALENDAR**

**MOTION by Jones, seconded by Schuster,** approved consent calendar items 2a-2l. Roll call vote was unanimous.

- 2a. Approved Minutes of the May 9, 2017 Regular Town Council Meeting.
- 2b. Approved May 2017 Cash Disbursements in the amount of \$1,649,912.73.  
(310-10-32)
- 2c. Authorized the Town Manager to execute the New World Support Agreement. (In November 2015, Tyler Technologies and New World Systems merged. Tyler Technologies is the surviving entity. The agreement provides maintenance and support for the New World finance system for one year beginning October 1, 2018, and then will

automatically renew each year until a 90-day notice is provided to terminate.) (05-23/510-15-039)

- 2d. Adopted Resolution No. 17-15, A Resolution of the Town Council of the Town of Paradise Approving an Extension of the term of the Joint Powers Agreement establishing the Butte County Association of Governments. (95-15/510-15-019)
- 2e. Authorized the Town Manager to execute the 2017/2018 FY GIS maintenance agreement with the CSU, Chico Research Foundation. (06-22/510-15-042)
- 2f. Accepted the 2016 Annual Report of the Paradise Planning Commission to the Town Council regarding the Implementation Status Report of the 1994 Paradise General Plan. (760-40-055)
- 2g. Accepted the 2016 Annual Report of the Paradise Planning Commission Regarding Progress Toward Implementation of the 1994 Paradise General Plan Housing Element. (760-40-57)
- 2h. Adopted Resolution No. 17-16, A Resolution of the Town Council of the Town of Paradise Authorizing the Town Manager to execute a Renewed Agreement Between the Town of Paradise and the Housing Authority of the County of Butte for use of Home Investment Partnership Program (HOME) Funds for the Town's Tenant-Based Rental Assistance Program. (510-20-132, 710-10-88)
- 2i. Waived the second reading of Entire Ordinance No. 566 and approved reading by title only; and, Adopted Ordinance No. 566, an Ordinance of the Town of Paradise amending sections 17.31.100, 17.31.200, 17.31.300 and 17.31.500 of the Paradise Municipal Code regulating medical or nonmedical marijuana cultivation and delivery and prohibiting marijuana collectives and cooperatives. (540-16-135)
- 2j. Authorized the Town Manager to execute a Memorandum of Understanding with Feather River Hospital regarding their Prescription Drug Rebate Program (340B of the Public Health Services Act). (In order to participate in this Program, Feather River Hospital must enter into an agreement with the Town in which Feather River Hospital commits to providing health care services to low-income individuals.) (510-20-163)
- 2k. Authorized the Mayor and Town Manager to execute the Tenth Amendment to Dismissal and Tolling Agreement between Town of Paradise and Oak Creek Estates. (07-24/510-15-050)
- 2l. Adopted Resolution No. 17-17 authorizing the Town Manager to execute an amended legal services agreement with Peters, Habib, McKenna & Juhl-Rhodes, LLP relating to public nuisance abatement lawsuits. (510-20-142, 540-15-016)

**3. ITEMS REMOVED FROM CONSENT CALENDAR - None**

**4. PUBLIC COMMUNICATION**

1. Ward Habriel – explained that another tenant had moved out due to an illegal grow next to his rental house and lack of enforcement, which has also affected property values; attended State Garden Club of California and stated that northern California has reputation for being better than southern California in conserving water; reported that the Garden Tour was a huge success with visitors from all over and commended CALFIRE for their work.
2. Virgil Hales – informed Council about the benefits of Cannabis.

**5. PUBLIC HEARINGS - NONE**

**6. COUNCIL CONSIDERATION**

At 6:17 p.m. Council Member Zuccolillo recused himself from the dais.

- 6a. **MOTION by Jones, seconded by Bolin,** 1. Concurred with staff's recommendation of Mark Thomas & Company to perform engineering services for the Paradise Gap Closure Complex; 2. Approved the Professional Services Agreement with Mark Thomas & Company and authorized the Town Manager and Town Mayor to execute; 3. Authorized the Town Manager to execute additional work orders up to 10% of the contract amount; and, 4. Approved Resolution No. 17-18, A Resolution of the Town Council of the Town of Paradise Authorizing the Town Manager of the Town of Paradise or her Designee to sign Program Supplement Agreement No. F017 to the Administering Agency-State Agreement for Federal Aid Projects Corresponding to Project No. CML 05425 (038) to assure receipt of \$306,000 in federal funds. Ayes of Bolin, Jones, Schuster and Mayor Lotter. Zuccolillo was Absent. (510-20-164, 950-40-039)

At 6:20 p.m. Council Member Zuccolillo returned to the dais.

- 6b. **MOTION by Zuccolillo, seconded by Schuster,** 1. Awarded Contract No. 17-01, Pearson Rd Bike-Ped Improvements, to Franklin Construction of Chico, CA in the amount of their bid of \$587,335.00; 2. Authorized the Town Manager to execute an agreement with Franklin Construction relating to Contract No. 17-01 and to approve contingency expenditures not exceeding 12.5%; and, 3. Approved Resolution No. 17-19, A Resolution of the Town Council of the Town of Paradise Authorizing the Town Manager of the Town of Paradise or her Designee to Sign Program Supplement Agreement No. F018 to Administering Agency-State Agreement No. 03-5425F15 for Federal-Aid Project CML 5425 (036) to assure receipt of \$700,000 in federal funds. Roll call vote was unanimous. (510-20-165, 950-40-038)

- 6c. Marc Mattox provided an update on the Police Department Roof Replacement and Miscellaneous Repairs Project - Information only, no action was taken. (280-60-004)

## 7. COUNCIL INITIATED ITEMS AND REPORTS

- 7a. Council initiated agenda items
- 7a1. The Council concurred to designate Council Member Schuster as the voting delegate and Mayor Lotter as the alternate and directed the Clerk to put the League of California Cities proposed resolutions for the 2017 annual conference on the August agenda for discussion by the Council and to provide direction to the delegates. (150-50-65)
- 7a2. Consider responding to a letter from Supervisor Teeter asking the Town to request a reopener of the 2006 Settlement Agreement with Department of Water Resources.

Sam Dresser, prior Council Member, provided background on the Supplemental Benefits Fund (SBF). Was involved in the original agreement in 2006 and explained that there has been little to no progress made towards recreational opportunities in the Lime Saddle part of Lake Oroville. Mr. Dresser suggests trying to reopen the agreement to bring into real time focus and provide money to create recreational areas.

Supervisor Teeter stated that there have been issues with Oroville Dam especially after the dam/spillway/failure and that people are upset with what's been happening. 10 years have passed since the Settlement Agreement was signed, management of the lake has changed, people's recreation habits have changed and now there are effects from the spillway. Supervisor Teeter thinks this a good time to re-engage the community as a whole. Mr. Teeter stated that Assemblyman Gallagher is trying to form a coalition and requested that the Town contact Assemblyman Gallagher. Mr. Teeter also suggested sending a letter to DWR requesting updated information on the progress of the agreements.

Council discussed the letter from Supervisor Teeter asking the Town to request a reopener of the 2006 Settlement Agreement with Department of Water Resources and directed the Town Attorney to draft a letter requesting that the Settlement Agreement be reopened. Attorney Moore stated that the reopener has to be based on something scientific, factual or new information and that money will have nothing to do with it. The Council asked Supervisor Teeter to inquire with Butte County Legal Counsel Alpert and Assemblymen Gallagher to determine the correct wording for the letter. Attorney Moore announced that he may have a conflict of interest since he was involved in drafting the original Settlement Agreement. Based on the letter from Supervisor Teeter Council concurred

to request a reopener of the 2006 Settlement Agreement with the Department of Water Resources.

7b. Council reports on committee representation

Council Member Schuster judged the Paradise High School Senior Projects, attended the Active Transportation open house by Mark Thomas at Town Hall, met with the Blue Zone group, attended Wine in the Pines, met with the Focus Paradise Economic Development Group, attended the Love Paradise meeting – Arlan Hudson Make a Difference day will be in October, attended Butte County TBID meeting-space is available to host a booth at the State Fair, Explore Butte County brand launch is happening June 21<sup>st</sup> at Sierra Nevada Big Room, attended League of California Cities and Shasta Cascade Wonderland Association meetings.

Council Member Bolin attended Wine in the Pines.

Mayor Lotter attended the League Policy Safety Committee and announced that Party in the Park starts on Thursday, June 15, 2017.

7c. Future Agenda Items - None

**8. STAFF COMMUNICATION**

8a. Town Manager Report

Marc Mattox, Acting Town Manager, provided an update on the road construction projects. Pearson – On Schedule; Maxwell – Delayed until late June or first part of July; Cypress Curve – begins mid July.

- Community Development Director Baker provided an update on the following projects: Skyway/Black Olive Center (Safeway), Starbucks, Kentucky Fried Chicken, Jack in the Box, Two Final Maps for Valley Vista Subdivision and Risley Parcel Map, Maran Subdivision Map (Indian Rock Springs), Planning Commission will review an extension for a subdivision map for East Ridge Estates TSM (Marjama), West Side Pizza, Corrigan Tentative Parcel Map, Lynn's Optimo (Skyway Plaza project) and the Carousel Motel.

**9. CLOSED SESSION - NONE**

**10. ADJOURNMENT**

At 7:21 p.m. Mayor Lotter adjourned the meeting to June 27, 2017 at 3:00 p.m., Paradise Town Hall, 5555 Skyway, Paradise, CA for the purpose of holding a regular adjourned meeting to consider approving a final budget for the Town of Paradise for fiscal year 2017/2018 pursuant to Government Code Section 54955.

Date Approved:

By:

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Scott Lotter, Mayor

Attest:

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Dina Volenski, CMC, Town Clerk

**MINUTES**  
**PARADISE TOWN COUNCIL/SUCCESSOR AGENCY**  
**REGULAR MEETING – 3:00 PM – June 27, 2017**

**1. OPENING**

The Adjourned Regular Meeting of the Town Council and the Successor Agency was called to order at 3:03 p.m. in the Council Chamber located at 5555 Skyway, Paradise, California. Following the Pledge of Allegiance to the Flag of the United States of America, Council Member Jones offered an invocation.

**COUNCIL MEMEBERS PRESENT:** Greg Bolin, Jody Jones, Melissa Schuster, Michael Zuccolillo and Scott Lotter, Mayor.

**COUNCIL MEMBERS ABSENT:** None.

**STAFF PRESENT:** Town Manager Lauren Gill, Town Attorney Dwight Moore, Town Clerk Dina Volenski, Administrative Services Director/Town Treasurer Gina Will, Community Development Director Craig Baker, Public Works Director/Town Engineer Marc Mattox, Battalion Chief Curtis Lawrie, Human Resources Manager Crystal Peters, Police Chief Gabriel Tazzari-Dineen, Administrative Analyst Colette Curtis, Lieutenant Eric Reinbold, Lieutenant Anthony Borgman, Information Technology Manager Josh Marquis and Assistant Planner Susan Hartman.

**2. CONSENT CALENDAR**

**MOTION by Jones, seconded by Bolin,** approved consent calendar items 2a and 2b. Roll Call Vote was unanimous.

- 2a. Adopted Resolution No. 17-20, A Resolution of the Town Council of the Town of Paradise Authorizing the Town Manager to execute a Memorandum of Understanding between the City of Chico, City of Oroville, City of Gridley and the Town of Paradise relating to AB-109 funds.
- 2b. Authorized the award relating to the Police Patrol Vehicle Bid (three 2017 Ford Interceptor Utility vehicles) to Towne Ford Sales, 1601 El Camino Real, Redwood City, CA 94063. (The purchase of three vehicles will costs a total of \$89,404.89, which would be purchased on a five (5) year lease. The lease payment will be funded by Measure C funds.

**3. ITEMS REMOVED FROM CONSENT CALENDAR - None**

**4. PUBLIC COMMUNICATION - None**

## 5. PUBLIC HEARINGS – Moved to follow Council Consideration

Town Manager Gill requested that items under Council Consideration be heard prior to the public hearing. The Town Council will hear the Budget presentation first and adopt the proposed resolutions regarding the 2017/2018 Budget prior to the public hearing. The Town Council concurred.

## 6. COUNCIL CONSIDERATION

6a. Administrative Services Director/Town Treasurer presented the proposed budget for Fiscal Year 2017/2018.

1. Robin Huffman – inquired if there was a road maintenance schedule or assessment of road conditions and wanted to know how much money was available to repair the streets.

A pavement management system is part of the Capital Improvement Projects budget that will be implemented to provide Town staff with a comprehensive list of the road conditions, schedule in which the roads should be repaired and costs associated with each project. This program will be a living document that can be constantly upgraded and available for the public to view.

Marc Mattox, Public Works Director/Town Engineer reported that the Public Works Department budgets funds for fixing the road, potholes, tree removal, drainage, traffic signal maintenance, striping and road rehabilitation along with several other items. Mr. Mattox also explained that due to several roads being damaged from the storms this year, the Town will receive Federal and CAL OES funding to repair the roads that were severely damaged.(Specific amounts are included in the Public Works budget)

6b. **MOTION by Schuster, seconded by Zuccolillo**, adopted Resolution No. 17-21, Approving Job Descriptions and Revising the Personnel Structure for Certain Town of Paradise Positions for the Fiscal Year 2017/2018. Roll Call Vote was Unanimous.

6c. **MOTION by Schuster, seconded by Zuccolillo**, adopted Resolution No. 17-22, Approving a Resolution of the Town Council of the Town of Paradise Adopting the Final Budget for the Town of Paradise Including all Attachments, Appendices and Other Related Documents for the 2017-2018 Fiscal Year Ending June 30, 2018. Roll Call Vote was Unanimous.

6d. **MOTION by Schuster, seconded by Zuccolillo**, adopted Resolution No. 17-23, A Resolution of the Town Council of the Town of Paradise Approving and Adopting the Annual Appropriation Limit (Exhibit A) for Fiscal Year 2017-2018. Roll Call Vote was Unanimous.

- 6e. **MOTION by Schuster, seconded by Zuccolillo**, adopted Resolution No. 17-24, A Resolution of the Town Council of the Town of Paradise Amending the General Fund Reserves for Fiscal Year 2017/2018. Roll Call Vote was Unanimous.
- 6f. **MOTION by Schuster, seconded by Zuccolillo**, adopted Resolution No. 17-25, A Resolution of the Town Council of the Town of Paradise Approving and Adopting the Town of Paradise Capital Improvement Plan for the 2017-2018 Fiscal Year. Roll Call Vote was Unanimous.
- 6g. **MOTION by Schuster, seconded by Zuccolillo**, Town of Paradise Adopting the Amended Salary Pay Plan for Town of Paradise Employees for the Fiscal Year 2017-2018. Roll Call Vote was Unanimous.

**ITEM 5(a)** was moved to follow Council Consideration items.

For items that require a published legal notice and/or a mailed notice.

**Public Hearing Procedure:**

- A. Staff Report
  - B. Mayor opens the hearing for public comment in the following order:
    - i. Project proponents (in favor of proposal)
    - ii. Project opponents (against proposal)
    - iii. Rebuttals – if requested
  - C. Mayor closes the hearing
  - D. Council discussion and vote
- 5a. Mayor Lotter announced that the Town Council would conduct the duly noticed and scheduled public hearing establishing an Updated and Revised Master Schedule of Fees. Upon conclusion of the public hearing the Council will consider approving Resolution No. 17-27, A Resolution of the Town Council of the Town of Paradise Establishing an Updated and Revised Master Schedule of Fees for the Town of Paradise, including for permit, building, zoning and all fees relating to specific Town Services during the 2017/2018 Fiscal Year.

Administrative Services Director Gina Will presented an overview of the Proposed Master Fee Schedule explaining that the fee schedule had not been updated since May 2013 and that costs to provide services have increased. Ms. Will explained the methodology to determine the actual cost for each service and highlighted the changes in each area. After the presentation Ms. Will asked for Council to make two corrections to the schedule. The first one on page 20 includes fees for debit card charges which is not correct only for credit card transactions – the fee for debit card transactions will be removed. Second correction is on Section 10, page 59 of packet, a fee for Public Works was not included. Ms. Will requested that under “Stormwater-Post Construction Standards Plan Review – Small Project” that a new fee be included called, “Stormwater-Post Construction Standards Plan Review - Regulated Projects – Type A- for \$870.98.

Council discussed the Business Valuation Table that is included in the Master Schedule of Fees and is issued and updated annually. Council requested that at least the Business Valuation Table portion of the Master Schedule of Fees be reviewed and adopted annually with the budget to keep up with the actual costs.

Council also discussed reviewing the Master Schedule of Fees every other year to keep up with the costs. Staff discussed that in order to update the Master Schedule of Fees every line item is evaluated to make sure the fee is still valid and correct.

Mayor Lotter opened the public hearing at 4:12 p.m.

1. Robin Huffman inquired about the cost for an Administrative Citation Hearing- Actual Staff Hourly Rate (page 25); and why there are blanks on Residential Re-Roofs on pages 28 & 29 and the increase of Solar fees.

Attorney Moore explained that the reason it is the actual hourly rate is dependent on the individual that is administering the hearing, which could be the Town Attorney or an outside consultant.

Administrative Services Director Will explained that there are blanks on certain items due to the fact that they are new fees in the schedule. The intent is to provide a more comprehensive list of fees that relate to specific items and are easier to determine what the cost will be.

Assistant Planner Hartman explained that residential solar plans were not self supporting, there is a high percentage of revisions and refund requests and that staff reviewed and determined what the actual cost was for that fee.

Mayor Lotter closed the public hearing at 4:18 p.m.

Assistant Planner Hartman explained about the increase for demolition permits. Since the last fee schedule, new Building Codes and California Green Codes have gone into effect which require additional demolition and construction packets that are reviewed by staff and then sent to the State for review. The State then comes once a year to review the demolition projects, making demolition much more time consuming.

**MOTION by Jones, seconded by Bolin,** approved Resolution No. 17-27, A Resolution of the Town Council of the Town of Paradise Establishing an Updated and Revised Master Schedule of Fees for the Town of Paradise, including for permit, building, zoning and all fees relating to specific Town Services during the 2017/2018 Fiscal Year; including an annual updated Business Valuation schedule with the annual budget, reviewing the Master Schedule of Fees every other year and the changes suggested by Administrative Services Director Will. Roll call vote was unanimous.

- 6h. At 4:21 p.m. Mayor Lotter adjourned the Town Council meeting and convened the Successor Agency Meeting.

Administrative Services Director Will updated the Directors on the Successor Agency budget which is in the process of paying off the debts of the former Redevelopment Agency and includes debt service obligation including the 2006 Bond that was refinanced last year.

- 6i. **MOTION by Zuccolillo, seconded by Bolin**, adopted Resolution No, 17-01, A Resolution of the Successor Agency to the Paradise Redevelopment Agency Adopting the Fiscal Year 2017/2018 Successor Agency to the Paradise Redevelopment Agency Budgets. Roll call vote was unanimous.
- 6j. At 4:22 p.m. Chair Lotter adjourned as Successor Agency and reconvened the Town Council meeting.

**7. COUNCIL INITIATED ITEMS AND REPORTS**

- a. Council initiated agenda items - None
- b. Council reports on committee representation

Vice Mayor Jones attended Stan McEtchin’s memorial service and presented the family with a proclamation from the Town Council.

Council Member Bolin attended Mike Trinca’s retirement party and presented him with a proclamation from the Town Council.

Mayor Lotter attended the Disaster Council meeting and learned that elected officials are the only people authorized to swear in Disaster Worker Volunteers during an emergency.

- c. Future Agenda Items – None

**8. STAFF COMMUNICATION**

Town Manager Report - None  
Community Development Director – None

**9. CLOSED SESSION - None**

**10. ADJOURNMENT**

- 10a. at 4:26 p.m. Mayor Lotter adjourned the meeting to July 11, 2017 at 6:00 p.m. at Paradise Performing Arts Center, 777 Nunneley, Paradise, California 95969 for the purpose of holding a Regular Adjourned meeting pursuant to Government Code Section 54955.

Date Approved:

By:

Attest:

\_\_\_\_\_  
Scott Lotter, Mayor

\_\_\_\_\_  
Dina Volenski, CMC, Town Clerk

# **TOWN OF PARADISE**

## **CASH DISBURSEMENTS REPORT**

FOR THE PERIOD OF  
JUNE 1, 2017 - JUNE 30, 2017

June 1, 2017 - June 30, 2017

<b>Check Date</b>	<b>Pay Period End</b>	<b>DESCRIPTION</b>	<b>AMOUNT</b>
06/02/17	05/28/17	Net Payroll - Direct Deposits & Checks	\$143,669.51
06/16/17	06/11/17	Net Payroll - Direct Deposits & Checks	\$107,402.23
06/30/17	06/25/17	Net Payroll - Direct Deposits & Checks	\$113,981.61
<b>TOTAL NET WAGES PAYROLL</b>			<b>\$365,053.35</b>

**Accounts Payable**

PAYROLL VENDORS: TAXES, PERS, DUES, INSURANCE, ETC.	\$323,189.87
OPERATIONS VENDORS: SUPPLIES, CONTRACTS, UTILITIES, ETC.	\$2,952,219.13
<b>TOTAL CASH DISBURSEMENTS - ACCOUNTS PAYABLE</b> (Detail attached)	<b><u>\$3,275,409.00</u></b>
<b>GRAND TOTAL CASH DISBURSEMENTS</b>	<b><u><u>\$3,640,462.35</u></u></b>

APPROVED BY: \_\_\_\_\_  
LAUREN GILL, TOWN MANAGER

APPROVED BY: \_\_\_\_\_  
GINA S. WILL, FINANCE DIRECTOR/TOWN TREASURER

TOWN OF PARADISE  
**CASH DISBURSEMENTS REPORT**

From Payment Date: 6/1/2017 - To Payment Date: 6/30/2017

Number	Date	Status	Void Reason	Reconciled/ Voided Date	Source	Payee Name	Transaction Amount	Reconciled Amount	Difference
AP - US Bank TOP AP Checking									
<u>Check</u>									
67053	06/01/2017	Open			Accounts Payable	BRUNO, SHERRY	\$28.17		
67054	06/01/2017	Open			Accounts Payable	DELONG, SHELLEY	\$213.63		
67055	06/01/2017	Open			Accounts Payable	EVERBANK COMMERCIAL FINANCE, INC	\$906.47		
67056	06/01/2017	Open			Accounts Payable	GALLAGHER, CRAIG	\$458.71		
67057	06/01/2017	Open			Accounts Payable	HAUNSCHILD, MARK	\$291.55		
67058	06/01/2017	Open			Accounts Payable	HONEYWELL, JANICE, J.	\$955.41		
67059	06/01/2017	Open			Accounts Payable	JEFFORDS, ROBERT, D.	\$478.07		
67060	06/01/2017	Open			Accounts Payable	MOORE, DWIGHT, L.	\$14,076.00		
67061	06/01/2017	Open			Accounts Payable	PARADISE AUTO BODY	\$4,826.99		
67062	06/01/2017	Open			Accounts Payable	SBA Monarch Towers III LLC	\$131.59		
67063	06/01/2017	Open			Accounts Payable	WESTAMERICA BANK	\$7,813.91		
67064	06/01/2017	Open			Accounts Payable	ICMA 457 - VANTAGEPOINT	\$50.00		
67065	06/01/2017	Open			Accounts Payable	STATE DISBURSEMENT UNIT	\$194.76		
67066	06/06/2017	Open			Accounts Payable	Aflac	\$189.92		
67067	06/06/2017	Open			Accounts Payable	BLOOD SOURCE	\$57.00		
67068	06/06/2017	Open			Accounts Payable	Met Life	\$8,439.34		
67069	06/06/2017	Open			Accounts Payable	OPERATING ENGINEERS	\$799.00		
67070	06/06/2017	Open			Accounts Payable	PARADISE POLICE OFFICERS ASSOCIATION	\$1,740.18		
67071	06/06/2017	Open			Accounts Payable	SUN LIFE INSURANCE	\$4,225.80		
67072	06/06/2017	Open			Accounts Payable	SUPERIOR VISION SVC NGLIC	\$652.06		
67073	06/06/2017	Open			Accounts Payable	TOP CONFIDENTIAL MID MGMT ASSOCIATION	\$100.00		
67074	06/08/2017	Open			Accounts Payable	ALHAMBRA	\$60.32		
67075	06/08/2017	Open			Accounts Payable	ARAMARK UNIFORM SERV. INC.	\$53.78		
67076	06/08/2017	Open			Accounts Payable	AT&T & CALNET3 - CIRCUIT LINES	\$108.65		
67077	06/08/2017	Open			Accounts Payable	AT&T MOBILITY	\$84.60		
67078	06/08/2017	Open			Accounts Payable	AT&T/CALNET3 - REPEATER LINES	\$295.64		
67079	06/08/2017	Open			Accounts Payable	AT&T/CALNET3 - COMMUNITY PARK	\$19.72		
67080	06/08/2017	Open			Accounts Payable	AT&T/CALNET3 - Summary	\$2,574.24		
67081	06/08/2017	Open			Accounts Payable	AT&T/CALNET3 - TH/FDPD FIBER LINES	\$1,110.62		
67082	06/08/2017	Open			Accounts Payable	Azco Supply Inc	\$294.94		
67083	06/08/2017	Open			Accounts Payable	BACKGROUNDS & MORE	\$325.00		
67084	06/08/2017	Open			Accounts Payable	BASIC LABORATORY	\$1,971.00		
67085	06/08/2017	Open			Accounts Payable	Bennett Engineering Services Inc	\$27,780.42		
67086	06/08/2017	Open			Accounts Payable	Big O Tires	\$169.95		
67087	06/08/2017	Open			Accounts Payable	Bomgar Corporation	\$1,762.12		
67088	06/08/2017	Open			Accounts Payable	Butte County Administration	\$8,287.74		
67089	06/08/2017	Open			Accounts Payable	BUTTE REGIONAL TRANSIT	\$1,716.75		
67090	06/08/2017	Open			Accounts Payable	CLARK ROAD ANIMAL HOSPITAL	\$21.00		
67091	06/08/2017	Open			Accounts Payable	COMCAST CABLE	\$249.35		
67092	06/08/2017	Open			Accounts Payable	CRAIG DREBERTS AUTOMOTIVE	\$862.30		
67093	06/08/2017	Open			Accounts Payable	DAVIS, BOBBY	\$10.00		
67094	06/08/2017	Open			Accounts Payable	DON'S SAW & MOWER	\$15.89		
67095	06/08/2017	Open			Accounts Payable	DURHAM PENTZ TRUCK CEN	\$326.00		

TOWN OF PARADISE  
**CASH DISBURSEMENTS REPORT**

From Payment Date: 6/1/2017 - To Payment Date: 6/30/2017

Number	Date	Status	Void Reason	Reconciled/ Voided Date	Source	Payee Name	Transaction Amount	Reconciled Amount	Difference
67096	06/08/2017	Open			Accounts Payable	Eagle Security Systems	\$193.50		
67097	06/08/2017	Open			Accounts Payable	ED JONES COMPANY, INC.	\$68.63		
67098	06/08/2017	Open			Accounts Payable	FLORES, TIMOTHY, C.	\$30.00		
67099	06/08/2017	Open			Accounts Payable	FRANKLIN CONSTRUCTION COMPANY	\$370,597.66		
67100	06/08/2017	Open			Accounts Payable	GRIGNON, ROBERT	\$10.25		
67101	06/08/2017	Open			Accounts Payable	HINDERLITER, DE LLAMAS & ASSOCIATES INC.	\$766.85		
67102	06/08/2017	Open			Accounts Payable	Honea, Cassidy	\$11.50		
67103	06/08/2017	Open			Accounts Payable	I.M.P.A.C. PAYMENTS IMPAC GOV SVCS/US BANCORP	\$8,029.53		
67104	06/08/2017	Open			Accounts Payable	INDUSTRIAL POWER PRODUCTS	\$464.77		
67105	06/08/2017	Open			Accounts Payable	JAMES RIOTTO & ASSOCIATES	\$450.00		
67106	06/08/2017	Open			Accounts Payable	Kevin Sharrah Designs	\$134.38		
67107	06/08/2017	Open			Accounts Payable	L.N. CURTIS & SONS	\$12,962.72		
67108	06/08/2017	Open			Accounts Payable	MAGOON SIGNS	\$165.17		
67109	06/08/2017	Open			Accounts Payable	MCGEE, MEGHAN A.	\$11.50		
67110	06/08/2017	Open			Accounts Payable	Meyers Police Canine Training	\$600.00		
67111	06/08/2017	Open			Accounts Payable	Michael Baker International, Inc.	\$7,757.28		
67112	06/08/2017	Open			Accounts Payable	MID VALLEY TITLE & ESCROW	\$40,000.00		
67113	06/08/2017	Open			Accounts Payable	NORTHGATE PETROLEUM CO	\$6,364.07		
67114	06/08/2017	Open			Accounts Payable	NORTHSTATE AGGREGATE, INC.	\$145.47		
67115	06/08/2017	Open			Accounts Payable	O'REILLY AUTO PARTS	\$815.55		
67116	06/08/2017	Open			Accounts Payable	OFFICE DEPOT ACCT#36233169	\$577.25		
67117	06/08/2017	Open			Accounts Payable	PACIFIC GAS & ELECTRIC	\$129.90		
67118	06/08/2017	Open			Accounts Payable	PARADISE IRRIGATION DIST	\$604.05		
67119	06/08/2017	Open			Accounts Payable	PARADISE POST/NORTH VALLEY COMMTY MEDIA	\$203.98		
67120	06/08/2017	Open			Accounts Payable	PARADISE TRANSMISSIONS	\$3,586.33		
67121	06/08/2017	Open			Accounts Payable	PEERLESS BUILDING MAINT	\$1,440.00		
67122	06/08/2017	Open			Accounts Payable	PETERS RUSH HABIB & MCKENNA	\$1,120.00		
67123	06/08/2017	Open			Accounts Payable	SAFEGUARD FIRE PROTECTION	\$518.50		
67124	06/08/2017	Open			Accounts Payable	SINCLAIR'S AUTOMOTIVE & TOWING	\$220.00		
67125	06/08/2017	Open			Accounts Payable	SUTTER BUTTES COMMUNICATIONS, INC.	\$878.55		
67126	06/08/2017	Open			Accounts Payable	TeleCheck Services, Inc.	\$35.00		
67127	06/08/2017	Open			Accounts Payable	The Lead Detective Agency, Jeff, Van Sloten	\$450.00		
67128	06/08/2017	Open			Accounts Payable	THOMAS ACE HARDWARE - ENG. DEPT.	\$81.68		
67129	06/08/2017	Open			Accounts Payable	THOMAS ACE HARDWARE - FIRE DEPT.	\$30.35		
67130	06/08/2017	Open			Accounts Payable	THOMAS ACE HARDWARE - MOTORPOOL	\$17.22		
67131	06/08/2017	Open			Accounts Payable	WITTMEIER AUTO CENTER	\$188.82		
67132	06/08/2017	Open			Accounts Payable	WRIGHT, ROBERT	\$305.00		
67133	06/15/2017	Open			Accounts Payable	ICMA 457 - VANTAGEPOINT	\$50.00		
67134	06/15/2017	Open			Accounts Payable	STATE DISBURSEMENT UNIT	\$194.76		
67135	06/22/2017	Open			Accounts Payable	ACCELA, INC.	\$52,681.27		

TOWN OF PARADISE  
**CASH DISBURSEMENTS REPORT**

From Payment Date: 6/1/2017 - To Payment Date: 6/30/2017

Number	Date	Status	Void Reason	Reconciled/ Voided Date	Source	Payee Name	Transaction Amount	Reconciled Amount	Difference
67136	06/22/2017	Open			Accounts Payable	ACCESS INFORMATION PROTECTED	\$72.88		
67137	06/22/2017	Open			Accounts Payable	ACI ENTERPRISES, INC.	\$463.32		
67138	06/22/2017	Open			Accounts Payable	AIRGAS SAFETY, INC.	\$550.21		
67139	06/22/2017	Open			Accounts Payable	APEX FENCE CO., INC.	\$5,600.00		
67140	06/22/2017	Open			Accounts Payable	ARAMARK UNIFORM SERV. INC.	\$53.78		
67141	06/22/2017	Open			Accounts Payable	AT&T & CALNET3 - CIRCUIT LINES	\$1,038.94		
67142	06/22/2017	Open			Accounts Payable	BACKGROUNDS & MORE	\$325.00		
67143	06/22/2017	Open			Accounts Payable	Bear Electric Solutions	\$1,425.00		
67144	06/22/2017	Open			Accounts Payable	Big O Tires	\$85.95		
67145	06/22/2017	Open			Accounts Payable	Biometrics4ALL, Inc	\$27.00		
67146	06/22/2017	Open			Accounts Payable	BUTTE CO SHERIFF'S OFFICE	\$1,690.83		
67147	06/22/2017	Open			Accounts Payable	CALIFORNIA STATE DEPARTMENT OF JUSTICE	\$850.00		
67148	06/22/2017	Open			Accounts Payable	CARRIGAN, GERALD	\$510.00		
67149	06/22/2017	Open			Accounts Payable	CLEANING CONNECTION, THE	\$100.00		
67150	06/22/2017	Open			Accounts Payable	COMCAST CABLE	\$66.01		
67151	06/22/2017	Open			Accounts Payable	COMCAST CABLE	\$300.55		
67152	06/22/2017	Open			Accounts Payable	CRAIG DREBERTS AUTOMOTIVE	\$82.41		
67153	06/22/2017	Open			Accounts Payable	CSU, CHICO RESEARCH FOUNDATION	\$300.45		
67154	06/22/2017	Open			Accounts Payable	DAVID ROWE TREE SERVICE	\$180.00		
67155	06/22/2017	Open			Accounts Payable	DON'S SAW & MOWER	\$53.55		
67156	06/22/2017	Open			Accounts Payable	ENLOE MEDICAL CENTER, INC.	\$1,167.00		
67157	06/22/2017	Open			Accounts Payable	ENTENMANN-ROVIN COMPANY	\$340.73		
67158	06/22/2017	Open			Accounts Payable	Entersect	\$84.95		
67159	06/22/2017	Open			Accounts Payable	EVERGREEN JANITORIAL SUPPLY, INC.	\$229.54		
67160	06/22/2017	Open			Accounts Payable	FEATHER RIVER CONSTRUCTION	\$10,891.00		
67161	06/22/2017	Open			Accounts Payable	Golden State Emergency Vehicle Service, Inc.	\$615.21		
67162	06/22/2017	Open			Accounts Payable	GREAT AMERICA LEASING CORP.	\$129.31		
67163	06/22/2017	Open			Accounts Payable	Hurst, Nathan	\$1.80		
67164	06/22/2017	Open			Accounts Payable	I.M.P.A.C. PAYMENTS IMPAC GOV SVCS/US BANCORP	\$932.62		
67165	06/22/2017	Open			Accounts Payable	INLAND BUSINESS MACHINES	\$988.00		
67166	06/22/2017	Open			Accounts Payable	INTERSTATE OIL COMPANY	\$663.29		
67167	06/22/2017	Open			Accounts Payable	JAMES RIOTTO & ASSOCIATES	\$585.00		
67168	06/22/2017	Open			Accounts Payable	KAMM, SHIRLEY	\$100.00		
67169	06/22/2017	Open			Accounts Payable	KNIFE RIVER CONSTRUCTION	\$529.87		
67170	06/22/2017	Open			Accounts Payable	KOEFRAN INDUSTRIES	\$750.00		
67171	06/22/2017	Open			Accounts Payable	KP Research Services, Inc.	\$4,702.38		
67172	06/22/2017	Open			Accounts Payable	LOCATE PLUS CORPORATION	\$50.00		
67173	06/22/2017	Open			Accounts Payable	MILLER GLASS INC	\$433.35		
67174	06/22/2017	Open			Accounts Payable	MODUCOM	\$315.00		
67175	06/22/2017	Open			Accounts Payable	Mt Shasta Spring Water Co., Inc	\$16.00		
67176	06/22/2017	Open			Accounts Payable	MYERS STEVENS TOOHEY & COMPANY	\$64.80		
67177	06/22/2017	Open			Accounts Payable	NORTHSTAR ENGINEERING INC	\$1,951.25		
67178	06/22/2017	Open			Accounts Payable	O'REILLY AUTO PARTS	\$415.65		

TOWN OF PARADISE  
**CASH DISBURSEMENTS REPORT**

From Payment Date: 6/1/2017 - To Payment Date: 6/30/2017

Number	Date	Status	Void Reason	Reconciled/ Voided Date	Source	Payee Name	Transaction Amount	Reconciled Amount	Difference	
67179	06/22/2017	Open			Accounts Payable	OFFICE DEPOT ACCT#36233169	\$54.45			
67180	06/22/2017	Open			Accounts Payable	PACIFIC GAS & ELECTRIC	\$10,139.75			
67181	06/22/2017	Open			Accounts Payable	PARADISE IRRIGATION DIST	\$668.51			
67182	06/22/2017	Open			Accounts Payable	PARADISE POST/NORTH VALLEY COMMTY MEDIA	\$2,230.03			
67183	06/22/2017	Open			Accounts Payable	REINBOLD, ERIC	\$143.50			
67184	06/22/2017	Open			Accounts Payable	Riebes Auto Parts	\$558.76			
67185	06/22/2017	Open			Accounts Payable	Solarcity Corporation	\$38.82			
67186	06/22/2017	Open			Accounts Payable	Speedo Check	\$494.00			
67187	06/22/2017	Open			Accounts Payable	TeleCheck Services, Inc.	\$35.53			
67188	06/22/2017	Open			Accounts Payable	The Lead Detective Agency, Jeff, Van Slooten	\$650.00			
67189	06/22/2017	Open			Accounts Payable	THOMAS ACE HARDWARE - ENG. DEPT.	\$177.91			
67190	06/22/2017	Open			Accounts Payable	THOMAS ACE HARDWARE - FIRE DEPT.	\$9.28			
67191	06/22/2017	Open			Accounts Payable	THOMAS ACE HARDWARE - MOTORPOOL	\$24.24			
67192	06/22/2017	Open			Accounts Payable	THOMAS ACE HARDWARE - POLICE DEPT.	\$63.76			
67193	06/22/2017	Open			Accounts Payable	VALLEY CLINICAL & CONSULTING SERVICES	\$450.00			
67194	06/22/2017	Open			Accounts Payable	VERIZON WIRELESS	\$115.57			
67195	06/22/2017	Open			Accounts Payable	VERIZON WIRELESS	\$847.09			
67196	06/22/2017	Open			Accounts Payable	VERIZON WIRELESS	\$345.02			
67197	06/22/2017	Open			Accounts Payable	VERIZON WIRELESS	\$270.75			
67198	06/22/2017	Open			Accounts Payable	VERIZON WIRELESS	\$104.70			
67199	06/22/2017	Open			Accounts Payable	WEST COAST FRAME & COLLISION REPAIR, INC.	\$24,216.68			
67200	06/22/2017	Open			Accounts Payable	WILGUS FIRE CONTROL INC	\$64.24			
67201	06/22/2017	Open			Accounts Payable	WILSON PRINTING CO.	\$64.65			
67202	06/22/2017	Open			Accounts Payable	WRIGHT, ROBERT	\$285.00			
67203	06/22/2017	Open			Accounts Payable	WSROP Graphic Communications	\$388.00			
67204	06/30/2017	Open			Accounts Payable	STATE DISBURSEMENT UNIT	\$194.76			
67205	06/29/2017	Open			Accounts Payable	Ideal Steel Buildings of Chico, Inc.	\$3,031.50			
Type Check Totals:										
							153 Transactions	\$693,019.21		
<b>EFT</b>										
592	06/02/2017	Open			Accounts Payable	US BANK	\$2,275,087.50			
593	06/01/2017	Open			Accounts Payable	CALPERS - RETIREMENT	\$26,522.00			
594	06/01/2017	Open			Accounts Payable	EMPLOYMENT DEVELOPMENT DEPARTMENT	\$9,090.67			
595	06/01/2017	Open			Accounts Payable	ING LIFE INS & ANNUITY COMPANY	\$7,144.60			
596	06/01/2017	Open			Accounts Payable	INTERNAL REVENUE SERVICE	\$33,298.31			
597	06/06/2017	Open			Accounts Payable	CALPERS	\$118,833.56			
598	06/15/2017	Open			Accounts Payable	CALPERS - RETIREMENT	\$26,500.35			
599	06/15/2017	Open			Accounts Payable	EMPLOYMENT DEVELOPMENT DEPARTMENT	\$3,953.44			
600	06/15/2017	Open			Accounts Payable	ING LIFE INS & ANNUITY COMPANY	\$7,191.81			
601	06/15/2017	Open			Accounts Payable	INTERNAL REVENUE SERVICE	\$18,235.71			
602	06/30/2017	Open			Accounts Payable	CALPERS - RETIREMENT	\$26,036.21			

TOWN OF PARADISE  
**CASH DISBURSEMENTS REPORT**

From Payment Date: 6/1/2017 - To Payment Date: 6/30/2017

Number	Date	Status	Void Reason	Reconciled/ Voided Date	Source	Payee Name	Transaction Amount	Reconciled Amount	Difference
603	06/30/2017	Open			Accounts Payable	EMPLOYMENT DEVELOPMENT DEPARTMENT	\$4,236.76		
604	06/30/2017	Open			Accounts Payable	ING LIFE INS & ANNUITY COMPANY	\$6,113.11		
605	06/30/2017	Open			Accounts Payable	INTERNAL REVENUE SERVICE	\$19,145.76		
606	06/26/2017	Open			Accounts Payable	FP/FRANCOTYP-POSTALIA MAILING SOLUTIONS	\$1,000.00		
Type EFT Totals:							15 Transactions	\$2,582,389.79	
AP - US Bank TOP AP Checking Totals									

Checks	Status	Count	Transaction Amount	Reconciled Amount
	Open	153	\$693,019.21	\$0.00
	Reconciled	0	\$0.00	\$0.00
	Voided	0	\$0.00	\$0.00
	Stopped	0	\$0.00	\$0.00
	<b>Total</b>	<b>153</b>	<b>\$693,019.21</b>	<b>\$0.00</b>

EFTs	Status	Count	Transaction Amount	Reconciled Amount
	Open	15	\$2,582,389.79	\$0.00
	Reconciled	0	\$0.00	\$0.00
	Voided	0	\$0.00	\$0.00
	<b>Total</b>	<b>15</b>	<b>\$2,582,389.79</b>	<b>\$0.00</b>

All	Status	Count	Transaction Amount	Reconciled Amount
	Open	168	\$3,275,409.00	\$0.00
	Reconciled	0	\$0.00	\$0.00
	Voided	0	\$0.00	\$0.00
	Stopped	0	\$0.00	\$0.00
	<b>Total</b>	<b>168</b>	<b>\$3,275,409.00</b>	<b>\$0.00</b>

Grand Totals:

Checks	Status	Count	Transaction Amount	Reconciled Amount
	Open	153	\$693,019.21	\$0.00
	Reconciled	0	\$0.00	\$0.00
	Voided	0	\$0.00	\$0.00
	Stopped	0	\$0.00	\$0.00
	<b>Total</b>	<b>153</b>	<b>\$693,019.21</b>	<b>\$0.00</b>

EFTs	Status	Count	Transaction Amount	Reconciled Amount
	Open	15	\$2,582,389.79	\$0.00
	Reconciled	0	\$0.00	\$0.00
	Voided	0	\$0.00	\$0.00
	<b>Total</b>	<b>15</b>	<b>\$2,582,389.79</b>	<b>\$0.00</b>

All	Status	Count	Transaction Amount	Reconciled Amount
	Open	168	\$3,275,409.00	\$0.00
	Reconciled	0	\$0.00	\$0.00
	Voided	0	\$0.00	\$0.00
	Stopped	0	\$0.00	\$0.00
	<b>Total</b>	<b>168</b>	<b>\$3,275,409.00</b>	<b>\$0.00</b>



**TOWN OF PARADISE  
Council Agenda Summary  
Date: July 11, 2017**

**Agenda No. 2(c)**

**ORIGINATED BY:** Marc Mattox, Public Works Director / Town Engineer

**REVIEWED BY:** Lauren Gill, Town Manager

**SUBJECT:** PD Roof Replacement Update

**COUNCIL ACTION REQUESTED:**

1. Adopt Resolution No. 17-\_\_\_, A Resolution of the Town Council of the Town of Paradise Allowing the Town of Paradise to Complete the Police Department Roof Replacement Project without complying with State Public Works Bidding Requirements; and, 2. Authorize the Town Manager to select a private contractor to complete the project; and, 3. To enter into an agreement relating thereto at a price not to exceed \$45,000.

**Background:**

The Paradise Police Department building, located at 5595 Black Olive Drive, historically has had water intrusion issues near aged windows and on the second floor of the building. Efforts in the prior two years have been made to replace damaged siding and awnings, however during the 2016/2017 winter, staff has made the determination that the existing conditions on the roof and of windows throughout the building cannot continue to be maintained.

During the recent 2017/2018 budget planning process, staff recommended replacement of windows, roofing and specific drywall repairs to the Town Council and Measure C Oversight Committee. Both bodies concurred that this project is necessary as a regular course of business, one which may not be able to be funded without the existence of Measure C funds.

At the April 11, 2017 Town Council meeting, Town Council asked staff to research options for the replacement of the aging, flat roof. A photo of the typical roof condition is provided below:



**Analysis:**

Following inspections by Public Works, Building, and local contractors, staff is recommending the complete removal and replacement of the roof in-kind. The roofing material has adequate fall for drainage and is simply in need of regular replacement. As a result, staff has assembled the following project scope:

- Remove and replace roofing (30 year warranty)
- Includes new flashings (and leak protection) for all parapets, vents, HVAC curbing units, and other vertical components
- Includes new interior parapet sheeting overlay
- Includes new metal parapet caps
- New windows
- Drywall repairs

A comprehensive bid package for the entire scope of work was assembled by staff and issued to contractors on May 22, 2017 (general scope provided as an attachment to this report). Licensed Contractors (A, B or C39) may bid the project as long as the Town's insurance requirements can be met.

The Notice to Bidders issued to area contractors and regional contractor exchanges stated that bidders must attend the mandatory pre-bid meeting scheduled for June 6, 2017. Only one bidder attended the meeting. On June 15, 2017, zero bids were received.

Staff re-advertised the project on June 19, 2017 with a reduced scope to only include the roofing scope of work. Staff individually contacted all licensed contractors in Butte County regarding the work and yet on July 5, 2017, zero bids were received. Reasoning from firms on why they were not providing bids mostly hinged on the Town's desire for project completion prior to the end of September 2017.

Staff is requesting Council adopt a resolution authorizing Town Manager to directly seek out a contractor and execute an agreement approved by the Town Attorney for the scope of work, without further competitive bidding.

**Financial Impact:**

None at this time. A total of \$75,000 has been identified in the 2017/2018 budget for Council consideration using Measure C funds, a local sales tax initiative which aims to support Police, Fire, Road and Animal Control by providing funds for projects and needs.

**TOWN OF PARADISE  
RESOLUTION NO. 17-\_\_**

**A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF PARADISE ALLOWING  
THE TOWN OF PARADISE TO COMPLETE THE POLICE DEPARTMENT ROOF  
REPLACEMENT PROJECT WITHOUT COMPLYING WITH STATE PUBLIC WORKS  
BIDDING REQUIREMENTS**

**WHEREAS**, on June 19, 2017 the Town advertised for bids for a roof replacement project on the Paradise Police Department at 5595 Black Olive Drive, Paradise, CA 95969 in accordance with Public Contract Code Section 20163; and,

**WHEREAS**, since no bids were received by the Town on July 5, 2017, pursuant to Public Contract Code 20166 the Town Council may have the Paradise Police Department Roof Replacement Project done without further complying with the requirements for local Public Works.

**NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF PARADISE** as follows:

**Section 1.** The above recitals are true and correct.

**Section 2.** The Town Manager is authorized to select a private contractor to complete the Paradise Police Department Roof Replacement Project and to enter into an agreement relating thereto at a price not to exceed \$45,000.

**PASSED AND ADOPTED** by the Paradise Town Council of the Town of Paradise, County of Butte, State of California, on this 11th day of July, 2017, by the following vote:

AYES:

NOES:

ABSENT:

NOT VOTING:

\_\_\_\_\_  
Scott Lotter, Mayor

ATTEST:

APPROVED AS TO FORM:

\_\_\_\_\_  
DINA VOLENSKI, CMC, Town Clerk

\_\_\_\_\_  
DWIGHT L. MOORE, Town Attorney



**TOWN OF PARADISE**  
**Council Agenda Summary**  
**Date: July 11, 2017**

**Agenda No. 2(d)**

**ORIGINATED BY:** Marc Mattox, Public Works Director / Town Engineer

**REVIEWED BY:** Lauren Gill, Town Manager

**SUBJECT:** Paradise Systemic Safety Analysis Grant Program Supplement Agreement

**COUNCIL ACTION REQUESTED:**

1. Approve the Program Supplement Agreement No. P91 to Administering Agency-State Agreement No. 00449S for State-Funded Project SSARPL 5425 (037) to assure receipt of \$225,000 in state funds and authorize the Town Manager to execute.

**Background:**

This item relates to the preparation of a Systemic Safety Analysis Report (SSAR). Systemic analysis is a proactive safety approach that focuses on evaluating an entire roadway network using a defined set of criteria. It looks at crash history on an aggregate basis to identify high-risk roadway characteristics, rather than looking at high-collision concentration locations through site analysis. Systemic analysis acknowledges that crashes alone are not always sufficient to prioritize countermeasures across a system. This is particularly true for many local streets and highways in rural areas with low volumes where crash densities tend to be low and there are few high crash locations, and in urban areas where vehicles interact with vulnerable road users (pedestrians, bicyclists, and motorcycles)

The goal of the Caltrans administered Systemic Safety Analysis Report Program (SSARP) is to help local agencies identify safety projects to submit for HSIP funding consideration. Through the funding of SSARP, local agencies will be encouraged to evaluate their roadway networks with an approach that has been effective for addressing safety issues. Although not a prerequisite to applying for HSIP funds, the use of results documented in their SSAR will identify high benefit-cost ratio safety projects that have been found to be competitive in previous HSIP cycles.

**Analysis:**

The Town of Paradise has received a SSARP allocation in the supplemental release dated May 12, 2017. The appropriation aims to address the following Strategic Highway Safety Plan Challenge Areas: (1) Roadway Departure & Head-On Collisions, (2) Pedestrians, and (3) Bicycling. Each of these Challenge Areas can be directly correlated to existing conditions on more than 85% of the Town's total roadway network.

The scope identified for the Town's SSAR will be focused on extremely underdeveloped and narrow two-lane roadways. The Town of Paradise, incorporated in 1979, developed primarily into a rural setting with inadequate or improperly designed infrastructure to support the increase in population. As such, today, we still have primary arterials which are 20' in total pavement width with zero clear recovery zone, no lighting, faded striping, and potentially inadequate signage. The scope of the SSAR will be to evaluate these roadways in the context of motorists,

pedestrians and bicycles to determine feasibility of implementing future low-cost, high benefit HSIP projects.

Specifically, the SSAR will analyze the following roadway segments which all fall into the above described conditions:

1. Skyway between Bille Road and Town Limits (2.76 miles)
2. Clark Road between Wagstaff Road and Skyway (1.27 miles)
3. Pentz Road between southern Town Limits and northern Town Limits (4.93 miles)
4. Wagstaff Road between Oliver Road and Pentz Road (2.51 miles)
5. Bille Road between Cliff Drive and Pentz Road (2.98 miles)
6. Elliott Road between Skyway and Sawmill Road (1.86 miles)
7. Oliver Road between Skyway and Wagstaff Road (1.19 miles)
8. Valley View Drive between Valley Ridge Drive and Oliver Road (1.07 miles)
9. Neal Road between Wayland Road and Skyway (1.61 miles)
10. Foster Road between Wayland Road and Pearson Road (2.04 miles)
11. Nunneley Road between Clark Road and Sawmill Road (0.94 miles)
12. Sawmill Road between Pearson Road and Bille Road (1.50 miles)
13. Wayland Road between Neal Road and Foster Road (1.33 miles)
14. Roe Road between Neal Road and Foster Road (1.38 miles)
15. Buschmann Road between Foster Road and Clark Road (1.00 miles)
16. Black Olive Drive between Skyway and Pearson (0.41 miles)
17. Westbound Skyway (2 one-way lanes) between "Y" and Crossroads (0.52 miles)
18. Eastbound Skyway (2 one-way lanes) between Crossroads and "Y" (0.65 miles)

Between 2011 and 2013, the Town of Paradise had 10 severe or fatal injuries across the 18 road segments described above. Specific collision types to be analyzed include roadway departure (single vehicle "fixed object" collisions), collisions which took place at night, collisions involving bicyclists and collisions involving pedestrians. Collision data to be used will include a comprehensive analysis of local data in our Records Management System, data already synthesized into that Transportation Injury and Mapping System (TIMS) and the Statewide Integrated Traffic Records System.

To facilitate the receipt of grant funding for the subject project, the Town of Paradise must approve and execute a Program Supplement Agreement to our Administering Agency-State Agreement for State Funded Projects – the contract for receipt and use of grant funding.

Staff has issued a formal Request for Proposals for professional services to complete the safety study. A contract is expected to come before Council in August 2017.

#### **Financial Impact:**

The Paradise SSAR is expected to cost \$250,000 at 90% funded by the State of California. Provided in the 2017-2020 Capital Improvement Program, staff has budgeted the 10% match (\$25,000) from transit funds which are set aside for local transportation projects and studies.

#### **Attachments:**

1. Program Supplement Agreement P91

**TOWN OF PARADISE  
RESOLUTION NO. 17-\_\_\_**

**A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF  
PARADISE AUTHORIZING THE TOWN MANAGER OF THE TOWN OF  
PARADISE OR HER DESIGNEE TO SIGN PROGRAM SUPPLEMENT  
AGREEMENT NO. P91 TO THE ADMINISTERING AGENCY-STATE  
AGREEMENT FOR STATE FUNDED PROJECTS CORRESPONDING  
TO PROJECT NO. SSARPL 5425 (037).**

**WHEREAS,** the Town of Paradise has received and will continue to receive state and federal funds for various transportation projects and has entered into an Agency-State Agreement for State Funded Projects with the California Department of Transportation; and,

**WHEREAS,** the State of California through its Department of Transportation (Caltrans) administers the Systemic Safety Analysis Report Program (SSARP) and selects projects for funding; and,

**WHEREAS,** the Paradise SSAR currently has \$225,000 of state funds allocated to the Project; and,

**WHEREAS,** the Paradise SSAR will study the Town's extremely underdeveloped and narrow two-lane roadways, including historical collision data and potential improvements eligible for future grant opportunities; and,

**WHEREAS,** Caltrans provides Program Supplement Agreements in accordance with Administering Agency-State Agreement for State-Funded Projects, Agreement No. 0049S (Master Agreement), which upon full execution enables the Town of Paradise to request and receive State funds for certain street projects; and,

**WHEREAS,** Caltrans requires the Town of Paradise to execute the Program Supplement Agreement No. P91 for the Paradise SSAR, in order to be eligible to receive State-Aid for eligible project costs; and,

**WHEREAS,** these funds will require that they are managed in accordance with the Caltrans Local Assistance Procedures Manual; and,

**WHEREAS,** the Town Council of the Town of Paradise has approved and agreed to this Program Supplement Agreement.

**NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE  
TOWN OF PARADISE AS FOLLOWS:**

**Section 1.** That the Town Manager of the Town of Paradise, or her designee, is hereby authorized to sign the Program Supplement Agreement No. P91 on behalf of the Town.

**Section 2.** The Town Clerk shall certify to the passage and adoption of this resolution.

PASSED AND ADOPTED by the Town Council of the Town of Paradise  
on this 11<sup>th</sup> day of July 2017, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

By: \_\_\_\_\_  
Scott Lotter, Mayor

ATTEST:

\_\_\_\_\_  
Dina Volenski, CMC, Town Clerk

APPROVED AS TO FORM:

\_\_\_\_\_  
Dwight L. Moore, Town Attorney

**PROGRAM SUPPLEMENT NO. P91**  
to  
**ADMINISTERING AGENCY-STATE AGREEMENT**  
**FOR STATE FUNDED PROJECTS NO 00449S**

**Adv Project ID**                      **Date:** June 7, 2017  
0317000261                      **Location:** 03-BUT-0-PRDS  
**Project Number:** SSARPL-5425(037)  
**E.A. Number:**  
**Locode:** 5425

This Program Supplement, effective 5/24/17 hereby adopts and incorporates into the Administering Agency-State Agreement No. 00449S for State Funded Projects which was entered into between the ADMINISTERING AGENCY and the STATE with an effective date of 03/13/15 and is subject to all the terms and conditions thereof. This PROGRAM SUPPLEMENT is executed in accordance with Article I of the aforementioned Master Agreement under authority of Resolution No. \_\_\_\_\_ approved by the ADMINISTERING AGENCY on \_\_\_\_\_ (See copy attached).

The ADMINISTERING AGENCY further stipulates that as a condition to the payment by the State of any funds derived from sources noted below encumbered to this project, Administering Agency accepts and will comply with the Special Covenants and remarks set forth on the following pages.

**PROJECT LOCATION:**

The scope identified for the Town's SSAR will be focused on extremely underdeveloped and narrow two-lane roadways (18 roadway segments listed).

**TYPE OF WORK:** Miscellaneous - Other

Estimated Cost	State Funds		Matching Funds	
	STATE		LOCAL	OTHER
\$250,000.00		\$225,000.00	\$25,000.00	\$0.00

**TOWN OF PARADISE**

By \_\_\_\_\_  
Title \_\_\_\_\_  
Date \_\_\_\_\_  
Attest \_\_\_\_\_

**STATE OF CALIFORNIA**  
**Department of Transportation**

By \_\_\_\_\_  
**Chief, Office of Project Implementation**  
**Division of Local Assistance**  
Date \_\_\_\_\_

I hereby certify upon my personal knowledge that budgeted funds are available for this encumbrance:

**Accounting Officer** \_\_\_\_\_

**Date** 6/7/17 \$225,000.00



SPECIAL COVENANTS OR REMARKS

Chapter	Statutes	Item	Year	Program	BC	Category	Fund Source	AMOUNT

SPECIAL COVENANTS OR REMARKS

1. All obligations of STATE under the terms of this Agreement are subject to the appropriation of resources by the Legislature and the encumbrance of funds under this Agreement. Funding and reimbursement are available only upon the passage of the State Budget Act containing these STATE funds.
2. Any State and Federal funds that may have been encumbered for this project are available for disbursement for limited periods of time. For each fund encumbrance the limited period is from the start of the fiscal year that the specific fund was appropriated within the State Budget Act to the applicable fund Reversion Date shown on the State approved project finance letter. Per Government Code Section 16304, all project funds not liquidated within these periods will revert unless an executed Cooperative Work Agreement extending these dates is requested by the ADMINISTERING AGENCY and approved by the California Department of Finance.

ADMINISTERING AGENCY should ensure that invoices are submitted to the District Local Assistance Engineer at least 75 days prior to the applicable fund Reversion Date to avoid the lapse of applicable funds. Pursuant to a directive from the State Controller's Office and the Department of Finance; in order for payment to be made, the last date the District Local Assistance Engineer can forward an invoice for payment to the Department's Local Programs Accounting Office for reimbursable work for funds that are going to revert at the end of a particular fiscal year is May 15th of the particular fiscal year. Notwithstanding the unliquidated sums of project specific State and Federal funding remaining and available to fund project work, any invoice for reimbursement involving applicable funds that is not received by the Department's Local Programs Accounting Office at least 45 days prior to the applicable fixed fund Reversion Date will not be paid. These unexpended funds will be irrevocably reverted by the Department's Division of Accounting on the applicable fund Reversion Date.

3. ADMINISTERING AGENCY agrees to comply with the requirements in 2 CFR Part 225, Cost Principles for State, Local, and Indian Tribal Governments.
4.
  1. This PROJECT is funded with State-Only funding from the Systemic Safety Analysis Report Program (SSARP). ADMINISTERING AGENCY agrees to administer PROJECT in accordance with the SSARP Guidelines under which the project was selected.
  2. The ADMINISTERING AGENCY agrees to follow all relevant State laws and requirements including the California Environmental Quality Act (CEQA).
  3. This PSA allows reimbursement of eligible PROJECT expenditures to the ADMINISTERING AGENCY for which the SSARP State funds are allocated. The effective State allocation date establishes the eligibility date for the ADMINISTERING AGENCY to start reimbursable work. Any work performed prior the effective allocation date is not eligible for reimbursement from the SSARP funds.
  4. ADMINISTERING AGENCY agrees that SSARP funds available for reimbursement will be limited to the amount allocated and encumbered by the STATE consistent with the

**SPECIAL COVENANTS OR REMARKS**

scope of work in the STATE approved application. Funds encumbered may not be used for a modified scope of work after a project is awarded unless approved by the Statewide SSARP Coordinator prior to performing work.

5. ADMINISTERING AGENCY agrees to the program delivery and reporting requirements established by the SSARP Guidelines. The study and the Systemic Safety Analysis Report (SSAR) must be completed within thirty-six (36) months of the funding allocation. The Final Report of Expenditure, the final invoice and the SSAR report must be submitted to the DLAE within six (6) months of the report completion.



**TOWN OF PARADISE**  
**Council Agenda Summary**  
**Date: July 11, 2017**

**Agenda No. 2(e)**

**ORIGINATED BY:** Marc Mattox, Public Works Director / Town Engineer

**REVIEWED BY:** Lauren Gill, Town Manager

**SUBJECT:** Greenwood Drive Storm Damage Repair Project Contract Award

**COUNCIL ACTION REQUESTED:**

1. Award Contract No. 17-10, Greenwood Drive Storm Damage Repair Project, to Franklin Construction, Inc. of Chico, CA in the amount of their Bid of \$100,551.00.
2. Authorize the Town Manager to execute an agreement with Franklin Construction relating to Contract No. 17-10 and to approve contingency expenditures not exceeding 10%.

**Background:**

During torrential downpours in February 2017, Greenwood Drive, a local roadway off of Maxwell Drive failed. The roadway collapsed due to high groundwater and overly saturated soils at the bottom of a naturally occurring drainage system. A typical example of this damage is shown in the photograph below.



Ultimately, a Presidential Disaster Declaration was issued by the Federal Emergency Management Agency (FEMA) and required repairs to Greenwood Drive are to be made using disaster relief funding.

**Analysis:**

The Greenwood Drive Storm Damage Repair Project was formally advertised for bids on June 14, 2017. The project advertisement was published in the Chico Enterprise Record on June 17, 2017, in compliance with public contract codes. Plans and Specifications were provided to 12 local, regional, and national construction exchanges.

On June 29, three bids were received by the Town Clerk and publicly opened. A list of bids received are shown below:

1	Knife River Construction	\$167,960.00
2	Santos Excavating	\$107,298.00
3	Franklin Construction	\$100,551.00
X	Engineer's Estimate	\$75,000

Staff is recommending award of Contract No. 17-10, Greenwood Drive Storm Damage Repair Project, to the low bidder, Franklin Construction of Chico, CA in the amount of their bid of \$100,551.00.

**Financial Impact:**

Funding for the Greenwood Dr. Storm Damage Repair Project will be broken down in the following pro-rata shares:

FEMA	75%
Cal OES	18.75%
Town of Paradise (Gas Tax)	6.25%

The estimated construction costs, excluding construction engineering and materials testing are provided below with the Town's portion provided in parentheses.

Construction Cost = \$100,551.00	(\$6,284.44)
Construction Contingency = \$10,055.00	(\$628.44)
Total Construction Cost = 110,606.00	(\$6,912.88)

Cal OES has been notified of the bid costs and has instructed the Town of Paradise to proceed with repairs immediately and funding agreements for reimbursement will be provided soon.



**TOWN OF PARADISE  
Council Agenda Summary  
Date: July 11, 2017**

**Agenda No. 2(f)**

**ORIGINATED BY:** Marc Mattox, Public Works Director / Town Engineer

**REVIEWED BY:** Lauren Gill, Town Manager

**SUBJECT:** PD Window Replacement Contract Award

**COUNCIL ACTION REQUESTED:**

1. Award Contract No. 17-11, Paradise PD Window Replacement, to The Screen and Door Shop of Paradise, CA in the amount of their Bid of \$9,974.23.
2. Authorize the Town Manager to execute an agreement with The Screen and Door Shop relating to Contract No. 17-11 and to approve contingency expenditures not exceeding 15%.

**Background:**

The Paradise Police Department building, located at 5595 Black Olive Drive, has had water intrusion issues near aged windows and on the second floor of the building. Efforts in the prior two years have been made to replace damaged siding and awnings, however during the 2016/2017 winter, staff has made the determination that the existing conditions on the roof and of windows throughout the building cannot continue to be maintained.

During the recent 2017/2018 budget planning process, staff recommended replacement of windows, roofing and specific drywall repairs to the Town Council and Measure C Oversight Committee. Both bodies concurred that this project is necessary as a regular course of business, one which may not be able to be funded without the existence of Measure C funds.

**Analysis:**

Staff advertised the project on June 19, 2017 and individually contacted all licensed contractors in Butte County regarding the work and received two bids for the work, shown below:

Kellogg & Kellogg Inc. of Roseville, CA	\$23,871.00
The Screen and Door Shop of Paradise, CA	\$9,974.23

Staff is recommending award of the contract to the low bidder, The Screen and Door Shop of Paradise, CA in the amount of their bid of \$9,974.23.

**Financial Impact:**

The contract cost for the subject work is \$9,974.23 and total cost of \$11,470.36, including contingencies. Funding for this effort has been identified in the 2017/2018 budget using Measure C funds, a local sales tax initiative which aims to support Police, Fire, Road and Animal Control by providing funds for projects and needs.



**TOWN OF PARADISE**  
**Council Agenda Summary**  
**Date: July 11, 2017**

**Agenda No. 2(g)**

**ORIGINATED BY:** Marc Mattox, Public Works Director/Town Engineer

**REVIEWED BY:** Lauren Gill, Town Manager

**SUBJECT:** Paradise Pavement Management Program Consultant Recommendation

**COUNCIL ACTION REQUESTED:**

1. Concur with staff's recommendation of Harris & Associates to perform pavement management services for the Town's 100 centerline mile roadway network, and
2. Approve the attached Professional Services Agreement with Harris & Associates and authorize the Town Manager to execute same, and
3. Authorize the Town Manager to execute additional work orders up to 10% of the contract amount.

**Background:**

The Town of Paradise owns and maintains 100 centerline miles of roadway which are continuously deteriorating each day. Pavements deteriorate over time from exposure to traffic and environment. Maintenance and rehabilitation are employed to slow down the deterioration process or to return the pavement to a like-new state. Maintenance operations, such as crack sealing, micro-surfacing and patching help slow deterioration by identifying and addressing specific pavement deficiencies that contribute to the overall deterioration. Rehabilitation is the act of reconstructing portions of an existing pavement to reset the deterioration process in those portions. Pavement life cycle, life cycle cost analyses, and pavement management are all employed when deciding on the type, timing, and extent of maintenance and rehabilitation actions.

The Town of Paradise last completed a Pavement Management Program update in 2009. A Pavement Management Program is the combination of a field inventory of existing conditions coupled with a software program to aide decision making processes on timely investments for prioritized roads and which treatment types should be used – all while considering funding available and roadway network condition goals.

On May 18, 2017, the Public Works Department issued a formal Request for Proposals for interested consultants to update the Town's inventory and converting to the statewide recognized StreetSaver software. The scope of work of the RFP is summarized below:

**Pavement Database Setup.** Includes Licensing one user for Metropolitan's Transportation Commission's (MTC) online StreetSaver. Data from previous Chec efforts will be imported to the new program. Task also includes the consideration of historical maintenance and rehabilitation data performed since the 2009 survey.

**Field Inspection.** Consultant will inspect approximately 100 centerline miles of streets. Pavement inspections will be based on the MTC PMS inspection methodology. One inspection sample will be performed for every 1000 feet of the road.

**Inspection Data Entry / PCI Calculations.** Consultant will enter all data collected into the MTC StreetSaver pavement management database. Upon completion of the data entry, a condition report will be generated showing each street section and its current PCI. The PCI is presented using a scale of 0 to 100, where 0 is the worst condition and 100 is the best condition.

**Budget Analysis.** Consultant will meet with the Town to define interest rate and inflation assumptions used to project future costs. Pavement Management Systems use “treatment decision tree” to define Town’s treatment strategy for each pavement section based on its functional class, surface type, and condition rating.

Consultant will calculate funding scenarios to evaluate the impact of current and desired funding levels of overall pavement condition and deferred maintenance costs over time. Charts comparing the impact of each funding strategy will be provided. The primary emphasis of this task is to maximize the programming of street maintenance projects using the most cost-effective maintenance strategies available, and taking into account a life cycle cost analysis of each strategy recommended. Following this analysis, project lists would be generated for five (5) funding levels:

- Unconstrained Funding Level
- Zero Funding Level
- Maintain Current PCI Funding Level
- PCI target scenario (5 point increase or any target) and,
- Town’s Projected Funding Level

After a review of the budget scenarios with the Town, Consultant will provide full detail reports for the scenario most likely to be followed by the Town.

**Field Training.** Consultants shall provide a field training for up to five staff members (simultaneously) for three streets selected by the consultant which represent various levels of distress.

**Streetsaver Training.** Consultant will provide training on the Streetsaver program to Town Staff. This training will aim at providing users general concept on PMS and Streetsaver software.

**GIS Segmentation, Mapping Integration and Map Generation.** Consultant will produce a shape file for the Pavement Management Program (PMP) from the Town’s GIS street centerline shape file.

**Final Report and Council Presentation.** Consultant shall provide a final report and attend one Council meeting to present background, inventory, findings and recommendations.

**Analysis:**

By June 20, 2017 at 4:00 PM, Town staff had received five responses to the RFP. The consultants are listed below:

- Harris & Associates of Concord, CA
- Infrastructure Management Services of Tempe, AZ
- NCE of Sacramento, CA
- Pavement Engineering, Inc of San Luis Obispo, CA
- Quality Engineering Services of Reno, NV

Consultants were advised to include cost estimates in a separate, sealed envelope to allow for a fair and objective evaluation of the submittals. A two-member evaluation committee was formed to evaluate the proposals. Pavement Engineering, Inc.'s proposal was not reviewed by the Committee as their proposal did not acknowledge or include a signed copy of Addendum No.1 of the solicitation, as required. Furthermore, their proposal did not include a cost estimate in a separate, sealed envelope.

The Committee received and ranked the proposals according to the criteria provided in the RFP and shown below:

**Criteria Weighting Respondent's Understanding of the Project (35 points)**

- Clarity and presentation of the proposal. (10)
- Completeness and quality of response to the specific requirements of the RFP and SOW. (10)
- Proposed understanding of and clearly identified approach to addressing the services requested. (15)

**Respondent's Qualifications & Experience (35 points)**

- Project team's (including subcontractors) personnel assigned to the project. (10)
- Firm's relevant and current experience with similar projects, especially with StreetSaver software. (20)
- Consultant's and subcontractors' references. (5)

**Approach, Work Plan & Schedule (35 points)**

- Work plan and schedule by task. (15)
- Workload distribution. (10)
- Practices to ensure clear communication and coordination between the consultant and local staff. (5)

The average proposal scores are listed below:

- |   |            |
|---|------------|
| - Harris & Associates of Concord, CA              | 94 / 100   |
| - Infrastructure Management Services of Tempe, AZ | 83.5 / 100 |
| - NCE of Sacramento, CA                           | 95.5 / 100 |
| - Quality Engineering Services of Reno, NV        | 86 / 100   |

After scoring the proposals, the Committee met to discuss and reach a consensus selection. The evaluation committee's scores determined that both Harris & Associates and NCE could serve the Town well and provide the requested services with excellence. Reference checks from other agencies confirmed this finding, as well. Following this conclusion, cost proposals for these two consultants were unsealed and are shown below with estimated labor hour commitments and delivery schedules:

- |                                      |                               |
|--------------------------------------|-------------------------------|
| - Harris & Associates of Concord, CA | \$58,230, 348 hours, 16 weeks |
| - NCE of Sacramento, CA              | \$60,000, 314 hours, 15 weeks |

Ultimately, the Committee selected Harris & Associates for recommendation of award considering all aspects of their proposal. Furthermore, Harris & Associates prepared the City of Chico's recent Pavement Management Program update and by selecting them for the Town's inventory, their work will help build a regional consistency between agencies to evaluate roadway conditions.

Staff recommends Council consider awarding the contract, Attachment A, to Harris & Associates of Concord, CA .

Upon completion of the inventory and report, the Town's Pavement Management Program will remain a living database which can be updated by staff based upon actual projects completed.

**Financial Impact:**

The professional services agreement and respective services will be funded using local transportation funds (Transit) as budgeted in the 2017-2020 Capital Improvement Program. Transit funds are allocated via Butte County Association of Governments and are reserved specifically for road projects and studies. The project cost is \$58,230. Staff is recommending a 10% contingency bringing the total cost to \$64,053.

**Attachments:**

1. Attachment A – Professional Services Contract Agreement

## AGREEMENT FOR PROFESSIONAL SERVICES

This Agreement is made and entered into on **July 12, 2017** by and between the Town of Paradise, a municipal corporation (“Town”) and **Harris & Associates** (“Consultant”).

### RECITALS

- A. Consultant is specially trained, experienced and competent to perform the services which will be required by this Agreement; and
- B. Consultant possesses the skill, experience, ability, background, certification, and knowledge to provide the services described in this Agreement on the terms and conditions described herein.
- C. Town desires to retain Consultant to render services as set forth in this Agreement.

### AGREEMENT

#### 1 SCOPE OF SERVICES.

Except as specified in this Agreement, Consultant shall furnish all technical and professional services, including labor, material, equipment, transportation, supervision and expertise (collectively referred to as “Services”) to satisfactorily complete the work required by Town at consultant's own risk and expense relating to a Town Pavement Management program . Services to be provided to Town are more fully described in Exhibit A entitled “SCOPE OF SERVICES.” All of the exhibits referenced in this Agreement are attached and are incorporated by this reference.

##### 1.1 Town Obligations

All data applicable to the project and in possession of the Town are to be made available to the Consultant.

**2 TIME OF PERFORMANCE.**

The services of Consultant shall commence immediately, and shall terminate on February 1, 2018

**3 COMPENSATION.**

Consultant's compensation for all services under this Agreement shall not exceed **\$51,230** and shall be in accordance with the charges set forth in Exhibit "B". In no event shall Consultant's compensation exceed Costs and Fees set forth in Exhibit "B" without the prior approval of the Town Manager.

**4 METHOD OF PAYMENT.**

Consultant shall submit monthly billings, or progress invoices to Town describing the work performed during the preceding month. Consultant's bills shall include a brief description of the services performed, the date the services were performed, the number of hours spent and by whom, and a description of any reimbursable expenditures and segregated by test methods or by specific tasks. Town shall pay Consultant progress payments no later than 30 days after approval of the monthly invoice by Town staff. Approval of the monthly invoice requires the submittal of certified payrolls when prevailing wages rates are in effect for work done during applicable month. Certified payrolls are to be submitted on a weekly basis and within ten days after the week in question.

**4.1 Retention of Payment**

When payments made by Town equal 95% of the maximum fee provided for in this Agreement, no further payments shall be made until the final work under this Agreement, or for each individual project relating to the Consultant's services has been accepted by the Town.

## 4.2 Cost Principles

- 4.2.a The Consultant agrees that the Contract Cost Principles and Procedures, 48 CFR, Federal Acquisition Regulations System, Chapter 1, Part 31 et seq., shall be used to determine the allowability of individual items of cost.
- 4.2.b The Consultant also agrees to comply with Federal procedures in accordance with 49 CFR, part 18, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments.
- 4.2.c Any costs for which payment has been made to Consultant that are determined by subsequent audit to be unallowable under 48 CFR, Federal Acquisition Regulations System, Chapter 1, Part 31 et seq., OR 49 CFR, Part 18, Uniform Administrative requirements for Grants and Cooperative Agreements to State and Local Governments, are subject to repayment by the Consultant to State.
- 4.2.d Any subcontract in excess of \$25,000, entered into as a result of this Agreement, shall contain all the provisions of this Section.

## 4.3 Contingent Fee

The Consultant warrants, by execution of this Agreement, that no person or selling agency has been employed or retained to solicit or secure this Agreement upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Consultant for the purpose of securing business. For breach or violation of this warranty, the State has the right to annul this Agreement without liability, pay on the value of the work actually performed, or in its discretion, to deduct from the agreement price or consideration, or otherwise recover, the full amount of such

commission, percentage, brokerage, or contingent fee.

#### 4.4 Retention Of Records/Audit

4.4.a For the purpose of determining compliance with Public Contract Code Section 10115, et seq. And Title 21, California Code of Regulations, Chapter 21, Section 2500 et. seq., when applicable, and other matters connected with the performance of the Agreement pursuant to Government Code Section 8546.7, the Consultant, subConsultants, and the State shall maintain all books, documents, papers, accounting records, and other evidence pertaining to the performance of the Agreement, including but not limited to, the costs of administering the agreement. All parties shall make such materials available at their respective offices at all reasonable times during the Agreement period and for three years from the date of final payment under the Agreement. The State, the State Auditor, FHWA, or any duly authorized representative of the Federal government having jurisdiction under Federal laws or regulations (including the basis of Federal funding in whole or in part) shall have access to any books, records, and documents of the Consultant that are pertinent to the Agreement from audits, examinations, excerpts, and transactions, and copies thereof shall be furnished if requested.

4.4.b Any subcontract in excess of \$25,000, entered into as a result of this Agreement, shall contain all the provisions of this Section.

### 5 LABOR COMPLIANCE

The Consultant shall agree through the Agreement to comply with the provisions of the California Labor Code to the extent they are applicable to this project. For the purpose of this project, eight hours shall constitute a legal day's work.

The Consultant's attention is directed to section 1815 of the labor code regarding overtime pay and the requirement that a \$25 penalty will be levied for each workman for each calendar day during which the overtime pay provision is not met. The Consultant's attention is also directed to the requirements for travel and subsistence payments to all workers needed to execute the Contract.

Subject to the limitations stated in said section, the Consultant shall comply with the apprenticeship provisions of Section 1777.5 of the Labor Code, including the training and hiring of apprentices.

Attention is directed to Section 7-1.02K(2), "Wages" of the Standard Specifications.

Pursuant to Labor Code Section 1770 et seq, the general prevailing wage rates in the county in which the project work is to be done have been determined by the Director of the California Department of Industrial Relations. These wages are set forth in the General Prevailing Wage Rates for this project, available at Town of Paradise and available from the California Department of Industrial Relations' Internet web site at <http://www.dir.ca.gov/DLSR/PWD>. Future effective general prevailing wage rates, which have been predetermined and are on file with the California Department of Industrial Relations are referenced but not printed in the general prevailing wage rates.

**6 EXTRA WORK.**

At any time during the term of this Agreement, Town may request that Consultant perform Extra Work. As used herein, "Extra Work" means any work which is determined by Town to be necessary for the proper completion of Consultant's services, but which the parties did not reasonably anticipate would be necessary at the execution of this Agreement. Consultant shall not perform, nor be compensated for, Extra Work without prior written authorization from Town.

**7 TERMINATION.**

This Agreement may be terminated by the Town immediately for cause or by either party without cause upon fifteen (15) days written notice of termination. Upon termination, Consultant shall be entitled to compensation for services properly performed up to the effective date of termination.

**8 OWNERSHIP OF DOCUMENTS.**

All reports, plans, studies, documents, and other writings prepared by and for Consultant, in the course of implementing this Agreement, except working notes and internal documents, shall become the property of the Town upon payment to Consultant for such work, and the Town shall have the sole right to use such materials in its discretion without further compensation to Consultant or to any other party. Consultant shall, at Consultant's expense, provide such reports, plans, studies, documents, and other writings to Town within three (3) days after written request. Consultant shall not be responsible for liabilities, losses, or claims resulting from unauthorized modifications, or reuse other than original intended purpose.

**9 LICENSING OF INTELLECTUAL PROPERTY.**

This Agreement creates a nonexclusive and perpetual license for Town to copy, use, modify, reuse, or sublicense any and all copyrights, designs, and other intellectual property embodied in documents or works of authorship fixed in any tangible medium of expression, including, but not limited to, data magnetically or otherwise recorded on computer diskettes, which are prepared or caused to be prepared by Consultant under this Agreement ("Documents and Data"). Consultant represents and warrants that Consultant has the legal right to license any and all Documents and Data. Consultant makes no such representation and warranty in regard to Documents and Data which may be provided to

Consultant by Town. Town shall not be limited in any way in its use of the Documents and Data at any time.

9.1 Confidentiality.

All ideas, memoranda, specifications, plans, procedures, drawings, descriptions, computer program data, input record data, written information, and other Documents and Data either created by or provided to Consultant in connection with the performance of this Agreement shall be held confidential by Consultant. Such materials shall not, without the prior written consent of Town, be used by Consultant for any purposes other than the performance of the services under this Agreement. Nor shall such materials be disclosed to any person or entity not connected with the performance of the services under this Agreement. Nothing furnished to Consultant, which is otherwise known to Consultant or is generally known, or has become known, to the related industry shall be deemed confidential. Consultant shall not use Town's name, seal, or photographs relating to project for which Consultant's services are rendered, or participate in any publicity pertaining to the Consultant's services under this Agreement in any magazine, trade paper, newspaper, television or radio production or other similar medium without the prior written consent of Town.

9.2 Consultant's Books and Records.

9.2.a Consultant shall maintain any and all ledgers, books of account, invoices, vouchers, canceled checks, and other records or documents evidencing or relating to charges for services, expenditures and disbursements charged to Town for a minimum period of two (2) years, or for any longer period required by law, from the date of final payment to Consultant to this Agreement.

9.2.b Consultant shall maintain all documents and records which demonstrate performance under this Agreement for a minimum of **three (3) years**, or for any longer period required by law, from the date of termination or completion of this Agreement.

9.2.c Any records or documents required to be maintained pursuant to this Agreement shall be made available for inspection or audit, at any time during regular business hours, upon written request by the Town Manager, Town Attorney, Town Finance Director, or a designated representative of these officers. Copies of such documents shall be provided to the Town for inspection at Town Hall when it is practical to do so. Otherwise, unless an alternative is mutually agreed upon, the records shall be available at Consultant's address indicated for receipt of notices in this Agreement.

9.2.d Where Town has reason to believe that such records or documents may be lost or discarded due to dissolution, disbandment or termination of Consultant's business, Town may, by written request by any of the above named officers, require that custody of the records be given to the Town and that the records and documents be maintained by Town Hall.

**10 INDEPENDENT CONSULTANT.**

It is understood that Consultant, in the performance of the work and services agreed to be performed, shall act as and be an independent Consultant and shall not act as an agent or employee of the Town. Consultant shall obtain no rights to retirement benefits or other benefits which accrue to Town's employees, and Consultant hereby expressly waives any claim it may have to any such rights.

**11 INTEREST OF CONSULTANT.**

Consultant (including principals, associates, and professional employees and subConsultants) covenants and represents that it does not now have any investment or interest in real property and shall not acquire any interest, direct or indirect, in the area covered by this Agreement or any other source of income, interest in real property or investment which would be affected in any manner or degree by the performance of Consultant's services hereunder. Consultant further covenants and represents that in the performance of its duties hereunder no person having any such interest shall perform any services under this Agreement.

Consultant is not a designated employee within the meaning of the Political Reform Act because

Consultant:

- a. will conduct research and arrive at conclusions with respect to its rendition of information, advice, recommendation, or counsel independent of the control and direction of the Town or any Town official, other than normal agreement monitoring; and
- b. possesses no authority with respect to any Town decision beyond rendition of information, advice, recommendation or counsel. (FPPC Reg. 18700(a)(2).)

**12 PROFESSIONAL ABILITY OF CONSULTANT.**

Town has relied upon the professional training and ability of Consultant to perform the services hereunder as a material inducement to enter into this Agreement. Consultant shall have Vijay Pulijal, PE manage and approve the work of all persons performing professional services under this Agreement. All work performed by Consultant under this Agreement shall be in accordance with applicable legal requirements and shall meet

the standard of quality ordinarily to be expected of competent professionals in Consultant's field of expertise.

**13 COMPLIANCE WITH LAWS.**

Consultant shall use the standard of care in its profession to comply with all applicable federal, state and local laws, codes, ordinances and regulations.

**14 LICENSES.**

Consultant represents and warrants to Town that it has all licenses, permits, qualifications, insurance, and approvals of whatsoever nature, which are legally required of Consultant to practice its profession. Consultant represents and warrants to Town that Consultant shall, at its sole cost and expense, keep in effect or obtain at all times during the term of this Agreement, any licenses, permits, certifications, insurance and approvals which are required by the Town for its business.

**15 INDEMNITY.**

Consultant agrees to defend, indemnify and hold harmless the Town, its officers, officials, employees and volunteers from and against any and all claims, demands, actions, losses, damages, injuries, and liability, direct or indirect (including any and all costs and expenses in connection therein), arising from its negligent performance, misconduct or omissions relating to the services under this Agreement or its failure to comply with any of its obligations contained in this Agreement, except for any such claim arising from the sole negligence or willful misconduct of the Town, its officers, agents, employees or volunteers.

**16 INSURANCE REQUIREMENTS.**

Consultant, at Town's own cost and expense, shall procure and maintain, for the duration of the Agreement, the insurance coverage and policies as set forth in Exhibit "C" attached

hereto.

**17 NOTICES.**

Any notice required to be given under this Agreement shall be in writing and will either be served personally or sent prepaid, first class mail. Any such notice shall be addressed to the other party at the address set forth below. Notice shall be deemed communicated within 48 hours from the time of mailing if mailed as provided in this section.

If to Town:                    Marc Mattox  
   Public Works Director  
   Town of Paradise  
   5555 Skyway  
   Paradise, CA 95969

If to Consultant:            Vijay Pulijal  
   Project Manager  
   Harris & Associates  
   1401 Willow Pass Road, Suite 500  
   Concord, CA 94520

**18 ENTIRE AGREEMENT.**

This Agreement constitutes the complete and exclusive statement of Agreement between the Town and Consultant. All prior written and oral communications, including correspondence, drafts, memoranda, and representations are superseded in total by this Agreement.

**19 AMENDMENTS.**

This Agreement may be modified or amended only by a written document executed by both Consultant and Town and approved as to form by the Town Attorney.

**20 ASSIGNMENT AND SUBCONTRACTING.**

The parties recognize that a substantial inducement to Town for entering into this Agreement is the professional reputation, experience, and competence of Consultant.

Assignments of any or all rights, duties, or obligations of the Consultant under this Agreement will be permitted only with the express prior written consent of the Town. No subConsultants (other than those listed on Exhibit "A") shall work under this Agreement without the prior written authorization of the Town. If Town consents to such subcontract, Consultant shall be fully responsible to Town for all acts or omissions of the subConsultant. Nothing in this Agreement shall create any contractual relationship between Town and a subConsultant of the Consultant nor shall it create any obligation on the part of the Town to pay or to see to the payment of any monies due to any such subConsultant other than as otherwise required by law. Subcontracts shall physically contain the provisions contained in Federal Form 1273.

**21 WAIVER.**

Waiver of a breach or default under this Agreement shall not constitute a continuing waiver of a subsequent breach of the same or any other provision under this Agreement.

**22 SEVERABILITY.**

If any term or portion of this Agreement is held to be invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions of this Agreement shall continue in full force and effect.

**23 CONTROLLING LAW VENUE.**

This Agreement and all matters relating to it shall be governed by the laws of the State of California and any action brought relating to this Agreement shall be held exclusively in a state court in the County of Butte.

**24 LITIGATION EXPENSES AND ATTORNEY'S FEES.**

If either party to this Agreement commences any legal action against the other party arising out of this Agreement, the prevailing party shall be entitled to recover its

reasonable litigation expenses, including court costs, expert witness fees, discovery expenses, and attorneys' fees.

**25 MEDIATION.**

The parties agree to make a good faith attempt to resolve any disputes arising out of this Agreement through mediation prior to commencing litigation. The parties shall mutually agree upon the mediator and shall divide the costs of mediation equally. If the parties are unable to agree upon a mediator, the dispute shall be submitted to American Arbitration Association (AAA) or its successor in interest. AAA shall provide the parties with the names of five qualified

**26 MEDIATORS.**

The Town and Consultant shall meet to select a mediator by each striking the names of two different proposed mediators and thereafter the mediator remaining shall hear the dispute. If the dispute remains unresolved after mediation, either party may commence litigation.

**27 EXECUTION.**

This Agreement may be executed in several counterparts, each of which shall constitute one and the same instrument and shall become binding upon the parties when at least one copy hereof shall have been signed by both parties hereto. In approving this Agreement, it shall not be necessary to produce or account for more than one such counterpart.

**28 AUTHORITY TO ENTER AGREEMENT.**

Consultant has all requisite power and authority to conduct its business and to execute, deliver, and perform the Agreement. Each party warrants that the individuals who have signed this Agreement have the legal power, right, and authority to make this Agreement and to bind each respective party.

**29 PROHIBITED INTERESTS.**

Consultant maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for Consultant, to solicit or secure this Agreement. Further, Consultant warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Consultant, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. For breach or violation of this warranty, Town shall have the right to rescind this Agreement without liability. For the term of this Agreement, no member, officer or employee of Town, during the term of his or her service with Town, shall have any direct interest in this Agreement, or obtain any present or anticipated material benefit arising there from.

**30 EQUAL OPPORTUNITY EMPLOYMENT.**

Consultant represents that it is an equal opportunity employer and it shall not discriminate against any subConsultant, employee or applicant for employment because of race, religion, color, national origin, disability, ancestry, sex or age. Such non-discrimination shall include, but not be limited to, all activities related to initial employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination. IN WITNESS WHEREOF the parties have cause this Agreement to be executed on the date first written above.

TOWN OF PARADISE

HARRIS & ASSOCIATES

By: \_\_\_\_\_

Lauren Gill, Town Manager

By: \_\_\_\_\_

Title: \_\_\_\_\_

APPROVED AS TO FORM:

ATTEST:

By: \_\_\_\_\_

Dwight L. Moore, Town Attorney

By: \_\_\_\_\_

Dina Volenski, Town Clerk

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**EXHIBIT "A"**

**Scope of Services**

# Scope of Work

Town of Paradise Pavement Management System Update 2017 Proposed Scope of Work				
Task	Description	Your Benefit	Deliverable	Role/Person Responsible
<b>1.0 PROJECT ADMINISTRATION</b>				
1.1 Kick-off Meeting	We will meet with staff to confirm the scope of work, discuss current procedures for pavement maintenance, schedule, budget, and availability of project documents; review project goals; quality control plan; discuss format of deliverables; and clarify responsibilities of each party.	This meeting will ensure that all parties understand all aspects of the work before any work begins.	<ul style="list-style-type: none"> <li>Meeting notes (Via e-mail) with lists of responsibilities as detailed from meeting.</li> <li>QA-QC plan</li> </ul>	<ul style="list-style-type: none"> <li>Vijay Pulijal, PE (Project Manager)</li> <li>Marissa Baclig (Pavement Technician)</li> <li>Paul Muse (Pavement Technician)</li> </ul>
1.2 Project Updates	Harris' project manager will submit project update reports and communicate with Town's project manager as needed to facilitate the project.	Timely update of project progress.	<ul style="list-style-type: none"> <li>Project Update Reports. (Via e-mail)</li> </ul>	
<b>2.0 PAVEMENT DATABASE SETUP/ M&amp;R UPDATE/ INSPECTIONS/ FIELD QA-QC</b>				
2.1 PMP System Setup, Review & Audit.	Harris will develop a new pavement management program for Town of Paradise. Metropolitan Transportation Commission's (MTC) online StreetSaver® PMP will be used. Data from the previous Chec database will be imported into the new program. Street attributes such as begin and end locations, functional class, measurements, and surface type will be checked while performing thorough field inspections of the street's surface distresses and condition.	Most up-to-date database.	<ul style="list-style-type: none"> <li>A list streets and roadways broken up into management sections.</li> </ul>	<ul style="list-style-type: none"> <li>Marissa Baclig (Pavement Technician)</li> </ul>
2.2 Enter Maintenance & Rehabilitation Data	The historical treatment (Overlays, reconstructions and surface seals) data is extremely useful for determining future treatments and predicting performance of various pavement sections. Therefore collecting and entering this information is highly recommended. Harris will input treatment data for segments which have received treatments since the last PMP inspection update done in 2009. Data on these segments must be provided by the Town in the form of treatment maps or lists of pavement segments with treatment type and limits clearly defined.	Updated maintenance data.	<ul style="list-style-type: none"> <li>A report with the applied historical maintenance and rehabilitation (Applied Maintenance Treatment Report.)</li> </ul>	

# Town of Paradise Pavement Management System Update 2017

## Proposed Scope of Work

Task	Description	Your Benefit	Deliverable	Role/Person Responsible
<b>3.0 Field Surveys/Field QA-QC</b>				
3.1 Field Inspection	<p>Harris will inspect approximately 100 centerline miles of streets. Pavement inspections will be based on the MTC PMS inspection methodology. Under this method, pavement distress, severity, and quantity of distress data is recorded for a 10% representative sample of a management segment. 100% of a pavement segment is reviewed to determine the most representative sample unit. One inspection sample will be performed for every 1,000 feet of the road.</p> <p>Harris pavement inspectors will update the distress data onto Town's StreetSaver® program regularly. Findings will be based on the Army Corps of Engineers field distress manuals (ASTM D6433). The specific types of distresses to be measured will be determined prior to the start of the inventory based upon discussions with Town staff during the project kick-off. A digital picture of the inspection samples will be taken as part of the field survey.</p> <p>Before pavement inspections begin, Harris' Project Manager will create a list of streets (with parameters) to be inspected for the field crew from the Town's StreetSaver® online database. This will allow the pavement inspectors to easily and quickly verify the accuracy of management section information during the inspection process. Information to be verified includes: name, segment ID, length, width, surface type, functional classification, and number of lanes. In addition to the street segment parameters verification and distress data collection, the inspector will also take down notes on sections as needed that will be submitted to the Town upon completion of inspections. Where appropriate, Harris will provide pictures of areas exhibiting extraordinary distress.</p>	<p>Assures most up-to-date condition data for the pavement network and accurate budget projections. Understand and learn Inspection procedures.</p>	<ul style="list-style-type: none"> <li>Field Notes.</li> <li>Inventory of Inspection data</li> </ul>	<ul style="list-style-type: none"> <li>Vijay Pulijal, PE (Project Manager)</li> <li>Marissa Baclig (Pavement Technician)</li> <li>Paul Muse (Pavement Technician)</li> </ul>

# Town of Paradise Pavement Management System Update 2017

## Proposed Scope of Work

Task	Description	Your Benefit	Deliverable	Role/Person Responsible
3.2 Quality Control Checks (QC Field inspection)	<p>Quality control checks are critical on a project such as this when large amount of data needs to be collected and processed. We include a superior QC module in all our projects. In doing so, Harris' Project Manager will</p> <ul style="list-style-type: none"> <li>• Review field procedures and make changes as needed.</li> <li>• Make sure the field crew has all the equipment required for inspections.</li> <li>• Carry out a series of tests on the inspection data to further check accuracy, quality, missing inspections, modifications, splits and additions.</li> <li>• Approximately 5% of the total inspection mileage will be reviewed during the QC. A copy of Harris' PMS QA/QC procedures will be provided at the kickoff meeting.</li> </ul>	This step assures that pavement inspections are accurate and methodology is consistent between inspection crews.	<ul style="list-style-type: none"> <li>• QA-QC Report</li> </ul>	<ul style="list-style-type: none"> <li>• Vijay Pulijal, PE (Project Manager)</li> <li>• Marissa Baclig (Pavement Technician)</li> <li>• Paul Muse (Pavement Technician)</li> </ul>
<b>4.0 INSPECTION DATA ENTRY/PCI CALCULATIONS</b>				
4.1 Field Inspection Data Entry	Harris will enter all data collected into the MTC StreetSaver® pavement management database. This task will be done in conjunction with task 3.1. All field data collected will be uploaded into the StreetSaver® program at least twice a week.		<ul style="list-style-type: none"> <li>• Inventory of Inspection data</li> </ul>	<ul style="list-style-type: none"> <li>• Paul Muse (Pavement Technician)</li> </ul>
4.2 PCI Calculation & Quality Control Checks (QC PMP Database)	<p>PCI's (Pavement Condition Index) will be calculated for each street segment and for the entire network based on field inspections &amp; recent maintenance update. (Task 2.2)</p> <p>Upon completion of the data entry, a condition report will be generated showing each street section and its current PCI. The PCI is presented using a scale of 0 to 100, where 0 is the worst condition and 100 is the best condition. Harris' Project Manager will also compare the latest PCI data to:</p> <ul style="list-style-type: none"> <li>• Recent maintenance data and</li> <li>• Previous updated PCI data. (if available)</li> </ul> <p>As needed additional field checks will be performed on the segments with a considerable PCI shift (-ve or +ve). Based on the follow-up field review, Harris Project Manager will notify the Town of any abnormalities and if needed will request for additional information (maintenance data) to be updated in the Streetsaver database.</p>	<ul style="list-style-type: none"> <li>• Current PCI's for each inspected segment.</li> <li>• This step assures accurate PCI data</li> </ul>		

# Town of Paradise Pavement Management System Update 2017

## Proposed Scope of Work

Task	Description	Your Benefit	Deliverable	Role/Person Responsible
<b>5.0 BUDGET ANALYSIS</b>				
5.1 Define/Modify Budget Analysis Future Cost Assumptions	Harris will meet with the Town to define interest rate and inflation assumptions used to project future costs.	Current interest and inflation rates.		<ul style="list-style-type: none"> <li>• Vijay Pulijal, PE (Project Manager)</li> <li>• Marissa Baclig (Pavement Technician)</li> <li>• Paul Muse (Pavement Technician)</li> </ul>
5.2 Define Treatment Strategies (Decision Trees)	<p>Pavement Management Systems use “treatment decision tree” to define Town’s treatment strategy for each pavement section based on its functional class, surface type, and condition rating. Any update to this decision tree is a significant step in the PMP implementation as it has a major impact on the recommended work plan and budgeting consequences. Harris’ Project Manager will discuss Town’s decision tree options and treatment costs for future analyses.</p> <p>If needed, Harris will review Town’s recent bid-tabs (2015-16) to update unit costs for treatments entered into the treatment decision tree. Town will be asked to identify the components of treatment costs they would like to include in their unit costs (ie. staff time, design, inspection, etc.).</p> <p>Once Town staff approves the final strategy, Harris will update the PMP database to reflect any changes. Maintenance and rehabilitation decision trees will be included in the final report.</p>	A detailed decision tree that lists each pavement treatment with appropriate unit costs.	• Treatment Decision Tree.	
5.3 Define Budget Assumptions	Harris will request information on expected future budgets	A budget projection that accurately reflects Town’s funding practices.		

# Town of Paradise Pavement Management System Update 2017

## Proposed Scope of Work

Task	Description	Your Benefit	Deliverable	Role/Person Responsible
5.4 Calculate Budget Needs	Harris will generate a Budget Needs analysis (unconstrained budget) that calculates the financial and work program effort needed to bring the Town's pavement network to an optimum preventive maintenance cycle. This analysis will project condition ratings based on updated ratings for all segments.	A report demonstrating the level of funding Town needs to practice the most cost-effective means of managing its pavements.	<ul style="list-style-type: none"> <li>Budget Needs Report.</li> </ul>	<ul style="list-style-type: none"> <li>Vijay Pulijal, PE (Project Manager)</li> <li>Marissa Baclig (Pavement Technician)</li> <li>Paul Muse (Pavement Technician)</li> </ul>
5.5 Calculate Budget Scenarios	Harris will calculate funding scenarios to evaluate the impact of current and desired funding levels of overall pavement condition and deferred maintenance costs over time. Charts comparing the impact of each funding strategy will be provided. Up to 5 funding scenarios will be calculated and reports generated. The primary emphasis of this task is to maximize the programming of street maintenance projects using the most cost-effective maintenance strategies available, and taking into account a life cycle cost analysis of each strategy recommended. Following this analysis, project lists would be generated for five (5) funding levels: <ul style="list-style-type: none"> <li>Unconstrained Funding Level</li> <li>Zero Funding Level</li> <li>Maintain Current PCI Funding Level</li> <li>PCI target scenario ( 5 point increase or any target) and,</li> <li>Town's Current Projected Funding Level</li> </ul>	A report showing the impact of various funding levels on Town's PCI and maintenance backlog.	<ul style="list-style-type: none"> <li>Budget Scenario Reports.</li> <li>PCI Chart.</li> <li>Deferred Maintenance Chart.</li> </ul>	
5.6 Selected Scenario Reports (Develop Capital Improvement Plans)	After a review of the budget scenarios with the Town, Harris will provide full detail reports for the scenario most likely to be followed by the Town.	Reports detailing specific treatments, treatment cost, and year of treatment for each section accommodated under selected budget level.	<ul style="list-style-type: none"> <li>Selected Scenario Reports.</li> </ul>	

# Town of Paradise Pavement Management System Update 2017

## Proposed Scope of Work

Task	Description	Your Benefit	Deliverable	Role/Person Responsible
<b>6.0 DRAFT REPORT</b>				
6.1 Draft Report	<p>Harris will provide the following sections in the PMS report for the Town:</p> <ul style="list-style-type: none"> <li>• Executive summary – project methodology, results of budget analysis, and findings.</li> <li>• Section 1: Introduction – the need for a pavement management system.</li> <li>• Section 2: Methodology – field survey procedure, maintenance strategies.</li> <li>• Section 3: PCI Report - current PCI from inspection data for each pavement section.</li> <li>• Section 4: Budget Reports – impact of various budget scenarios on PCI and deferred maintenance, charts, and annual work programs.</li> <li>• Section 5: Backup Data                             <ul style="list-style-type: none"> <li>– Section Description Report – all pavement section data.</li> <li>– Inspection Inventory - pavement distresses, severity, and quantity for each pavement section inspected.</li> <li>– Maintenance treatment decision trees and inventory of applied historical treatments.</li> </ul> </li> </ul>	<p>Reports including all data generated from this project, incorporating your comments.</p>	<ul style="list-style-type: none"> <li>• Draft report for review by Town staff.</li> </ul>	<ul style="list-style-type: none"> <li>• Vijay Pulijal, PE (Project Manager)</li> <li>• Marissa Baclig (Pavement Technician)</li> <li>• Pual Muse (Pavement Technician)</li> </ul>
<b>7.0 TRAINING - FIELD DISTRESS SURVEY</b>				
7.1 Field Training	<p>Harris team will provide a field training for up to five staff members. As part of the field training, three to four streets will be inspected. The goal of this training is to provide skills and knowledge in the following areas:</p> <ul style="list-style-type: none"> <li>• Identify inspection units used for pavement inspections.</li> <li>• Identify pavement distresses collected for each inspection unit.</li> <li>• Learn techniques to ensure quality inspections of pavements</li> <li>• By the end of the field training, Agency staff will be capable of performing inspections independently.</li> </ul>			<ul style="list-style-type: none"> <li>• Vijay Pulijal, PE (Project Manager)</li> <li>• Paul Muse (Pavement Technician)</li> </ul>

**Town of Paradise  
Pavement Management System Update 2017**

**Proposed Scope of Work**

Task	Description	Your Benefit	Deliverable	Role/Person Responsible
<b>8.0 TRAINING - ONLINE STREETSAVER® PROGRAM</b>				
8.1 StreetSaver® Program Training	<p>Harris will provide half day training on the StreetSaver® program to Town Staff. This training will aim at providing users general concept on PMS and StreetSaver® software. Each module of the program will be covered. At minimum, following topics will be covered;</p> <ul style="list-style-type: none"> <li>• System requirements for accessing online StreetSaver® program.</li> <li>• Data Entry and Editing</li> <li>• PCI Calculations</li> <li>• Budget Scenarios &amp; Project selection</li> <li>• PMS Reports &amp; Graphs</li> </ul> <p>If the Town of Paradise integrates its GIS with the SStreetSaver® program, training on the GIS module will be covered.</p> <ul style="list-style-type: none"> <li>• General toolbar navigation</li> <li>• Standard Features</li> <li>• Creating project</li> <li>• Printing map</li> <li>• Exporting shapefiles</li> </ul>	StreetSaver® program knowledge		<ul style="list-style-type: none"> <li>• Vijay Pulijal, PE (Project Manager)</li> <li>• Marissa Baclig (Pavement Technician)</li> <li>• Paul Muse (Pavement Technician)</li> </ul>

# Town of Paradise Pavement Management System Update 2017

## Proposed Scope of Work

Task	Description	Your Benefit	Deliverable	Role/Person Responsible
<b>9.0 GIS SEGMENTATION AND MAPPING INTEGRATION</b>				
9.1 GIS Segmentation/ Mapping Integration/ Maps Generation	<p><b>a.</b> Harris will produce a shape file for the Pavement Management Program (PMP) from the Town's GIS street centerline shape file. The segmented PMP Shape file will match with the existing street section definitions from Town's pavement management program. This job will be accomplished post completion of inspections and before generating the analysis. Exact matching (i.e. fully linked) of the StreetSaver® data to the Town's shape file cannot be guaranteed.</p> <p><b>b.</b> Upon completion of GIS segmentation, Harris will provide the PMP-GIS segmented shape file to MTC for integrating the mapping with the StreetSaver® program. MTC charges a \$2,500 (Mapping integration fee) to integrate the segmented shape files into the Streetsaver program. Up to four (4) layers of shapefiles are included in the price. Examples of layers are street centerline, district council boundary, Town limits, and redevelopment district, block address, etc.</p> <p><b>c.</b> Harris will generate a PCI map and 5 year schedule of recommended treatments map.</p>	The shape file produced will be fully segmented to match with the street segments from the PMP Database.	<ul style="list-style-type: none"> <li>• Segmented Town's centerline shape file.</li> <li>• PCI Listing map color coded</li> <li>• Work plan map (5 year schedule of treatments)</li> </ul>	<ul style="list-style-type: none"> <li>• Paul Muse (Pavement Technician)</li> </ul>
<b>10.0 FINAL REPORT AND COUNCIL PRESENTATION</b>				
10.1 Final Report	After Town's review of the draft report, Harris will submit the final report and CD containing Town's PMS database. Three copies of the Final Report will be delivered, along with a CD containing the PMS files.		<ul style="list-style-type: none"> <li>• Three copies of Final Report.</li> <li>• CD with MTC PMS files.</li> </ul>	<ul style="list-style-type: none"> <li>• Vijay Pulijal, PE (Project Manager)</li> <li>• Marissa Baclig (Pavement Technician)</li> </ul>
10.2 Council Presentation	Harris will attend one Council meeting to present background, inventory, findings and recommendations.		<ul style="list-style-type: none"> <li>• Council Presentation.</li> </ul>	

**EXHIBIT "B"**

**Compensation**

# Cost Proposal

Cost Proposal PMP Update		Hourly breakdown by Personnel					
Task	Description	Project Director	Project Manager	Project Engineer	Field/Office Technician	Total	Total \$/Task
1.0	Project Administration	4	8	6	4	22	\$ 4,610
2.0	Pavement Database Setup and M&R UpdateA (MTC Fee indicated below)	0	2	2	6	10	\$ 1,590
3.0	Field Surveys and Field QA-QC	0	16	8	133	157	\$ 20,695
4.0	Inspection Data Entry and PCI Calculations	0	6	8	24	38	\$ 5,910
5.0	Budget Analysis	0	4	0	8	12	\$ 1,820
6.0	Draft Report	0	4	4	16	24	\$ 3,640
7.0	Training - Field Distress Survey	0	4	2	4	10	\$ 1,810
8.0	Training - Streetsaver Program	0	4	2	4	10	\$ 1,810
9.0	GIS Segmentation and Mapping IntegrationB (MTC Fee indicated below)	0	3	6	36	45	\$ 6,165
10.0	Final Report and Council Presentation	0	4	4	12	20	\$ 3,180
	Total Hours	4	55	42	247	348	
	Billable	\$ 1,000	\$ 12,375	\$ 9,450	\$ 28,405		

**Subtotal (Harris Fees): \$ 51,230**

## Assumptions:

1. A total of 100 centerline miles of the Town of Paradise's streets will be surveyed.
2. All the field inspection will be based on the ASTM D6433 standards (Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys).
3. Hours and fees are subject to adjustment during initial scoping session with Agency or subsequent directives from the Agency.
4. The above fee includes direct labor and overhead costs including transportation, living expenses, communication and materials.
5. Indirect expenses (such as mileage, duplicating, and postage) are included in the totals shown above.
5. Task 2.0 - Streetsaver online PMP will be setup and the data migration will be done by MTC. However M&R update will be performed by Harris.
6. Task 9.0 - Gis Segmentation task will be performed by Harris and the mapping integration will be done by MTC.
6. Task 9.0 - Agency's Street centerline shape file will be segmented to match with the PMP segments as part of this update by Harris.
7. Task 9.0 - This is a one-time GIS mapping segmentation charge and does not cover subsequent updates of new streets to the GIS shape file.
8. Task 9.0 - A PCI listing map will be generated color coded by PCI condition. Scenario maps will be generated using the Streetsaver GIS mapping features.

67

16 weeks  
348 hours

# Cost Proposal (Cont)

Fees Paid Directly to MTC		Software	Data	Annual	
Task	Description	Purchase (MTC)	Migration (MTC)	Fee (MTC)	Total
A	Pavement Database Setup (On-line Streetsaver™ 9.0)	n/a	\$ 3,000	\$ 1,500	\$ 4,500
B	GIS Mapping Integration with Streetsaver online program	One time MTC Integration fee only			\$ 2,500
<b>Subtotal (MTC Fees):</b>					<b>\$ 7,000</b>

## Assumptions (MTC Fee):

1. Task A - A new Pavement Management System ( MTC's online Streetsaver program) will be purchased and developed from scratch.
2. Task A - MTC charges \$3,000 towards data migration (one time fee varies depending on the available data) and \$1,500 towards the first year annual subscription fee.
3. Task A - Upon completion of this task MTC will provide Agency with the online credentials to access the program. Agency will forward them to Harris.
4. Task A - The segment attributes for each street will be added to MTC's Streetsaver program (PMP).
5. Task A - Historical Maintenance and inspection data (if provided by the Agency) will be migrated into the new PMP.
6. Task B - Upon completion of GIS segmentation, Harris will provide the PMP-GIS segmented shape file to MTC for integrating with the Streetsaver program.
7. Task B - MTC charges a \$2,500 ( Mapping integration fee) to integrate the segmented shape files into the Streetsaver program.
8. Task B - Up to four (4) layers of shapefiles are included in the price. Examples of layers are street centerline, district council boundary, city limits, redevelopment district, block address, etc.

**Lumpsum Harris and MTC Total  
(Including Harris and MTC Tasks):** **\$ 58,230**

## **EXHIBIT “C” – Insurance Requirements**

Consultant shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property, which may arise from or in connection with the performance of the work hereunder by the Consultant, its agents, representatives, or employees.

### ***Minimum Scope of Insurance***

Coverage shall be at least as broad as:

1. Insurance Services Office Commercial General Liability Coverage (occurrence form CG 0001).
2. Insurance Services Office form number CA 0001 (Ed. 1/87) Coverage Automobile Liability, code 1 (any auto).
3. Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.

### ***Minimum Limits of Insurance***

Consultant shall maintain limits no less than:

1. General Liability: \$1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability: \$1,000,000 per accident for bodily injury and property damage.
3. Employer's Liability: \$1,000,000 per accident for bodily injury or disease.

### ***Deductibles and Self-Insured Retentions***

Any deductibles or self-insured retentions exceeding \$25,000 must be declared to and approved by the Town. At the option of the Town, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the Town, its officers, officials, employees and volunteers; or the Consultant shall provide a financial guarantee satisfactory to the Town guaranteeing payment of losses and related investigations, claim administration and defense expenses.

### ***Other Insurance Provisions***

The commercial general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:

1. The Town, its officers, officials, employees and volunteers are to be covered as insured as respects: liability arising out of work or operations performed by or on behalf of the Consultant; or automobiles owned, leased, hired or borrowed by the Consultant.
2. For any claims related to this project, the Consultant's insurance coverage shall be primary insurance respects the Town, its officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the Town, its officers, officials, employees or volunteers shall be excess of the Consultant's insurance and shall not contribute with it.
3. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled by either party, except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the Town.

***Acceptability of Insurers***

Insurance is to be placed with insurers with a current A. M. Best's rating of no less than A: VII, unless otherwise acceptable to the Town.

***Verification of Coverage***

Consultant shall furnish the Town with original certificates and amendatory endorsements effecting coverage required by this clause. The endorsements should be on forms provided by the Town or on other than the Town's forms provided, those endorsements conform to Town requirements. All certificates and endorsements are to be received and approved by the Town before work commences. The Town on reserves the right to require complete, certified copies of all required insurance policies, including endorsements affecting the coverage required.



**TOWN OF PARADISE**  
**Council Agenda Summary**  
**Date: July 11, 2017**

**Agenda No. 6a**

**ORIGINATED BY:** Marc Mattox, Public Works Director / Town Engineer

**REVIEWED BY:** Lauren Gill, Town Manager

**SUBJECT:** Paradise Sewer Project Feasibility Report & Recommendation

**COUNCIL ACTION REQUESTED:**

1. Acknowledge and accept Bennett Engineering's Town of Paradise Sewer Project, Alternatives Analysis and Feasibility Report: Determining a Preferred Option for Implementation.
2. Concur with staff recommendation to:
  - a. Select the Direct Connection to the City of Chico Water Pollution Control Plant alternative as the preferred alternative
  - b. Commence efforts with the City of Chico to determine with certainty if they are willing to negotiate a regional connection
  - c. Defer Special Assessment District Formation until adequate funding has been secured for construction of the selected alternative.
  - d. Engage state and federal representatives on project need and alternative grant funding options
  - e. Secure additional grant funding for preliminary design and environmental studies

**Purpose:**

The purpose of this Council item is to formally accept the Alternatives Analysis and Feasibility Report, completed by Bennett Engineering. The study recommends taking the next steps toward construction of a viable wastewater treatment method enabling us to treat our effluent in a manner that allows us to remain a charming mountain community with a small town feel while ensuring our economic future and the future of our businesses. Treating our wastewater also allows for a better economy while protecting the groundwater.

**Background:**

Since its incorporation in 1979, the Town of Paradise has sought a formal wastewater treatment solution for various zones and boundaries, all of which primarily focused on commercial and densely populated residential areas – the portions of Paradise most vulnerable to groundwater degradation and economic stagnation due to sewer limitations.

Professional studies from industry experts in every decade since 1980 have been completed and all essentially come to the same conclusion: The Town of Paradise is running out of time. It is inevitable that the continual degradation of groundwater quality and exceedance of soil capacities to absorb and treat high volumes of wastewater will require action on behalf of the Town and its constituents.

The need to develop a sustainable wastewater solution for the core Paradise areas, along Skyway, Pearson and Clark Roads can be summarized in the following three reasons:

1. **The Economy:**

A town cannot survive when businesses close, and new businesses are precluded from operating due to septic issues and failures.

2. **The Environment:**

All septic systems fail eventually, and when they do they cause harm to the surrounding environment and ground water.

3. **The Community:**

As a bedroom community, Paradise needs good restaurants, shops and small businesses for our community to thrive, and without a sewer, it is difficult to maintain and attract these types of businesses in Town.

On April 12, 2016, Paradise Town Council awarded a contract to Bennett Engineering to analyze the Town's wastewater challenge and to draft an Alternatives Analysis and Feasibility Report. The report would analyze several options as detailed below, including a no project option and recommend the most feasible solution and next steps. The Town was fortunate to have been awarded a grant from the State Water Resources Control Board, funded through Proposition 1, the Water Quality, Supply, and Infrastructure Improvement Act of 2014, in order to pay for the feasibility report.

**Executive Summary:**

Alternatives in this study were analyzed to address sewer service reliability problems and select the best alternative for the Town to carry forward to district formation, preliminary design, and environmental documentation. Although many alternatives have been previously studied and estimated for cost, this study eliminated non-viable options and brought complete solutions together for evaluation on an equal basis. All alternatives that provide sewer service must be a "complete project."

A complete project has been defined by the project team as a project that provides for collection, treatment, and disposal in addition to being permit-able, construct-able, and financially and operationally feasible.

*The five options studied and analyzed under this report:*

- A. Localized Wastewater Treatment Plant with Effluent Land Application. Local sewer collection system for service area. Acquire land with adequate area for secondary level treatment plant and land application area to comply with Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements (WDR).
- B. Localized Wastewater Treatment Plant with Surface Water Discharge Location. Local sewer collection system for service area. Acquire land with adequate area for a tertiary level treatment plant and location for effluent discharge to creek. Will require a RWQCB National Pollutant Discharge Elimination System (NPDES) Permit.
- C. Regional Connection to the City of Chico Water Pollution Control Plant. Local sewer collection system for service area. Acquire right of way for regional pipeline and connection to the City of Chico WPCP. Requires regional agreement with the City of Chico and appropriate connection fee.
- D. Wastewater Treatment with Beneficial Reuse. Local sewer collection system for service area. Acquire land with adequate area for a tertiary level treatment. Treated effluent connected to reclaimed water system for distribution and re-use via irrigation. Excess reclaimed water would be taken to a land application area for irrigation.

- E. No Project. No collection system or treatment plant. The Town continues to function on septic systems and accept the environmental and economic risks.

Some of the additional efforts included in this study that prior studies did not include were public outreach and engagement and a socioeconomic study to assess both the beneficial economic aspects of building a major infrastructure project and the negative economic aspects of the “No Project” Option. The socio-economic study projected benefits to the Town and region that included 161 added jobs, additional \$12.8 million in sales and output to the region in all sectors, regional long-term impact of \$68 million in private and public investment, and \$56 million increase in the property tax base. The study also predicted a 5 to 13 percent property value increase for parcels within the sewer district.

The restrictions that continue under the “No Project” Option have a broader effect beyond individual businesses. They burden the overall local economy’s ability to grow and diversify, as well as limit resiliency of businesses during any sustained economic downturn. Business districts thrive and survive based on the diversity of its members and the goods and services provided. It is the collection of businesses, more than the sum of the individual ones, that draws customers to shop in a particular business district as opposed to other places (for example, Chico). Retail shoppers who come to the district may choose to purchase additional items from that of their original intended visit. There will be less incentive for potential customers to choose to visit the business district if the diversity of business offerings continues to shrink.

According to recent figures, on Skyway alone, 122 septic systems have failed in the last years or are predicted to fail in the next 10 years. Some systems can be replaced with batch systems or septic tanks with filter treatment systems at high individual cost; but only so long as adequate land area for leach field of the system effluent is available. Businesses without this option must operate a holding tank to be pumped on a regular basis and hauled to a septage receiving facility. Commercial property owners that cannot afford these options will likely have businesses fail as they cannot be re-sold without a viable sewer system. This is the fate for many of the businesses in the main corridors of the Town as systems fail.

*The top two options which have emerged as a result of this study:*

Two options emerged from the feasibility study and option analysis process with the highest scores: Regional Connection to the Chico WPCP and Localized Wastewater Treatment Plant with Beneficial Reuse. The Localized Treatment Plant had the lowest capital cost of the options at \$64 million, while a Regional Project was estimated to cost \$83 million.

However, the Regional Project had the lowest Net Present Cost over the 80 year life cycle and was chosen as the recommended option due to life cycle cost, environmental impacts, public impacts, and long term operational burden.

While the feasibility study identified the best long term solution for the Town, it did not identify an adequate source of grant funding to make the project economically feasible for the rate payers. The funding burden of the preferred options would require significant tax assessments, individual loans for equipment and connections, higher than average fees for operations and State Revolving Fund low interest loan payback.

In order to move forward with the Regional Connection to Chico WPCP, a memorandum of understanding will need to be worked through with the City of Chico Council. A significant source of additional grant funding will need to be identified to support the project beyond the maximum \$8 million allowed through the State Water Resources Control Board’s (SWRCB’s) SRF Program.

Since the issuance of the Draft Feasibility Report in February the scoring and ranking of the Local Wastewater Treatment with Beneficial Reuse option has increased. The site for this option has not been fully explored, however, several potential opportunities exist in the event in which the preferred alternative is unable to proceed.

It is the recommendation of this study that the direct connection to the City of Chico be pursued via negotiations with the City of Chico to achieve a memorandum of understanding and discussions with state and federal representatives progress to identify additional funding on the order of 70 to 75 percent of the project cost.

### **Staff Analysis and Recommendation:**

With the completion of the latest feasibility study, many themes can be used to summarize the public's reception of the project and the Town's persistent efforts to keep the community informed of the impacts of action, and inaction.

1. **Cost.** The cost of any project is always the top concern for the implementing agency and specifically how these costs affect the constituents which the projects aim to serve. As outlined in the executive summary, the price of a wastewater solution is not cheap. It is the opinion of staff that the current funding climate for project's such as the Town's is not built to support projects of this magnitude and type. Meaning, most published opportunities are written to support funding expansions and technology improvements – not building a wastewater treatment plant from laying the first foot of pipe to the last effluent diffuser to a receiving water body. This is why the Town remains certain that this project will move forward only with the support of our elected officials in Sacramento and Washington DC. While the environmental benefits of the project are many, the primary driver of a wastewater solution is achieving economic potential through improvements of community quality of life services. However, the Town cannot force a project upon the community for purely economic benefits and in the same action overly burden them with payments they cannot afford. ***As a result, pertaining to cost, staff recommends only proceeding with a future project for construction when supplemental grant funds have been secured, putting wastewater fees on residential and commercial properties which are in the same range as comparable communities with established treatment plants built when 75% grant funds were available for their construction.***
2. **Growth.** What makes Paradise unique is the ability for the Town to keep it's small-town feel with beautiful recreational amenities, a safe, close knit community and keeping our quality of life the best kept secret in Butte County. With the development of this feasibility study, many residents expressed similar concerns for cost as the potential change in Paradise's community character. In contrast, the Town continues to hear from local business owners, developers and residents that a sewer project is needed – now. Their desire for a project is not to make Paradise the next Chico, Roseville, or Sacramento. Moreover, they have either been directly impacted by a failed septic system with no alternatives for replacement or they see opportunities to make Paradise a better place to live. Not through the construction of high rise apartment complexes, but through the salon adding a few more chairs, our local brewery finding the right site to open a restaurant, or simply providing long-term security to their home's property value. ***Should a project move forward, regardless of treatment method, a drastic change or growth in Paradise is not expected.***
3. **History.** At several workshops through the development of this feasibility study, it was expressed as a reminder to those who opposed a sewer project in the early 1990s that many things have changed – but the need for a wastewater treatment solution has not. A

mostly funded project was cancelled and the supporting Council was recalled. Since this time, costs and environmental regulations have disproportionately increased to unprecedented levels for wastewater collection, treatment and dispersal. Inaction remains an unpredictable option. While the Town has successfully avoided any “cease and desist” orders from the State for groundwater and stream degradation, this may not be sustainable with an ever-changing regulatory climate. A cease and desist order from the State may have many variations, including but not limited to, a forced action to a treatment alternative with little financial support to do so. Examples of this can be found throughout the State, mostly where groundwater and associated groundwater quality directly impacts drinking water supply – conversely to the Town’s surface water provided through Paradise Irrigation District.

***With the feasibility study analysis performed by Bennett Engineering fully complete, staff is recommending Council to take action – to select an alternative, secure environmental review, right-of-way, and design grant funding while deferring district formation services until adequate construction grants can be secured.***

***Staff concurs with Bennett Engineering’s recommendation to formally select Direct Connection to the City of Chico Water Pollution Control Plant as the best path to move forward at this time. This option presents the best leverage of economies to scale, reduces the long term capital, operations and maintenance costs, and has the least environmental impact.***

With this decision made, the Town will be able to definitively solicit support for “a project” – one that is beyond the feasibility study phase and has community support (at a subsidized cost).

To move forward, staff recommends the following next steps:

1. Select the Direct Connection to the City of Chico Water Pollution Control Plant alternative as the preferred alternative
2. Commence efforts with the City of Chico to determine with certainty if they are willing to negotiate a regional connection
3. Defer Special Assessment District Formation until adequate funding has been secured for construction of the selected alternative.
4. Engage state and federal representatives on project need and alternative grant funding options
5. Secure additional grant funding for preliminary design and environmental studies

With the preparation of the Environmental Impact Report, the project will need to review sub-alternatives within the project, such as pipe alignments and pump station locations, as needed, to determine the project design which has the least environmental impact needing mitigation.

Regardless of the alternative selected, the Town of Paradise community can rest assured that a project will not advance to construction until adequate grants and other funding sources can be secured. In the meantime, staff and Council should remain committed to seeking 100% funding for a project. Expectations, however, should be near 70-75% grant funded.

***Finally, should the Town be able to secure any maximum amount of grant funding, the community must also rest assured that the process will come to a vote of the people. This vote would be strictly limited to those within the proposed district boundary and must be voluntarily passed in every project scenario.***

In summary, the Council is being asked to:

1. Acknowledge and accept Bennett Engineering's Town of Paradise Sewer Project, Alternatives Analysis and Feasibility Report: Determining a Preferred Option for Implementation.
2. Concur with staff's recommendation to:
  - a. Select the Direct Connection to the City of Chico Water Pollution Control Plant alternative as the preferred alternative
  - b. Commence efforts with the City of Chico to determine with certainty if they are willing to negotiate a regional connection
  - c. Defer Special Assessment District Formation until adequate funding has been secured for construction of the selected alternative.
  - d. Engage state and federal representatives on project need and alternative grant funding options
  - e. Secure additional grant funding for preliminary design and environmental studies

**Financial Impact:**

With the recommended actions, there are no new financial impacts to the Town of Paradise. One hundred percent of all costs associated with the feasibility report preparation are recoverable through the SWRCB grant obtained in 2016. Moving forward, staff plans to continue to utilize this grant to coordinate with the City of Chico on next steps and continue to seek additional funding with our Sacramento and Washington DC legislators to begin the design and environmental review phase.

**Attachments:**

1. Town of Paradise Final Sewer Project, Alternatives Analysis and Feasibility Report: Determining a Preferred Option for Implementation, dated June 21, 2017

TOWN OF PARADISE

# Sewer Project

Alternatives Analysis and Feasibility Report:  
Determining a Preferred Option for Implementation



JUNE 21, 2017





# TOWN OF PARADISE SEWER PROJECT

Alternatives Analysis and Feasibility Report:  
Determining a Preferred Alternative for Implementation

## TOWN COUNCIL

Scott Lotter, Mayor  
Jody Jones, Vice Mayor  
Greg Bolin, Council Member  
Melissa Schuster, Council Member  
Mike Zuccolillo, Council Member

## TOWN STAFF

Lauren Gill, Town Manager  
Marc Mattox, Town Engineer  
Colette Curtis, Administrative Analyst

## PROJECT STAKEHOLDERS GROUP

Town Council  
Town Staff  
Town Business Owners  
State Water Resources Control Board Staff  
State Revolving Fund Staff  
Butte County Environmental Services Staff  
City of Chico Staff  
Paradise Irrigation District Staff  
Chamber of Commerce

## ENGINEERING CONSULTANT

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1082 Sunrise Avenue, Suite 100  
Roseville, California 95661  
(916) 783-4100  
[www.ben-en.com](http://www.ben-en.com)



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## List of Abbreviations

<b>ADWF</b>	Average Dry Weather Flow
<b>APN</b>	Assessor's Parcel Number
<b>BRCP</b>	Butte Regional Conservation Plan
<b>BOD</b>	Biochemical Oxygen Demand
<b>CDF</b>	California Department of Finance
<b>CEC</b>	Contaminants of Emerging Concern
<b>CSD</b>	Crescent Sanitary District
<b>CT</b>	Residual Chlorine Concentration x Time
<b>CWA</b>	Clean Water Act
<b>DBP</b>	Disinfection Byproducts
<b>DEQ</b>	Department of Environmental Quality
<b>DRA</b>	Downtown Revitalization Area
<b>EDU</b>	Equivalent Dwelling Unit
<b>EGL</b>	Energy Grade Line
<b>EPA</b>	Environmental Protection Agency
<b>GPD</b>	Gallons Per Day
<b>I/I</b>	Inflow and Infiltration
<b>MBR</b>	Membrane Bioreactor

<b>MGD</b>	Million Gallons per Day
<b>MHI</b>	Median Household Income
<b>MOU</b>	Memorandum of Understanding
<b>MPN</b>	Most Probable Number
<b>NPC</b>	Net Present Cost
<b>NPDES</b>	National Pollutant Discharge Elimination System
<b>O&amp;M</b>	Operations and Maintenance
<b>OWTS</b>	Onsite Wastewater Treatment Systems
<b>PDWF</b>	Peak Dry Weather Flow
<b>POTW</b>	Publicly Owned Treatment Works
<b>PSG</b>	Project Stakeholder Group
<b>PWWF</b>	Peak Wet Weather Flow
<b>RDA</b>	Redevelopment Area
<b>ROW</b>	Right-of-Way
<b>ROWD</b>	Report of Waste Discharge
<b>RV</b>	Recreational Vehicle
<b>RWQCB</b>	Regional Water Quality Control Board
<b>SDWTS</b>	Small Domestic Wastewater Treatment Systems
<b>SRF</b>	State Revolving Fund
<b>STEG</b>	Septic Tank Effluent Gravity
<b>STEP</b>	Septic Tank Effluent Pumping
<b>SWRCB</b>	State Water Resources Control Board
<b>UPA</b>	Urban Permit Area
<b>UV</b>	Ultraviolet
<b>WDR</b>	Waste Discharge Requirement
<b>WPCP</b>	Water Pollution Control Plant
<b>WWTP</b>	Wastewater Treatment Plant



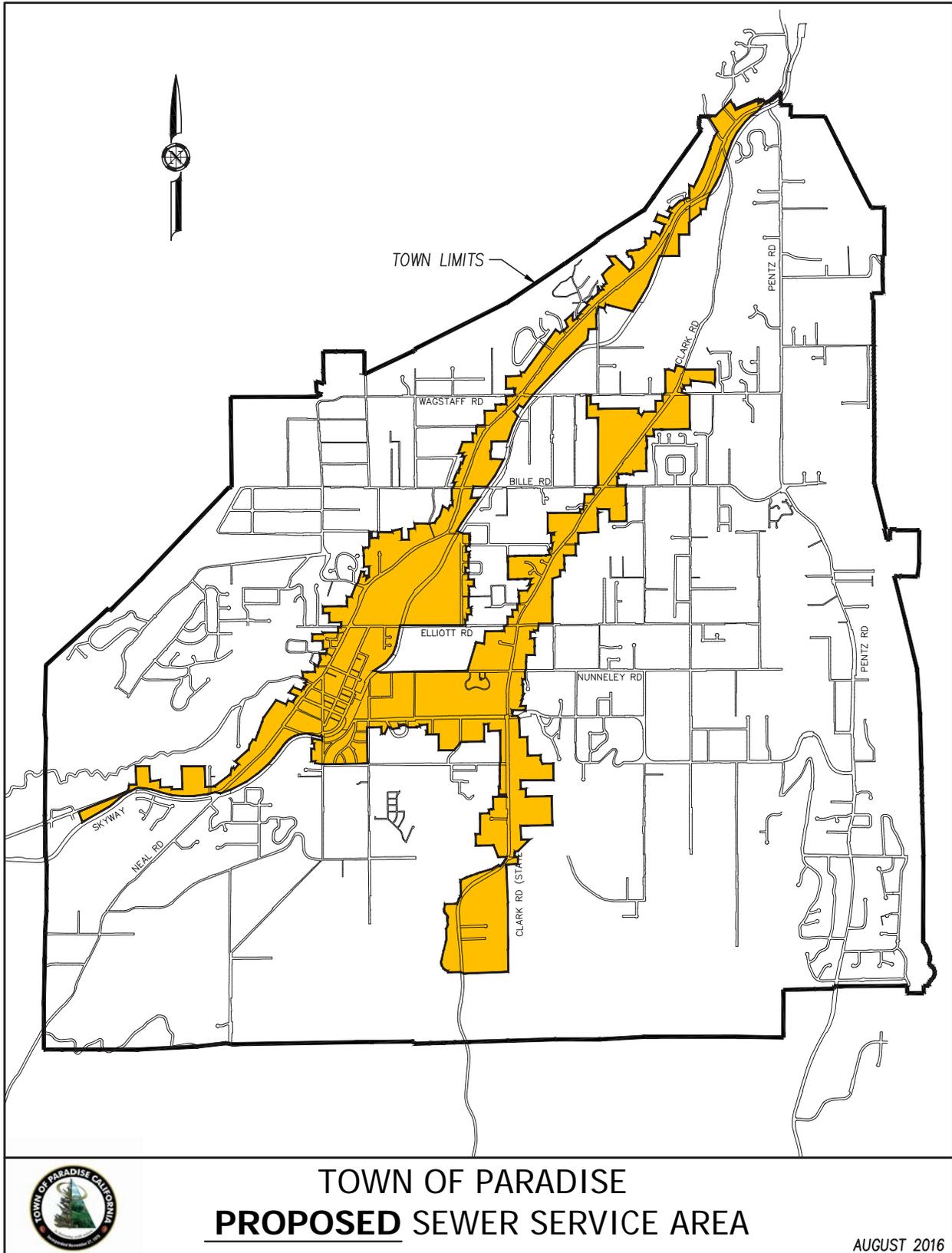


Figure 1.1: Town of Paradise Proposed Sewer Service Area.

## Executive Summary

Since its incorporation in 1979, the Town of Paradise has sought a formal wastewater treatment solution for various zones and boundaries, all of which primarily focused on commercial and densely populated residential areas – the portions of Paradise most vulnerable to groundwater degradation and economic stagnation due sewer limitations. Professional studies from industry experts in every decade since 1980 have been completed and all essentially come to the same conclusion: The Town of Paradise is running out of time. It is inevitable that the continual degradation of groundwater quality and exceedance of soil capacities to absorb and treat high volumes of wastewater will require action on behalf of the Town and its constituents.

According to recent figures, on Skyway alone, 122 septic systems have failed or are predicted to fail in the next 10 years.

*According to recent figures, on Skyway alone, 122 septic systems have failed or are predicted to fail in the next 10 years.*

Some systems can be replaced with batch systems or septic tanks with filter treatment systems at high individual cost; but only so long as adequate land area for leachfield of the system effluent is available. Businesses without this option must operate a holding tank to be pumped on a regular basis and hauled to a septage receiving facility. Commercial property owners that cannot afford these options will likely have businesses fail as they cannot be re-sold without a viable sewer system. This is the fate for many of the businesses in the main corridors of the Town as systems fail.

Options are available for failed systems but they come at a significant cost and disruption of service. Another limitation for the town is that additional multi-family housing cannot be developed as current on-site septic restrictions will not allow the development density due to wastewater flows. The current on-site policies used to protect groundwater quality and public health have contributed to the stagnation

*The current on-site policies used to protect groundwater quality and public health have contributed to the stagnation of population and economic growth in the Town. A wastewater collection and treatment system could alleviate these limitations for the Town.*

of population and economic growth in the Town. A wastewater collection and treatment system could alleviate these limitations for the Town.

This Feasibility Study marks the 7th study to assess the problem, review prior work, and develop alternatives. Alternatives in this study were analyzed to address sewer service reliability problems and select

the best alternative for the Town to carry forward to district formation, preliminary design, and environmental documentation. Although many alternatives have been previously studied and estimated for cost, this study eliminated non-viable options and brought complete solutions together for evaluation on an equal basis.

All alternatives that provide sewer service must be a “complete project.” A complete project has been defined by the project team as a project that provides for collection, treatment, and disposal in addition to being permit-able, construct-able, and financially and operationally feasible. The five options are as follows:

- A. **Localized Wastewater Treatment Plant with Effluent Land Application.** Local sewer collection system for service area. Acquire land with adequate area for secondary level treatment plant and land application area to comply with Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements (WDR).
- B. **Localized Wastewater Treatment Plant with Surface Water Discharge Location.** Local sewer collection system for service area. Acquire land with adequate area for a tertiary level treatment plant and location for effluent discharge to creek. Will require a RWQCB National Pollutant Discharge Elimination System (NPDES) Permit.
- C. **Regional Connection to the City of Chico Water Pollution Control Plant.** Local sewer collection system for service area. Acquire right-of-way for regional pipeline and connection to the City of Chico

WPCP. Requires regional agreement with the City of Chico and appropriate connection fee.

- D. **Wastewater Treatment with Beneficial Reuse.** Local sewer collection system for service area. Acquire land with adequate area for a tertiary level treatment. Treated effluent connected to reclaimed water system for distribution and re-use via irrigation. Excess reclaimed water would be taken to a land application area for irrigation.
- E. **No Project.** No collection system or treatment plant. The Town continues to function on septic systems and accept the environmental and economic risks.

Some of the additional efforts included in this study that prior studies did not include were public outreach and engagement and a socio-economic study to assess both the beneficial economic aspects of building a major infrastructure project and the negative economic aspects of the No Project Option. The socio-economic study projected benefits to the Town and region that included 161 added jobs, additional \$12.8 million in sales and output to the region in all sectors, regional long term impact of \$68 million in private and public investment, and \$56 million increase in the property tax base. The study also predicted a 5 to 13 percent property value increase for parcels within the sewer district.

*The socio-economic study projected benefits to the Town and region that included 161 added jobs, additional \$12.8 million in sales and output to the region in all sectors, regional long term impact of \$68 million in private and public investment, and \$56 million increase in the property tax base.*

The restrictions that continue under the No Project Option have a broader effect beyond individual businesses. They burden the overall local economy's ability to grow and diversify, as well as limit resiliency of businesses during any sustained economic downturn. Business districts thrive and survive based on the diversity of its members and the goods and services provided. It is the collection of businesses, more than the sum of the individual ones, that draws customers to shop in a particular business district as opposed to other places (for example, Chico). Retail shoppers who come to the district may choose to purchase additional items from that of their original intended visit. There will be less incentive for potential customers to choose to visit the business district if the diversity of business offerings continues to shrink.

The project team implemented a public outreach strategy that engaged both small groups and the public at large. The project team engaged a Project Stakeholder Group (PSG) to gather feedback through the study process and assist in the development of alternative selection criteria and weighting for preferred option selection. Public meetings were also held throughout the study to inform stakeholders and gather feedback for the project team. The Draft Sewer Project Feasibility Report was issued for public comment at the end of February 2017. A presentation outlining the main points of the study was given at a special City Council meeting on February 28, 2017 and questions and comments were addressed. Written public comments were provided to the project team via letters, comment cards, e-mails, and notes. An open public workshop for questions and answers related to the Draft Feasibility Report was held on March 22, 2017. A collection of comment responses are attached as appendix to this Final Report and the entire public feedback process led to some changes between the Draft and Final Reports.

Two options emerged from the feasibility study and option analysis process with the highest scores: Regional Connection to the Chico WPCP and Localized Wastewater Treatment Plant with Beneficial Reuse. The Localized Treatment Plant had the lowest capital cost of the options at \$64 million, while a Regional Project was estimated to cost \$83 million. However, the Regional Project had the lowest Net Present Cost over the 80 year life cycle and was chosen as the recommended option due to life cycle cost, environmental impacts, public impacts, and long term operational burden.

The draft allocation of available grant, State Revolving Fund (SRF) loan, and property tax assessment yielded preliminary rates that are higher than adjacent and similar sewer agencies. This is primarily due to a difference in what the other agency rates are actually paying for. Most sewer rates are paying for operations and maintenance and some level of SRF loan or capital fund for system expansions, recent wastewater treatment plant (WWTP) upgrades, and re-investment. But almost no other agency we compare rates to is currently paying back the cost of building an entire collection system, major conveyance, and treatment plant. That being said, it is clear that the cost is significant and will be a considerable burden to the residents and business owners within the sewer service area. The project team believes additional grant funds will need to be identified in order to form an assessment district and move forward with a vote.

While the feasibility study identified the best long term solution for the Town, it did not identify an adequate source of grant funding to make the project economically feasible for the rate payers. The funding burden of the preferred options would require significant tax assessments, individual loans for equipment and connections, higher than average fees for operations and State Revolving Fund low interest loan payback. In order to move forward with Option C – Regional Connection to Chico WPCP, a memorandum of understanding will need to be worked through with the City of Chico Council. A significant source of additional grant funding will need to be identified to support the project beyond the maximum \$8 million allowed through the State Water Resources Control Board's (SWRCB's) SRF Program.

Since the issuance of the Draft Feasibility Report in February the scoring and ranking of the Local Wastewater Treatment with Beneficial Reuse option has increased. The site for this option has not been fully explored, however, several potential opportunities exist in the event in which the preferred alternative is unable to proceed.

It is the recommendation of this study that Option C be pursued via negotiations with the City of Chico to achieve a memorandum of understanding and discussions with state and federal representatives progress to identify additional funding on the order of 70 to 75 percent of the project cost.

## **PROJECT NEXT STEPS**

1. Town council endorsement of preferred option(s)
2. Negotiation for memorandum of understanding with the City of Chico
3. Obtain additional grant funding for preliminary design and environmental documentation
4. Obtain commitments for additional grant funding for design and construction
5. Assessment District formation and vote
6. Secure loans and Assessment (Bond Sale)
7. Final design and right-of-way acquisition
8. Project construction and start-up

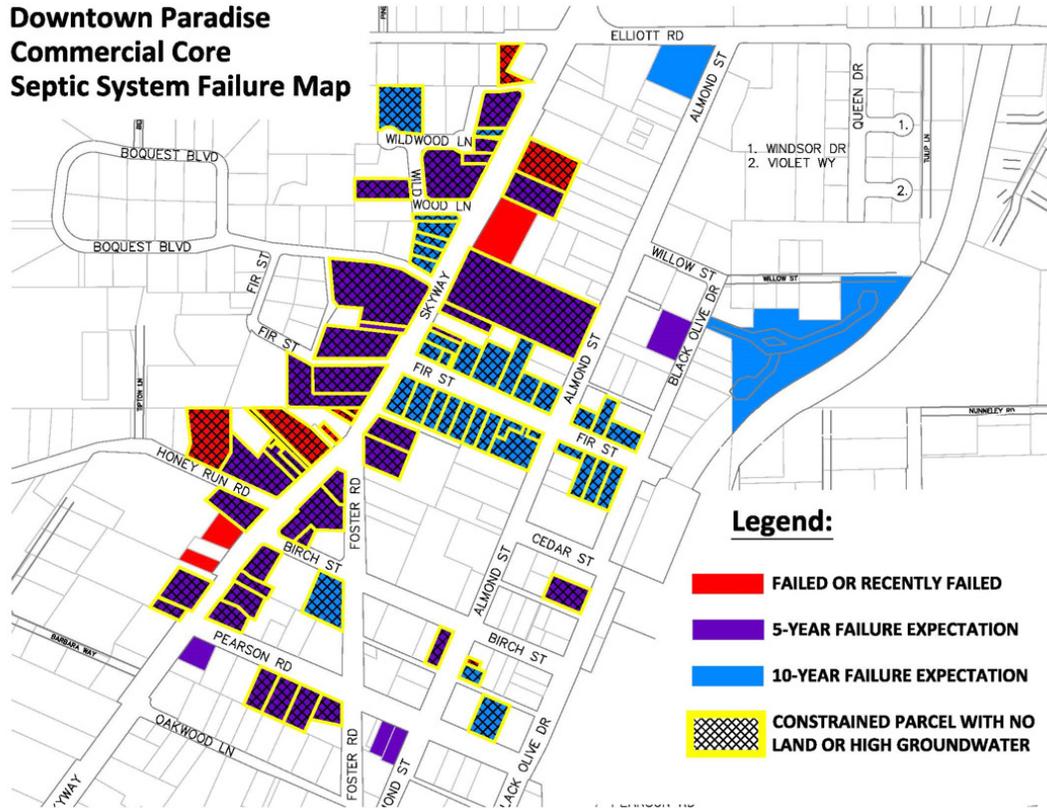


# 1

## Background and Problem Statement

The need for a centralized wastewater treatment solution in Paradise may be the single most studied, unfunded capital project in Butte County. A Town of over 26,000 residents with high groundwater, poor soil percolation and limited land, cannot continue to rely on individual septic tanks and leach fields indefinitely—at least not in all sections of the Town. Since its incorporation in 1979, the Town of Paradise has sought a formal wastewater treatment solution for various zones and boundaries, all of which primarily focused on commercial and densely populated residential areas—the portions of Paradise most vulnerable to groundwater degradation and potential economic stagnation. In every decade since 1980, professional studies from industry experts have been completed and all essentially come to the same conclusion: The Town of Paradise is running out of time. It is inevitable that the continual degradation of groundwater quality and exceedance of soil capacities to absorb and treat high volumes of wastewater will require action on behalf of the Town and its constituents. Prior studies have recommended plans and policies which have been implemented and provide benefit to defer collection and centralized treatment Town-wide, but for the densely populated residential and commercial corridors in Paradise, time is of the essence.

**Downtown Paradise  
Commercial Core  
Septic System Failure Map**



**Figure 1.1 – Downtown Paradise Commercial Core Septic System Failures**

According to recent figures, 27 septic systems have already failed on Skyway alone, with 39 systems predicted to fail in five years and 56 systems predicted to fail in the next ten years. A depiction of the Town’s commercial core septic system failures is shown in **Figure 1.1**.

The lack of a sewer system has a twofold impact—both are very important local and regional drivers. The first is an impact on the area’s economy and the second is on the environment.

If the economy in Paradise suffers, the regional economy suffers as well. Regional economic hubs, like the City of Chico, depend upon profitable local economies to be successful.

*If the economy in Paradise suffers, the regional economy suffers as well.*

Even in a healthy economy, many of the businesses in Paradise cannot afford the high cost of septic system repairs or replacement.

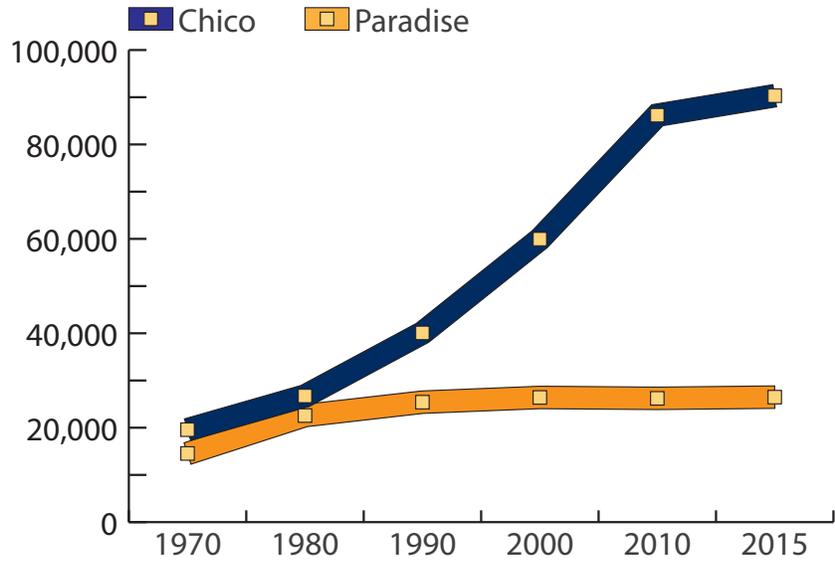
Continual operation of septic systems and leach fields impose inherent limitations on businesses that affect their ability to make a profit or create jobs. The creation of jobs provides regional cash flow and the potential for a better quality of life for area residents.

Residential properties within the proposed service area also suffer due to the lack of sewer. Many residential parcels in the densely populated and commercial areas of Town are constrained by small size (and lack of sufficient area for additional leach fields), and high ground water. With the construction of a sewer, currently constrained parcels could be developed into multi-family housing or low income/fixed income housing. As a recipient of a HOME Grant from California State Housing and Community Development, the Town of Paradise is required to offer a certain number of low income housing units that it is currently unable to meet due to septic constraints. Development of low income multi-family housing made possible by a sewer could help the Town comply with these regulations.

The lack of a viable sewer infrastructure to serve the commercial and densely populated residential areas is not only a detriment to the local and regional economy, but also poses an environmental threat to groundwater and surface water, both precious regional resources. The practice of collecting wastewater and processing through individual septic tanks and leach fields has a direct impact to water resources. The same limitations which restrict economic development, also protect groundwater resources. The Town of Paradise has proven that successful monitoring and enforcement can prevent blatant and negligent groundwater contamination, yet environmental risk for discharging the wastewater of over 26,000 people within 18.3 square miles of land remains highly disconcerting. Efforts to reduce this risk to local groundwater through identification and collection of the most concentrated wastewater flows must be explored.

*The lack of a viable sewer infrastructure to serve the commercial and densely populated residential areas is not only a detriment to the local and regional economy, but also poses an environmental threat to groundwater and surface water, both precious regional resources.*

The decision to finance and build a collection and treatment system has been deferred several times due to concerns over costs and the necessary political will to implement a project. The effect of this inaction is significant. Many businesses are dealing with failing septic systems with inadequate leach field capacity and they lack the land area to correct the situation. The only remaining individual remedy available to them is sewage holding tanks that need to be pumped out regularly or expensive, engineered, on-site batch treatment systems that produce a higher quality effluent to the leach fields but still require adequate land area for



**Figure 1.2 – Town of Paradise and City of Chico Population Change Since 1970**  
 (Source U.S. Census, retrieved June 4, 2015. 2015 Estimated)

dispersal. For some, neither of these options are viable and subsequently the property becomes abandoned—literally destroying the economic future of the Town.

*The lack of economic growth tied to the lack of a sewer system may have contributed to the stagnant population and a distressingly stagnant economy.*

The Town of Paradise’s challenges with sewer collection and treatment are not unique. Many small to medium size communities have endeavored to plan, finance, design, construct, and operate wastewater systems where none had existed before. Motives for such projects varied between communities, including mandates due to groundwater degradation. Through review of these projects, it is clear that improving groundwater quality and increasing the water supply are two key objectives of the State of California. Both of these goals are attainable through a wastewater collection, treatment, and dispersal solution which fits the needs of the Town of Paradise.

### **A LOOK BACK**

Over the past four decades—even before the Town’s incorporation (1979)—the effects of wastewater from the Town’s onsite septic systems have been studied as to their impacts on local streams. Many of the studies identified the Town’s commercial areas and associated onsite septic systems would cause severe limitations and negatively affect streams due to the commercial area concentration and volume. Several independent studies and reports have supported these claims and set the foundation for current and ongoing wastewater treatment and disposal solutions considered in this report.

## HISTORICAL STUDIES

A common theme in many of the previous studies is the prediction of future population as it relates to future sewer flows. The benefit of 30 years of hindsight shows that all of the previous reports significantly overestimate population in the future, **Figure 1.2**. The current population of the Town is 26,476 which is equivalent to the population in 2000. The lack of economic growth tied to the lack of a sewer system may have contributed to the stagnant population and a distressingly stagnant economy.

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### Study No. 1: 1983 Wastewater Management Study Phase 1 Report and Supplementary

The 1983 study focused on groundwater quality and potential degradation due to septic systems and leach fields. The study monitored shallow wells for fecal coliforms and Nitrate. The study evaluated performance of the majority of septic systems as adequate and that through proper inspection and maintenance, the existing systems could continue to function. It was recommended that only the Middle and Upper Honey Run and Lower Skyway basins pursue a centralized wastewater collection and treatment at that time.

Discussion of bacteriological samples in the lower Skyway Basin yielded this conclusion:

***“...high septic system density has resulted in wastewater application rates which appear to have exceeded the assimilative capacity of the soil mantle and have caused water quality degradation and potential public health hazards.”***

The report predicted the population of the Town to reach 29,000 by 1992 and 35,000 by 2002. Wastewater flow projections for the sewer service area arrived at 1.68 mgd for Average Dry Weather Flow (ADWF) and 4.2 mgd for Peak Wet Weather Flow (PWWF).

The supplementary study's intent was to document the need for centralized wastewater management facilities. This was accomplished by bacteriological study of surface water samples near the central Skyway area. Samples were tested for fecal coliforms, fecal streptococcus, and total coliforms. The result of the supplementary study was that a serious pollution problem did not exist in most of the streams of the central Skyway area. The study recommended implementation/continuation of the sewer ordinance mandated in 1984 to limit loading rate of leach fields in high density areas to 900 gal/acre-day.

*The study concluded that the Town should start planning for collection and treatment in the commercial areas via clustered treatment systems. It was felt that the clustered concept would eventually give way to a centralized system for the Town as growth demanded.*

The sample sites should likely be revisited and re-sampled to compare to the prior study to identify if there has been further water quality degradation in the last 30-plus years.

The study concluded that the Town should start planning for collection and treatment in the commercial areas via clustered treatment systems. It was felt that the clustered concept would eventually give way to a centralized system for the Town as growth demanded. The short-term recommendation also suggested the development of an on-site wastewater management district (septic tank and leach field monitoring program), which was soon implemented by the Town.

*The report proposed paying for the \$17.8 million capital cost with property assessment and connection fees of \$1,500 per user initially. Monthly rates were estimated at \$30 per month with 60 percent going to debt service and 40 percent paying for system operations and maintenance costs.*

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### **Study No. 2: 1985 Wastewater Management Plan Phase II Report**

Objectives of this study included development of an on-site wastewater management district, with rules, regulations, and financing; development of a long range plan for sewer collection and treatment for the central commercial areas, Skyway and Clark Roads, including financing; and developing long range plans for disposal of septage. Finally, the report discussed options for hazardous waste management.

This study predicted a population of 32,000 in 1995 and 35,000 in 2005. Flow projections for the service area assumed an ADWF of 1.2 mgd and a build out ADWF of 2.4 mgd. At the time of the report more than 100 on-site systems needed annual repairs and more were chronically malfunctioning in the Town.

The study evaluated four options for collection and treatment including a regional option to the City of Chico. The study also considered a dam and storage for reclaimed water. Based on cost estimates and present worth evaluation for the options, the report recommended an aerated lagoon process for treatment and a gravity system for collection. The study also recommended energy turbine recovery for the effluent pipeline with various effluent disposal options including a dammed reservoir, land application, and fodder crop irrigation on the lands between “the Ridge” and HWY 99.

The study estimated the connection fee to the City of Chico's Water Pollution Control Plant (WPCP) using Chico's development criteria based on Equivalent Dwelling Units (EDUs) and estimated connection at \$7.7 million in two phases totaling \$15.5 million (1985 dollars). Therefore, it recommended land application and treatment as the cheaper option over regional connection.

The report proposed paying for the \$17.8 million capital cost for the wastewater treatment plant with property assessment and connection fees of \$1,500 per user initially. Monthly rates were estimated at \$30 per month with 60 percent going to debt service and 40 percent paying for system operations and maintenance (O&M) costs.

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### **Study No. 3: 1992 Wastewater Collection, Treatment and Disposal Preliminary Design Report**

This study includes the preliminary design and costs for the wastewater collection system and treatment system to serve the commercial corridors of the Town. The study anticipated serving 3,010 EDUs initially and 7,800 EDUs at buildout, which equates to an ADWF at buildout of 1.56 mgd.

For the collection system, this study deviated from the 1985 study and recommended a hybrid system including both Septic Tank Effluent Pumping (STEP) and gravity collection with a few lift stations to serve the service area. Recommendations were based on a 20-year horizon and present worth analysis of capital and O&M for each option.

The recommended treatment system was aerated ponds followed by sand filtration and ultraviolet (UV) disinfection with a stream discharge to Nugen Creek. Wastewater reclamation was analyzed but found to be too expensive to produce versus current irrigation cost of potable water from Paradise Irrigation District.

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### **Study No. 4: 2004 Downtown Revitalization Area Clustered Wastewater Treatment System Master Plan**

After the commercial corridor collection and treatment system failed to advance in 1993, alternative plans needed to be made by the downtown area to alleviate septic system failures. The Town of Paradise Redevelopment Agency developed a master plan for clustered wastewater treatment and disposal system.

The intent was to serve the redevelopment area and have a treatment capacity of 100,000 gallons per day serving 93 residential lots and 187 commercial lots. The treatment system would continue to rely on infiltration via buried equalization tanks, aeration tanks, digesters, clarifier tank, and disinfection tanks on a six-acre parcel. This system would produce a higher quality effluent than a traditional septic tank, but would need appropriate land with good percolation characteristics for disposal.

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**Study No. 5: 2010 Wastewater Treatment and Collection System Feasibility Study for the Downtown Cluster System**

This study consisted of feasibility design and evaluation of a clustered wastewater system for the Downtown Revitalization Area (DRA) as well as other commercial corridors (redevelopment areas (RDAs)). Key issues identified in this report include: a conventional gravity sewer system was not feasible and a STEP system was recommended for the collection system; and the key to providing sewer service was identifying adequate dispersal area for the sewer effluent.

The study recommended a MBR treatment system for the treatment plant with the incorporation of a septage receiving facility. It was anticipated that flow would be 184,000 gpd for the DRA and RDA-1, which would equate to Phase I of the system. Phase II and III would include the DRA and all of the RDAs and design flow was estimated to be 534,000 gpd. The cost of collection, treatment, and dispersal for Phase I was estimated at \$20 million (2010 dollars).

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**Study No. 6: 2012 TOP Wastewater Treatment Historical Background and Comparative Analysis**

Report to council included a problem statement and discussion of the project need. It also included a recap of previous studies. The focus of the report is the description and analysis of three collection and treatment options. The options include:

1. STEP collection system with MBR treatment and land application of effluent just outside of Town limits along the Skyway corridor
2. Collection system with a regional pipeline to the City of Chico WPCP
3. Collection system with treatment plant, storage, and effluent re-use at the Tuscan Ridge Golf Course

Town Council directed staff to further study Options 2 and 3. Analysis depicted the storage component of the Tuscan Ridge option problematic with regards to dam safety and permitting. Therefore the regional option was selected as preferred due to cost and permitting complexity and time requirements.

## PURPOSE OF THE CURRENT FEASIBILITY REPORT (STUDY NO. 7)

The purpose of the 2017 Sewer Project is to develop options to address sewer service reliability problems and select the best alternative for the Town to carry forward to district formation, environmental documentation, and preliminary design. Although many options have been previously studied and estimated for cost, this study will eliminate non-viable options and bring complete solutions together for evaluation on an equal basis.

All options that provide sewer service must be a “complete project.” A complete project is a project that provides for collection, treatment, and disposal in addition to being permit-able, construct-able, and financially and operationally feasible.

The report evaluates project cost, sewer service area, funding options, anticipated regulatory requirements, and public support for the five options. The five alternates are:

- A. **Localized Wastewater Treatment Plant with Effluent Land Application.** Local sewer collection system for service area. Acquire land with adequate area for secondary level treatment plant and land application area to comply with RWQCB Waste Discharge Requirements (WDR).
- B. **Localized Wastewater Treatment Plant with Surface Water Discharge Location.** Local sewer collection system for service area. Acquire land with adequate area for a tertiary level treatment plant and location for effluent discharge to creek. Will require a RWQCB National Pollutant Discharge Elimination System (NPDES) Permit.
- C. **Regional Connection to the City of Chico Water Pollution Control Plant.** Local sewer collection system for service area. Acquire right-of-way for regional pipeline and connection to the City of Chico WPCP. Requires regional agreement with the City of Chico and connection fee.
- D. **Wastewater Treatment with Beneficial Reuse.** Local sewer collection system for service area. Acquire land with adequate area for a tertiary level treatment. Treated effluent connected to reclaimed water system for distribution and re-use via irrigation. Excess reclaimed water would be taken to a land application area for irrigation.
- E. **No Project.** No collection system or treatment plant. The Town continues to function on septic systems and accept the environmental and economic risks.

*A complete project has been defined by the project team as a project that provides for collection, treatment, and disposal in addition to being permit-able, construct-able, and financially and operationally feasible.*



# 2

## No Project Alternative and Socio-Economic Study

### **SOCIO-ECONOMIC STUDY**

A variety of economic factors can influence the community decision to invest in a sewer project for the commercial core of the Town of Paradise. This section details the economic impacts and related issues associated with the proposed sewer project, beginning with a brief overview of public investment and the community and property impacts of sewer investment. Quantitative benchmarks are provided.

Other communities have faced the decision of providing a centralized sewer system before the Town of Paradise. Case studies from these communities provide valuable insight and lessons learned. Relevant studies will be discussed in this section. A reconnaissance forecast of the economic impacts of the proposed sewer project is presented. The impact estimates rely on parameters and factors developed in comparable studies, and are applied to current estimates of construction cost.

It should be noted that similar studies and communities have been evaluated and projections from that data help form the expectations of economic benefit for the Town of Paradise as a region. The individual commercial benefits are not evaluated because every business is different and there are many factors that control their growth and success. It is not possible, within the scope of this study, to predict

improved revenues for each business or type of business within the Town. However, it is clear that removing barriers to entry (high sewer septic tank treatment systems initial cost) for new business has a cascading benefit to the economic health of a community and those regional benefits are discussed here. Economics of Public Investment

Public infrastructure is considered the foundation for economic development. A vibrant community requires access to roads, water, sewer, communication technologies, and electricity. Investment in both the infrastructure (i.e., the purchase of physical plant and

*Improved water treatment and sewer plants have been identified as one of the infrastructure types most responsible for improving economic productivity.*

equipment) and the operation and maintenance (e.g., labor, supplies) of these structures will expand the productive capacity of an economy, by both increasing resources and enhancing the productivity of existing resources.

A wide variety of empirical research recognizes the importance of infrastructure to the growth

and function of a regional economy. Regions that lead in economic development have better physical infrastructure. The studies that find a positive impact conclude that public infrastructure stimulates economic activity in two primary ways: by increasing the productivity of private businesses, or as an unpaid factor of production (Janeski and Whitacre, 2014). Private inputs are typically purchased in an open market; however, public capital is provided by government and financed through taxes. Because tax payments are not necessarily connected to the quantity of public capital used by private businesses, public capital can be seen as an unpaid input to the businesses' production process. Aschauer (1989) argued that public investment creates an increase in the rate of return to private capital, resulting in private investments four to seven times as large as the original public investments themselves. Improved water treatment and sewer plants have been identified as one of the infrastructure types most responsible for improving economic productivity.

### **ECONOMIC IMPACTS OF SEWER INVESTMENT**

Economic impact studies show a direct correlation between economic growth and public infrastructure investment. A review of the economic impacts of public investment in water treatment and sewers found that these investments yield positive returns and have greater returns than most other types of public infrastructure investments. New sewer development generates direct, short-term benefits through construction activity and labor, and long-term benefits through economic activity required for operation and maintenance of the sewer infrastructure.

Indirect benefits are generated to virtually all other sectors of the economy through need for equipment, materials, and supplies; insurance and financing services; fuel; and restaurants and retail establishments, as required by construction activity and laborers. In addition, locally-earned wages and income is re-spent in the local community following normal household spending patterns for goods, services, and taxes.

In general, a community decision to upgrade to a sewer system will recognize these benefits:

1. Cleaner water with fewer bacteria and disease-causing pathogens in creeks.
2. Safer drinking water in areas where poor septic tanks threaten the same groundwater also used for drinking water.
3. A more attractive community for businesses looking to locate in a small Town, but avoid operating their own wastewater treatment system.
4. Increased home values for properties within the district, as buyers want to avoid upgrading or maintaining a private septic system. Increased home values for properties outside the district as the overall economy of Paradise improves.

In-depth research on the economic impact of rural water and sewage investments was conducted by Bagi (2002). Bagi's study examined the impact of 87 water and sewer projects across 30 different states, with 54 located in urban areas and 33 in rural areas. The Economic Development Administration (EDA) financed all of the projects in the study.

Each project was built for specific businesses or potential investors. The potential to attract new businesses was found to be an indirect benefit. Businesses that would use the new water and sewage system, including retail stores and other services, would emerge as a result of increased economic activity, population, and personal and family income.

Among the rural water/sewer projects, total construction cost per project was \$1,418,738 in 1990 dollars (or \$2,325,230 in current dollars). The study determined that every dollar spent in constructing an average water/sewer project:

- Generated almost \$15 of private investment
- Leveraged \$2 of public funds
- Added \$14 to the local property tax base

*Businesses that would use the new water and sewage system, including retail stores and other services would emerge as a result of increased economic activity, population, and personal and family income.*

Results of the study showed that investments in sewer projects can save and create additional jobs, stimulate private sector investment, attract additional government funds, and increase the property tax base.

A later study by Krop, et al. (2008) explored the economic contribution of water and sewer investment on the local and regional economy. The primary output of the water and sewer industry is clean water. Producing this output requires infrastructure (new and rehabilitated), water treatment supplies, and labor (operating and maintaining infrastructure). Because output is used as an input for households (wages and water) and industry (water), increases in water and sewer output has a direct impact on other sectors of the economy. The authors cite U.S. Bureau of Economic Analysis estimates that each dollar of output in the water and wastewater sector results in an additional \$2.095 of output in all sectors combined (as a “multiplier effect”). In addition, for every job in the water and sewer industry is responsible for another 2.9177 jobs in the economy. The numbers cited apply to California, which are somewhat lower than for the United States as a whole.

A detailed study for the Water Research Foundation and Water Environment Research Foundation by AECOM (2014) estimated that nationally, on average, every \$1 million in direct spending (capital and operating) by surveyed water and wastewater utilities supports 16 jobs across all sectors of the economy.

### **Impacts on Property Values**

Property values increase for private residences and businesses when a septic system is replaced by a sewer system. **Septic systems put strict limitations on private and commercial structures and constrain property values.** Residential homes are limited as to the number of bedrooms

which can be constructed, and multi-family parcels are regulated to non-existence. Septic systems limit expansion or potential uses for a site for business parcels. A centralized sewer system can remove limitations on property use, including home size for private residences,

and allow for a broader approach to general community planning. Neighborhood and community planning contributes to value on individual properties by virtue of the synergistic relationship with adjacent properties

Business districts that are connected to a central sewer system add to property values for landowners. A central collection system provides

*Property values increase for private residences and businesses when a septic system is replaced by a sewer system.*

usage flexibility for individual land parcels and removes density constraints on adjacent land parcels. This means that land can be used for a wide range of purposes consistent with local zoning and planning, and without the need for accommodating for existing uses on adjacent or nearby parcels that may saturate soils (EPA, 1978, p. 135). Business districts often benefit from higher density—closer together storefronts or restaurants—because of its walkability and inviting atmosphere for potential customers. In contrast, a reliance solely on septic systems means each parcel must have its own leach field, so small lots are not practical or even possible.

Efforts by researchers to quantify the role of sewer connections versus septic systems on property values are limited. Property values are determined, in large part, by potential uses for the land. These potential uses are limited by physical characteristics, location, and restrictions such as zoning. Soil restrictions create additional limitations for septic systems, as does minimum lot sizes; public sewer service does not create such limitations, and the increased potential income of the property is reflected in its value.

Land appraisers tend to be skeptical as to whether an individual property connected to a public sewer is more valuable than a comparable property with a fully-functioning septic system. However, the qualifier of “fully-functioning” implies that the property in consideration already contains suitable soils and is of adequate lot size to accommodate replacement leach fields in the future. Many properties in Paradise are constrained by poor soils, high ground water and inadequate lot size.

*The researchers found that property value was roughly the same for those connected to a public sewer versus those with septic systems. However, they did find that a home (and property) was more valuable if the property had access, or was adjacent, to a public sewer...*

One study in Michigan attempted to evaluate whether residential property values were influenced by the availability of a public sanitary sewer. The study included a statistical analysis of residential parcels connected to public sewer and those on septic systems. Parcels were grouped by acreage, house size, and other attributes, in order to isolate the sewer or septic variable. The researchers found that property value was roughly the same for those connected to a public sewer versus those with septic systems. However, they did find that a home (and property) was more valuable if the property had access, or was adjacent,

to a public sewer, as compared to those where there is no public sewer. This finding reinforces that “free-riders,” or those with access but do not connect, receive benefits without paying for it. In other words, the expense of public sewer should be shared by all who have access, comparable to fire protection service that is assessed to all property owners (W.E. Upjohn Institute, 2015).

A recent study of small communities in Oklahoma found that “quantitatively, communities that obtain a water infrastructure project can expect their median house values to increase by between five and thirteen percentage points higher than in an otherwise similar community without a water infrastructure project” (Janeski and Whitacre, 2014).

### Case Studies

The following case studies all have similarities to the Town of Paradise. All four communities were facing economic growth limitations due to reliance on septic systems and a lack of a centralized sewer service and treatment. All of the communities were driven by groundwater quality degradation to implement a permanent solution. One key difference between the case studies and the Town of Paradise’s situation is that the Town is not currently facing fines and time scheduled orders to implement sewer.



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#### Port St. Lucie, Florida

In 1993, the City of Port St. Lucie was in a period of steady growth in population and residential housing. During this time, the City had a limited, disaggregate sewer and wastewater system. The City acquired existing private systems and treatment plants as part of a multi-phased water and waste water expansion program. Under the program, property owners were assessed their share of infrastructure costs within their respective neighborhoods. In addition to public health concerns (septic systems could pollute the groundwater aquifer supplying fresh water to the

community), there were three identified economic concerns:

1. Commercial development was constrained without an adequate water system.
1. The absence of a diversified commercial base meant the burden of providing services was on single-family residences.
1. Continued reliance on septic systems placed a limit on home sizes, and thus property values. This also limited property tax revenues for the community.

The City Council conducted a series of public hearings beginning in 1994. Based on community feedback, and after conducting extensive research, a low-pressure system was selected in lieu of a more expensive gravity system. Cost savings were realized by reduced pipe costs and shallower depth (three feet below the surface) for low-pressure systems as compared to gravity systems. Homeowners could choose to options: (1) pay their assessments in full before a cutoff period, and receive a discount; or (2) pay over a 20-year period via an annual escrow payment attached to their mortgage.

When the City assumed ownership of the utility in 1994, there were 10,800 sewer connections. The final phase of the sewer installation was completed in 2006, resulting in 43,472 customers with City sewer service.

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### **Malibu, California**

In 2009, the Regional Water Quality Control Board (RWQCB), Los Angeles Region, passed a resolution (R4-2009-007) prohibiting on-site wastewater disposal systems in the City of Malibu Civic Center. In response, the City of Malibu, the RWQCB, and the State Water Resources Control Board entered into a Memorandum of Understanding, whereby a special Assessment District would be established in order to construct wastewater collection and recycled water distribution facilities, and an off-site wastewater treatment plant. The cost of connecting to these facilities would be borne separately by each property owner, and each property would be provided with the right to discharge up to a predetermined wastewater flow and load based upon the type of parcel development. In other words, individual parcels were assessed to determine the allowable wastewater load based upon existing and anticipated uses. A total of 57 individual parcels were included. The cost of the new wastewater collection, treatment, and distribution facilities were apportioned among the 57 parcels according to an approved allocation formula. The total assessable cost of the improvement was determined to be \$63.7 million.



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### **Yucca Valley, California**

The Hi-Desert Water District provides water service for the Town of Yucca Valley and surrounding areas in San Bernardino County. Until recently, Yucca Valley depended almost exclusively on septic systems and leach fields for disposal of wastewater. The Colorado River Basin Regional



Water Quality Control Board (RWQCB) determined that effluent from the septic tank systems within Yucca Valley and the Water District is the cause of ground water quality degradation in the area.

Following a resolution (R7-2011-0004) adopted by the RWQCB prohibiting septic tank discharges in the Town of Yucca Valley, the Hi-Desert Water District is following a three-phase project to construct and operate required facilities, including a wastewater treatment and reclamation facility, trunk sewer lines, and a collection system to serve individual properties. Three Benefit Areas were established representing three phases of construction as well as being used to apportion costs of the improvements relative to the benefits that are received within each Benefit Area. Certain improvements constructed in Phase 1 of the construction provide a direct and special benefit to all properties within the three benefit areas; these improvements are called the common facilities. The improvements include the local sewer collection system, sewer laterals and improvements that provide treatment capacity within the wastewater reclamation facility.

Benefit Area 1 includes the central business district and surrounding residential area. Benefit Area 2 is a high-density residential area on the west side of the Assessment District. Benefit Area 3 will include an expansion area and is expected to account for future buildout in the community.

The total estimated assessment cost, including facilities, incidental expenses, district offset credits, and construction period financing, is \$145.2 million. This cost, including acquisitions and works of improvement, will be assessed and apportioned upon the several lots, pieces or parcels or portions of lots or subdivisions of land.



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### **Crescent, Oregon**

All residents and businesses in the community of Crescent, Oregon, are currently solely dependent on individual septic systems. Oregon's Department of Environmental Quality (DEQ) has determined that nitrate groundwater contamination levels in the area are out of compliance with Environmental Protection Agency standards. The community has a shallow groundwater table with rapidly draining soils and no barrier to fluid movement into the shallow groundwater. The DEQ also confirms that at certain times of the year, fecal contamination is detected in the groundwater. As a result, the adjacent Little Deschutes River is being impacted by the failing septic systems. The DEQ concludes that

combining and better treating wastewater in the community, through a sanitary treatment facility at a location further from and at a higher elevation than the Little Deschutes River, will better protect public health and the river water quality.

The Crescent Sanitary District (CSD), working with the multi-agency Central Oregon Regional Solutions Team, developed an approved facilities plan to finance, and construct a community wastewater treatment facility. The plan proposes a lagoon treatment system on a roughly 200-acre land area to include approximately 50-60 acres for a chlorination facility, treatment, and storage lagoons. An additional 160 acres is need for two 80-acre areas for crop irrigation. The large area is required to allow land application of the treated effluent while protecting groundwater.

A proposed site is located on Gilchrest State Forest land adjacent to the community, which would require that the State of Oregon sell and transfer approximately 200 acres to the CSD. The parcel is a low site class for timber production, will have an insignificant impact on Gilchrest Forest Management, and meets the state's Greatest Permanent Value standard than the current use for timber production.

### **Summary**

The Port St. Lucie demonstrated the long term vision of the community to remove a barrier to growth as well as develop a creative way to bring in customers to the new sewer system via a low interest loan program for the cost of initial connection. This approach may be helpful to the Town of Paradise. The City of Malibu provided a good example of how an expensive project could be distributed between large commercial properties and smaller residential properties. The Yucca Valley case study demonstrates a phased approach to development of the sewer collection and treatment system and an example of how costs and benefits can be divided among the stakeholders assessed. The Crescent, Oregon example illustrates the impact of the large amount of land needed to implement a lagoon and land application approach to wastewater treatment.

### **ESTIMATED ECONOMIC IMPACTS TO THE TOWN OF PARADISE**

With a population of about 27,000, and spread over 18 square miles of terrace topography, the Town of Paradise evolved from its roots as a desirable bedroom community and destination for retirees, to a home for young families in search of its rural, foothills community lifestyle (Rocky Mountain Institute, 2004, p. 7-1). Commercial businesses, including service, medical, and retail sectors, accompanied the population growth,

*The Town of Paradise relies upon over 11,000 individual septic systems to treat and disperse wastewater generated by residential and commercial land uses.*

but are fairly limited relative to the population. All properties rely on septic systems, and there are no public sewer systems, including within the business district.

The Town of Paradise relies upon over 11,000 individual septic systems to treat and disperse wastewater generated by residential and commercial land uses. As the Town has grown and evolved, concerns over wastewater collection and treatment, especially in commercial areas, both downtown and elsewhere, has become more urgent (Town of Paradise, 2012, p. 2). According to a Paradise-commissioned report, some 27 septic systems along the Skyway have failed, another 39 are expected to fail in the next five years, and 56 are expected to fail in the next ten years (Scharaga, 2015). Most downtown businesses lack space for replacement leach fields, or funds for an engineered solution to individual septic issues. Businesses also face restrictions on what and how much can be put into their septic systems, which are sensitive to oils, fats, and excessive water, and that has led to limits on the functions that can take place on individual parcels. For example, some restaurants face restrictions on number of tables allowed, washable versus disposal dishes, employees hired, or in some cases even whether there is a public restroom (Town of Paradise, 2012; Scharaga, 2015).

Wastewater problems in the Town have long been recognized, with many septic system failures noted even in the 1970s. Water sampling conducted in the late 1970s through 1982 found high bacteria levels in surface waters and some private drinking wells around the commercial district, and septic system problems thought to be the source (Rocky Mountain Institute, 2004, p. 7-3). According to a 1992 Town of Paradise report, the 1980s showed significant commercial growth for the nearby cities of Chico and Oroville, with growth in sales tax revenues per capita of 37 percent and 45 percent, respectively. Paradise, meanwhile, saw only an 8 percent increase in sales tax revenues per capita (Town of Paradise, 1992, Table II). At the time, the Paradise business community perceived itself to be at a competitive disadvantage to Chico due to the lack of a wastewater collection and treatment system, small lot sizes, and a strained soil capacity in the Paradise business district, which often precluded commercial development and building renovations that would increase wastewater generation.

Despite the recognized need for sewer infrastructure to service the downtown commercial area, the Town and its Council rejected several proposals, prepared from studies beginning with a 1988 feasibility study,

as too costly to the business community. Many residents were also upset with how assessment units were assigned to properties, the implications of sewers for the growth on the Town’s character, and the projected construction cost of the sewer system (Rocky Mountain Institute, 2004, p. 3-2).

Following defeat of the sewer plan, an onsite wastewater management program became the means for Paradise to manage all wastewater systems in Town. This program is highly regarded in the state, and “represented a permanent solution for residential areas.” However, over the past several decades of growth, the need for a better means of wastewater collection and treatment, especially in commercial areas and densely populated residential areas, has become more urgent. As noted in a 2012 report to the Town Council, “This [urgency] is particularly true within the Town’s more intensively developed Downtown and other commercial areas where septic system failures are increasing and available land for replacement leach fields is constrained, or non-existent... the Town’s commercial areas would be severely limited if a more permanent solution was not attained” (Town of Paradise, 2012, p. 2).

According to the 2010 Census, the Town’s population was 26,218, and included 12,981 housing units. California Department of Finance (CDF) is responsible for preparing population projections for each of the state’s counties. **Table 2.1** shows CDF’s projection for Butte County, starting from the 2010 Census and projecting through to the year 2040. **Table 2.2** presents the projection for the Town of Paradise if it grows at a rate similar to that of Butte County as a whole. The median home price in Butte County from November, 2013, the latest data available, is \$255,950, according to the California Association of Realtors (CAR, 2016). Zillow indicates the current home value in the Town of Paradise is \$228,200 (Zillow, 2016).

*At the time, the Paradise business community perceived itself to be at a competitive disadvantage to Chico due to the lack of a wastewater collection and treatment system, small lot sizes, and a strained soil capacity in the Paradise business district, which often precluded commercial development and building renovations that would increase wastewater generation.*

**Table 2.1 – Butte County Population (2010) and Projections to 2040**

	2010	2015	2020	2025	2030	2035	2040
Butte County	220,273	226,656	236,936	247,378	254,725	264,150	267,852

Source: California Department of Finance, 2014.

**Table 2.2 – Town of Paradise Population (2010) and Projections to 2040**

	2010	2015	2020	2025	2030	2035	2040
Town of Paradise	26,218	26,978	28,202	29,445	30,320	31,442	31,883

Source: U.S. Census (2010), and adapted from California Department of Finance, 2014, with Butte County projections applied to the Town of Paradise.

*The current restrictions have a broader effect beyond individual businesses. They burden the overall local economy's ability to grow and diversify, as well as limit resiliency of businesses during any sustained economic downturn.*

The data seem to indicate that both population and home values have not risen on pace with the rest of Butte County and the lack of typical sewer service appears to contribute as a limitation.

### **THE COST OF DOING NOTHING: LIMITS TO GROWTH WITHOUT A PUBLIC SEWER SYSTEM**

Town of Paradise commercial businesses face a difficult future without resolution to its wastewater collection problem. Existing septic systems in the business district continue to function, but continuing failures can and will harm existing and adjacent businesses that utilize common leach field areas, as well as contamination of the groundwater underlying the community.

Many of the commercial businesses are unable to afford the high cost of septic system repairs or replacement. In addition, limitations on business operations, such as the number of tables allowed in restaurants, the number of chairs in a salon, or the number employees that a business can hire, restrict their ability to pay for costly repairs. Septic systems also limit or prohibit existing businesses or commercial property owners from expanding or developing property to maximize its full potential, or restrict their ability to take advantage of market opportunities. In addition, septic systems by nature can emit odors that are unpleasant, and in the case of a failed or improperly functioning septic system – can be a threat to health. For a business, septic odors are a major deterrent for patrons, most critically for restaurants.

New commercial developments face significant challenges, even if they can afford the septic tank system alternatives. While “development” may seem like something that rarely affects residents, any new building in Paradise, big or small, represents “development”, providing improved land and up-to-date buildings. These improvements are not only pleasing to the eye, but also generate tax dollars that go back into the community for things like public safety and road maintenance. New development is a critical component of economic vitality in a Town like Paradise, and development is currently arrested by the lack of a sewer system. While some larger developments can afford the high cost to plan, engineer and install an onsite treatment system, the effort and time involved in meeting the stringent septic requirements are enough to block many new developments in their planning stages. A recent coffee shop installed a sand filtration system with a new septic system and had a failure within one year that required \$65,000 in repairs. A new fast food restaurant had to invest nearly \$250,000 to install a septic filter system and acquire adjacent properties, otherwise not needed, just to have the appropriate leach-field capacity for the treatment system's effluent.

See **Tables 2.3** and **2.4**. These are examples of the difficulties faced by business owners who want nothing more than to set up shop in Paradise, but are stopped in their tracks when confronted with the realities of onsite septic system. A sewer could be the step necessary to make previously abandoned projects feasible and inject life into downtown.

**Table 2.3– Costs for New Development – Onsite Septic System**

Cost of Alternative Onsite Treatment System	Yearly Maintenance of Onsite Treatment
\$250,000	\$1,500

**Table 2.4 – Costs for New Development – Potential Sewer**

Potential Sewer Connection Fee (Commercial)	Potential Sewer Yearly Assessment, Service and Maintenance
\$15,000 - \$30,000	\$1,500 - \$3,000

The current restrictions have a broader effect beyond individual businesses. They burden the overall local economy’s ability to grow and diversify, as well as limit resiliency of businesses during any sustained economic downturn. Business districts thrive and survive based on the diversity of its members and the goods and services provided. It is the collection of businesses, more than the sum of the individual ones, that draws customers to shop in a particular business district as opposed to other places (for example, Chico). Retail shoppers who come to the district may choose to purchase additional items from that of their original intended visit. This could mean buying a latte, enjoying a meal, filling the car with gas, and stopping by the bank or credit union before returning home. Employees of other businesses also tend to shop locally. There will be less incentive for potential customers to choose to visit the business district if the diversity of business offerings continues to shrink.

**Action Alternative Effects**

There are two alternatives presently being considered: local control and treatment vs. regional connection. The first alternative would have the Town of Paradise build its own treatment plant. The second alternative would connect to Chico’s sewer system via a regional pipeline. The below analysis considers the economic effects of the regional alternative.

The Regional Option for creating a collection system and connections for 1,400 customers, as well as a conveyance pipeline to the Chico treatment plant, has an estimated capital cost of \$83 million. With a four percent rate of interest for capital financing, annual repayment costs amount to a total of \$6,107,285. This figure does not include annual operating and maintenance costs.

*There are two alternatives presently being considered: local control and treatment vs. regional connection. The first alternative would have the Town of Paradise build its own treatment plant. The second alternative would connect to Chico’s sewer system via a regional pipeline.*

The capital cost of the collection system within the Town of Paradise is estimated to be \$47 million of the total for the Regional Option, with an annual capital repayment cost of \$3.5 million. Based on this annual cost on construction and operation costs for large infrastructure projects such as a sewer serving 1,400 customers, and applying estimates from comparable studies, the following economic impacts can be anticipated:

- An additional 55 jobs in wastewater management and treatment (based on 16 jobs per \$1 million in local investment).
- An additional 161 total jobs in all sectors in the Town of Paradise and vicinity (based on a 2.9177 employment multiplier)
- An additional \$12.8 million in additional sales and output in the region in all sectors within the Town of Paradise (based on a 2.10 output multiplier).
- An estimated long term regional impact of an additional \$68.3 million in private and public investment, and an additional \$56.4 million increase in the property tax base (based on past research in water and sewer infrastructure impacts (Bagi, 2002)).
- An estimated increase in property values of five to thirteen percent.

### **NO PROJECT OPTION**

The No Project Option of the Sewer Project study evaluated the impacts on the economic growth of the Town if no improvements to the existing sewer collection and treatment system were made. The study confirmed that the economic potential of the Town is limited due to a lack of a centralized wastewater treatment system.

All businesses in Paradise currently fall into one of two categories: those businesses that have adequate land for an effective septic tank/leach field system and those that do not. Commercial properties that do not have enough land for a suitably sized leach field are limited to three alternatives:

- Reduce the size of their operation—a profit limiting solution and a step that may lead to the closing of a business
- Purchase additional land for wastewater disposal – an expensive option, many times untenable for small businesses and impossible for businesses with no additional land to purchase
- Install a more robust treatment system (such as batch reactor or an in-situ biological filter system) to reduce the leach field area required for effluent disposal—another expensive option that is not possible for many small businesses

Commercial properties with failing septic systems that lack the capital for a new treatment system must limit both sewage demand and customer base. The same applies for commercial properties that cannot afford to purchase additional land for a leach field. For commercial

properties with higher water demands and sewage loading, like restaurants, growth is not possible and even sustaining the existing level of operation is a struggle.

A centralized sewer system serving the commercial core of the Town would remove the limitations on economic growth and encourage new business ventures and current Town businesses to invest and expand. The discussion below attempts to define and quantify the socio-economic benefits of a sewer project to the Town of Paradise.

## **PROJECT VS. NO PROJECT OPTION**

All of the project alternatives provide equal initial benefit to the commercial core of the Town, with the exception of the No Project Option.

The No Project Option has been chosen in the past for economic reasons. This option is fatally flawed within the context of this study because it does not solve the problem nor does it meet the current and future needs of the Town. By selecting the No Project Option, each property owner within the service area would continue to be financially responsible to solve the problems that result from a septic system failure. A septic system failure could be catastrophic for business owners and lead to a total loss of the business. If their system fails and they lack the land area or capital to build a newer or more technically robust system, their business and property value effectively goes to \$0, since it cannot be re-sold.



# 3

## Public Involvement and Outreach

One of the most crucial elements of the sewer project feasibility study is the full involvement of the public and critical project stakeholders throughout the entire process. One of the key lessons learned from the completion of prior studies and history of inaction is that for a project of any type to move forward, the public must be provided with good, factual information from the beginning. The decision process for a project of this magnitude needs also the decision making process needs to be open, transparent and provide multiple opportunities for public input. A multi-faceted outreach program was developed by the consultants to ensure a high level of community participation. This program includes the following components:

- Development of a Public Participation Plan
- Development and launch of [www.paradiseseWER.com](http://www.paradiseseWER.com)
- Provide monthly updates and public comment period at regularly scheduled Town Council meetings
- Formation of a Project Stakeholder Group
- Host public workshops at critical stages of the study process
- Identify and coordinate with interested private and public sector parties



**Public Meeting**

## **PUBLIC PARTICIPATION PLAN**

The Public Participation Plan, included in the Appendix, was formulated to provide a written approach to implementing various public engagement activities. The plan identified key audiences, listed below:

- All Town of Paradise Residents
- Town of Paradise Residents in Potential Service Boundary Area
- Town of Paradise Businesses in Potential Service Boundary Area
- Chamber of Commerce
- Butte Environmental Council
- Media
- Butte County
- City of Chico
- Regulatory agencies

The Public Participation Plan also included key messages which were to be emphasized through the public process and development of the study. These messages are summarized below:

### **NEED**

- Paradise is one of the largest municipalities in the country that relies solely on septic systems for the treatment and dispersal of its wastewater
- Downtown business corridor septic system failures continue to increase
- Available land for replacement leach fields is constrained or non-existent
- Groundwater is impacted by the quantity of septic systems and system failures, as are local streams, a precious resource in Butte County
- A better wastewater collection and treatment system is becoming an urgent necessity

## BENEFITS

- Positive economic impact
- Businesses will no longer have to take extraordinary measures to prevent or reduce septic system failures
- Multi-family, affordable housing developments will no longer be considered unsuitable land use due to constraints from too-small septic systems
- Environmental impact
- The risk of groundwater and local streams pollution by failing septic systems will be decreased

## PLANNING PROCESS

- By working together to identify the appropriate solution to the Town of Paradise sewer problem, the Town gets better together
- The Project Stakeholder Group and frequent public open houses will provide Paradise residents and businesses opportunities to help plan and guide the process

Lastly, the Public Participation Plan provided a step-by-step outline of proposed public engagement activities. This outline primarily focused on hosting public workshops as needed with regular public input opportunities throughout.

The screenshot shows the website for the Town of Paradise Sewer Project. The page has a navigation bar with the following links: HOME, PROPOSED SERVICE AREA, MEETINGS, TECHNICAL DOCUMENTS, and GET INVOLVED. Below the navigation bar is a large banner image of a park with a fountain. The main content area is titled "PROJECT BACKGROUND" and contains the following text:

The Town of Paradise currently relies on over 11,000 individual septic systems to treat and dispose wastewater generated by homes and businesses. The degree and intensity of use for each property in the community is limited to the capacity to safely dispose of wastewater on site. As the town has grown and evolved, the need for a better means of wastewater collection and treatment, particularly in the higher density and use, commercial areas, has become more urgent. This issue has been demonstrated within the town's more developed downtown and other commercial areas where septic system failures are increasing and available land for replacement leach fields is constrained, or non-existent.

The lack of a sewer system has a twofold impact—both are very important local/regional drivers. The first is an impact on the area's economy and the second is the impact on the environment.

If the economy in Paradise suffers, the regional economy suffers as well. Even in a healthy economy, many of the businesses in Paradise cannot afford the high cost of septic system repairs or replacement. There are many limitations imposed on businesses that affect their ability to increase their bottom line or create jobs. The creation of jobs provides regional cash flow and the potential for a better quality of life for area residents.

Additionally, a central sewer system would provide more housing options, including multi-family residential units. With

On the right side of the page, there are two sections:

**UPCOMING MEETINGS**

**PUBLIC WORKSHOPS**

- Monday, August 22, 2016 at 6:30 p.m.  
Paradise Performing Arts Center  
777 Nunneley Road, Paradise, CA 95969  
[Presentation](#)  
[Summary](#)  
[Q & A](#)

**PROJECT STAKEHOLDER MEETINGS**

- August 31st, 2016 at 2 p.m.

Project Website

*These tools allowed residents with zero project background information to perform their own research and get needed critical information.*

## **PARADISESEWER.COM WEBSITE LAUNCH**

The intent of launch a dedicated website to the study was to provide a central location for all project information including previous studies, public engagement opportunities, frequently asked questions, and an interactive service area boundary map. These tools allowed residents with zero project background information to perform their own research and get needed critical information. Residents were also able to determine in real time if their property was in the Proposed Service Area Boundary using a GIS-based map. This map accepts both Assessor's Parcel Number (APN) and property addresses to give a direct and clear answer for every property owner in Paradise. Finally, the website provides a direct means for residents to ask questions specific to their property. Copies of the website pages are included in the Appendix for reference.

## **REGULAR COUNCIL MEETING UPDATES**

See appendix for presentations, dates, and topics.

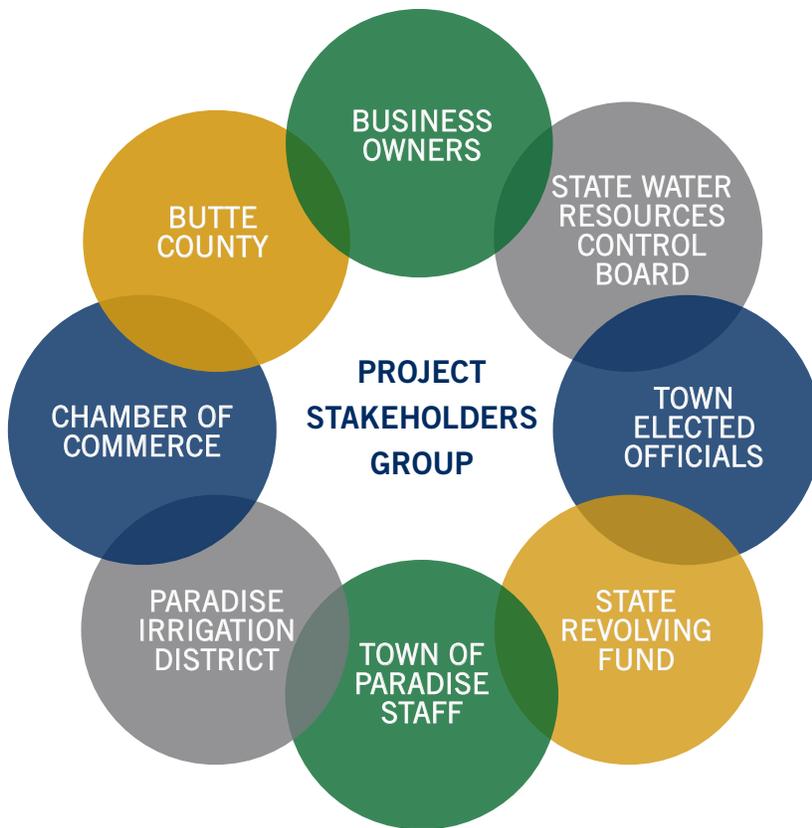
## **PROJECT STAKEHOLDER GROUP**

The Project Stakeholder Group (PSG) was envisioned as an informal non-decision making body with participants representing a wide cross-section of the community and potentially impacted agencies. The intent of the PSG was to provide transparency and opportunity for timely input while arming representatives with good, quality information for them to distribute to their respective constituencies.

The following groups attended various PSG meetings:

- Chamber of Commerce
- State Water Resources Control Board Staff
- State Revolving Fund Staff
- Butte County Environmental Services Staff
- Various business owners within the Town
- Town of Paradise Staff
- City of Chico Staff
- Paradise Irrigation District Staff
- Elected officials

PSG meetings were open to the public, with most discussions involving the identified stakeholders. The PSG was particularly involved in the selection of evaluation criteria for the options analysis and the weighting of the criteria for the matrix. Meetings were held with the PSG at the Town Hall on the following dates:



**JUNE 1, 2016**

The Paradise Sewer Project Team gave a presentation outlining the background, purpose, and need for the project; the scope of the feasibility study; the project charter and roles of the team members; preliminary service area map; overview of the options to be evaluated; plan for future meetings; and finally the role of the PSG for the project. PSG members introduced themselves and were asked to share their thoughts on the project.

**AUGUST 31, 2016**

The meeting focus was on discussion of recent informational public meeting and feedback. Service Area Maps were handed out and discussed. Draft Alternatives Analysis Selection Criteria and Weighting were distributed for review, discussion, and modification. The no project alternative was also discussed.

**OCTOBER 26, 2016**

The Sewer Project Team provided an update on the study progress including: sewer flow estimation, types of sewer collection systems, alternative cost development, and discussion of revised alternatives selection criteria and revised weighting based on prior feedback. Feedback and discussion was primarily on the project costs and how it

translates down to the individual land owner in terms of assessment, connection fee, and monthly service charge. Concern was high for the number of Town residents who are retired and have fixed incomes.

### **JANUARY 25, 2017**

The team presented the results of the socio-economic study and discussed project benefits and No Project Option impacts at a PSG meeting.

### **PUBLIC WORKSHOPS**

Public Workshops were determined to be important throughout the development of the study. Some residents may not have access to the internet or attend Council meetings—therefore, hosting a dedicated date and time to discuss the project with the public has served as an



**Public Meeting Participation**

effective engagement tool. The first public meetings were held June 15, 2016. Two meetings were held that day in order to provide multiple opportunities for local residents to learn more about the project. The first meeting was held from 2:00 p.m. to 3:30 p.m. and the second meeting was held from 6:30 p.m. to 8:00 p.m.

Notification for the meeting was provided with a postcard that was mailed to every address in Town. The intention of reaching the entire Town was to provide

a comprehensive overview of the study and to make one facet of the project clear: only those who are in the district pay for the project. An advertisement was placed in the Paradise Post and ran in the Saturday June 11, 2016 edition of the paper. A news release was also sent to the Paradise Post, and that ran in the online edition of the newspaper. Copies of these notifications can be found in the Appendix.

On August 22, 2016 a third public meeting was held to share information with residents about the service area boundary and the status of the feasibility study. This meeting also allowed local residents additional opportunities to ask questions about the Project. Notification for the meeting was provided with a postcard that was mailed to residents and property owners who were within the Proposed

Service Area Boundary only, approximately 1,168 addresses. The intention of reaching the service area only was to definitively notify owners of their properties' status as included in the study, and subsequently a potential sewer district. An advertisement was placed in the Paradise Post and ran in the Wednesday, August 17, 2016 edition of the paper. A news release was also sent to the Paradise Post. A media advisory was sent to Action News/ KHSL, KRCR, and KCVU. Copies of these notifications and a complete summary of the meeting is provided in the Appendix. The meeting included a formal presentation covering information on Project status, proposed service boundary area, anticipated flows, funding structures, and next steps. After the presentation was complete, the engineering consulting team and Town of Paradise staff answered questions in an open forum. Attendee questions ranged in topics from pump station types and locations, service area boundary, timeline, and property values. While some answers were straight forward, many were yet to be determined since the Project was still in early stages.



#### Public Meeting Postcard

On February 28, 2017 a special town council meeting was held at the Paradise Performing Arts Center for the presentation of the Draft Feasibility Report. The scope of the Feasibility Report was discussed and the preliminary findings were presented with project costs, funding options, and a projection of potential individual residential and commercial costs. The Draft Feasibility Report was made available for comment a few days before the meeting and a 30-day period was started for public comment.

On March 22, 2017 a drop-in Public Workshop was held at Town Hall for the public to ask questions and receive answers from the project team. Comment cards were also provided to help the public provide written comments on the Draft Feasibility Report. Comments were also provided to the project team via the project website, email to town staff, and letters by mail. The project team collected all the comments in a matrix and provided responses. The matrix of comments and responses is included in the appendix of this Final Report.

## **TECHNICAL ENGAGEMENT MEETINGS**

The project team met with the following individuals and organizations to gather information, develop the project options, and understand opportunities for project synergies with other work in the region:

- Town of Paradise Staff on service area and land use
- Equipment and process vendors to gather capital and operations costs
- City of Chico to discuss technical challenges and opportunities of the Regional Option
- Butte County to discuss land use and WWTP siting and environmental resource background data
- RWQCB to discuss WWTP discharge options and anticipated permit limits
- Tuscan Ridge Golf Course to discuss reclaimed water reuse opportunities
- Paradise Irrigation District to discuss water demand data and reclaimed water reuse opportunities
- California Water Service to discuss operations costs and reclaimed water opportunities
- Tuscan Ridge Golf Course and Presby Systems to discuss potential partnering in wastewater treatment and reuse at the golf course

The outcome of these technical engagement meetings was that the feasibility study team had a much better understanding of other agency roles and responsibilities, alignment of goals with the Town of Paradise and the potential sewer district to be formed, opportunities for future collaboration, and the limitations the agencies have going forward. All of the agencies contacted expressed enthusiasm and encouragement for the sewer project going forward and were open to future discussions to provide technical assistance and data.

## **PUBLIC DRAFT REVIEW**

The vast majority of comments received on the Draft Feasibility Study were supportive of the sewer project in concept, but not in implementation. This was due mostly to the cost of the project and the portion of the project's cost burden to residential customers. Many comments expressed concern over the many potential residential customers within the service area living on fixed incomes and their ability to not only pay for the improvements and connection fee, but also the monthly service charge.

The project team understood this concern well leading up to publishing the Draft Feasibility Study and it is why the recommendation to go forward with the project is largely contingent on the ability to acquire more grant funding than currently anticipated and limit the amount of financed project cost even through low interest loans.



# TOWN OF PARADISE SEWER PROJECT FACT SHEET

With the Town's commercial septic situation continually worsening, the Paradise Town Council is taking proactive steps to consider a wastewater solution for the more densely populated areas in Paradise.

To further this effort, the Town has received a grant from the State Water Resources Control Board to conduct a Sewer Feasibility Study. This study will analyze the best options for providing wastewater collection, treatment and dispersal in addition to exploring methods of paying for each option.

The study will include the following five options for the proposed service area (map provided on the back of this fact sheet):

#### Wastewater Treatment Plant with effluent land application

- This option includes buying a piece of property large enough to build a sewage treatment plant with holding ponds/tanks, for eventual dispersal or release onto the land. Previous studies showed that approximately 300 acres of available land would be needed for this option. The option must comply with Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements (WDR).

#### Wastewater Treatment Plant with surface water discharge location

- This option includes buying a piece of property large enough to build a sewage treatment plant (tertiary level) and then discharge to a creek, river, stream, lake or other approved waterway. This option will require a RWQCB National Pollutant Discharge Elimination System (NPDES) Permit.

#### Connection to the City of Chico Water Pollution Control Plant

- This option includes acquiring the right-of-way for a pipeline to connect with the City of Chico collection system for eventual treatment at their Wastewater Pollution Control Plant. This option requires a regional agreement with the City of Chico and a connection fee.

#### Wastewater Treatment with beneficial reuse

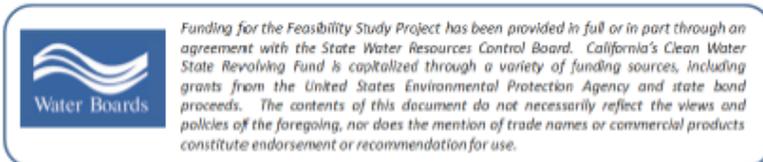
- This option includes buying enough land to build a tertiary level treatment plant that will allow the treated water to be reclaimed and re-used for irrigation. Excess reclaimed water would be taken to a land application area for irrigation.

#### No Project

- No collection system or treatment plant. The Town continues to function on septic systems.

The technical solutions for the Town of Paradise Sewer Project may not be new, but the approach to the project will be. The project need, scoping, option development, option screening, preferred option, assessment district formation, and funding analysis will all be transparent and vetted with the public.

You can learn more about the Project, including information about public meetings and technical studies, by visiting the Project website at [www.paradiseseWER.com](http://www.paradiseseWER.com)



Another theme in the feedback received was an emphasis on local control of the sewer system and treatment. Many stakeholders expressed apprehension and doubt in the ability of the Town of Paradise and the City of Chico to come to agreement on a regionalized project. Moreover, several comments assumed additional project costs would arise from the preferred Option C as the project progressed through design and construction. Some comments also suggested that control of costs and connection fees would be entirely ceded over to the City of Chico and that rates would be increased over time by the City without the Town's involvement or comment.

Less common comments focused on providing a more detailed analysis of economic benefit to the businesses in the Town and suggested a more micro-scale description of benefits relative to project cost be analyzed and described.

Several comments indicated that residential customers saw the project as mostly unnecessary for them with the majority of project benefits going to businesses in the commercial core of the Town and suggested that only the commercial core pay for the project.

There were a couple of comments that suggested that the language of the study was somewhat inflammatory and read more like a position paper than a technical study of options and impacts.

A few comments expressed doubt about the project costs and felt that the project's regional benefits were overstated. In general, the most significantly opposed to the project were residential customers and opposed primarily on the basis of cost. Commercial customers did not provide very many comments by comparison and it is difficult to gauge the level of support within the business community. However, all of the project's stakeholders agree the cost for connection and monthly service fees should be as low as can be made possible to improve the project's chances of approval at an assessment district formation vote.

# 4

## Service Area

The following section describes the project history and current need for the Town of Paradise to implement a centralized sewer system. Details about how the service area will be served by the sewer system, the sewer service plan, and the opportunity for the public to provide input on the service area and map are provided below.

### HISTORY

The proposed service area for this Feasibility Study is based on the original areas designated in previous studies for downtown revitalization and redevelopment. The study also considers anticipated areas of future commercial density, infill, or more densely populated multi-family residential parcels. The proposed service area boundary serves 1,471 parcels through the Skyway, Clark Road, and Pearson Road corridors, as shown in **Figure 4.1**.

The service area boundary was developed based on primarily the most densely populated areas and commercial corridors that can be served with the most efficient investment in collection pipelines. The majority of residential parcels within Town limits are outside of the service area boundary, which means the land use and character of the Town is not anticipated to change. The septic system density in most residential areas is adequate for sewer treatment and is not anticipated to significantly change. **Landowners of parcels outside the service area would not participate in a vote for formation of the special district nor bear any financial responsibility for the costs of the project.**

*Landowners of parcels outside the service area would not participate in a vote for formation of the special district nor bear any financial responsibility for the costs of the project.*

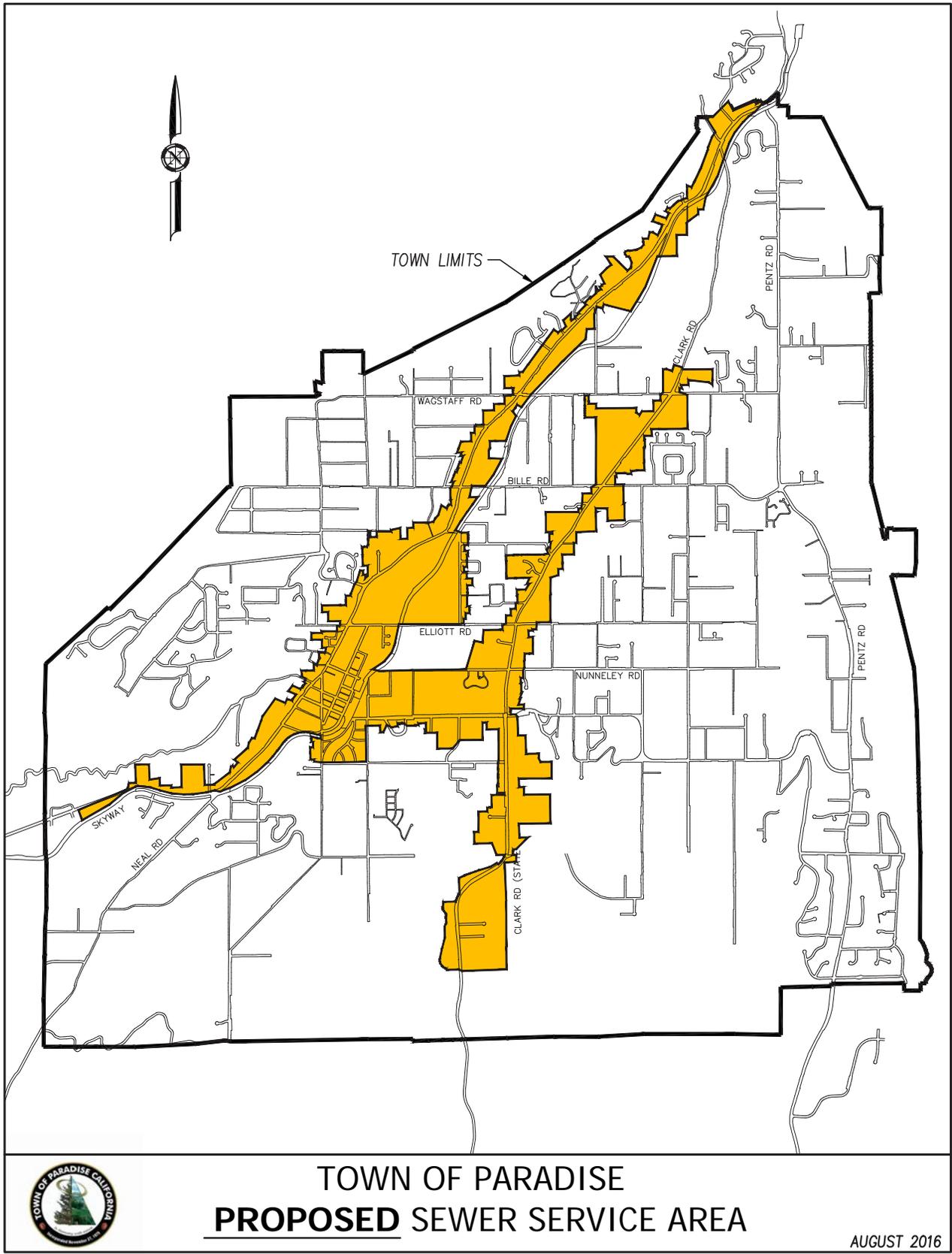


Figure 4.1 – Town of Paradise Proposed Sewer Service Area

The Town will consider adjustment to the proposed service area based on land use changes and public input prior to a final project approval. Parcel owners with land nearby and adjacent to the proposed service area boundary have requested to be included in the study area. All requests will be considered, and many have been accommodated to date.

## NEED

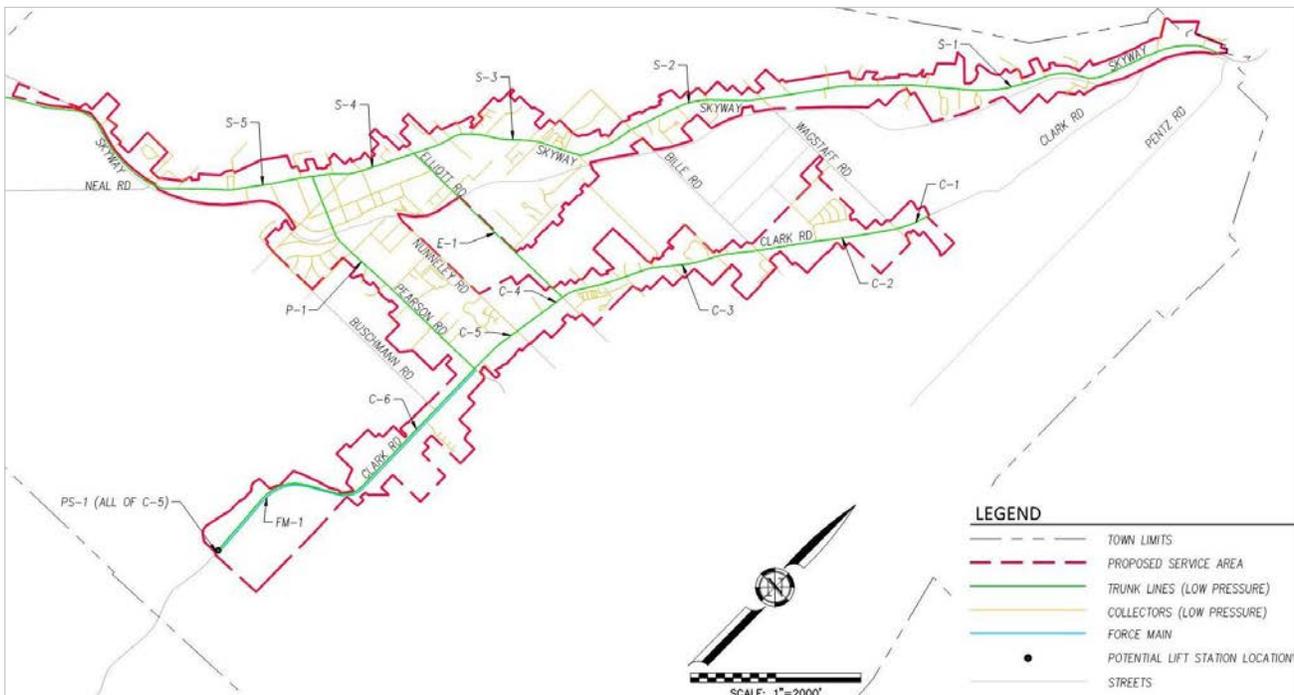
Defining an exact service area is critical to the success of the plan. This allows for an accurate estimate for waste flow, which dictates the appropriate collection system size and treatment options. The service area will be defined on a map and provide a count of who will vote on the formation of a special sewer district.

The need to modernize the densely populated areas and commercial corridor district with a centralized sewer system is clear. To date, there have been 27 septic system failures. This is just the beginning. It is expected that 39 more will fail in the next five years, based on monitoring the existing systems. In 2015, nine septic system replacements were completed. In 2016, six more were replaced. The cost of replacement can vary by the severity of the system failure. For some, the cost can be as high as \$80,000 to \$100,000—these are costs that can force businesses, especially small businesses to relocate or close their doors altogether. The impacts of the septic systems and their high repair costs are noticeable. Some restaurants have restricted service because their septic tank and leach field systems cannot accommodate full-service loading and have limited leach field infiltration capacity – meaning fewer seats in the restaurant, fewer booths in the salon, fewer hours of operation or equivalent reduction in economic and community potential.

*To date, there have been 27 septic system failures. This is just the beginning. It is expected that 39 more will fail in the next five years, based on monitoring the existing systems. In 2015, nine septic system repairs were completed. In 2016, six more were repaired.*

## SERVICE PLAN

Prior studies have looked at slightly different service areas, but all emphasize the Skyway, Pearson Road, and Clark Road commercial corridors. This study looked at each corridor, with significant consideration of the topography, and created a conceptual layout of pipelines to serve parcels within the service area. Prior studies have also evaluated both gravity and low pressure collection systems.



**Figure 4.2 – Service Area Collection System**

The initial layout of a gravity collection system requires a lift station with sewer force mains. This option proved to be much more expensive than a low-pressure system fed by individual septic tank pumps. Due to the difference in cost, a low-pressure system was developed for the feasibility-level collection system cost estimate, as shown in **Figure 4.2**. The low-pressure collection system relies on small diameter laterals to transport effluent from on-site septic tanks with small pumps or gravity (where head is available) to a collector. Collectors are located in each street within the service area. The collectors convey wastewater to the trunk lines, which are located in the major corridor streets. The trunk lines move the wastewater to the treatment facility. This system reduces the number of pipes buried in the streets.

The service area was divided into shed areas based on major road intersections and topography. The following is a description of each sewer-shed area.

### **UPPER CLARK**

The Upper Clark shed area includes all connecting parcels north of Nunnely Road, within the service area. The area also includes connecting parcels between Nunneley Road and Pearson Road east of Clark Road and those within approximately 500 feet west of Clark Road. These parcels can feasibly connect service laterals directly to the trunk line.

## **LOWER CLARK**

The Lower Clark shed area includes connecting parcels in the service area on Clark Road, south of Pearson Road. The 350-foot elevation change from the southern service area boundary to the intersection of Pearson Road and Clark Road may require the use of a pump station to convey the wastewater to the trunk line at Pearson Road.

## **PEARSON**

The Pearson shed area includes connecting parcels between Nunneley Road and Pearson Road, from Clark Road to the Memorial Trail. It also includes the connecting parcels south of Pearson Road to the service area boundary. The Pearson Road corridor trunk line will have a larger pipe diameter compared to other corridors to accommodate more wastewater flow from the Clark Road shed areas. The trunk line will convey wastewater to the proposed treatment facility near Skyway or to a regional pipeline connecting to the City of Chico's WPCP.

## **UPPER SKYWAY**

The Upper Skyway shed area includes the connecting parcels within the service area from the northern service area on Skyway near Pentz Road, to Pearson Road, and is bordered by the Memorial Trail to the east near the Pearson Road and Skyway intersection. The trunk line running down Skyway will utilize the topography and gravity to convey wastewater to the lower elevation, while maintaining low-pressure in the system. Parcels with an elevation higher than the street along Skyway may be equipped with a gravity connection rather than a pumped connection.

## **LOWER SKYWAY**

The Lower Skyway shed area includes connecting parcels along skyway south of Pearson Road. The area between Pearson Road and Buschmann Road is also included. The trunk line in the Lower Skyway area is a large diameter pipe because it must transport all the wastewater flow of the collection system to the treatment facility.

A list of all parcels, areas, and anticipated average dry weather flows is included in the Appendix.

## **CONSTRUCTION PHASING**

At a feasibility design level, the construction for the conceptual collection system is presumed to be a phased process.

Collection system construction phasing would begin at the treatment facility or regional pipeline connection and work up from the lower elevation sewer-shed areas to the higher elevation shed areas. Areas

furthest from the major corridors connected by collectors, such as parcels along Nunneley Road, will likely be connected during later phases of construction. Larger diameter trunk lines installed in major corridors, like Pearson Road, would have tie-ins positioned for connecting collectors and laterals during later phases of construction.

The on-site construction of the septic tank effluent systems would occur during the same phase as adjacent conveyance system construction. Ongoing coordination efforts with individual land owners will be an important element of construction.

## **PUBLIC OUTREACH**

The draft service area map was released for comment at a June 2016 Project Stakeholder Group meeting. After review by Town planning staff, the map was shared at the August 2016 public meeting and added to the project website.

The interactive website map allows Town residents to search for an address or Assessor's Parcel Number (APN) to determine if a particular parcel is included in the proposed service area. The project team

*...some parcel owners asked how they could be added to the service area while others asked if they would have the ability to “opt-out” if they choose. The project team...let meeting attendees know the ability to join or leave the service area would be decided by the Town Council.*

received comments at the public meeting, where some parcel owners asked how they could be added to the service area while others asked if they would have the ability to “opt-out” if they choose. The project team fielded all questions, and let meeting attendees know the ability to join or leave the service area would be

decided by the Town Council. All parcels within the final service area will be assessed to help pay for the project as they receive benefit.

Other questions about project timing and connecting to the system were discussed. Some parcel owners asked if they would need to connect immediately, even if their septic system was functioning well. The attendees were told that this will be determined by the specific districts. Some districts will allow customers to connect at a later date, but will provide incentive to customers to connect to the system sooner rather than later.

# 5

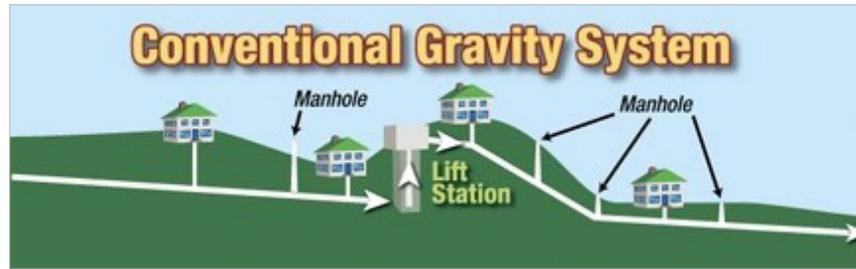
## Wastewater Generation and Collection

### COLLECTION SYSTEM

#### OVERVIEW

The collection and conveyance system for the Town of Paradise service area would require a hybrid system of pumping and gravity pipelines to convey wastewater to a treatment facility. The varying topography throughout the service area will require pumping for areas in lower elevations (in canyons) to convey wastewater to areas where gravity flow becomes more efficient. A gravity system and a pumped effluent sewer system were analyzed and compared. The analysis looked at routes to a treatment facility that may be located down either Skyway or Clark Road. The analysis considered pipe sizes, depths, lengths, and associated costs for the options. Upon review of the initial cost estimates, the effluent sewer system has lower costs due to shallow pipes, fewer manholes, and fewer pump stations.

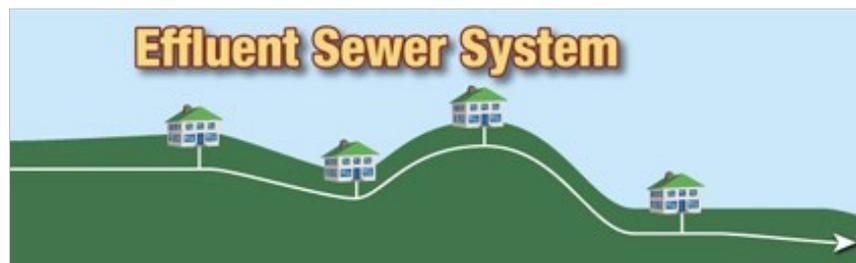
A conventional gravity system, using lift stations at low points, was the initial alternative analyzed for the service area. This alternative would seem reasonable for an area with naturally sloping topography, using gravity to move wastewater to a treatment facility. However, the undulating terrain in the Town of Paradise would require a large number of pump stations and force mains and deeper trenching for gravity pipes to convey wastewater to a treatment location. The cost of a gravity



**Figure 5.1 – Conventional Gravity Sewer System**  
 ([http://www.orengo.com/systems/wastewater\\_collection.cfm](http://www.orengo.com/systems/wastewater_collection.cfm))

dominated system proved to be high, approximately double that of an effluent sewer system. **Figure 5.1** shows a conceptual illustration of a conventional gravity sewer system with pump stations.

An effluent sewer system was the other alternative analyzed as an option for collection and conveyance of wastewater. The effluent sewer systems will use a septic tank (primary treatment) for each connection and convey the effluent by means of pump or gravity to the collection system. The effluent sewer system will operate under low pressure and will reduce cost of the collection and conveyance system compared to a conventional gravity sewer system. The lower cost is due to a reduction in pipe size, shallower depth of pipe installation, fewer manholes, and fewer pump stations. **Figure 5.2** shows a conceptual illustration of a effluent sewer system.



**Figure 5.2 – Effluent Sewer System**  
 ([http://www.orengo.com/systems/wastewater\\_collection.cfm](http://www.orengo.com/systems/wastewater_collection.cfm))

## FEASIBILITY-LEVEL DESIGN

### Onsite Facilities (Private)

The effluent sewer system will require each connection to use a septic tank to separate solids and decant effluent wastewater for conveyance to a treatment facility. The existing onsite septic tanks may be evaluated for usefulness in the effluent sewer system, however it is assumed that a majority of the existing septic tanks will be replaced. Due to the varying topography in the Town of Paradise, the onsite (private facilities) will require either an effluent pumping system or an effluent gravity system. The size of the onsite systems will be site-specific based on design



**Figure 5.3 – STEP and STEG Collection Systems**

loading. Connections with high solids loading may require a grinder pump system to manage solids and reduce the frequency of periodic septage pumping requirements. **Figure 5.3** illustrates a septic tank effluent pumping (STEP) system located below the grade line of the collector pipeline and a septic tank effluent gravity (STEG) system located above the grade line of the collector pipeline.

1. STEP system connections (**Figure 5.4**)
  - a. Primary Tank – Influent is separated by gravity, with solids settling and fats, oils and grease rising to the top. Effluent (water) from the middle of the tank is decanted to the secondary tank.
  - b. Secondary (Pumping) Tank – Effluent is accumulated until a design volume (size dependent) is reached for pumping. The pump discharges to the service connection lateral under low pressure.
  - c. Controls and SCADA – The STEP system is equipped with a system that provides power, controls, and alarms for the system.
2. STEG system connections
  - a. Primary Tank – Same as STEP system.
  - b. Secondary Tank – A drain line from the secondary tank will discharge to the service connection lateral. Effluent gravity systems will only work where the secondary tank is in a location that is above the energy grade line (EGL) of the pressurized system.
  - c. The STEG systems will be equipped with an alarm in case of a clog and/or overflow. No power is required except for the alarm.

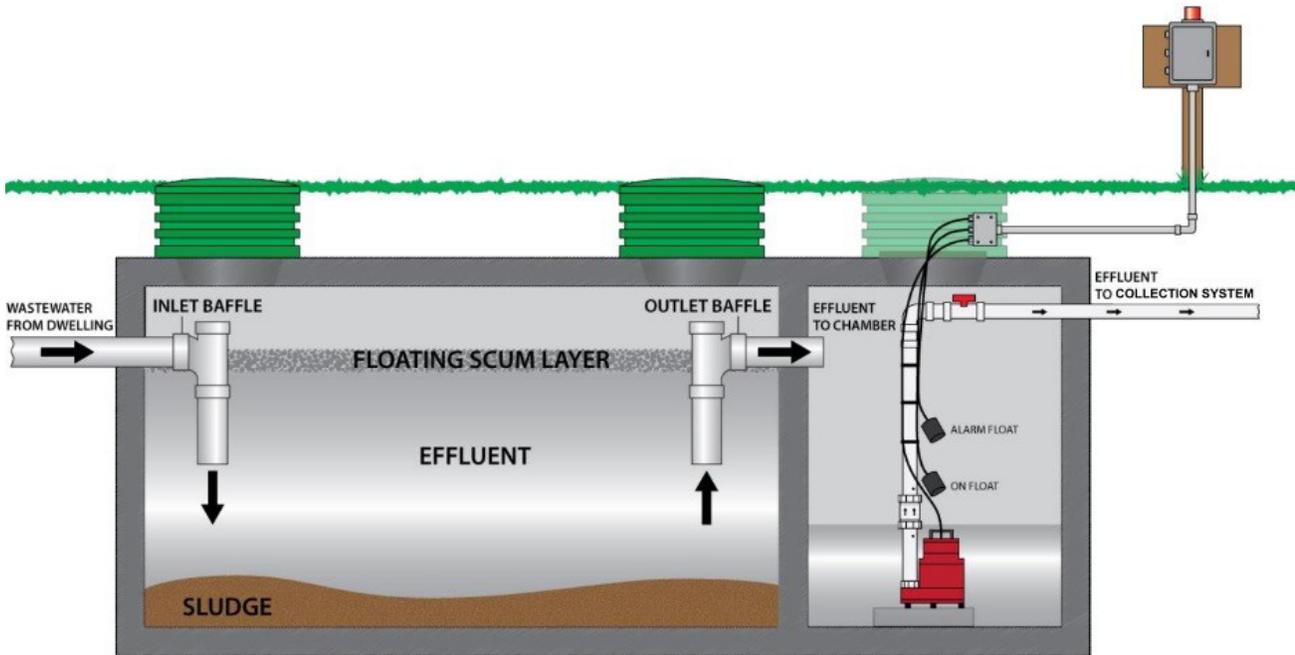


Figure 5.4 – STEP Tank Detail

3. Additional requirements for connection
  - a. House to Tanks Connection – The new STEP or STEG tanks will require a new gravity connection from the house sewer pipeline to the tank.
  - b. Septic Tank Decommissioning – The existing on-site septic tanks will require removal or abandonment. **It would be the responsibility of the property owner to demolish and remove or properly abandon in place (pump septage, seal inlets, and outlets, etc.) the existing septic tanks and leach fields.**

Business and home owners should understand that this system still utilizes a tank on their property and the tank will need to be maintained on a similar frequency to the current septic systems they have now. The tanks will likely need to be pumped by a septage hauler for sludge and grease buildup every 10 to 15 years. Commercial properties, especially restaurants, may have to be pumped more often. Restaurants should use grease traps ahead of their tanks to prolong the tank's maintenance cycle.

### Laterals

The sewer service laterals convey water from the individual tanks for each service connection to the collector pipelines located in the public right-of-way. The laterals include pipe owned by the property owner (private) and a portion of pipeline in public right-of-way, which is the responsibility of the Town or Service District.

1. Lateral Installation – The effluent sewer system uses smaller laterals, typically no larger than 1.5-inch diameter pipe, installed at a shallower depth than conventional gravity sewer laterals (4-inch pipe). In many cases, the effluent sewer laterals may be installed using directional drilling, minimizing damage to property and reducing the need for road closures due to open trenches.
2. Feasibility Assumptions
  - a. Private Laterals – 100 feet of lateral on private property (up to the public right-of-way) is the assumed average length that **will be the responsibility of the property owners**. This assumption includes the distance from the tank to the back of walk.

### Collectors

Collector pipelines are located in the public right-of-way through the service area and provide collection of wastewater from the service laterals.

1. Gravity Collectors – A conventional gravity system conveys wastewater through the collectors to manholes then into trunk lines for conveyance to the treatment plant. Gravity collectors require larger pipes to accommodate gravity flow in an 80 percent full pipe. Gravity pipe installations require open trenching to provide adequate slope, increasing the cost of the project.
2. Effluent Collectors – Since the effluent sewer system is a pressurized, closed system, the collector will increase in size as flow accumulates as wastewater moves toward the treatment facility. The pressurized laterals can connect directly into the collector, eliminating the need for trunk lines and reducing the amount of pipe needed to convey wastewater through the system.

### Trunk Lines

Trunk lines are typical in conventional gravity sewer systems. The trunk lines convey larger volumes of wastewater through the service area and usually run in parallel to the collectors. The conventional approach proved a very costly alternative in the analysis. For a more reasonable cost of construction, trunk lines and collectors would both receive flow directly from laterals, reducing the length of pipe required.

The pressurized laterals of the effluent sewer system can connect directly into any size collector, eliminating the need for trunk lines and reducing the amount of pipe needed to convey wastewater through the system. The pipe sizes of the effluent system are generally smaller in diameter, as the pipes flow completely full when under pressure pressurized.

### **Pump Stations (Lift Stations)**

In areas with significant changes in elevation, such as the Town of Paradise, pump stations are required in a conventional gravity sewer system. The accumulation of flow by gravity to the low points in the system are pumped through a force main to a high point where gravity is then used to deliver flow to the next low point. With a gravity system, the service area in the Town of Paradise could require more than nine pump stations to lift wastewater out of the valleys and convey wastewater to a treatment facility down Skyway or Clark Road.

*Eliminating the need for most, if not all, of the pump stations greatly reduces the cost of the collection and conveyance system.*

The effluent sewer system does not require the use of pump stations (lift stations) for most of the service area, as each STEP or STEG tank provides the necessary pressure to convey the wastewater through the varying topography of the service area. In regions of the service area where it is required to pump the wastewater up several hundred feet, a pump station may still be required. Eliminating the need for most, if not all, of the pump stations greatly reduces the cost of the collection and conveyance system.

The elimination of pump stations reduces the cost of the system capital cost, land acquisition, as well as the operation and maintenance of a multitude of pumps and monitoring equipment.

### **Force Mains**

A force main is the pressurized wastewater discharged from pump stations in a conventional sewer system. A system that requires the use of force mains can have two pipes in parallel to convey the collected wastewater to the pump station by gravity and then the force main to convey the pressurized wastewater to the next high point, depending on the location of the wastewater treatment facility.

In addition to reducing or eliminating the pump stations, the effluent system reduces or eliminates the need for two pipes in parallel in the same streets. Each collector is technically a force main, with the ability to receive services connection directly.

### **Man Holes/Cleanouts**

A conventional gravity sewer system requires the installation of a manhole approximately every 300 to 500 feet on collectors and trunk lines. Along with the need for manholes, a clean out is required on every service connection.

The effluent sewer system is a closed, pressurized system that eliminates the need for manholes. The elimination of manholes also greatly reduces the potential for nuisance odors throughout the service area. The solids separation that occurs in the on-site tanks means the need for cleanouts at each service connection is not required. The elimination of manholes and cleanouts reduces the cost of the collection system. The effluent sewer system also reduces the maintenance on the collection system, as solids that may cause clogging are greatly reduced or eliminated from the system in the onsite tanks.

## **FLOW DEVELOPMENT ASSUMPTIONS**

### **APPROACH TO FLOWS**

The development of sewer collection, conveyance, treatment, and disposal system options requires an estimate for the wastewater flows generated within the proposed service area. The land area of each zoning designation in the proposed service area boundary was determined by using overlapping parcel boundaries with zoning designation boundaries. Flow generation rates for each zoning designation were determined based on area of land for commercial zoning designations and equivalent dwelling units (EDUs) per acre for residential zoning designations.

### **Previous Studies**

Previous studies for sewer projects in the Town of Paradise were reviewed. Each study developed flows and loads for the proposed district boundary in a slightly different manner. The flow estimates from the previous studies did not provide flow generation by land use in a format conducive to the changes in the proposed service area boundary.

The results of the previous studies are as follows:

### **Town of Paradise Wastewater Collection, Treatment, and Disposal Preliminary Design Report, Volume 1 prepared by Nolte and Associates (Nolte), dated July 17, 1992**

This report used land use and residential density to determine flows for the studied service area. The assumed wastewater generation was as follows:

- Town Residential = 200 gallons/residence per day (EDU)
- Multi-Family Residential = 165 gallons/residence per day
- (EDU) Commercial and Industrial = 2,000 gallons/acre per day

Limited assumptions were provided for the calculations, however the projected flow appeared reasonable for the purpose of the 1992 report.

## **2010 TOP Wastewater Treatment & Collection System Feasibility Study for the Downtown Community Cluster System prepared by NorthStar Engineering (NorthStar), dated April 21, 2010**

This study describes a comprehensive approach to development of design flows with a percentage breakdown of residential zoning designations and differing flows for commercial designations based on type of business.

The general wastewater generation was estimated as follows:

- Residential (including Multi-Family) = 225 gallons/unit per day, to maximum density
- Commercial (High Flow) = 1,200 gallons/acre per day
- Commercial (Low Flow) = 600 gallons/acre per day

This study also applied a 20 percent reduction of design flows based on the assumption the maximum density would not be fully realized. The approach outlined by NorthStar does not lend itself to changes in the service area boundary and recalculation. The previous studies lacked sufficient descriptions of calculations and assumptions to be utilized for the proposed service area for this current analysis.

### **NORTHERN CALIFORNIA WASTEWATER AGENCIES - DESIGN CRITERIA COMPARISON**

Several sewer service providers in the region were reviewed to compare design flow evaluation criteria by land use to estimate design flow for the project. Each sewer service provider has a different approach to wastewater flow generation.

#### **Comparative Flows**

The average results of the comparative flows for similar land uses designations are as follows:

- Single Family Residential = 284 gallons/unit per day or EDU
- Multi-Family Residential = 216 gallons/unit per day or EDU
- Commercial and Industrial = 1,220 gallons/acre per day

The average of the comparative flows provides a general perspective on the area's wastewater generation. Historically the per capita flow range is 80-100 gallons per person per day.

#### **Demographic Consideration**

The sewer service providers reviewed for this analysis have different demographics from the Town of Paradise. The Average Dry Weather Flow (ADWF) assigned to a dwelling unit is assumed to be in relation to the average number of people in a single family residence. Some of the more urban communities or regional sewer agencies use a somewhat higher flow rate per EDU.

A comparison of the other northern California communities to the Town of Paradise was reviewed for this analysis to aid in the development of daily wastewater generation per EDU and per acre. The number of people per household, between the years 2010-2014 and the population density were compared.

**Table 5.1** summarizes the comparison between the Town of Paradise, the City of Chico, and the average for other northern California communities.

**Table 5.1 – Demographic Comparison**

	Persons per Household	People per Square Mile
Town of Paradise	2.36	1,432.1
Chico	2.45	2,617.8
Comparative Average	2.48	2,384.8

## FLOW DEVELOPMENT

### Land Use Designation

At the time of this analysis, the proposed service area boundary for the Town of Paradise was 1,165 acres with 1,041 acres of land area having zoning designations (124 acre of streets). The Town of Paradise has 24 zoning designations and 10 generalized zoning designations. The parcels located within the service area were separated by the generalized zoning designation, such as Town Residential (TR) rather than a specific designation of TR 1/3 or TR 1/2. An average number of residential units per acre was applied to the residential designations to calculate the estimated wastewater flow generation for the total area of each zoning designation in the proposed service area.

### Wastewater Generation

Typically, wastewater generation is estimated by gallons per person per day, gallons per acre per day, or assigned a daily flow rate based on an equivalent single family residential dwelling unit (EDU). The zoning designations in the Town of Paradise allow for a reasonable assumption of wastewater generation based on EDUs and gallons per acre. A lower than average flow per EDU and flow per acre is assumed due to the history of water conservation, a lower than average population density, and an assumed reduction of inflow and infiltration (I/I) due to the use of modern construction materials and techniques.

The following is the assigned flow per EDU and flow per acre per day for the Town of Paradise for this analysis.

- Flow per Single Family EDU = 230 gallons per EDU per day
- Flow per Multi-Family EDU = 110 gallons per EDU per day
- No Residential Land Use = 600 gallons per acre per day

An average daily flow per EDU per day and the average daily flow per acre per day for the areas in each designation was applied to calculate an estimated wastewater flow for the proposed service area.

### **Build Out Flow Generation**

Design at build out assumes zoning designation may change within the service area to allow for growth with an assumed increase of wastewater flows of 5 percent . Densification is likely to occur within the service area, therefore the maximum EDU per acre for the generalized residential zoning designations will apply.

### **DESIGN FLOWS**

A design flow that accounts for the diurnal peaks of the average flows and infiltration and inflow (I/I) during wet weather is required for sizing the conveyance, treatment and disposal of wastewater in the proposed service area. A peaking factor is applied to the ADWF to calculate a peak dry weather flow (PDWF). Typically a peaking factor falls in the range between 1.5 and 3.0 and is derived using an empirical equation that generates a curve based on the average daily flow. In addition to the PDWF, I/I is usually accounted for during wet weather producing a prediction for peak wet weather flow (PWWF). However, the selection of a low pressure system and lack of manholes limits the inflow and anticipated infiltration to the collection system. Therefore I/I is negligible for the Town collection system. The PWWF will be used as a design criteria in the options analysis and feasibility study.

The PWWF of the proposed service area and anticipated buildout used for the design criteria is approximated at 1.86 mgd for the purpose of this study. Flows for septage receiving were not calculated for this level of design and are anticipated to be a minor contributor to the treatment system.

### **WASTEWATER CONSTITUENT LOADING**

Town of Paradise Wastewater Collection, Treatment, and Disposal Preliminary Design Report, Volume 1 (by Nolte, 1992) provided projected wastewater characteristics that are used for the purpose of this study. That report stated that, “wastewater quality was determined using a mass balance prepared from the expected concentrations and flow rates of various waste streams entering the treatment plant. Approximately one half of the sewer district service area will be connected by conventional

gravity sewer and the other half will be connected by STEP system. STEP effluent is less concentrated than conventional sewer effluent due to settling of solid particles in the septic tank.” The 1992 Report calculated the concentrations for biological oxygen demand (BOD5), total suspended solids (TSS), nitrogen (Total N), and phosphorus (Total P) associated with wastewater from conventional sewer systems, wastewater from STEP systems, septage from conventional septic tanks, and septage from STEP systems. The assumptions in that report seem reasonable and are adopted for this evaluation. The treatment plant design concentrations were estimated in that report as follows:

- BOD5 = 310 mg/L
- TSS = 530 mg/L
- Total N = 57 mg/L
- Total P = 12mg/L

## **RECOMMENDATION**

The PWWF of 1.86 mgd and corresponding loads derived above provide the design criteria for an option analysis. This design flow represents the anticipated 2040 build out within the service area and will be used for the conceptual design of the sewer system for all options analyzed in the feasibility study. To maintain a feasible cost of treatment, the ADWF of 0.98 mgd will be used for the design criteria, flow equalizations ponds will be used to attenuate the peak flows.

During the design of the preferred sewer collection, conveyance, treatment, and disposal system, a more specific and accurate prediction of flows and loads generated in the service area should be developed with a survey of actual land use, dwelling unit density, and the type of commercial usage.

## **CAPITAL AND OPERATIONS AND MAINTENANCE COST ASSUMPTIONS**

Costs have been developed for the collection system including assumptions for engineering, legal, and administrative costs of the option design as well as contingency for unknowns commensurate with a feasibility level study. Operations and maintenance include the following staff levels:

- General Manager
- Administrative Assistant
- Receptionist (part-time)
- Operations Manager
- Field Crew (2)
- Septic On-site Lead

## **COST AND RECOMMENDATION**

Costs for the collection system are common to all options except for the No Project Option. Additional costs for conveyance to various treatment plant options are included in the treatment plant alternatives.

A low pressure sewer effluent system is preferred to serve the Town. While the system requires a portion of infrastructure and maintenance on each parcel, it limits the number of pipelines and manholes needed in the collection system and reduces the cost of the collection system.

The capital cost of the collection system is estimated to be \$47.4 million (including 20 percent design/construction contingency and 15 percent engineering design/permitting/environmental).

# 6

## Alternatives Analyzed and Eliminated

Other alternatives that have been suggested over the years by the public are also discussed. Many of these alternative treatment systems represent other ways of treating wastewater than conventional treatment processes.

### **ALTERNATIVES ANALYZED AND ELIMINATED**

Several years of studies and multiple potential sewer treatment options have been suggested for implementation in the Town of Paradise. Many of those suggestions have been offered by residents, and others have been brought forward by engineers. The scope of the treatment solution and area served vary for these alternatives. The most common concern from previously suggested alternatives and subsequent studies is two-fold. One is that the cost of a larger scale collection and treatment system is high; and two, is that potential rate payers are seeking the lowest capital cost option available as a viable solution. The stakeholders have shown a preference for the lowest possible initial capital cost investment in order to reduce both tax roll assessment and future sewer rates.

The principal challenge of these “natural” treatment alternatives is the availability of satisfactory land area for effluent disposal, not necessarily the biological adequacy of the treatment technology. Monitoring and controlling these systems can be difficult. If the effluent cannot meet discharge permit requirements, the reliability of these systems is not equivalent to conventional treatment systems. Often these systems are

described as cheaper than conventional treatment and are used in rural areas where conventional systems are not viable due to cost. However, the discharge requirements and permitting are not equivalent to those required by a municipal treatment permit.

One of the competing issues to consider with alternative small treatment systems is the need to pool the required resources (parcels/customers) together to help spread the capital cost and lower the financial burden of a treatment system from the individual parcel owner. At the same time, limiting flow to avoid discharge permit requirements is also a necessity. The amount of land needed to disperse treated effluent is directly related to the amount of sewage flow collected in a given area. As a result, more sewage flow means that more suitable land is needed- already a scarce commodity in the Town of Paradise.

The SWRCB has a General Waste Discharge Requirement for Small Domestic Wastewater Treatment Systems (SDWTS). Only Small Domestic Systems that discharge to land and with a monthly average flow rate of 100,000 GPD or less are eligible for coverage under this General Order. An SDWTS that produces more than 20,000 GPD requires a plan and a permit for controlling and monitoring nitrogen in a manner that is compliant with the basin plan for that specific area.

SDWTSs are typically located at individual residences, rural parks, schools, campgrounds, mobile home parks, roadside rest stops, small commercial or residential subdivisions, restaurants, resort hotels/ lodges, small correctional facilities, temporary fire-fighting camps, and recreational vehicle (RV) dump locations, including RV parks.

A Small Domestic System that uses subsurface disposal may be regulated by a local agency rather than a Regional Water Board, consistent with the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems Policy (OWTS Policy). Wastewater systems regulated by local agencies may continue that coverage unless directed by the local agency or the Regional Water Board Executive Officer to seek WDRs from the Regional Water Board.

It is important to have this context when reviewing some of the options that have been suggested. Any collection system that yields more than 100,000 GPD will require a specific permit and cannot operate under the small systems general order. As defined earlier, the anticipated flow from the Paradise Sewer Project Service Area is over 800,000 GPD of Average Dry Weather Flow (ADWF). Therefore any alternative treatment system must have a clearly defined effluent location (stream, spreading ground,

*Any collection system that yields more than 100,000 GPD will require a specific permit and cannot operate under the small systems general order. As defined earlier, the anticipated flow from the Paradise Sewer Project Service Area is over 800,000 GPD of Average Dry Weather Flow (ADWF).*

leach field, seepage wells) and be monitored to affirm compliance with a discharge permit issued by the RWQCB. While an alternative treatment system with added disinfection process may meet discharge requirements of a specific discharge permit, monitoring and control of the treatment process is more difficult when compared to a conventional WWTP that has more operational controls and access for adjusting the treatment process.

Many of the smaller cluster treatment systems are appropriate treatment options for a single parcel or multiple parcels that are grouped together (cluster system). These advanced septic treatment systems provide a more robust treatment than a simple septic tank (settling and sludge digestion) and would produce a higher quality effluent, thereby prolonging the life of the leach field. However, selecting a dispersal area location is challenging. A significant amount of land (hundreds of acres) is necessary and even if the land area is available in or near Town boundaries, the soils may not be as amendable to infiltration as land off of the “Ridge.” Prior geologic studies indicate more efficient infiltration characteristics in soils located in the valley off of the “Ridge.”

The predominant soil type in the valleys around the Town is Aiken Clay Loam with moderate permeability, but there is variability within the Town for leach field effectiveness.

## **IN TOWN INFILTRATION AREAS AND GENERAL GEOLOGY**

### **Skyway Corridor North of Wagstaff Road**

This area has no history of issues for wastewater dispersal and, in general, has decent soil for septic systems with larger lots. Soil depth and permeability is good. There is a narrow band of high groundwater on the east side of Skyway up to Rocky Lane.

### **Clark Road Corridor South of Buschmann Road**

This area is generally adequate for septic systems and wastewater dispersal. South of this area, the soils become increasingly shallow with an Andesite “lava cap” close to or at the native surface in much of the area. The commercially zoned parcels in this area have shallow soils and leach field construction or replacement is restricted by the Onsite group.

### **Parcels Surrounding Boquest Boulevard**

Five parcels in the north side of this region are non-conducive to onsite wastewater treatment due to the perennial creek nearby and the small lot sizes. Almost all of these parcels have individual advanced treatment systems. Any failure of existing leach fields in this area would not be replaceable.

### **Parcels on Middle Skyway and West of Skyway**

Failed septic and leach field systems in this area tend to require alternative systems, which are hard to fit on the steeply sloped lots. The soils are shallow, with “lava cap” and boulders prevalent. The systems in this area are well maintained, operate well, and typically have adequate room for leach field replacement.

### **Discussion**

Infiltration and dispersal areas must be sited outside of Town in order to have the necessary acreage, and adequate permeability found in the area soils. This conclusion was reached through the prior studies that analyzed feasibility-level design of a collection system for the commercial corridors of the Town. Studies analyzed the land off of the “Ridge” and sited infiltration areas away from the Tuscan formation geology.

The Tuscan formation, in its “unweathered” state, is marked by predominantly hard and coarse rock fragments that make excavation difficult without blasting or the use of rock trenchers. In its weathered state, the Tuscan formation turns to red clay with hard fragments. The boulder and gravelly clay portion is referred to as the Aiken Phase. Soils that have accumulated in weathered swales have formed clay loam that is often two to five feet thick. These soils drain well, are conducive to wastewater disposal and become more common at further distances from the Ridge and at lower elevations. Infiltration characteristics also improve.

### **CLUSTER SYSTEMS**

A typical cluster system is made of a sequence of buried tanks, each with a treatment process similar to a conventional treatment plant. The treated effluent from a cluster system would likely be dispersed by leach field or pressure dose trenches. The ambient ground water quality would need to be established and the ground water monitored for compliance with a RWQCB WDR. Adequate land area would be needed for both treatment and dispersal. These factors will likely cause the siting of the plant and discharge area to be outside of Town along Skyway or Neal Road. The distance of the plant and discharge area from Town will add significant conveyance cost. In addition, the project impacts would look similar to Option A with pond treatment and land disposal. This alternative has been eliminated from consideration because there is inadequate land area near Town and the cost of conveyance to an appropriate site would be equivalent to Option A, already considered in the study.

## WETLAND TREATMENT

Natural wetlands function in nature to remove suspended solids and nutrients like nitrogen and phosphorous. These natural processes can be applied to municipal stormwater and wastewater treatment through a constructed wetland. There are three types of constructed wetlands:

1. Subsurface flow wetlands
2. Surface flow wetlands
3. Floating treatment wetlands

Wetland systems usually require more land area than a conventional wastewater treatment plant, which means the savings in treatment costs over conventional treatment costs would be somewhat offset by the need for additional land.

### Subsurface Flow Wetland

Typically this system flows through trenches filled with sand, rooted plants, and a gravel draining layer to collect effluent. Unfortunately, these systems do not completely replace conventional wastewater treatment as a primary treatment of screening, grit removal, and settling is usually needed as a pre-treatment step to prevent clogging the system. A final disinfection step would also be required to meet discharge permit requirements. Therefore the wetland concept only replaces the biological (BOD removal) portion of a conventional treatment process.

One advantage of a subsurface system over surface and floating wetlands is that they attract fewer mosquitoes.

### Surface Flow Wetlands

Often known as free water surface wetlands, these wetlands are mainly applied to municipal treatment schemes as a polishing step for tertiary treatment after a conventional process. They are effective at removing residual nutrients and pathogens and will have both floating water plants (Hyacinth) and soil rooted reed plants. These systems are often utilized in concert with conventional treatments to create a wildlife habitat or a buffer zone between the treated effluent and sensitive ecological areas like estuaries. Surface wetlands attract wetland animal species and birds, which can contribute to the biological nutrient loading from the animal waste. This may lead to inconsistent removals of nitrogen as new ammonia (bird waste) is added to the system. Another challenge is mosquito control, especially in suburban areas. Wetland plants are also at risk of die-off under sustained freezing temperatures, which can upset treatment



**Examples of surface flow and floating treatment systems**

capacity and nutrient uptake. Therefore, surface flow wetlands are generally a poor fit for areas with sustained snow periods. This alternative has been eliminated from consideration due to confidence in consistently meeting a discharge permit requirement and the challenge to manage additional impacts such as mosquitoes and planting replacement when assimilative capacity of nutrients is reached.

### **IN-SITU TREATMENT**

These systems collect sewage and disperse the flow into buried chambers (perforated pipes with a filter matting) that act as both settling and filtration treatment steps. Sewage also infiltrates as the sewage makes its way through the chambers. These systems are relatively cheap to install and provide effective treatment for small systems. They are a good fit as a clustered system for small communities in rural areas. In-situ systems still require septic tanks or STEP systems at each service to act as primary settling/solids removal. Under higher flow conditions (>100,000 gpd), these systems would likely require flow equalization, an impermeable liner for the buried filter pipe array, and post treatment extraction and disinfection to meet a NPDES permit or be conveyed to an adequate area for spreading and infiltration under a WDR permit. A treatment system scaled up to 1.0 mgd would cost approximately \$7 million without disinfection. This alternative has been eliminated from consideration due to its scalability to meet the needs of the Town of Paradise anticipated flows. However, this option might be revisited if a sewer district cannot be formed and blocks of businesses have failed septic systems. This option will still be challenged for land for treatment area and discharge/dispersal locations close to town.

### **VERMIFILTRATION**

Vermifiltration is a filter bed system used to treat high BOD wastewater with soil as a filter and worms as the biological processor of dissolved organic carbon and nutrients. They have been used effectively on small scales of 10,000 to 50,000 GPD to treat agricultural, dairy, and human wastes. Large scale treatment of more than 1 mgd is rare but has been implemented in rural agricultural areas. The advantage of the system is the low energy usage to treat the wastewater, relative to conventional treatment. They are primarily sold as decentralized systems for rural and agricultural areas and are not widely demonstrated in municipal use with conventional collection systems.

Questions remain as to the reliability of the treatment system to consistently meet effluent requirements for either land application or stream discharge with municipal influent. Treated effluent would need to be conveyed to an adequate land application area or stream and additional disinfection would still be required and must be considered in any cost comparison with a conventional system. Systems have been in use in Australia and Chile for several years and have only recently been used in the U.S. in rural areas for food processing (wine and fruits) and dairy wastes. Representative costs are difficult to find. While data show good performance for removal of BOD, it is less clear on chloroform bacteria removal and consistency in disinfecting the effluent for stream discharges. The primary demonstration usage has utilized leach fields and land application and infiltration as the discharge step. This alternative has been eliminated from consideration due to concerns over its scalability and effluent reliability for stream discharge.



# 7

## Alternatives Summary

The following section describes the options and alternatives that have been evaluated for consideration for the sewer project report. These options and alternatives have been informed by previous studies and public input. Each of the four main options include a detailed approach, expected regulatory requirements, design criteria, pros and cons, and summary cost estimates. The funding section of this report outlines the anticipated costs per connection for each of the options.

The options analyzed are as follows:

### **Option A – Localized Wastewater Treatment Plant with effluent land application**

- Local sewer collection system for service area. Acquire land with adequate area for secondary level treatment plant and land application area for a RWQCB Waste Discharge Requirement (WDR).

### **OPTION B – LOCALIZED WASTEWATER TREATMENT PLANT WITH SURFACE WATER DISCHARGE LOCATION**

- Local sewer collection system for service area. Acquire land with adequate area for a tertiary level treatment plant and location for effluent discharge to creek. Will require a RWQCB National Pollutant Discharge Elimination System (NPDES) permit.

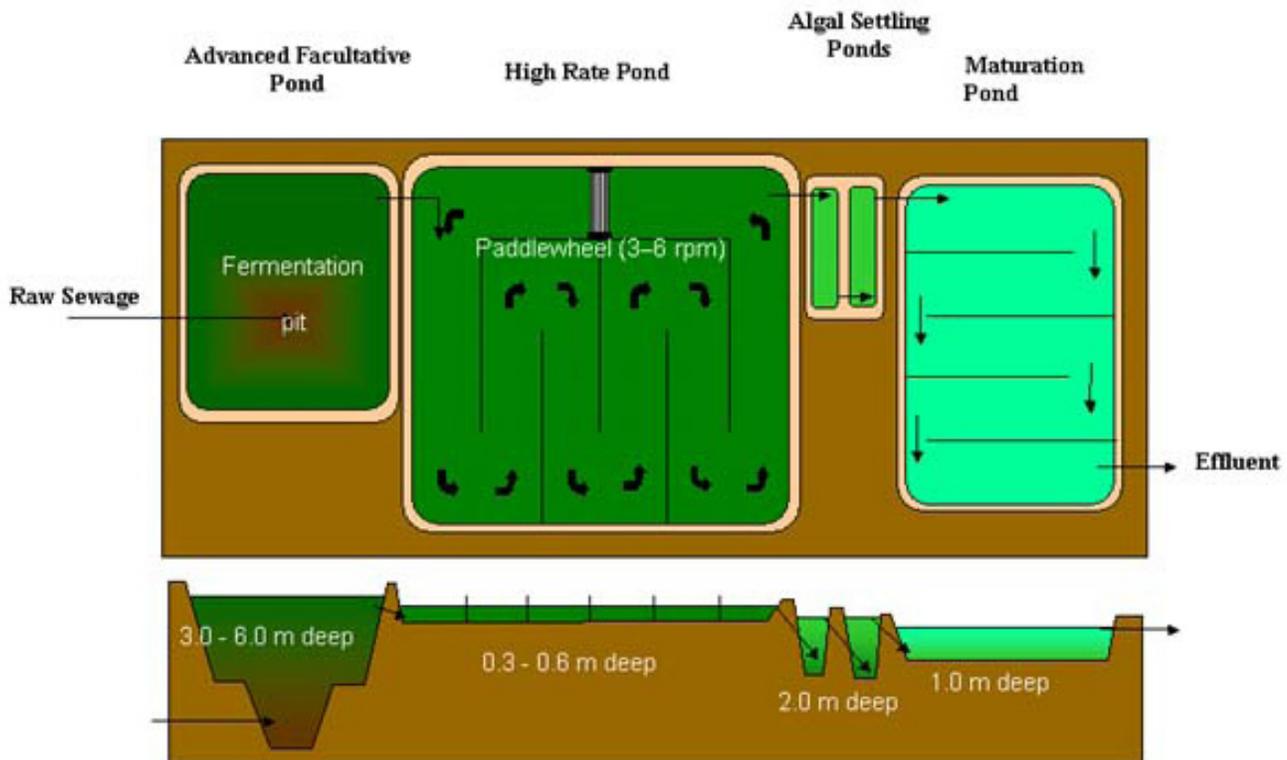


Figure 7.1 – Example of a Pond Treatment System

**OPTION C – REGIONAL CONNECTION TO THE CITY OF CHICO WATER POLLUTION CONTROL PLANT**

- Local sewer collection system for service area. Acquire right-of-way for regional pipeline and connection to the City of Chico WPCP. Requires regional agreement with the City of Chico and connection fee.



Pond treatment

**OPTION D – WASTEWATER TREATMENT WITH BENEFICIAL REUSE**

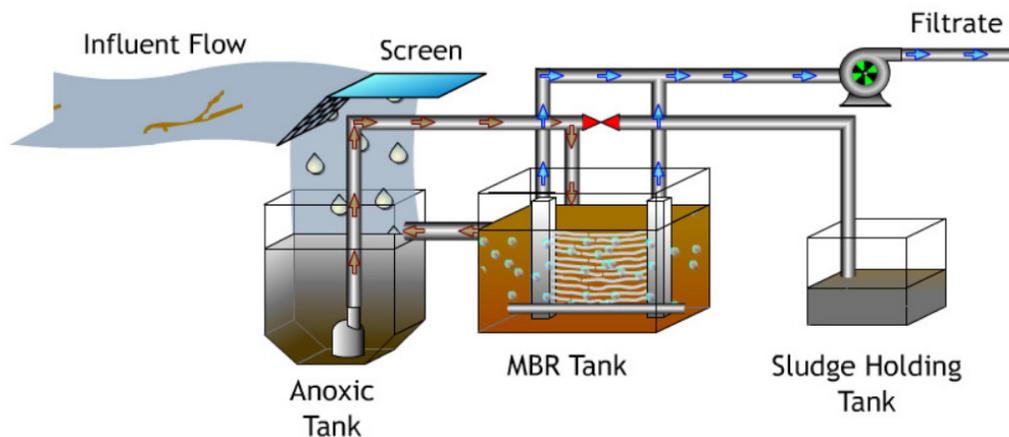
- Local sewer collection system for service area. Acquire land with adequate area for a tertiary level treatment. Treated effluent connected to reclaimed water system for distribution and re-use via irrigation. Reclaimed water would be stored in ponds in the winter and provided for golf course irrigation in the summer.

**OPTION E – NO PROJECT**

- No collection system or treatment plant. The Town continues to function on septic systems.

**GENERAL DISCUSSION OF DISCHARGE REQUIREMENTS AND PROJECT TREATMENT PLANT OPTIONS**

The overall project alternatives rely on three different wastewater treatment options. Option A is a pond treatment system, **Figure 7.1**, that would store and treat sewage to a secondary level for land application of



**Figure 7.2 – Tertiary Treatment and Disinfection**

the effluent. Options B and D are a tertiary treatment option, **Figure 7.2**, to produce high quality effluent for either creek/stream discharge or potential reuse. Option C utilizes the City of Chico’s existing Wastewater Pollution Control Plant.

The treatment options are based on expected permit types, and their associated requirements for effluent discharge location and method. The permitted discharge requirements from the Regional Water Quality Control Board (RWQCB) would either be a National Pollutant Discharge Elimination System (NPDES) permit or a Waste Discharge Requirement (WDR) Order permit.

### **ANTICIPATED DISCHARGE REQUIREMENTS**

The State Water Resources Control Board operates under the federal Clean Water Act (CWA) and is responsible for regulating wastewater treatment plants in the state of California. The permitting authority is delegated to nine Regional Water Quality Control Boards (RWQCBs). The NPDES Permit Program controls water pollution by regulating point sources that discharge pollutants into the waters of the United States. Point sources are individual conveyors like pipes or man-made ditches. Examples of pollutants include, but are not limited to, rock, sand, dirt, and agricultural, industrial, and municipal waste.

New discharges require that an application and a Report of Waste Discharge (ROWD) are submitted to the RWQCB board. Permits are granted with specific conditions, including discharge type and the specific environment within a watershed basin (Basin Plan) and specific to the water body (stream) receiving the discharge. Typically, discharges that lead to surface water (creeks, streams, rivers, or lakes) require a NPDES Permit and treatment plants that dispose of effluent

by land (evaporation, irrigation, infiltration, and recharge) require a WDR permit. The RWQCB typically reviews both permit types every five years. In that time span additional studies are often required, depending on changes in the watershed basin plan or new data from more recent constituent studies. The Environmental Protection Agency (EPA) establishes the Water Quality Research and resulting constituents' requirements. The requirements are then transferred to the State Boards for implementation.



### **National Point Discharge Elimination System (NPDES) Permit**

NDPES permits are more burdensome to acquire between the two options for Publicly Owned Treatment Works (POTWs). NPDES permits often require more stringent discharge limits on nutrients, metals, disinfection byproducts (DBPs), and contaminants of emerging concern (CECs) such as pharmaceuticals.



Those dischargers pursuing a permit for surface water discharge should expect a higher level of staff time and operating costs for permit maintenance. The additional efforts can be seen in areas like constituent sampling and testing, effluent toxicity testing, pesticides, temperature, turbidity, and chemicals. Permits also typically require ongoing studies of both effluent and the water quality received by the discharger. These studies generally lead to plans that require updates and submission to the RWQCB on a regular basis.



**Land application of effluent includes alfalfa or other fodder crops and pasture lands**

Historical evidence demonstrates that a POTW will face more restrictive discharge permit limits and potential treatment plant upgrades and revisions every five years. These revisions are often driven by EPA requirements that the RWQCB cannot dismiss, which can lead to plant upgrade costs above the average life-cycle costs for equipment repair and replacement.

### **Waste Discharge Requirement (WDR) Permit**

WDRs will typically require operations plans for flood control or spray irrigation and tail-water capture. Groundwater sampling and monitoring is the most common requirement in reporting to the RWQCB on permit performance.

Similar to a NDPES permit, the constituents for monitoring are usually based on a watershed basin plan or groundwater plan for the region. A key element in maintaining the WWTP process and monitoring discharge is avoiding groundwater degradation, which is verified by periodic groundwater sampling.

Odor control and mosquito abatement are both key concerns for WWTP operators of pond systems. For these reasons, pond systems are typically located well outside of urban centers. Preferably, pond systems are surrounded by agricultural areas to act as a type of buffer zone for neighbors.

### **SURFACE DISCHARGE TO CREEK (NPDES PERMIT)**

The Town-adjacent tertiary treatment option investigated wastewater discharge to either Hamlin Slough or Nugen Creek. Both of these creeks eventually feed into Butte Creek and the Sacramento River. Hamlin Slough and Nugen Creek are transitory water flows, so the WWTP effluent would be the predominant flow in the creeks. The RWQCB refers to this condition as “effluent dominated” and typically require effluent discharge to meet California Code of Regulations Title 22 Reuse Requirements for Disinfected Tertiary Recycled Water. This means that treatment would include removal of biochemical oxygen demand (BOD), nutrients, turbidity, and disinfection for coliform organisms. This level of treatment is equivalent to water quality requirements for reclaimed water or “purple pipe” systems.

“Disinfected tertiary recycled water” means a filtered and subsequently disinfected wastewater that meets the following criteria:

- A. The filtered wastewater has been disinfected by either:
  - a. A chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow; or
  - b. A disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. (A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.)
  
- B. The median concentration of total coliform bacteria measured in the disinfected effluent does not exceed an Most Probable Number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.



**Land application of effluent may use spraying, flooding or drip application**

## LAND APPLICATION (WDR PERMIT)

Land application commonly allows for a lower level of treatment focused on removing BOD and the collection, digestion, and storage of sludge. Nutrient limits typically focus on Nitrate-Nitrogen. Monitoring generally focuses on background groundwater quality. Wells are sampled to measure Coliforms, Total Dissolved Solids, and Nitrate. Influent monitoring focuses on grit and debris removal to protect the aerobic processes. Plant monitoring tends to focus on odor control and wet weather flow to prevent overflow during a “100-year storm.”



Sludge is stored for stabilization and eventually dewatered and hauled to a landfill. Volumes of storage are usually selected that require sludge off-haul every 10 years.

## SEWER PROJECT OPTIONS

Now that the alternative treatment systems and discharge permit requirements have been discussed, the following sections describe the core project options analyzed at the feasibility level. They include a brief description of elements, discharge permit type, sizing based on anticipated flows, anticipated operation costs and staff, capital costs, and a list of pros and cons.



Operations costs for all of the proposed alternatives begin with staffing for the new sewer district. This cost includes the minimum number of staff needed to sufficiently manage the utility at the executive, engineering, administrative, and operations levels. Additional costs are included for each option. These costs depend on the treatment or conveyance requirement to operate the system from collection to conveyance to treatment to discharge.



## POND TREATMENT – OPTION A

Pond systems utilize diked areas to store and treat sewage. Organic materials are bio-oxidized and stimulated by surface aerators. Solids are settled and bio-degraded anaerobically. Effluents are typically stored, evaporated, and discharged on controlled land via flood irrigation or spraying.



**Effluent applications for the tertiary treatment and disinfection option include wetlands augmentation, surface discharge, reuse for select agriculture, and golf course irrigation**

The aeration pond approach is limited to irrigation during the drier months and effluent storage in wetter months, which means that this treatment option requires significant land area for treatment, storage, and land application. In the case of the Town of Paradise, the project would need approximately 300 acres of land, and depending on availability, may need to purchase additional acreage to maintain a suitable buffer zone from adjacent creeks, homes, and businesses.

The advantages of aeration ponds for treatment are:

- Less stringent permitting requirements and monitoring
- Lower operational and maintenance cost
- Less complex system for operation
- Reduced disinfection requirements

The disadvantages of aeration ponds for treatment are:

- Large land areas required for moderate flows
- Additional storage for winter flows when effluents cannot be spread or evaporated effectively
- Limited locations available for storage, treatment, and spreading

### DISCHARGE REQUIREMENTS/PERMITS

Option A would operate under a RWQCB WDR permit requiring that the treatment plant storage ponds, treatment lagoons, and spreading basins be outside of the 100-year floodplain and do not allow effluent to run-off to surface waters or come into public contact or contact with agriculture used for human consumption.

### SIZING

Sizing for the plant was based on similar treatment plants utilizing this treatment scheme and scaled to the Town of Paradise’s anticipated flows. The treatment plant would include a treatment pond, disinfection, effluent storage ponds, effluent pump station, irrigation pump station, land disposal field with spray irrigation, and tail-water recovery area with sump.

### OPERATIONS AND MAINTENANCE

A summary of our operations and maintenance (O&M) assumptions and unburdened costs are show below in **Table 7.1**.

**Table 7.1 – Option A - Operations and Maintenance Cost**

Annual Operations and Maintenance - Treatment Ponds and Land Disposal (Option A)					
1	Chemicals (\$/yr)(assume chlorine disinfection)	1	LS	\$65,000	\$65,000
2	Lead operator (\$/yr)	1	LS	\$130,000	\$130,000
3	Assistant operator	1	LS	\$85,000	\$85,000
4	Additional Labor Cost (\$/yr) (misc. repairs)	1	LS	\$10,000	\$10,000
5	Sampling and Lab Testing (\$/yr)	1	LS	\$50,000	\$50,000
6	Power Requirements (\$/yr)	1	LS	\$25,000	\$25,000
				<b>Subtotal O&amp;M</b>	<b>\$365,000</b>

## **CAPITAL COSTS**

The anticipated capital cost for Option A is \$34.9 million for the lagoon style treatment plant with land application of effluent. This includes the transmission main from the Town to the treatment plant and land acquisition to accommodate a 300 acre project site.

The total capital cost for the option is \$82.5 million for private connection costs, collection system, and treatment plant.

## **OTHER CONSIDERATIONS**

### **Septage Receiving**

The proposed collection system utilizes tanks at each parcel and would need to be pumped for sludge periodically. Septage pumping, collection, hauling, and disposal would continue to be a future need just like the Town's septic systems require now. Although, it is anticipated that this type of maintenance will only be needed every 10 years on average, it means that any proposed wastewater treatment plant for the Town of Paradise must include septage receiving as part of the treatment scheme. This cost has been added to the treatment options of this report.

### **MEMBRANE BIOREACTOR (MBR) PLANT – OPTION B AND D**

The MBR process used for conceptual design and cost estimates utilize a Flow Equalization/Attenuation Tank, a 3-stage MBR system, Solids Handling with Septage Receiving, ultraviolet (UV) disinfection, and a lab and/or office building. The overall plant is anticipated to utilize no more than a 20-acre parcel.

The MBR options assume the wastewater treatment plant effluent will be discharged to a creek where the volume of water is dominated by the effluent. Effluent-dominated discharges are common in California and the required treatment levels are high. The effluent leaving WWTPs typically meets reclaimed water requirements, which includes low turbidity, nutrient removal (Phosphorous and Nitrogen), and required disinfection.

Under this scenario a Membrane Bio Reactor (MBR) is assumed as the primary treatment option with UV disinfection. An MBR system generally uses 25 percent of the area of a conventional wastewater treatment process. MBR systems are typically more cost effective for treatment for lower flows and isolated areas where land availability is a primary concern. The cost of these systems continues to drop as they become more common. These systems have become the preferred method of

treatment in land constrained areas with flows in the 200,000 gallons per day (GPD) to 2 million gallons per day (MGD) range, due to their small footprint and effluent quality reliability.

The advantages of an MBR treatment process are:

- Small footprint
- High quality water effluent providing for re-use and irrigation opportunities
- Typically come in modular systems that are expandable
- Low turbidity effluent reduces disinfection dosing and costs

The disadvantages of an MBR treatment process are:

- Typically higher capital cost and operational costs due to energy demands
- Limited high flow capacity
- Storage and use of cleaning chemicals for maintenance (Sodium Hypochlorite and Citric Acid)

### **Discharge Requirements and Permits**

Option B and D would operate under a RWQCB NPDES permit.

### **Sizing and Footprint of Treatment Options**

The difference in treatment approach, operations, and discharge permits have been discussed, but land is the key difference between MBR treatment and aeration pond treatment. The MBR tertiary treatment approach allows for all-season discharge and even seasonal reclamation and reuse of effluent for irrigation. The process for the Town of Paradise's anticipated flows could fit on as little as 10 acres, with some of the processes taking place inside a building. For the purposes of this study, 20 acres has been assumed as appropriate for an MBR process with UV disinfection.

### **Capital Costs Comparison for Treatment**

The MBR treatment plant option is estimated to cost approximately \$16.4 million (including 20 percent design/construction contingency, 15 percent engineering design/permitting/environmental). The inclusion of a pipeline and storage facility for beneficial reuse (Golf course irrigation) costs approximately \$25 million.

These costs are combined with the collection system cost to yield the overall capital construction cost for Options A, B, and D.

The total capital cost for Option B is \$64 million and the total capital cost for Option D is \$72.6 million

## STAFFING AND OPERATIONS COSTS

A summary of our O&M assumptions and costs for Option B are shown below in **Table 7.2**.

**Table 7.2 – Option B - Operations and Maintenance Cost**

Annual Operations and Maintenance Cost - MBR (Option B)					
Item No.	Item	Estimated Quantity	Unit	Unit Price	Total
1	Chemicals (\$/yr)	1	LS	\$1,000	\$1,000
2	Lead operator (\$/yr)	1	LS	\$130,000	\$130,000
3	Assistant operator	1	LS	\$85,000	\$85,000
4	Additional Labor Cost (\$/yr) (Filter cleanings)	1	LS	\$10,000	\$10,000
5	Sampling and Lab Testing (\$/Month)	12	EA	\$10,000	\$120,000
6	Power Requirements (\$/yr)	1	LS	\$60,000	\$60,000
7	UV Servicing (\$/yr)	1	LS	\$50,000	\$50,000
8	Solids Management (\$/yr)	1	LS	\$6,000	\$6,000
<b>Subtotal O&amp;M</b>					<b>\$462,000</b>

A summary of our O&M assumptions and costs for Option D are shown below in **Table 7.3**.

## BENEFICIAL REUSE – OPTION D

During the drought, political interest in wastewater reclamation and reuse increased significantly and remains high. Grant funding has been made available and projects have been implemented to encourage the practice across the state of California.

Ultimately, wastewater reuse implementation is determined by water demand and economics, not technology or public interest. The limitation on reuse is most often due to the cost to produce the appropriate water quality and the cost of conveyance to deliver the treated water to the end user. Usually, new infrastructure is required for conveyance and storage. As a product, reclaimed water has proven to be more effective than potable water for irrigation of golf courses, parks, fodder crops, and park-strips because of its higher nutrient levels (phosphorous and nitrogen).

Most of the communities currently using reclaimed wastewater are located adjacent to wastewater treatment plants, which limits the cost of infrastructure to deliver the water. Additionally, many communities subsidize the delivery cost to encourage its use and offset their potable water demands. This practice is most effective in cities that manage both water and wastewater responsibilities. For example, the City of Roseville

**Table 7.3 – Option D - Operations and Maintenance Cost**

Annual Operations and Maintenance Cost - MBR with Beneficial Reuse (Option D)					
Item No.	Item	Estimated Quantity	Unit	List Price	Total
1	Chemicals (\$/yr)	1	LS	\$1,000	\$1,000
2	Lead operator (\$/yr)	1	LS	\$130,000	\$130,000
3	Assistant operator	1	LS	\$85,000	\$85,000
4	Additional Labor Cost (\$/yr) (Filter cleanings, Pipe inspection)	1	LS	\$15,000	\$15,000
5	Pond Maintenance and Discharge Monitoring (\$/yr)	1	LS	\$5,000	\$5,000
6	Sampling and Lab Testing (\$/Month)	12	EA	\$10,000	\$120,000
7	Power Requirements (\$/yr)	1	LS	\$65,000	\$65,000
8	UV Servicing (\$/yr)	1	LS	\$50,000	\$50,000
9	Solids Management (\$/yr)	1	LS	\$6,000	\$6,000
<b>Subtotal O&amp;M</b>					<b>\$477,000</b>

does not currently charge a connection fee for new users of reclaimed water adjacent to a reclaimed water main. Reclaimed water rates are 50 percent of the potable rate in the City of Roseville. The “purple pipe” infrastructure is paid for and installed by new developments and the connection fee is then paid via property assessments or Mello-Roos taxes passed through to the home owners who buy in the new developments.

The common relationship in Southern California is that special wastewater districts are the wholesalers of the treated reclaimed water and adjacent water companies build and manage the infrastructure to deliver the water as retailers.

**Reuse Opportunities**

The project team met with water agencies (California Water Service and Paradise Irrigation District) and Butte County officials to discuss interest and need for reclaimed water. While there are schools and parks within the Town that would be a good fit for reclaimed water, the water demand is very low relative to the anticipated wastewater treatment volume. These water customers are currently receiving potable water at very low rates and the cost of reclaimed water production and conveyance would not be offset by sales, which means that reclaimed water would not be cost effective.

The most likely end user for reclaimed water in the area is the Tuscan Ridge Golf Course, because the summertime water demand is significant. In addition, the landscaped area requires a considerable amount of groundwater pumping, which Butte County wants to limit. The demand is much lower during wetter months. Low demand means that a storage



**Purple pipe used for reclaimed water distribution**

pond and year round surface water discharge point is necessary. It is highly unlikely that the cost to produce and deliver the reclaimed water would be offset by its sale price. One potential benefit of reclaimed water use is the possibility of additional grant funding opportunities for the project. However, more research is required to determine the source and maximum amount of grant funding available to offset the additional cost of adding reuse to the MBR treatment option.

### **Additional Analysis for Option D post Draft Feasibility Report**

On March 22, 2017 the project team met with the Tuscan Ridge Golf Course developers and discussed their near-term plans to build 160 home units in and around the existing golf course. To develop the residential component of the development, Tuscan Ridge will need to develop a wastewater treatment system. They are moving forward with a Presby treatment system that is effectively a buried filter with a settling component upstream of the biological process. The system has demonstrated effectiveness in many rural areas and at flows up to 100,000 gallons per day. The system is modular and expandable and an effluent extraction and disinfection step could be added to produce reclaimed water for irrigation. The development intends to reuse their effluent for golf course irrigation. The development team has proposed to partner with the Town of Paradise to combine wastewater treatment and reuse and store the treated effluent in a series of lakes around the golf course.

The project team believes this option could have benefits in reducing the project cost, but several hurdles need to be overcome. The development will need to form a community services district for sewer service, acquire a waste discharge permit from the RWQCB, and demonstrate Title 22 effluent requirements can be met to reuse the water for golf course irrigation. If successful, the project would be the first Presby system permitted in the State of California.

Questions still remain about the ability of the proposed Tuscan Ridge treatment system scaling up to the flows required by the Town, but the option holds promise for cost savings via reduced land cost and the potential ability to store winter reclaimed water flows without stream discharge via various storage ponds around the golf course.

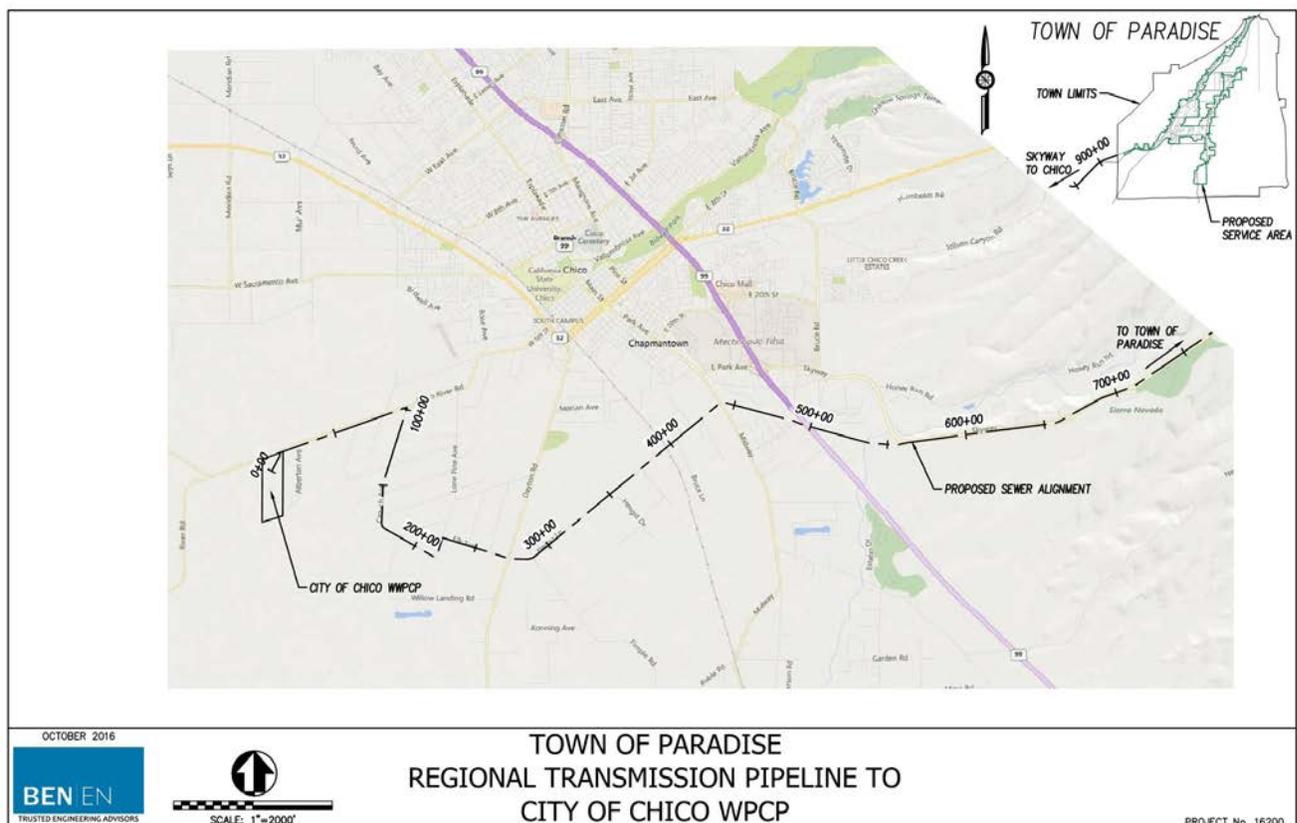
### **SEPTAGE RECEIVING**

Both of these options will need to provide for Septage receiving as described in Option A.

## REGIONAL CONNECTION – OPTION C

A regional connection to the Chico Water Pollution Control Plant (WPCP), **Figure 7.4**, presents several advantages as an option. Those advantages include the following:

1. Removes land requirement for WWTP in or near the Town of Paradise by moving the treatment component of the complete sewer solution to Chico.
2. Provides for “economy of scale” in distributing the cost of wastewater treatment for the Town to be included with over 80,000 people served by the WPCP. This has long term benefits to share costs for life cycle costs of the treatment plant in addition to costs required for regulatory environment changes.
3. Limits staffing requirements for the Town of Paradise Sewer District by only requiring collection system and conveyance operations oversight.
4. Is favored by the RWQCB as it limits the number of permits they are required to manage and is felt to be more protective of the watershed.



**Figure 7.3 – Conceptual Regional Pipeline Alignment**



**Chico Water Pollution Control Plant.**

The regional connection option was previously identified in the 2012 study (Staff Report to Town Council) with the assumption that adequate capacity existed with the City of Chico in both the collection system adjacent to Skyway and at the WPCP. Treatment capacity at the treatment plant likely does exist, however changes to WPCP operations and retrofitting may be required. It is unlikely that capacity exists in the City of Chico collection system adjacent to Skyway Road. The City of Chico Sewer System Master Plan, June 2013, indicates planned growth areas in the southeast quadrant of the City. Within the same plan the future pipelines designed to serve this area show significant upsizing and larger parallel pipelines well into the older downtown area. These factors indicate an inadequate pipeline capacity in the existing collection system; it would be unable to convey new flows to the WPCP. The pipeline capacity is based on anticipated flow within the current urban services boundary and sphere of influence.



**The regional option transports wastewater from Paradise to the Chico Pollution Control Plant**

If similar collection system capacity limitations are assumed for the flow from the Town of Paradise, then additional capacity would need to be added through portions of the City of Chico. Additional capacity requires construction, which would incur additional costs due to more traffic control, utility clearances, and crossings at Little Butte Creek and Highway 99. This would significantly increase the construction cost of the regional pipeline. After discussing various options with the City of Chico Engineering Staff, the conceptual alignment for the regional pipeline was directed south to avoid the more densely developed areas of south Chico. This realignment allows for a lower unit cost of pipeline construction by improving constructability and avoiding existing utilities. Furthermore, tying in at the WPCP directly removes any reduction of collection system capacity which could be needed for planned developments in southeast Chico—a significant hurdle in project feasibility.

The regional pipeline from the Town of Paradise is considered a closed conduit, which means no other connections are planned outside of the Town’s Sewer Service Area. Once the pipeline reaches Chico city limits, opportunities may exist for the City of Chico to provide additional capacity in the pipeline for planned growth areas. Future developments would pay for the additional pipeline capacity, which would lower the unit cost of the pipeline within and adjacent to Chico city limits. Project partnerships

and cost reduction opportunities could be explored further during the preliminary design phase, if the Regional Option is selected as the preferred alternative.

### **DISCHARGE REQUIREMENTS/PERMITS**

This option would fall under the City of Chico's current NPDES permit requirements. Order No. R5-2010-0019, NPDES No. CA0079081. Receiving water discharge points are the Sacramento River and the M&T Irrigation Canal.

### **CAPITAL COSTS**

The Regional Pipeline is anticipated to cost \$35 million (including a 20 percent design/construction contingency, and a 15 percent engineering design/permitting/environmental cost). This cost is significantly higher than the previous study estimate due to following factors:

- Additional eight miles of pipeline to convey flows through and around the City of Chico to the WPCP to the west
- Associated right-of-way costs through the rural sections of South Chico to reach the WPCP
- Assumed City of Chico connection fee (to be negotiated)

These costs are considered to be as realistic as possible after discussions with City of Chico engineering staff. The connection fee estimate is based on anticipated Equivalent Dwelling Units (EDUs) from the Town of Paradise service area. The actual connection fee will ultimately be negotiated between the City of Chico and the Town of Paradise. The estimated connection fee is conservative because Chico's formula is calculated based on sewer impact to collection system and WPCP. However, the Town of Paradise sewer flow would only impact the WPCP and not the existing City of Chico collection system.

The total project capital cost for Option C is \$83.4 million.

### **STAFFING AND OPERATIONS COSTS**

A summary of our O&M assumptions and costs for Option C are shown below in **Tables 7.4. Table 7.5** includes the operations cost of the collection system and is common to all options.

### **OTHER CONSIDERATIONS**

#### **Septage Receiving**

Option C is limited in that the City of Chico WPCP does not allow septage receiving due to concerns over nitrogen limitations on their discharge permit. Therefore, septic tanks in the Town of Paradise will need to be serviced and delivered to the Neal Road Septage Receiving Station or alternate should the facility be closed.

**Table 7.4 – Option C - Operations and Maintenance Cost - Conveyance**

<b>Annual Operations and Maintenance Cost - Regional Transmission Line (Option C)</b>					
<b>Item No.</b>	<b>Item</b>	<b>Estimated Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Total</b>
1	Miscellaneous Repairs (\$/yr)	1	LS	\$25,000	\$25,000
<b>Subtotal O&amp;M</b>					<b>\$25,000</b>

**Table 7.5 – Option C - Operations and Maintenance Cost – Collection System**

<b>Annual Operations and Maintenance Cost - Service Area (Common to all Options)</b>					
<b>Item No.</b>	<b>Item</b>	<b>Estimated Quantity</b>	<b>Unit</b>	<b>List Price</b>	<b>Total</b>
1	General Manager	1	LS	\$150,000	\$150,000
2	Receptionist (Assume 1 full 1 part time employee)	2	LS	\$60,000	\$90,000
3	Accountant	1	LS	\$100,000	\$100,000
4	Operations - Collection System				
	Operations Manager	1	LS	\$130,000	\$130,000
	Field Crew/Utility Worker (assume 2)	2	LS	\$55,000	\$110,000
	On-Site Serviceman	1	LS	\$55,000	\$55,000
5	Annual Maintenance (\$/yr)	1	LS	\$50,000	\$50,000
6	Septage Hauling	100	EA	\$1,000	\$100,000
7	Building Cost (assumed service district housed at City Hall)	0	LS	\$18,000	\$0
8	IT Support (\$/yr)	12	LS	\$1,000	\$12,000
9	Planning (\$/yr)	1	LS	\$30,000	\$30,000
10	Miscellaneous Expenses (\$/yr)	1	LS	\$10,000	\$10,000
<b>Subtotal O&amp;M</b>					<b>\$837,000</b>



# 8

## Scoring Criteria

There are several factors that are both important and relevant to the selection of the recommended sewer project option. To determine the best option, a system for evaluation was established. The evaluation criteria considered all factors, not just capital cost. The project team wanted to make sure the selection criteria aligned with the known goals of the community and Town staff. It was also important that the selection criteria development and project option selection process be transparent. To create transparency, the criteria for project option comparison were drafted by the project team for review and vetting at two separate Project Stakeholder Group (PSG) meetings.

The evaluation criteria were expanded and modified then reduced, based on feedback and discussion with the PSG. Each option was considered and scored relative to each other for cost, environmental impact, secondary benefit, interagency agreements, public impacts, operational issues, and right-of-way (ROW). The measurement for each option relied on subjective estimates derived from known impacts. Scoring was based on a range of 1 - 100, with 100 representing a perfect score and 1 being a negative score. The selection criteria and scoring guidance is described in detail below.

In addition to the selection and refinement of the selection criteria, the team and the PSG established a criteria weighting. The criteria weighting was created because some factors are considered more important than others when selecting the preferred project option. For example, cost

was determined to be the single most important factor, so it was given the highest weight. The PSG meetings helped to determine the criteria weighting. Through discussion, the group agreed that each selection criteria would be given a weight between 5 percent and 40 percent, with the more important factors given a higher weight. See **Table 8.1** for the agreed upon criteria weighting.

**Table 8.1 – Selection Criteria and Weighting**

Selection Criteria	Weighting
Cost	40%
Environmental Impact	15%
Secondary Benefit Options	15%
Interagency Agreements	5%
Public Impacts	10%
Operational Issues	10%
Right-of-Way	5%

Each project option was scored, relative to the selection criteria above, on a range of 0 – 100. Higher scores indicate positive attributes for the option and lower scores indicate high impacts or negative attributes, as shown below in **Table 8.2**.

**Table 8.2 – Scoring Parameters**

Scoring Range	Interpretation
0 - 20	Poor or Prohibitive
20 - 40	Difficult
40 – 60	Moderate or Average
60 - 80	Favorable
80 - 100	Excellent

## **COST**

As shown in the criteria weighting above, cost is the most important issue for the stakeholders in the Town of Paradise. Capital costs were combined with anticipated operations and maintenance costs to generate a net present cost (NPC). Measurement for this criteria was based on an 80-year NPC. The cost includes all capital costs, ROW, and the cost to implement project start-up. In addition, an estimation of annual operations, maintenance, and overhead of an operating system for collection and treatment were included. Replacement costs are also considered over the lifecycle. Scores: 1 = high cost, 100 = low cost.

## ENVIRONMENTAL IMPACT

Environmental impacts are an important factor in project implementation because impacts to endangered species and habitats can stop and/or significantly delay project schedules. The probable areas for the WWTPs and pipeline alignment were evaluated against the Butte Regional Conservation Plan (BRCP). The project team also discussed potential environmental impacts with Butte County officials to gain a deeper understanding of current and future land use plans. Measurement for this criteria were based on a rated score for impacts to environmental resources like threatened or endangered species, wetlands, trees, air quality, and water quality. Anticipated RWQCB requirements for a discharge permit were also considered in scoring the options. Scores: 1 = high impact, 100 = low impact.

*Environmental impacts are an important factor in project implementation because impacts to endangered species and habitats can stop and/or significantly delay project schedules.*

## SECONDARY BENEFIT OPTIONS

Secondary benefits are those that provide additional advantages above and beyond wastewater collection and treatment. An option that would provide secondary benefits would receive higher scores under these criteria. The rated score indicates the option's apparent benefits to economic growth, environmental water (stream flows for fish habitat), long-term water sustainability (potable water use offset), temporary water storage for fire fighting, potential re-use for irrigation, and potential re-use for fodder crops. A higher score in this criteria also indicates the option's position for additional grant money from sources not available to wastewater treatment alone. 1 = low benefit, 100 = high benefit.

## INTERAGENCY AGREEMENTS

The interagency agreements criteria are used to measure the timeline, complexity, and potential negotiations between agencies. This is due to a Regional Memorandum of Understanding (MOU) for sewer connection. These criteria also measures an interagency agreement for recycled water use, or other coordination efforts beyond what is required for essential collection and treatment. 1= high complexity, 100 = low complexity.

## PUBLIC IMPACTS

The public impacts criteria is focused on short-term (construction) and long-term (WWTP plant proximity) impacts. The rated score grades aesthetics, sound, odor, traffic, and the number of ROW/easement

negotiations that impact adjacent stakeholders. Benefits of the work are not considered here. Construction schedule and speed are also considered in the rated score. 1 = high impact, 100 = low impact.

### **OPERATIONAL ISSUES**

The operational issues criteria are used to assess differences in the legacy of the option. In this case, legacy means the long-term operations, replacement, management, negotiation, overhead, and study for sewer district staff outside of operations and replacement costs, which are captured in the cost criteria. Discharge requirements vary, depending on the treatment plant processes. Some processes are less complex to monitor and maintain than others. The legacy of water quality studies and its analysis differ, depending on the treatment level of the effluent, location, and manner of discharge. The rated score represents the complexity of wastewater treatment process, and the number of discharge/anti-degradation studies. 1 = high complexity, 100 = low complexity.

### **RIGHT-OF-WAY**

The ROW criteria uses a rated score based on the purchase of property, ROW, or easements needed to implement the construction of the project option. Additional ROW adds cost to the project but also adds complexity due to the longer bid and construction timeline. Property acquisition cost is included in the cost criteria. These criteria address the labor, management, and negotiation necessary to acquire more or less ROW depending on the sewer project option. 1 = high ROW coordination, 100 = low ROW coordination.

# 9

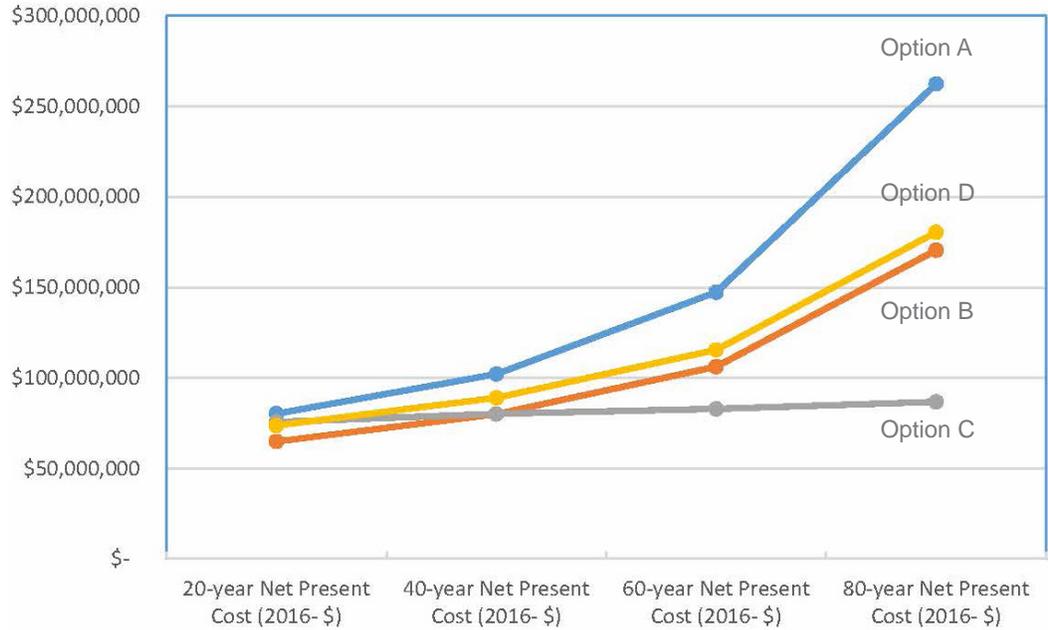
## Alternatives Analysis

### SUMMARY

Results of the initial scoring are included in **Table 9.1** – Sewer Project Scoring Matrix. Initial scoring indicates that Option C – Regional Connection to the Chico WPCP is the recommended option. The second choice would be Option B – Localized WWTP with a surface water discharge location.

Option B has the lowest capital costs due to the WWTP’s proximity to the collection system. However, the longer the lifecycle, the more that Option C separates itself from the other options in lower NPC. See **Figure 9.1**. Also, Options B and D are more likely to face stronger challenges for siting and property acquisition from adjacent neighbors than Option C. Options B and D carry more long-term cost risk due to the RWQCB’s 5-year permitting cycle and potential WWTP upgrades that will be required to meet updated regulation and controls.

Option C has the lowest long-term operations and maintenance cost and lowest long-term risk for discharge permit cost changes over time. This option has the highest capital cost due to the significant length of pipeline required to convey sewage from the TOP collection system to the City of Chico WPCP headworks.



**Figure 9.1 – Comparison of Option Net Present Cost Over Varying Life-Cycles**

Option A is a localized WWTP with effluent land application and requires a significant amount of land acquisition and a long conveyance pipeline to deliver collected Town flow to the WWTP. Less stringent discharge requirements and long-term permit compliance with few anticipated upgrades over time are advantages for this option, however, long-term costs and initial capital costs are both high.

**OPTION A – WWTP WITH LAND APPLICATION**

The main advantages of this option are that the Town will be able to maintain local control and operate under a WDR permit with lower long-term management burden and less anticipated permit changes over time. This option has low energy consumption and the WWTP construction is less complex in relation to other treatment options. However, Option A ranks last in our scoring and evaluation due to high costs from both a capital cost and long-term NPC perspective. See **Table 9.1**.

**Table 9.1 – Option A Scores**

Criteria	Score
Cost	35
Environmental Impact	40
Secondary Benefit Options	80
Interagency Agreements	60
Public Impacts	50
Operational Issues	60
Right-of-Way	40

## **Cost**

This option received a score of 35, mainly because it was the highest cost project over the lifecycle. Specifically, the pipeline from the TOP collection system to the new WWTP and the acquisition of over 300 acres for land for wet weather storage, treatment ponds, and effluent land application added up to significant capital costs.

## **Environmental Impact**

This option scored a 40 for environmental impact due to the large amount of land required for construction. The land area designation is categorized as agricultural and is therefore compatible for use as a WWTP from a county planning perspective. The plausible area for the plant would be within a BRCP delineated Urban Permit Area (UPA) adjacent to Butte Community College and would likely affect a “Grassland Community” as defined in the BRCP. The land area is adjacent to the Butte County Deer Winter Migration Area. The WWTP area would not likely affect wetland or riparian habitat, but the grazing habitat for either cattle or deer could be affected. Cultural resources for the WWTP area have not been delineated as part of the BRCP, so it is assumed no cultural resources are affected.

The areas evaluated would be outside of the 100-year flood plains for Clear Creek and Little Dry Creek, but those flood plain areas would have limitations if additional land area were needed.

The remainder of the project, including the TOP sewer collection system and Clark Road sewer pipeline would lie outside the boundaries of the BRCP.

## **Secondary Benefit Option**

Secondary benefits for Option A are favorable and received a score of 80, mostly because the effluent will only be treated to a secondary level and there are several potential uses for that water. Under Title 22 of California Water Code, disinfected secondary effluent can be used for irrigation of pasture for dairy, nurseries and sod farms, orchards without fruit/nut and water contact, and vineyards without fruit and water contact.

## **Interagency Agreements**

This option scored a 60 for interagency agreements. Although the project would not need to form an agreement with another city or sewer agency, it would require the acquisition of land from private owners. This option would most likely participate in the BRCP for impacts during construction. In addition, encroachment permits from Butte County would need to be acquired, which is why the score was less than favorable.

## Public Impacts

Public impacts received a score of 50, or moderate impact, because there would be a fairly significant amount of construction needed for the conveyance. The construction would have a negative effect on traffic on Clark Road, which is a major access road for the Town of Paradise. The large acreage of land would require a willing seller with several large parcels – this may be difficult to find. If negotiations were unsuccessful, other large parcels would need to be acquired, which would demand additional pipeline length and road impacts.

## Operational Issues

This option received a score of 60, or less favorable, due to the long-term operation and maintenance of the WWTP. The WWTP will require compliance with a RWQCB Waste Discharge Requirement that will be revisited every five years. Compliance sampling and reporting is essential to the permit maintenance. If groundwater monitoring demonstrates a lack of water quality degradation, additional requirements, or WWTP process changes are unlikely. The most common ongoing maintenance challenges with facultative ponds and effluent land application is odor control and mosquito abatement during warmer months.

## Right-of-Way

A significant amount of land is required for this option, which is why it received a score of 40, or difficult, relative to the evaluation criteria.

## OPTION B – WWTP WITH STREAM DISCHARGE

Option B would have several advantages, including local control of wastewater collection and treatment, a small environmental footprint, less conveyance from collection system to WWTP, and lower capital cost. However, this option will carry the most stringent treatment requirements from the RWQCB, because of an effluent dominated stream discharge. See **Table 9.2**.

**Table 9.2 – Option B Scores**

Criteria	Score
Cost	70
Environmental Impact	40
Secondary Benefit Options	60
Interagency Agreements	70
Public Impacts	40
Operational Issues	40
Right-of-Way	50

## **Cost**

Option B received a score of 70, or favorable relative to other options, because it has the lowest capital cost and the second best net present cost. The preferred treatment option to meet the strict discharge requirements demands more energy than most treatment options; this is due to the MBR treatment and use of ultra violet light (UV) as a disinfection step. Because of the additional energy costs, this option would have the second highest anticipated operations and maintenance cost.

## **Environmental Impact**

This option received a score of 40, or difficult to moderate, for environmental impact. The acquisition of a new NPDES permit from the RWQCB may present a challenge, because a WWTP located close to the Town and its residents is more likely to draw opposition from adjacent land owners. Streams in the area are ephemeral and although the effluent will be treated to a high level of quality, the stream flow will be dominated by the effluent year round.

## **Secondary Benefit Option**

This option scored a 60, or average to favorable, for secondary benefits. The effluent stream flow would likely create a habitat for local wildlife. The effluent could be diverted to a reclaimed water delivery system in the future due to its high level of treatment and quality.

## **Interagency Agreements**

This option would require the typical encroachment permits and environmental permitting for a large civil project, but would not need coordination with another city or special wastewater utility district. Because of the relatively low level of interagency agreements, this option received a score of 70, or favorable.

## **Public Impacts**

This option rates lower for public impacts, with a score of 40, due to its proximity to Town residents. Keeping the WWTP close to the Town decreases the infrastructure cost, but increases the project profile. MBR plants provide a high level of water treatment with a small site footprint. A WWTP of this size is commonly used at the expected flow rate of this project. They are also often sited near homes and businesses with a relatively small aesthetic impact. Many WWTPs are completely enclosed in buildings to control odors and mitigate visual impacts. However, the stigma of a home or business's proximity to a WWTP can be challenging, because of the negative impacts on property values. This impact is more specific to owners looking to rent or re-sale their property.

### Operational Issues

The MBR option requires process control and maintenance that exceeds a facultative pond system. Disinfection requirements for stream discharge will limit the use of chlorine due to the production of disinfection byproducts. A UV system is the most likely disinfection process to be used. The bulb replacements for UV disinfection systems are becoming less expensive each year as technology improves, but they are still relatively costly and require a higher energy supply than other disinfection options. Because of these operational costs, this option received a score of 40, or difficult to moderate.

### Right-of-Way

This option will require significantly less property and land to purchase for the WWTP than Option A. However, it will still need a willing seller with adequate acreage. Due to ROW impacts, this option received a score of 50, or moderate.

### OPTION C – REGIONAL PIPELINE

Option C, a regional pipeline connection to the Chico WPCP, has several advantages. It has the lowest net present cost for project life cycle over 40 years, lowers the discharge permit change risk by connecting to an established treatment plant, spreads treatment plant improvement costs over a significantly larger pool of rate payers, and significantly limits local and regional impacts to stakeholders and streams. See **Table 9.3**.

**Table 9.3 – Option C Scores**

Criteria	Score
Cost	80
Environmental Impact	80
Secondary Benefit Options	30
Interagency Agreements	40
Public Impacts	60
Operational Issues	90
Right-of-Way	30

### Cost

Option C received the highest score of 80 for the cost criteria due to its more favorable net present cost. The higher initial cost for the length of conveyance to the Chico WPCP prevents the option from receiving an excellent score.

### Environmental Impact

This option received a favorable score of 80 because it presents the least amount of impact to environmental resources (streams, RWQCB permit, grassland impacts). A preliminary alignment for the regional pipeline

would cross both streams and a 100-year floodplain. However, the stream crossings would use trenchless technology. This means that once construction is complete there is no impact to the floodplain because the topography of the construction corridor is unchanged. Highway 99 and the Union Pacific Railroad would also be crossed with trenchless technology.

### **Secondary Benefit Option**

The selection of the regional option effectively eliminates opportunities for beneficial reuse in and around the Town. Therefore, the option received a score of 30, or difficult. Beneficial reuse of the effluent would likely only occur at the Chico WPCP if the City of Chico elected to add a reclaimed treatment step and conveyance option to potential end users.

### **Interagency Agreements**

The success of the regional option is entirely dependent on the City of Chico's willingness to allow connection and treatment at the WPCP. While there are benefits to the WPCP to accept additional flow and connection fees, an interagency agreement is necessary to proceed. This option would require moderate interagency agreements, so it scored a 40; or difficult to moderate.

### **Public Impacts**

Option C received a score of 60, or moderate to favorable, for public impacts. This is primarily due to the construction impacts of the regional pipeline to reach the Chico WPCP. The long-term impacts are small, but with most pipeline projects, the impact of construction is high when the progress passes homes, driveways, and intersections. However, the duration of high-impact is relatively short.

### **Operational Issues**

This option scored 90, or excellent, for operational issues because once the regional pipeline is completed and operational, it would have lowest long-term maintenance effort of any of the options.

### **Right-of-Way**

The cost for the acquisition of temporary construction easement is included in the cost criteria, but the level of effort to delineate impacts, negotiate easements, and execute payments and construction logistics is captured in the ROW. The regional pipeline will require the most property, utility, and stakeholder coordination for the pipeline construction, so it scored a 30, or difficult.

## OPTION D – WWTP WITH BENEFICIAL REUSE

Option D is effectively the same as Option B, but with the added element of a reclaimed water system for storage and delivery to end users for irrigation purposes. This option provides an advantage for irrigators who have been impacted by the drought, because it creates more water for reuse. The treatment plant can install filling stations for contractors in need of water for water truck and dust control. The project team discussed the potential for recycled water use with several end users, including municipal water companies and private golf courses, however, only the public golf course had appreciable seasonal demand for reclaimed water for irrigation. While there are several programs for potential grant funding or low interest loans for projects implementing reclaimed water, they tend to focus on public and not private uses. Therefore this project option is unlikely to have the additional cost of the reclaimed distribution system offset by grant funding. The private end user would need to pay the additional infrastructure cost to deliver the reclaimed water in order to save the Town's rate payers from the added cost burden. However, if the golf course and future developments were to form a community services district then additional funding may be available and partnership for treatment and reuse would be more easily brokered. Under these revised circumstances, Option D would rank second among options analyzed. See **Table 9.4**.

**Table 9.4 – Option D Scores**

Criteria	Score
Cost	55
Environmental Impact	50
Secondary Benefit Options	100
Interagency Agreements	50
Public Impacts	60
Operational Issues	40
Right-of-Way	60

### Cost

As described in the summary for Option D, the additional capital cost for the reclaimed distribution would not likely directly benefit the Town, except for the reduction in stream discharge of effluent during the warmer months of the year. The option also ranks third on NPC. However, if partnership can be developed to create storage opportunities (ponds) for effluent in the winter months at no additional land cost, then the overall project costs may be reduced. Therefore, the option scored a 55, or moderate.

### **Environmental Impact**

This option will require a NPDES permit from the RWQCB just like Option B. However, the seasonal demand for reclaimed water will greatly reduce the discharge volume and would likely be more favorable for permitting than Option B. The option received a score of 50, or moderate, for environmental impact.

### **Secondary Benefit Option**

Option D ranks the highest for secondary benefits and received a score of 100, or excellent. The project option seeks to minimize the amount of effluent discharged to streams and reuse water to the fullest extent.

### **Interagency Agreements**

This option will require significant coordination with the RWQCB, private land owners and businesses, and compliance with California Water Code to affirm “Disinfected Tertiary” effluent status under Title 22 of the CWC. Because of the interagency agreements, this option scored a 50, or moderate for these criteria.

### **Public Impacts**

The public impacts for Option D are equivalent to Option B with the exception of the additional impacts in public ROW for the reclaimed water product distribution pipeline. Because of these additional costs, this option received a score of 60, or moderate to favorable.

### **Operational Issues**

This option scored a 40, or difficult to moderate, because it is the most complex project to operate. It still requires all the operation and monitoring of the WWTP with potential surface discharge, but it also includes the operation of the reclaimed water storage and distribution system. The score improves if the reclaimed system is maintained and operated by the end user and not the Town.

### **Right-of-Way**

The complexity of ROW management and acquisition is equivalent to Option B. However, if partnership for beneficial reuse makes WWTP location easier and provides for reclaimed distribution with minimal capital investment then the score improves to 60, or moderate to favorable.



# 10

## Overall Scoring Outcome

### OVERALL SCORING OUTCOME

Based on the criteria and weighting developed by the project team and the PSG, and the scoring described above, Option C – Regional Connection is the recommended option. The secondary option is Option B – Localized WWTP with surface water discharge. Based on the scoring outcome, Options A and D would be dropped from further consideration. The recommended Option C – Regional Connection carries some risk because it is contingent on agreement with the City of Chico, which depends on their future plans for the Chico WPCP. An MOU, a connection agreement, and cost must be agreed upon to move this option forward. Therefore, Option B – Localized Treatment Plant with surface water discharge should continue to be carried forward as a secondary option. See **Table 10.1** for a list of project option capital costs.

**Table 10.1 – Option Capital Costs**

Option	Description	Capital Cost	Option Scoring
A	WWTP with Land Application	\$82,545,000	48
B	WWTP with Stream Discharge	\$64,046,000	57
C	Regional Connection	\$83,430,000	67
D	WWTP with Reuse	\$72,672,000	60

**Table 10.2** summarizes the top option scoring within each category.

**Table 10.2 – Criteria Evaluation Summary**

Criteria	Option
Cost	Regional Chico
Environmental Impact	Regional Chico
Secondary Benefit Options	Local Plant w/ Reuse
Interagency Agreements	Local Plant w/ Surface Discharge
Public Impacts	Local Plant w/ Reuse
Operational Issues	Regional Chico
Right of way	Local Plant w/ Reuse

**Table 10.3** summarizes the pros and cons of the preferred option

**Table 10.3 – Option C – Pros and Cons**

Pros	Cons
Lowest Life-cycle Cost	High Capital Cost
Lower Public Impact	Permitting for Crossings (Creek, Highway, Railroad)
Lower Operational Cost and Legacy	ROW Negotiations for Pipeline
Lower Staffing Requirement	

### **RECOMMENDED OPTION NEXT STEPS**

1. Begin Negotiations with City of Chico Staff on implementation details and connection costs and treatment limitations
2. Engage state and federal representatives on project need and alternative grant funding options
3. Secure additional grant funding for next study phase
4. Begin Preliminary Design and Environmental Impact Report

# 11

## Project Funding Options and Rate Evaluation

### **HOW ARE PROJECTS TYPICALLY FUNDED?**

Medium to large infrastructure projects generally acquire funding before design and construction. The method of generating funds is guided by a planning process, which is included in an overall capital improvement plan. Funds for a large-scale project can be generated in a variety of ways, including governmental grants, governmental loans, assessment of properties benefitting from the improvement, and collecting fees from rate payers customers' monthly bill for specific initiatives. It is common for agencies to raise service charges in the years leading up to the project to generate the necessary funds for future improvements.

### **WHAT IS AN ASSESSMENT?**

An assessment is an amount that a property owner is required to pay as a tax. An Assessment District is a financing tool that allows cities, counties and special districts to generate funding for a specific project. Assessment Districts generate funds by selling municipal improvement bonds and repaying those bonds by collecting a tax from each property that will benefit from the improvement or project that is being funded. An assessment district can only be formed with the approval of a majority of the landowners that will benefit from the project. Assessment Districts help each property owner pay a fair share of the costs of the improvement over a period of years at reasonable interest rates. They

also insure that the cost will be spread to all properties that receive direct and special benefit by the improvements constructed.

For this project, there are two assessment options. Each option requires voting approval by a majority of the benefiting property owners and will be paid through a property tax bill. Interest rates for the assessments are dependent upon the bond market at the time of the bond sale. Assessments for this project are expected to have an interest rate between 2 percent and 5 percent for 30 years. In general, a special tax will be determined by an Engineer's Report, which will be applied

to each parcel. If an Assessment District is formed, an assessment tax will be included in the property owner's property tax bill. Both assessment options allow land to be used as collateral for bonds that are sold to investors.

The Improvement Act of 1913 allows public agencies to create a **Special Assessment District** to benefit the property owners in the district. This total assessment amount is reduced each year over the life

of the assessment and is collected with the regular property taxes. An Engineer's Report determines the benefit each parcel will receive. The assessment amount on each parcel is based upon that benefit and not based upon the value of the parcel. For this project, the benefit received by a parcel is the allocation of anticipated sewer flows based on land area and land use. For approval, a Special Assessment District requires a 50 percent plus one "yes" vote of all parcel owners that will benefit from the project.

An Engineer's Report is prepared to define the project costs and allocate benefits to each parcel served in accordance with the Special Assessment Investigation, Limitation and Majority Protest Act of 1931. The Engineer's Report estimates the cost of the project, including construction, engineering, administration, bond counsel, construction management and inspection, and environmental permitting costs and fees. Costs and fees for the project are distributed to each parcel proportionate with the benefit. This allocation of benefits becomes the Assessment Roll for parcels within the district. The assessment includes all parcels within the special district and its allocation of benefit based on land use and anticipated sewer flow. The new district engages a professional Bond Counsel to sell municipal bonds to fund the project.

*The Improvement Act of 1913 allows public agencies to create a Special Assessment District to benefit the property owners in the district. This total assessment is reduced each year over the life of the assessment and is collected with the regular property taxes.*

The other assessment option is to create a **Mello-Roos Assessment District**, based upon the Mello-Roos Community Facilities Act of 1982. Like the Special Assessment District, Mello-Roos assessments are not based on the property value but on benefit received by each parcel. Mello-Roos have more flexibility in its method of assessment than Special Assessment Districts. Mello-Roos Assessment Districts also have more flexibility in the way funds can be spent. For example, Mello-Roos tax can be used to fund planning and operations costs as well as capital costs.

These funding options make the Mello-Roos Assessment District a good instrument for phased projects. The special tax can directly pay for operations and services, as well as to pay debt service on funds used to pay for planning, environmental permitting, design, and construction. District boundaries can be set without contiguous borders. Mello-Roos Assessment Districts allow non-contiguous parcels to be included and others to be excluded. Although a special district's boundaries can be flexible, they are required to fall within an agency's territorial limit. Any special district formed for the Town of Paradise must have all parcels of the District within the Town's limits.

*Mello-Roos Assessment Districts allow non-contiguous parcels to be included and others to be excluded.*

Both of the above funding methods could be used for the Town of Paradise sewer project. The pros and cons of each method will be further discussed in the final project report. The main goal of this report is to select a preferred assessment option to serve the Town. An equally important goal is to maximize opportunities for grant funding, which will help reduce the bond financed portion of the project cost.

### **WHAT DOES A LOW INTEREST LOAN LOOK LIKE?**

There are many organizations that offer low interest loans to fund public infrastructure projects. Each organization or fund has its own specific requirements for eligibility. For example, there may be requirements for specific parts of the project, the entirety of a project, or the demographics for those served by a project when applying for funding. In general, a loan is requested for a proposed project by a public agency – in this case, it's the Town. The terms of the loan (interest rate, length of term, etc.) are established before an agreement is signed. Reimbursements are requested as the money is spent on the project through the design and construction phases. Typically, the payments on the loan begin once construction is complete, although sometimes payments can be delayed up to a year after completion of construction.

Currently, there are multiple low interest loan options available. The following will provide more information for each of those options.

We'll begin with our recommendation, which is funding through the State Water Board's Clean Water State Revolving Fund (CWSRF) wastewater program. CWSRF loans typically have a low interest rate and an available grant funding portion. The CWSRF is the main funding source for water and wastewater projects throughout the state of California.

[http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/srf/index.shtml](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/index.shtml)

*CWSRF loans typically have a low interest rate and an available grant funding portion. The CWSRF is the main funding source for water and wastewater projects throughout the state of California.*

CWSRF loans currently have a 2 percent interest rate and a 30-year term. (That rate changes periodically and is based on the State's Bond Sales.) CWSRF funding is for planning, design, construction, and land acquisition for wastewater projects. There is no maximum funding limit. CWSRF offers grants (principal forgiveness), based on availability. The grant amount can be 75 percent of project costs up to \$8 million for disadvantaged communities. To qualify as a disadvantaged community, 1) the Median Household Income (MHI) for the Town must be 80 percent of the State MHI. The Town of Paradise meets that requirement. 2) the sewer service charges (including assessments) must be 1.5 percent of the Town's MHI. Based on these criteria, the Town's position is as follows:

- Median Household Income for Paradise: \$41,482
- Median Household Income for California: \$61,489
- 1.5% of MHI: \$51.85 per month

CWSRF requires that a majority of the project beneficiaries are residential—this is a key issue that must be resolved for this project. The zoning of land within the service area does not meet that requirement, but the current land use does meet that requirement. The final service area of the project must address the land use beneficiaries to affirm that the Town will qualify for both the CWSRF loan, and to maximize the loan forgiveness (grant) available to the Town.

CWSRF also has loan forgiveness Green Project Reserve (GPR) for projects that have green elements. Green elements for wastewater projects could consist of LEED certified wastewater treatment buildings, or collection system infiltration/inflow detection equipment and other similar elements. Green elements may have a greater appeal, but will

likely carry a higher capital cost. The GPR can cover 50 percent of the eligible cost up to \$4 million. The GPR loan can offer financial assistance, but could reduce eligibility for other grant sources from the State Water Board.

## **OTHER AVAILABLE FINANCING**

The United States Department of Agriculture – Rural Development (USDA – RD) offers loans for small community wastewater projects for rural areas. The USDA defines a rural area as a city or town with a population of less than 10,000. Unfortunately the Town of Paradise doesn't qualify as "rural," based on these USDA-RD requirements.

<https://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program>

Another low interest loan option is the IBank program. IBank provides low interest loans for California's infrastructure and economic development projects. Infrastructure projects are funded through the Infrastructure State Revolving Fund (ISRF) with loan amounts up to \$25 million for 30 years.

US Bureau of Reclamation (Department of the Interior) has funding for water reclamation and reuse under Title XVI. If beneficial reuse is included in the project, the eligible portions of the project may be funded through Title XVI. However recycled water cannot be used for commercial use. This restriction is problematic, because commercial use at a private golf course is the only potential recycled water user in the vicinity with appreciable seasonal demand to use the majority of recycled water.

A Community Development Block Grant (CDBG) provided through the U.S. Department of Housing and Urban Development (HUD), is another source of funding. The Town of Paradise is in the CDBG entitlement program to receive funds. In order to compete for other CDBG grant funding programs, the Town of Paradise would need to withdraw from the entitlement program.

CDBG funding for a sewer project in the Town of Paradise would likely come from the Public Improvement Activities Program and could potentially provide up to \$1.5 million, which could help fund property and Right-of-Way acquisition needed for the project. To be eligible, the project would need to demonstrate a benefit to all the residents in the service area and demonstrate benefits to at least 51 percent of the low and moderate-income (LMI) residents in the service area. The cost related to jobs created by the project must also be considered. It

*Infrastructure projects are funded through the Infrastructure State Revolving Fund (ISRF) with loan amounts up to \$25 Million for 30 years.*

should be noted that, for other communities, CDBG funds leveraged an additional \$4.07 million from other funds, based on reporting from fiscal years 2010 - 2012.

<http://www.hcd.ca.gov/financial-assistance/community-development-block-grant-program/index.html>

The Environmental Protection Agency has established the Water Infrastructure Finance and Innovation Act (WIFIA) program to accelerate investment in water and wastewater projects. The program works

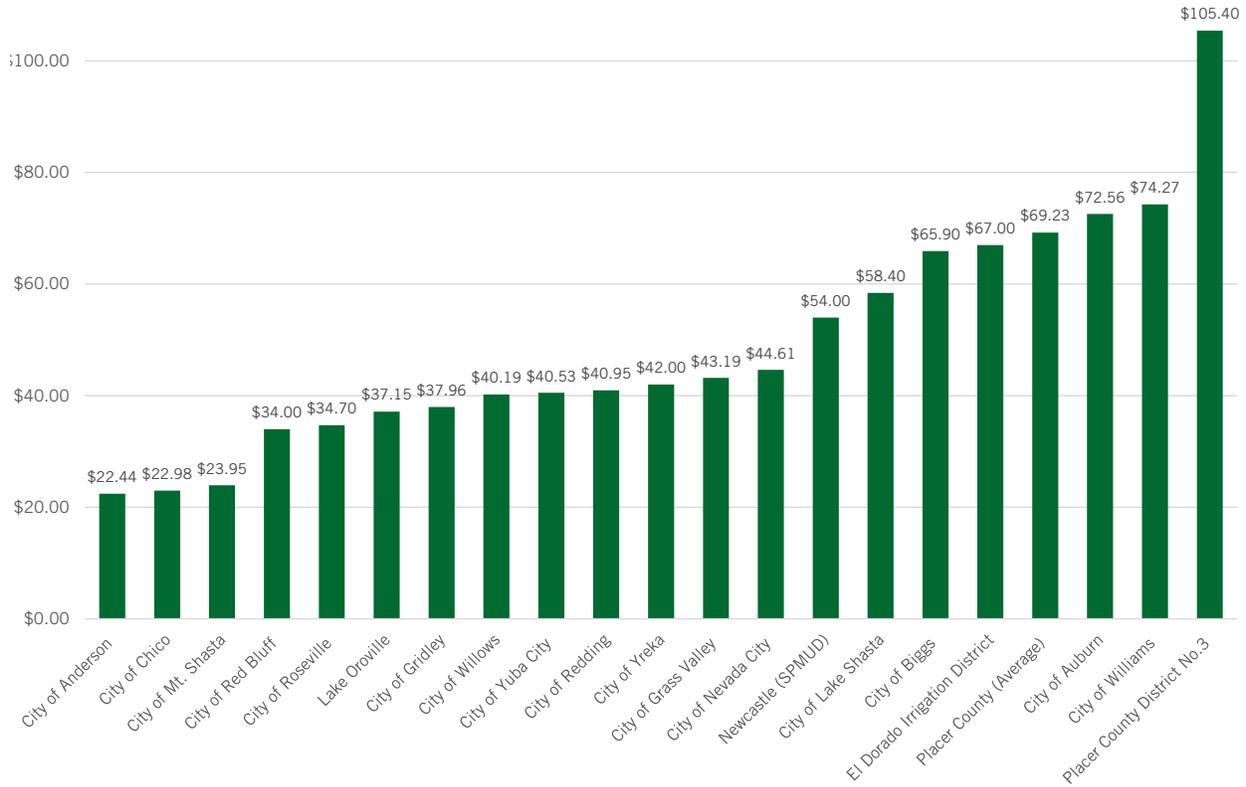
*The Environmental Protection Agency has established the Water Infrastructure Finance and Innovation Act (WIFIA) program to accelerate investment in water and wastewater projects. The program works separately, but in coordination with SRF programs to provide subsidized financing for large dollar-value projects.*

separately, but in coordination with SRF programs to provide subsidized financing for large dollar-value projects. Wastewater collection and treatment projects must be eligible for the Clean Water SRF program and have a minimum project size of \$20 million for large communities and \$5 million for small communities (population of 25,000 or less). The WIFIA is a low interest loan with a maximum of 49 percent funding of the eligible project cost.

RCRC (Rural County Representatives of California) is an organization that has been organized to help communities acquire infrastructure funding. This group is still in the planning stage of getting an allocation of money from the federal government. They are currently collecting information from communities who have projects that need funding. It is anticipated that it will use the USDA as the platform to administer the funds. The RCRC are also planning to be a liaison to help either streamline the application process or possibly help with some components of the application process. Currently USDA only has low interest loans available and their interest rate is currently higher than the SWRCB SRF program. RCRC are planning to request the money from the federal government, along with proposed terms of the agreements. It has yet to be determined whether the allocation would be administered as loans or grants. Also a proposed amount is to be determined based on the list of projects being collected now. The project team will keep informed of the progress of this possible funding source and will provide the necessary information RCRC requested on the Paradise Sewer Project.

### **PROPOSED APPROACH TO FUNDING**

The project team recommends that the Town of Paradise acquire as much grant money as possible, obtain a low interest loan, and establish an Assessment District to fund this project. This would mean structuring



**Figure 11.1 – Sewer Rate Comparison to Neighboring Sewer Districts**

sewer rates to be greater than 1.5 percent of the MHI to meet CWSRF grant requirements. The CWSRF grant seems the most likely grant available to the Town.

The division of project funding between low interest loan and parcel assessment can be a difficult decision. An Assessment District charge is paid by a parcel’s property tax paid twice each year. A loan is repaid by a sewer service charge paid once each month.

The entire project cannot be funded by the Assessment. Assessment Districts require a vote by the land owners proposed to be assessed. If the Assessment payment amount is too high, land owners may vote “no” and the Assessment District won’t be approved. A balance that accommodates both appropriate sewer service charge and reasonable assessment repayment amounts is recommended. The sewer service charges should be set high enough to qualify for the full SRF grant amount, but remain reasonable relative to the rates of neighboring municipalities, **Figure 11.1**.

Private improvements are another key piece of this project. Most existing homes and businesses have on-site septic systems. Improvements to these private systems are required to establish a connection with a

public sewer system. The costs associated with the improvements will vary. For example, a home with a short driveway would likely cost less to connect than a home with a long driveway.

One option is to combine all of the costs for the private improvements with the total cost of the project, which would be included in the cost for the SRF loan. If this approach is taken, the burden to fund and construct the private improvements would be part of the project cost. It is important to note that special assessment funds cannot be used for improvements on private property.

Another option is to have parcel owners pay for individual service costs.

It is recommended that the Town fund the private improvements and offer low interest loans to the parcel owners to pay for the private improvements. The loans would be repaid on the monthly sewer service charges. This option will encourage early connection and help to establish project flows.

#### **DELINQUENCIES/NON-PAYMENTS**

Customer non-payments and delinquencies could cause potential funding deficits. Decreased funding can cause the Town to raise service charges to overcome the deficit. Delinquencies and non-payments seem more likely for the sewer service charges than for assessments associated with the customer's property taxes. This should be considered when determining the cost breakdown between assessment amounts and service charges.

#### **PROPOSITION 218 REQUIREMENTS**

Proposition 218 is a California constitutional amendment, which defines the methods by which local agencies increase taxes and fees. Proposition 218 requires voter approval prior to imposing or increasing general taxes, assessments, and certain user fees. The law does not specify the method or formula that should be used to apportion the assessments in any special Assessment District proceedings.

Proposition 218 requires all local agencies notify parcel owners of proposed new or increased general taxes and service charges. In most cases, individual notices must be mailed to affected parcel owners. A formal protest hearing is required. For the new taxes and service charges to be approved, less than 50 percent plus one of the parcel owners must not protest.

*It is recommended that the Town fund the private improvements and offer low interest loans to the parcel owners to pay for the private improvements.*

## **FUTURE MANAGEMENT AND FINANCIAL RESPONSIBILITY FOR SEWER SYSTEM**

Continued operation and management throughout the service life of the sewer system will be required once the facilities are in place. Continued system operations, funds management, legal requirements, and other practice areas are all important factors to a successful new sewer system operations. The Town will be responsible for maintaining these capabilities. In addition, the funding agency will do a thorough evaluation of the proposed funding mechanisms for project construction as well as continued operation and maintenance. A detailed cost estimate for annual operation and maintenance is included in the overall cost estimate for each alternative. The operations and maintenance costs are included in the project costs.

## **FUNDING OPTIONS**

Another funding option is to have both assessments and a loan kept separately. The assessment amount would pay back the bonds sold for project initiation and the service charges would pay back the low interest loan and future operation and maintenance. For purposes of this report, we have chosen to keep the assessment and the loan funds separate. The Town can decide which portion of the funding they would like to obtain from assessment versus low interest loan.

There are many factors that will be used to determine funding for this project. For purposes of this report, many of these decisions were assumed and used to develop comparable funding and rate scenarios for each alternative.

The following assumptions were made in an effort to prepare comparable alternatives:

- The Town and this project will be eligible for SRF funding – primarily residential and disadvantaged; using current terms (30 years at 2 percent interest); 1.2 times debt service requirement
- The “current maximum” SRF grant will be obtained—\$8 million
- Parcel owners will obtain a loan from the Town for improvements to the private laterals at 1% interest for 10 years
- Service charge monthly rates to commercial/industrial customers will be two times residential rates
- Terms for assessment bond sales is 20 years at 3.5% interest
- Bond Counsel will charge approximately \$150,000 for implementation of the Assessment district and sale of the bonds
- The project will be funded by \$8 million grant, 40% of remaining costs would be funded through low interest SRF loan, and 60% funded through an assessment

*A detailed cost estimate for annual operation and maintenance is included in the overall cost estimate for each alternative. The operations and maintenance costs are also considered in the service charge estimates.*

## POTENTIAL FUNDING AND RATES FOR THE SEWER PROJECT OPTIONS

The following tables summarize project capital costs, funding sources and amounts, and a breakdown of possible rates to pay back the funding sources (not including grants) for the highest rated project options Option C – Regional Pipeline to Chico WPCP and Option D – Treatment Plant with Beneficial Reuse. It should be noted that the funding payback exceeds the project costs due to required loan interest charges. Non-residential rates correspond to parcels zoned as commercial or industrial.

### OPTION C – REGIONAL PIPELINE TO CHICO WPCP

**Table 11.1 – Option C – Total Costs for Project**

Total Costs for Project	
Land Application	\$35,857,000
Collection System	\$28,767,000
Private Connections	\$18,656,000
Bond Counsel	\$150,000
<b>Total Cost</b>	<b>\$83,430,000</b>

**Table 11.2 – Option C – Funding with Minimal Grant**

Funding	
SRF Grant	\$8,000,000
SRF Loan	\$49,363,000
Assessment	\$67,782,000
Private Loans	\$20,607,000
<b>Total Funding</b>	<b>\$145,752,000</b>

**Table 11.3 – Option C – Individual Payments with Minimal Grant**

Individual Payments				Frequency
Private Lateral Loan	\$117			Monthly
Assessment Range	Low	High	Average	
Residential	\$905	\$10,150	\$1,406	Annually
Multi-Family Residential	\$433	\$78,674	\$3,894	Annually
Commercial	\$2*	\$63,126	\$2,289	Annually
Residential Service Charges	\$131			Monthly
Commercial Service Charges	\$197			Monthly

**Table 11.4 – Option C – Funding with Targeted > 70% Grant Funding**

Funding	
SRF Grant	\$60,000,000
SRF Loan	\$4,151,189
Assessment	\$5,700,124
Private Loans	\$20,607,296
<b>Total Funding</b>	<b>\$90,458,600</b>

**Table 11.5 – Option C – Individual Payments with Targeted > 70% Grant Funding**

Individual Payments			Frequency
Private Lateral Loan	\$117		Monthly
Assessment		Average	
Residential		\$118	Annually
Multi-Family Residential		\$328	Annually
Commercial		\$193	Annually
Residential Service Charges	\$64		Monthly
Commercial Service Charges	\$96		Monthly

The bottom line average residential annual cost would be \$2,287 per year for the first ten years and then \$885 per year thereafter. This assumes the customer takes a loan for lateral connection tank and pump.

The bottom line average commercial annual cost would be \$2,744 per year for the first ten years and then \$1,342 per year thereafter. This assumes the customer takes a loan for lateral connection tank and pump.

#### **OPTION D – MBR TREATMENT WITH BENEFICIAL REUSE**

**Table 11.6 – Option D – Total Costs for Project**

Total Costs for Project	
Land Application	\$25,099,000
Collection System	\$28,767,000
Private Connections	\$18,656,000
Bond Counsel	\$150,000
<b>Total Cost</b>	<b>\$72,672,000</b>

**Table 11.7 – Option D – Funding with Minimal Grants**

Funding	
SRF Grant	\$8,000,000
SRF Loan	\$40,009,000
Assessment	\$54,938,000
Private Loans	\$20,607,000
<b>Total Funding</b>	<b>\$123,554,000</b>

**Table 11.8 – Option D – Funding with Targeted > 70% Grant Funding**

Funding	
SRF Grant	\$50,000,000
SRF Loan	\$3,492,143
Assessment	\$4,795,168
Private Loans	\$20,607,296
<b>Total Funding</b>	<b>\$78,894,600</b>

**Table 11.9 – Option D – Individual Payments with Minimal Grants**

Individual Payments				Frequency
Private Lateral Loan	\$117			Monthly
Assessment Range	Low	High	Average	
Residential	\$733	\$8,227	\$1,140	Annually
Multi-Family Residential	\$351	\$63,766	\$3,156	Annually
Commercial	\$2*	\$51,164	\$1,855	Annually
Residential Service Charges	\$117			Monthly
Commercial Service Charges	\$176			Monthly

**\*Small, commercial parcels generate minimal flow based on criteria. Final rates will likely include a minimum benefit and assessment and some parcels may be dropped from the assessment roll, if they are unlikely to develop.**

**Table 11.10 – Option D – Individual Payments with Targeted > 70% Grant Funding**

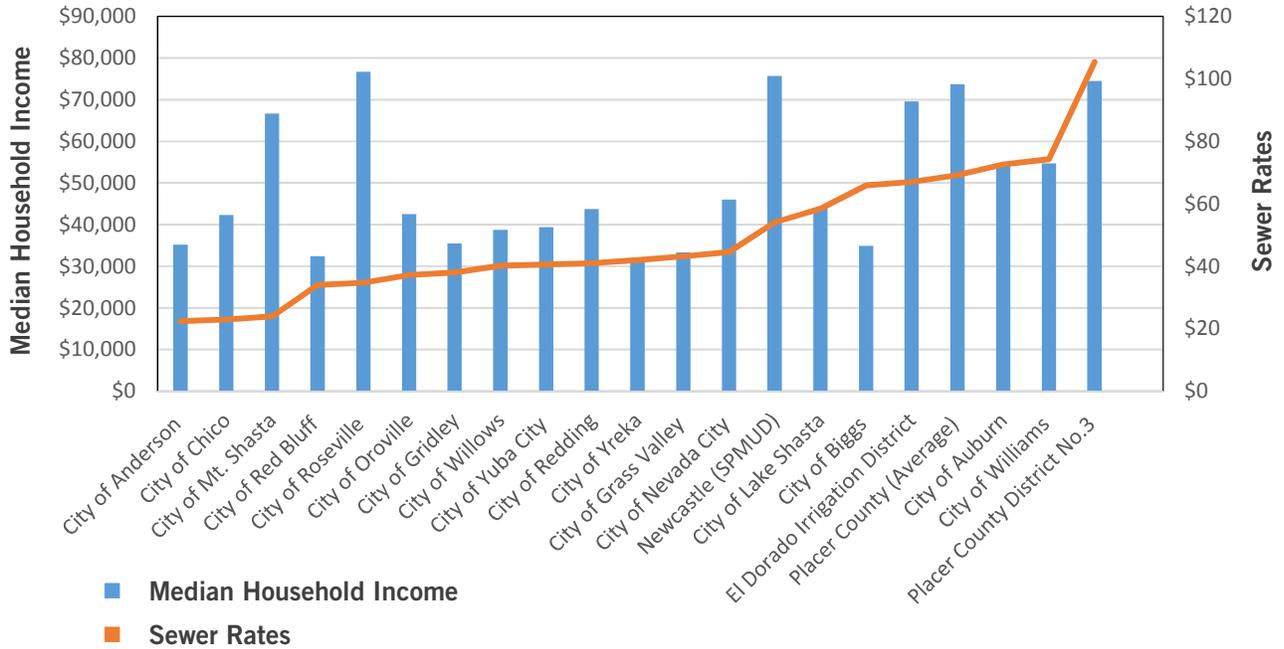
Individual Payments			Frequency
Private Lateral Loan	\$117		Monthly
Assessment		Average	
Residential		\$99	Annually
Multi-Family Residential		\$276	Annually
Commercial		\$162	Annually
Residential Service Charges	\$63		Monthly
Commercial Service Charges	\$94		Monthly

The bottom line average residential annual cost would be \$2,256 per year for the first ten years and then \$854 per year thereafter. This assumes the customer takes a loan for lateral connection tank and pump.

The bottom line average commercial annual cost would be \$2,696 per year for the first ten years and then \$1,294 per year thereafter. This assumes the customer takes a loan for lateral connection tank and pump.

The project team also evaluated the Median Household Income (MHI) of several communities to compare to the existing sewer rates paid in these communities, see **Figure 11.2**. The data reveal that communities with higher sewer rates do not have higher incomes. Instead the correlation is that communities paying the highest rates have the most recent upgrades in WWTP's or recent regionalization projects. Therefore communities relying on older systems of collection and treatment tend to have lower rates regardless of whether they are in the foothills or the central valley.

Much of the sewer infrastructure relied upon in California, was installed in the 1970s and early 1980s utilizing significant financial support from the federal government made available after the Clean Water Act. Many



**Figure 11.2 – Sewer Rate Comparison to Neighboring Sewer Districts**

communities built major conveyance and treatment with 75 percent of cost covered by federal grant. More recent projects have had to “pay their own way” with low interest loans and assessments.

Funding a project the size of the Town of Paradise Sewer Project is difficult. The project team believes that the estimated rates will need to come down significantly from the current estimate for the rates to be comparable to other communities in the region. This would require an additional **\$60 million in grant funding**. Securing the targeted grant amount would bring the residential sewer rate to \$74 per month and the commercial rate to \$112 per month for the Regional Option – C.



# 12

## Report Recommendations

The need for a sewer project for the Town's business and commercial area has been well established. The project options to meet this need have been developed and the benefits of a project to the local and regional economy have also been considered. The options have been developed and evaluated based on project cost, environmental impacts, public impacts, and the long term operational burden.

Two options emerged from the evaluation process with the highest scores: Option D - Treatment Plant with Beneficial Reuse and Option C - Regional Connection to the Chico WPCP. Option B had the lowest capital cost of the options at \$64 million, while Option C was projected to cost \$83 million. However, Option C had the lowest Net Present Cost over the 80-year life cycle compared and overall scored high based on life cycle cost, environmental impacts, public impacts, and long term operational burden.

The recommended preferred option is Option C - Regional Connection to the Chico WPCP. However, the cost to implement a project of this scale is high. Even with low interest loans and an assumed SRF maximum \$8 million grant, the burden of the project on small businesses and residential customers is significant.

As currently described, the preferred Option C – Regional Connection to the Chico WPCP, will cost an average Residential User \$1,406 in annual property tax assessment (paid over 20 years), \$117 per month to pay back an individual loan for a tank, pump, and connection to the collection system (paid over 10 years), and \$131 per month in sewer fees to cover sewer district operations and maintenance and debt service on a 30-year low-interest loan from the SWRCB. A summary of residential cost with the grant funding currently available is shown in **Table 12.1**.

**Table 12.1 – Option C – Individual Payments for Residential with Minimum Grant Funding**

Payment Type	Monthly Cost	Annual Cost
Assessment	\$117	\$1,406
Connection (Private Loan)	\$116	\$1,401
Service Charge	\$131	\$1,572

Total monthly costs to residential users with an \$8 million grant would be \$364 per month.

An average Commercial User would pay \$2,289 in annual additional property tax (some as high as \$60,000) for 20 years, \$117 per month to pay back an individual loan for a tank, pump, and connection to the collection system (paid over 10 years), and \$196 per month in sewer fees to cover sewer district operations and maintenance and debt service on a 30-year low-interest loan from the SWRCB.

While the preferred option represents the lowest operational burden for the Town and the best net present cost over the project life cycle, the cost is too high to proceed with sewer district formation and subsequent bond sale, property assessment, and SRF loan application. It is recommended that the Town seek additional grant funding from state and federal sources to reduce the assessment and sewer rate burden on the Town residences and businesses. The project team estimates that an additional \$60 million in grant money is needed to improve the chances of a successful vote to form an assessment district.

Parallel to this effort, the regional connection will need to be discussed and vetted with the City of Chico so that connection costs and a memorandum of understanding between the two agencies can be reached. It is also recommended that the project team apply for additional grant funds to complete a preliminary design, environmental

document, and formal rate study for the preferred option. The goal would be to bring residential rates and assessment burden down to a more affordable level as shown in **Table 12.2**.

Total monthly costs to residential users with a \$60 million grant would be \$190/month. If additional funds could be secured to defray the connection costs of the STEP systems, then the total monthly cost to residential users would be \$74/month.

**Table 12.2 – Option C – Individual Payments for Residential with Maximum Grant Funding**

Payment Type	Monthly Cost	Annual Cost
Assessment	\$10	\$118
Connection (Private Loan)	\$116	\$1,402
Service Charge	\$64	\$768

If a regional partnership is not reached with the City of Chico, then the Town can begin preliminary design and implementation of Option D - Treatment Plant with Beneficial Reuse. This option could revisit a partnership opportunity with Tuscan Ridge or the development of a local wastewater treatment plant with or without beneficial reuse.



# 13

## Project Implementation Next Steps

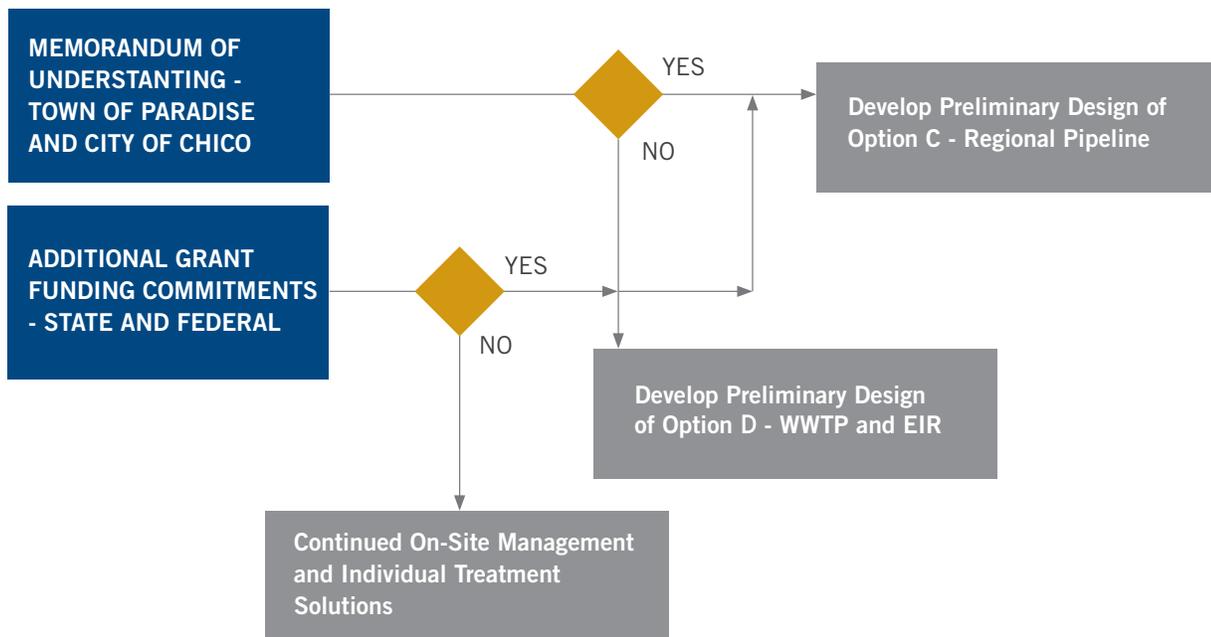
### PROJECT IMPLEMENTATION

Once the feasibility study is complete and a preferred alternative is selected for implementation by the Town Council, the Town would form a special district and proceed to a vote of sewer district stakeholders. If the project sewer district vote is successful then the District would acquire the funding necessary via bond sale, property assessment to pay back the bonds, grant(s), and a loan in order to proceed to preliminary design, environmental permitting, property acquisition, final design, construction, and start-up of the sewer system.

The recommendation for the regional connection, Option C, and the project's estimated high cost necessitate a few critical early steps to proceed. **Figure 13.1** shows the path options going forward.

It should be noted that the sewer project options are preserved if the City of Chico elects not to support the preferred regional option. However, moving forward without funding offsets will be a challenge. The team will need to ascertain the level of monthly service charge that commercial properties, multi-family properties, and residential properties could accept. Property tax assessments will also be carried on properties for 20 years and represent a significant annual burden to be added to existing property tax. The perceived long term benefit to the property value and the Town's economic growth need to exceed the tax burden and fees for the sewer district stakeholders to support the project.

Figure 13.1 – Flow Chart of Project Next Steps



The next steps would include:

1. Town Council approved the report with recommendation for Option C
2. Proceed with discussions with the City of Chico for a memorandum of understanding for the regional sewer treatment option
3. Obtain additional state and federal grant funds required for project (concurrent with step 2)
4. Assessment District formation (services area vote)
5. Grant applications
6. SRF loan application
7. Preliminary design and cost estimate
8. Environmental document to meet CEQA and NEPA guidelines
9. Final design and cost estimate
10. ROW needs definition, plats and legal descriptions, appraisal and acquisition
11. RWQCB permit (if necessary)
12. Bid and construction
13. Wastewater system testing and start-up

# Appendices

**APPENDIX A. COST ESTIMATES**

**APPENDIX B. PUBLIC OUTREACH MATERIALS**



<b>Annual Operations and Maintenance Cost - Service Area (Common to all Options)</b>					
Item No.	Item	Estimated Quantity	Unit	List Price	Total
1	General Manager	1	LS	\$150,000	\$150,000
2	Receptionist (Assume 1 full 1 part time employee)	2	LS	\$60,000	\$90,000
3	Accountant	1	LS	\$100,000	\$100,000
4	Operations - Collection System				
5	Operations Manager	1	LS	\$130,000	\$130,000
6	Field Crew/Utility Worker (assume 2)	2	LS	\$55,000	\$110,000
7	On-Site Serviceman	1	LS	\$55,000	\$55,000
8	Annual Maintenance (\$/yr)	1	LS	\$50,000	\$50,000
9	Septage Hauling	100	EA	\$1,000	\$100,000
10	Building Cost (assumed service district housed at City Hall)	0	LS	\$18,000	\$0
11	IT Support (\$/yr)	12	LS	\$1,000	\$12,000
12	Planning (\$/yr)	1	LS	\$30,000	\$30,000
13	Miscellaneous Expenses (\$/yr)	1	LS	\$10,000	\$10,000
<b>Subtotal O&amp;M</b>					<b>\$837,000</b>

<b>Annual Operations and Maintenance Cost - Regional Transmission Line (Option C)</b>					
Item No.	Item	Estimated Quantity	Unit	Unit Price	Total
1	Miscellaneous Repairs (\$/yr)	1	LS	\$25,000	\$25,000
<b>Subtotal O&amp;M</b>					<b>\$25,000</b>

<b>Annual Operations and Maintenance Cost - MBR (Option B)</b>					
Item No.	Item	Estimated Quantity	Unit	Unit Price	Total
1	Chemicals (\$/yr)	1	LS	\$1,000	\$1,000
2	Lead operator (\$/yr)	1	LS	\$130,000	\$130,000
3	Assistant operator	1	LS	\$85,000	\$85,000
4	Additional Labor Cost (\$/yr) (Filter cleanings)	1	LS	\$10,000	\$10,000
5	Sampling and Lab Testing (\$/Month)	12	EA	\$10,000	\$120,000
6	Power Requirements (\$/yr)	1	LS	\$60,000	\$60,000
7	UV Servicing (\$/yr)	1	LS	\$50,000	\$50,000
8	Solids Management (\$/yr)	1	LS	\$6,000	\$6,000
<b>Subtotal O&amp;M</b>					<b>\$462,000</b>

<b>Annual Operations and Maintenance Cost - MBR with Beneficial Reuse (Option D)</b>					
Item No.	Item	Estimated Quantity	Unit	List Price	Total
1	Chemicals (\$/yr)	1	LS	\$1,000	\$1,000
2	Lead operator (\$/yr)	1	LS	\$130,000	\$130,000
3	Assistant operator	1	LS	\$85,000	\$85,000
4	Additional Labor Cost (\$/yr) (Filter cleanings, Pipe inspection)	1	LS	\$15,000	\$15,000
5	Pond Maintenance and Discharge Monitoring (\$/yr)	1	LS	\$5,000	\$5,000
6	Sampling and Lab Testing (\$/Month)	12	EA	\$10,000	\$120,000
7	Power Requirements (\$/yr)	1	LS	\$65,000	\$65,000
8	UV Servicing (\$/yr)	1	LS	\$50,000	\$50,000
9	Solids Management (\$/yr)	1	LS	\$6,000	\$6,000
<b>Subtotal O&amp;M</b>					<b>\$477,000</b>

<b>Annual Operations and Maintenance - Treatment Ponds and Land Disposal (Option A)</b>					
Item No.	Item	Estimated Quantity	Unit	List Price	Total
1	Chemicals (\$/yr)(assume chlorine disinfection)	1	LS	\$65,000.00	\$65,000
2	Lead operator (\$/yr)	1	LS	\$130,000.00	\$130,000
3	Assistant operator	1	LS	\$85,000.00	\$85,000
4	Additional Labor Cost (\$/yr) (misc. repairs)	1	LS	\$10,000.00	\$10,000
5	Sampling and Lab Testing (\$/yr)	1	LS	\$50,000	\$50,000
6	Power Requirements (\$/yr)	1	LS	\$25,000	\$25,000
<b>Subtotal O&amp;M</b>					<b>\$365,000</b>

**Opinion of Probable Construction Cost - Capital**



Town of Paradise

Paradise - Sewer Feasibility

<b>Location</b> Town of Paradise - Collection System	<b>QTY. BY</b> D.Harden	<b>ESTIMATE LEVEL</b> CONCEPT
<b>Limits</b> Proposed Paradise Sewer Service Area	<b>QTY. CHCK</b> M.Massaro	<b>PRICED BY</b> D.Harden
<b>BEN EN PROJECT NO.</b> 16200	<b>AGENCY</b> Town of Paradise	11/14/2016

Item No.	Item	Estimated Quantity	Unit	Unit Price	Total
<b>SEWER TRUNKS (Low Pressure)-Public ROW</b>					
1	S-1 (Skyway) - 6 inch	10,987	LF	\$100	\$1,099,000
2	S-2 (Skyway) - 6 inch	3,215	LF	\$100	\$322,000
3	S-3 (Skyway) - 8 inch	5,422	LF	\$120	\$651,000
4	S-4 (Skyway) - 10 inch	2,464	LF	\$150	\$370,000
5	S-5 (Skyway) - 12 inch	8,071	LF	\$175	\$1,413,000
6	C-1 (Clark) - 6 inch	808	LF	\$100	\$81,000
7	C-2 (Clark) - 8 inch	3,302	LF	\$120	\$397,000
8	C-3 (Clark) - 8 inch	4,746	LF	\$120	\$570,000
9	C-4 (Clark) - 8 inch	1,330	LF	\$120	\$160,000
10	C-5 (Clark) - 8 inch	1,332	LF	\$120	\$160,000
11	C-6 (Clark) - 6 inch	8,051	LF	\$100	\$806,000
12	E-1 (Elliott) - 6 inch	4,859	LF	\$100	\$486,000
13	P-1 (Pearson) - 10 inch	6,015	LF	\$150	\$903,000
<b>Subtotal</b>		60,602	LF		\$7,418,000

<b>PUMP STATION Lower Section (Below Pearson RD)</b>					
	PS-1 (<0.5MGD)	1	LS	\$680,000	\$680,000
	8 inch gravity to PS (Clark)	8,051	LF	\$150	\$1,208,000
<b>Subtotal</b>					\$1,888,000

<b>SEWER COLLECTORS</b>					
14	Nunneley - 4 inch max	4,677	LF	\$90	\$421,000
15	Minor Roads - 4 inch max	116,006	LF	\$90	\$10,441,000
<b>Subtotal</b>		120,683	LF		\$10,862,000

<b>CONNECTIONS</b>					
	Total Number of Service Laterals	1,471			
	<b>Total Public ROW Lateral (Assume 20 LF per connection)</b>	29,420			
16	STEP Connections (60% of Total) - 1.5 inch max	17,652	LF	\$25	\$442,000
17	STEG (40% of Total) - 1.5 inch max	11,768	LF	\$20	\$236,000
Public Connection Subtotal					\$678,000
	<b>Total Private Lateral (Assume 130 LF per connection)</b>	191,230			
18	STEP Connections (60% of Total) - 1.5 inch max	114,738	LF	\$25	\$2,869,000
19	STEG (40% of Total) - 1.5 inch max	76,492	LF	\$20	\$1,530,000
20	Connection Fee	1,471	EA	\$300	\$442,000
	Tank Installation				
21	STEP Connections (60% of Total)	883	EA	\$8,500	\$7,503,000
22	Gravity Connection or STEG (40% of Total)	588	EA	\$2,000	\$1,177,000
Private Connection Subtotal					\$13,521,000
<b>Subtotal</b>					\$14,199,000

Estimated Construction Cost	<b>\$34,367,000</b>
Construction Contingency (20%)	\$6,874,000
<b>Estimated Construction Total</b>	<b>\$41,241,000</b>
Design, Permitting, and Environmental Cost (15%)	\$6,187,000
<b>Total Collection System Cost</b>	<b>\$47,428,000</b>

BENNETT ENGINEERING SERVICES ASSUMES NO RESPONSIBILITY FOR DIFFERENCES BETWEEN THESE QUANTITIES AND FINAL PAY QUANTITIES.

**Opinion of Probable Construction Cost - Capital**

Town of Paradise

**Paradise - Sewer Feasibility**

<b>Location</b> Town of Paradise - Transmission Line to Chico	<b>QTY. BY</b> D.Harden	<b>ESTIMATE LEVEL</b> <b>CONCEPT</b>
<b>Limits</b> Proposed Paradise Sewer Service Area	<b>QTY. CHECK</b> M.Massararo	<b>PRICED BY</b> D.Harden
<b>BEN EN PROJECT NO.</b> 16200	<b>AGENCY</b> Town of Paradise	<b>11/14/2016</b>

Item No.	Item	Estimated Quantity	Unit	Unit Price	Total
<b>Regional Transmission Pipeline</b>					
1	TR-1 (Skyway Town Limits to private RW) - 12" Pipe (paved)	36,600	LF	\$200	\$7,320,000
2	* TR-2 (Private RW to Butte Creek) - 12" Pipe (unpaved)	2,250	LF	\$160	\$360,000
3	* TR-3 (Bore and Jack, Butte Creek) - 24" Casing w/ Carrier Pipe	850	LF	\$630	\$536,000
4	* TR-4 (Butte Creek to HWY 99 RW) - 12" (unpaved)	2,750	LF	\$160	\$440,000
5	* TR-5 (Bore and Jack, HWY 99) - 24" Casing w/Carrier Pipe	1,000	LF	\$630	\$630,000
6	* TR-6 (Private RW to Hegan Ln) - 12" Pipe (40% paved)	5,100	LF	\$170	\$867,000
7	TR-8 (Hegan Ln to RR) - 12" Pipe (paved)	4,480	LF	\$180	\$807,000
8	* TR-9 (Bore and Jack, RR) - 24" Casing w/ Carrier Pipe	250	LF	\$630	\$158,000
9	TR-10 (RR to Elk Ave) - 12" Pipe (paved)	12,210	LF	\$180	\$2,198,000
10	TR-9 (Elk Ave to Lone Pine Ave) - 12" Pipe (paved)	4,425	LF	\$180	\$797,000
11	TR-10 (Lone Pine Ave to Crouch Ave) - 12" Pipe (paved)	1,315	LF	\$180	\$237,000
12	TR-11 (Crouch Ave to Comanche Cree) - 12" Pipe (paved)	2,520	LF	\$180	\$454,000
13	* TR-12 (Bore and Jack, Comanche Creek) - 24" Casing w/ Carrier Pipe	500	LF	\$630	\$315,000
14	TR-13 (Comanche Creek to Little Chico Creek) - 12" Pipe (paved)	5,500	LF	\$180	\$990,000
15	* TR-14 (Bore and Jack, Little Chico Creek) - 24" Casing w/ Carrier Pipe	500	LF	\$630	\$315,000
16	TR-15 (Little Chico Creek to Chico River Rd) - 12" Pipe (paved)	2,635	LF	\$180	\$475,000
17	TR-16 (Chico River Rd to WWTP) - 12" Pipe (paved)	8,560	LF	\$180	\$1,541,000
18	TR-17 (Pipe within WWTP) - 12" Pipe (paved)	613	LF	\$180	\$111,000
19	Bore and Jack Pit (Jack Pit)	5	EA	\$100,000	\$500,000
20	Bore and Jack Pit (Receiving Pit)	5	EA	\$35,000	\$175,000
<b>Subtotal</b>		<b>92,058</b>	<b>LF</b>		<b>\$19,226,000</b>

<b>Appurtenances</b>					
21	ARV (every 1500 ft)	62	EA	\$2,000	\$125,000
22	Isolation Valves (every 2000 ft)	47	EA	\$3,000	\$142,000
<b>Subtotal</b>					<b>\$267,000</b>

<b>Right of Way Acquisition</b>					
23	Assessment per Parcel (Assume route with low density)	100	EA	\$10,000	\$1,000,000

<b>Permanent Utility Easement (Assume 15 ft wide)</b>					
24	TR-2 (Ag RW)	33,750	SF	\$0.70	\$24,000
25	TR-3 (Water Crossing/Ag RW)	12,750	SF	\$0.70	\$9,000
26	TR-4 (Ag RW)	41,250	SF	\$0.70	\$29,000
27	TR-5 (HWY Crossing)	15,000	SF	\$0.70	\$11,000
28	TR-6 (Industrial RW)	76,500	SF	\$0.70	\$54,000
29	TR-9 (RR Crossing/Ag RW)	3,750	SF	\$0.70	\$3,000
30	TR-12 (Water Crossing/Ag RW)	7,500	SF	\$0.70	\$6,000
31	TR-14 (Water Crossing/Ag RW)	7,500	SF	\$0.70	\$6,000
<b>Subtotal PUE</b>		<b>5</b>	<b>AC</b>		<b>\$142,000</b>

<b>Temporary Construction Easement (Assume 50ft-PE)</b>					
32	TR-2 (Ag RW)	78,750	SF	\$0.07	\$6,000
33	TR-3 (Water Crossing/Ag RW)	29,750	SF	\$0.07	\$3,000
34	TR-4 (Ag RW)	96,250	SF	\$0.07	\$7,000
35	TR-5 (HWY Crossing)	35,000	SF	\$0.07	\$3,000
36	TR-6 (Industrial RW)	178,500	SF	\$0.07	\$13,000
37	TR-9 (RR Crossing/Ag RW)	8,750	SF	\$0.07	\$1,000
38	TR-12 (Water Crossing/Ag RW)	17,500	SF	\$0.07	\$2,000
39	TR-14 (Water Crossing/Ag RW)	17,500	SF	\$0.07	\$2,000
40	Additional TCE along roads (assume 10ft)	782,450	SF	\$0.07	\$55,000
<b>Subtotal TCE</b>		<b>29</b>	<b>AC</b>		<b>\$92,000</b>

<b>Regional Connection Fee</b>					
41	Connection Fee	1	LS	\$5,000,000	\$5,000,000

* Permanent Utility Easement Required	Estimated Construction Cost	<b>\$25,727,000</b>
	Construction Contingency (20%)	\$5,146,000
	<b>Estimated Construction Total</b>	<b>\$30,873,000</b>
	Design, Permitting, and Environmental Cost (15%)	\$4,631,000
	<b>Total Regional Transmission Cost</b>	<b>\$35,504,000</b>

BENNETT ENGINEERING SERVICES ASSUMES NO RESPONSIBILITY FOR DIFFERENCES BETWEEN THESE QUANTITIES AND FINAL PAY QUANTITIES.

**Opinion of Probable Construction Cost - Capital**



Town of Paradise  
Paradise - Sewer Feasibility

<b>Location</b> Town of Paradise - MBR with Beneficial Reuse	<b>QTY. BY</b> D.Harden	<b>ESTIMATE LEVEL</b> CONCEPT
<b>Limits</b> Proposed Paradise Sewer Service Area	<b>QTY. CHCK</b> M.Massaro	<b>PRICED BY</b> D.Harden
<b>BEN EN PROJECT NO.</b> 16200	<b>AGENCY</b> Town of Paradise	<b>Date</b> 11/14/2016

Item No.	Item	Estimated Quantity	Unit		Total
<b>In Town Treatment - Assume Skyway Location</b>					
1	Ovivo MBR (ADWF 0.85 MGD)	1	LS	\$1,740,000	\$1,740,000
2	UV Disinfection	1	LS	\$534,000	\$534,000
3	Solids Handling	1	LF	\$290,000	\$290,000
4	Septage Receiving	1	LS	\$162,000	\$162,000
5	Yard Piping	3,000	LF	\$250	\$750,000
6	Attenuation Tank (1 MG)	1	LS	\$1,100,000	\$1,100,000
7	SCADA Controls	1	LS	\$580,000	\$580,000
8	Site Work (Grading, retaining walls, concrete, asphalt, structures)	1	LS	\$5,870,000	\$5,870,000
9	Lab Building	1	LS	\$580,000	\$580,000
10	Effluent Storage Pond	1	LS	\$3,000,000	\$3,000,000
<b>Subtotal</b>					\$14,606,000
<b>Piping and Appurtenances</b>					
11	12" Pipe to Site	16,000	LF	\$200	\$3,200,000
12	ARV (every 1500 ft)	12	EA	\$2,000.00	\$24,000
13	Isolation Valves (every 2000 ft)	9	EA	\$3,000.00	\$27,000
<b>Subtotal</b>					\$3,251,000
<b>Right of Way Acquisition</b>					
14	Assessment per Parcel	3	EA	\$10,000	\$30,000
15	Purchase Price (Assume minimum 20 acres needed)	1	EA	\$300,000.00	\$300,000
<b>Subtotal</b>					\$330,000
<b>Estimated Construction Cost</b>					<b>\$18,187,000</b>
Construction Contingency (20%)					\$3,638,000
<b>Estimated Construction Total</b>					<b>\$21,825,000</b>
Design, Permitting, and Environmental Cost (15%)					\$3,274,000
<b>Total Collection System Cost</b>					<b>\$25,099,000</b>

BENNETT ENGINEERING SERVICES ASSUMES NO RESPONSIBILITY FOR DIFFERENCES BETWEEN THESE QUANTITIES AND FINAL PAY QUANTITIES.

## Appendix B – Public Outreach Collateral Material

### Notification Postcard

**PLEASE JOIN US  
FOR AN INFORMATIONAL OPEN HOUSE ON THE  
PARADISE SEWER FEASIBILITY PROJECT.**

In order to provide residents with an opportunity to attend, there will be two different "Open House" times available:

**Wednesday, June 15, 2016**  
Between 2:00 p.m. and 3:30 p.m.  
**AND**  
Between 6:30 p.m. and 8:00 p.m.  
**Paradise Town Hall Chambers**  
5555 Skyway, Paradise, CA 95969

At each of the Open Houses, Town of Paradise staff and consultants will be on hand to provide you with information about the nature and scope of the Feasibility study and how you can provide feedback as the study progresses. This is an opportunity for Paradise residents to drop by any time during one of the hour and a half sessions to provide staff with input on the types of sewer alternatives to include in the Feasibility Study.

For more information about the Paradise Sewer Project, please visit [www.paradisesewer.com](http://www.paradisesewer.com)



**TOWN OF PARADISE  
SEWER PROJECT**  
5555 Skyway  
Paradise, CA 95969



### Website Notification



**TOWN OF PARADISE  
SEWER PROJECT**

**PUBLIC INFORMATION  
OPEN HOUSE**

Photo by Glenn Harrington

**WANT TO LEARN MORE ABOUT THE PARADISE SEWER PROJECT?**

The Town of Paradise received a grant from the State Water Resources Control Board to conduct a Sewer Feasibility Study for providing sewer service to the more densely populated corridors of the Town – portions of Clark, Pearson and Skyway. This study will analyze different options for providing wastewater treatment and conveyance, and the best methods of paying for each option.

Funding has been provided in full or in part through an agreement with the State Water Resources Control Board. California's Clean Water State Revolving Fund is capitalized through a variety of funding sources, including grants from the United States Environmental Protection Agency and state bond proceeds. The contents of this document do not necessarily reflect the views and policies of the foregoing, nor does the mention of trade names or commercial products constitute endorsement or recommendation for use.

## Appendix B – Public Outreach Collateral Material

### *Paradise Post Advertisement*



### **Want to Learn More about the Paradise Sewer Project?**

The Town of Paradise received a grant from the State Water Resources Control Board to conduct a Sewer Feasibility Study for providing sewer service to the more densely populated corridors of the Town – portions of Clark, Pearson and Skyway. This study will analyze different options for providing wastewater treatment and conveyance, and the best methods of paying for each option.

Please join us for an informational Open House on the Paradise Sewer Feasibility Project.

**In order to provide residents with an opportunity to attend, there will be two different Open House times available:**

- Wednesday June 15<sup>th</sup>  
Between 2:00 p.m. and 3:30 p.m.  
And  
Between 6:30 p.m. and 8:00 p.m.

**At the Paradise Town Hall Chambers, 5555 Skyway, Paradise, CA 95969**

At each of the Open Houses, Town of Paradise staff and consultants will be on hand to provide you with information about the nature of the Feasibility study and how you can provide feedback as the study progresses. This is also an opportunity for Paradise residents to drop by during one of the hour and a half sessions to provide staff with input on the types of sewer alternatives to include in the Feasibility Study.

For more information about the Paradise Sewer Project, please visit [www.paradisewer.com](http://www.paradisewer.com)

### **Meeting Handouts**

At the meeting, attendees were provided with a Project fact sheet and a comment card when they signed in to the meeting. Those materials are included below.

**Project Fact Sheet**



## TOWN OF PARADISE SEWER PROJECT FACT SHEET

With the Town's commercial septic situation continually worsening, the Paradise Town Council is taking proactive steps to consider a wastewater solution for the more densely populated areas in Paradise.

To further this effort, the Town has received a grant from the State Water Resources Control Board to conduct a Sewer Feasibility Study. This study will analyze the best options for providing wastewater collection, treatment and dispersal in addition to exploring methods of paying for each option.

The study will include the following five options for the proposed service area (map provided on the back of this fact sheet):

### Wastewater Treatment Plant with effluent land application

- This option includes buying a piece of property large enough to build a sewage treatment plant with holding ponds/tanks, for eventual dispersal or release onto the land. Previous studies showed that approximately 300 acres of available land would be needed for this option. The option must comply with Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements (WDR).

### Wastewater Treatment Plant with surface water discharge location

- This option includes buying a piece of property large enough to build a sewage treatment plant (tertiary level) and then discharge to a creek, river, stream, lake or other approved waterway. This option will require a RWQCB National Pollutant Discharge Elimination System (NPDES) Permit.

### Connection to the City of Chico Water Pollution Control Plant

- This option includes acquiring the right-of-way for a pipeline to connect with the City of Chico collection system for eventual treatment at their Wastewater Pollution Control Plant. This option requires a regional agreement with the City of Chico and a connection fee.

### Wastewater Treatment with beneficial reuse

- This option includes buying enough land to build a tertiary level treatment plant that will allow the treated water to be reclaimed and re-used for irrigation. Excess reclaimed water would be taken to a land application area for irrigation.

### No Project

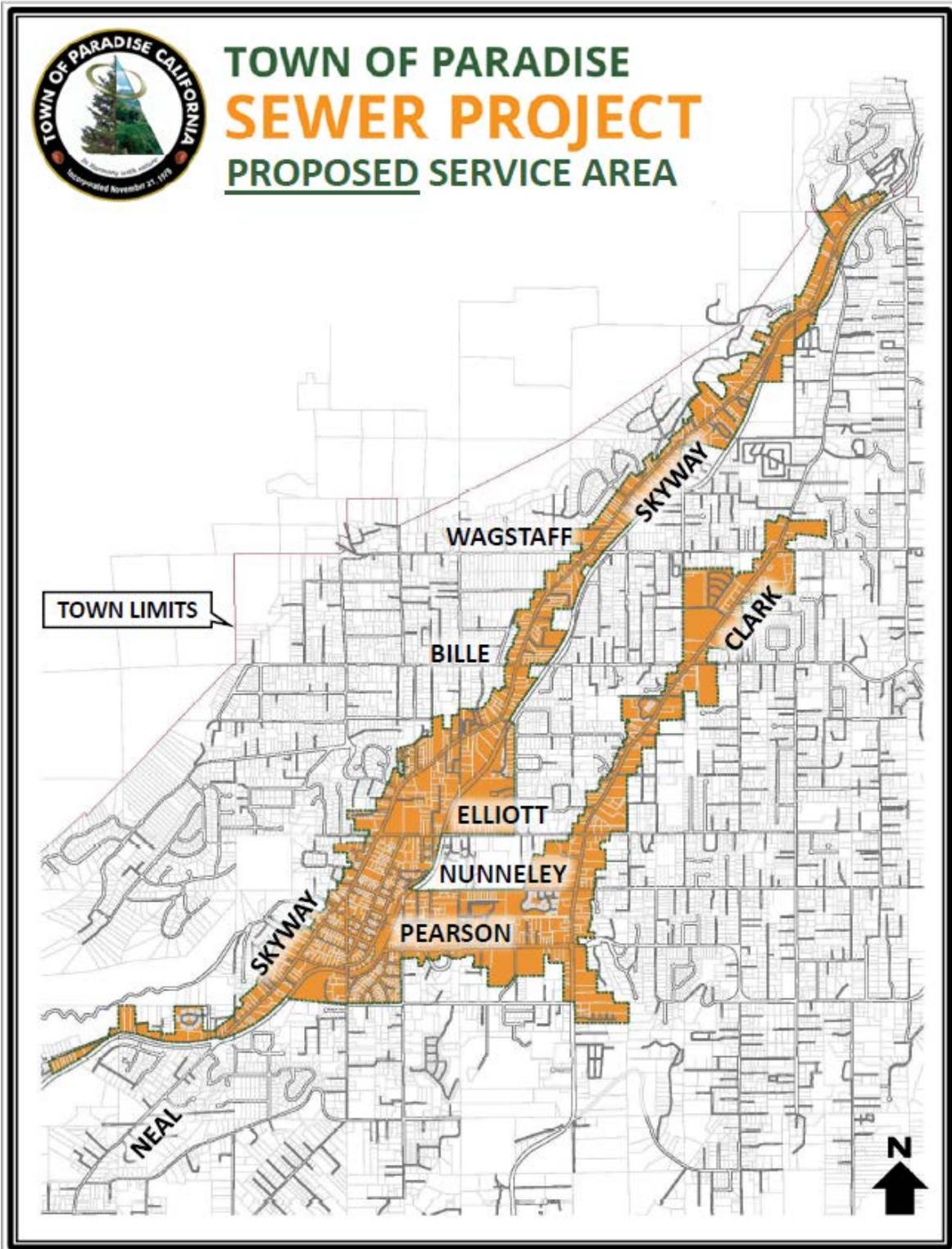
- No collection system or treatment plant. The Town continues to function on septic systems.

The technical solutions for the Town of Paradise Sewer Project may not be new, but the approach to the project will be. The project need, scoping, option development, option screening, preferred option, assessment district formation, and funding analysis will all be transparent and vetted with the public.

You can learn more about the Project, including information about public meetings and technical studies, by visiting the Project website at [www.paradisesewer.com](http://www.paradisesewer.com)



*Funding for the Feasibility Study Project has been provided in full or in part through an agreement with the State Water Resources Control Board. California's Clean Water State Revolving Fund is capitalized through a variety of funding sources, including grants from the United States Environmental Protection Agency and state bond proceeds. The contents of this document do not necessarily reflect the views and policies of the foregoing, nor does the mention of trade names or commercial products constitute endorsement or recommendation for use.*





## Meeting Notification

### Notification Postcard

**PLEASE JOIN US  
FOR AN INFORMATIONAL MEETING ON THE  
PARADISE SEWER FEASIBILITY PROJECT.**

The meeting will take place on:

**Monday, August 22, 2016  
at 6:30 p.m.**

**Paradise Performing Arts Center  
777 Nunneley Road, Paradise, CA 95969**

At the meeting, Town of Paradise staff and consultants will be on hand to provide you with information about the service area boundary of the project, outlining the remaining steps of the Feasibility study, and discussing possible funding structures. Information on how a district may be formed will also be presented.

Your property has been identified as being within the proposed service area. While this service boundary is not final, we want to make sure you have information about how this project may affect your property, and an opportunity to ask questions early in the process.

We hope to see you there!

For more information about the Paradise Sewer Project, please visit [www.paradisewer.com](http://www.paradisewer.com)



**TOWN OF PARADISE  
SEWER PROJECT**  
5555 Skyway  
Paradise, CA 95969





**TOWN OF PARADISE  
SEWER PROJECT**

**PROPOSED SERVICE BOUNDARY  
PUBLIC MEETING**

Photo by Glenn Harrington

**YOUR PROPERTY HAS BEEN IDENTIFIED AS BEING WITHIN  
THE PROPOSED SERVICE BOUNDARY**

The Town of Paradise received a grant from State Water Resources Control board to conduct a Sewer Feasibility Study for providing sewer service to the more densely populated corridors of the Town – portions of Clark, Pearson and Skyway. This study will analyze different options for providing wastewater collection conveyance, treatment, and disposal (and re-use); as well as the best methods of paying for the selected preferred option.

Funding has been provided in full or in part through an agreement with the State Water Resources Control Board. California's Clean Water State Revolving Fund is capitalized through a variety of funding sources, including grants from the United States Environmental Protection Agency and state bond proceeds. The contents of this document do not necessarily reflect the views and policies of the foregoing, nor does the mention of trade names or commercial products constitute endorsement or recommendation for use.

### Paradise Post Advertisement



## **Town of Paradise Sewer Project Proposed Service Boundary Public Meeting**

The Town of Paradise staff and consultants will be holding a public meeting to provide an opportunity for residents to hear about what is coming next for the Project and ask questions early in the process. Information on how a service area may be formed will also be presented.

In order to accommodate all residents who wish to attend, the meeting will be held at the Paradise Performing Arts Center:

Monday, August 22, 2016

6:30 PM

Paradise Performing Arts Center

777 Nunneley Road, Paradise, CA 95969

Staff and consultants will be on hand to provide attendees with information about the proposed service area boundary of the project, outlining the remaining steps of the Feasibility study, and discussing possible funding structures.

For further information including a map of the proposed service area, details, and documents related to the Town of Paradise Sewer Project, visit [www.paradisesewer.com](http://www.paradisesewer.com)

The Town of Paradise received a grant from the State Water Resources Control Board to conduct a Sewer Feasibility Study for providing sewer service to the more densely populated corridors of the Town – portions of Clark, Pearson, and Skyway. This study will analyze different options for providing wastewater treatment collection, conveyance, treatment, and disposal (and re-use); as well as the best methods of paying for the selected preferred option.

## Appendix B – Public Outreach Collateral Material

### ***Press Release***



**TOWN OF PARADISE**  
5555 Skyway  
Paradise, CA 95969  
(530) 872-6291

#### **Media Release**

#### ***Sewer Project Proposed Service Boundary Public Meeting***

August 17, 2016

For further information, contact Lauren Gill at  
(530) 872-6291 ext 112 Monday – Thursday, 8am to 5pm

The Town of Paradise staff and consultants will be holding a public meeting to provide an opportunity for residents to hear about what is coming next for the Project and ask questions early in the process. Information on how a service area may be formed will also be presented.

In order to accommodate all residents who wish to attend, the meeting will be held at the Paradise Performing Arts Center:

Monday, August 22, 2016  
6:30 PM  
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Staff and consultants will be on hand to provide attendees with information about the proposed service area boundary of the project, outlining the remaining steps of the Feasibility study, and discussing possible funding structures.

For further information including a map of the proposed service area, details, and documents related to the Town of Paradise Sewer Project, visit [www.paradisesewer.com](http://www.paradisesewer.com)

The Town of Paradise received a grant from the State Water Resources Control Board to conduct a Sewer Feasibility Study for providing sewer service to the more densely populated corridors of the Town – portions of Clark, Pearson, and Skyway. This study will analyze different options for providing wastewater treatment collection, conveyance, treatment, and disposal (and re-use); as well as the best methods of paying for the selected preferred option.

###

**Media Advisory**



**MEDIA ADVISORY**

DATE: August 17, 2016

CONTACT: Lauren Gill  
PHONE: (530) 872-6291 ext. 112

**Sewer Project Proposed Service Boundary Public Meeting**

*Town of Paradise will hold a meeting to provide an update on the Sewer Project*

- WHO:** Lauren Gill, Town of Paradise, Town Manager  
Marc Mattox, Town of Paradise, Public Works Director/Town Engineer  
Mike Massaro, Bennett Engineering, Consulting Engineer  
Trin Campos, Bennett Engineering, Consulting Engineer
- WHAT:** Public meeting about Paradise Sewer Project service area boundary, funding, and next steps
- WHERE:** **Paradise Performing Arts Center**  
**777 Nunneley Road, Paradise, CA 95969**
- WHEN:** **Monday, August 22, 2016 – 6:30 PM**
- WHY:** This meeting will provide an opportunity for residents to hear and ask questions about what is coming next for the Project. Town of Paradise staff and consultants will be providing information about finalizing the Project's service area boundary, outlining the remaining steps of the Feasibility study, and discussing possible funding structures. Information on how a district may be formed will also be presented.

The Town of Paradise received a grant from the State Water Resources Control Board to conduct a Sewer Feasibility Study for providing sewer service to the more densely populated corridors of the Town – portions of Clark, Pearson, and Skyway. This study will analyze different options for providing wastewater treatment collection, conveyance, treatment, and disposal (and re-use); as well as the best methods of paying for the selected preferred option.

###



*Funding for the Feasibility Study Project has been provided in full or in part through an agreement with the State Water Resources Control Board. California's Clean Water State Revolving Fund is capitalized through a variety of funding sources, including grants from the United States Environmental Protection Agency and state bond proceeds. The contents of this document do not necessarily reflect the views and policies of the foregoing, nor does the mention of trade names or commercial products constitute endorsement or recommendation for use.*

## Appendix B – Public Outreach Collateral Material

### **Meeting Handouts**

Attendees were provided with a copy of the presentation, fact sheet and a comment card when they signed in to the meeting. Those materials follow:

## Project Fact Sheet



### TOWN OF PARADISE SEWER PROJECT FACT SHEET

With the Town's commercial septic situation continually worsening, the Paradise Town Council is taking proactive steps to consider a wastewater solution for the more densely populated areas in Paradise.

To further this effort, the Town has received a grant from the State Water Resources Control Board to conduct a Sewer Feasibility Study. This study will analyze the best options for providing wastewater collection, treatment and dispersal in addition to exploring methods of paying for each option.

The study will include the following five options for the **proposed** service area (map provided on the back of this fact sheet):

**Wastewater Treatment Plant with effluent land application**

- This option includes buying a piece of property large enough to build a sewage treatment plant with holding ponds/tanks, for eventual dispersal or release onto the land. Previous studies showed that approximately 300 acres of available land would be needed for this option. The option must comply with Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements (WDR).

**Wastewater Treatment Plant with surface water discharge location**

- This option includes buying a piece of property large enough to build a sewage treatment plant (tertiary level) and then discharge to a creek, river, stream, lake or other approved waterway. This option will require a RWQCB National Pollutant Discharge Elimination System (NPDES) Permit.

**Connection to the City of Chico Water Pollution Control Plant**

- This option includes acquiring the right-of-way for a pipeline to connect with the City of Chico collection system for eventual treatment at their Wastewater Pollution Control Plant. This option requires a regional agreement with the City of Chico and a connection fee.

**Wastewater Treatment with beneficial reuse**

- This option includes buying enough land to build a tertiary level treatment plant that will allow the treated water to be reclaimed and re-used for irrigation. Excess reclaimed water would be taken to a land application area for irrigation.

**No Project**

- No collection system or treatment plant. The Town continues to function on septic systems.

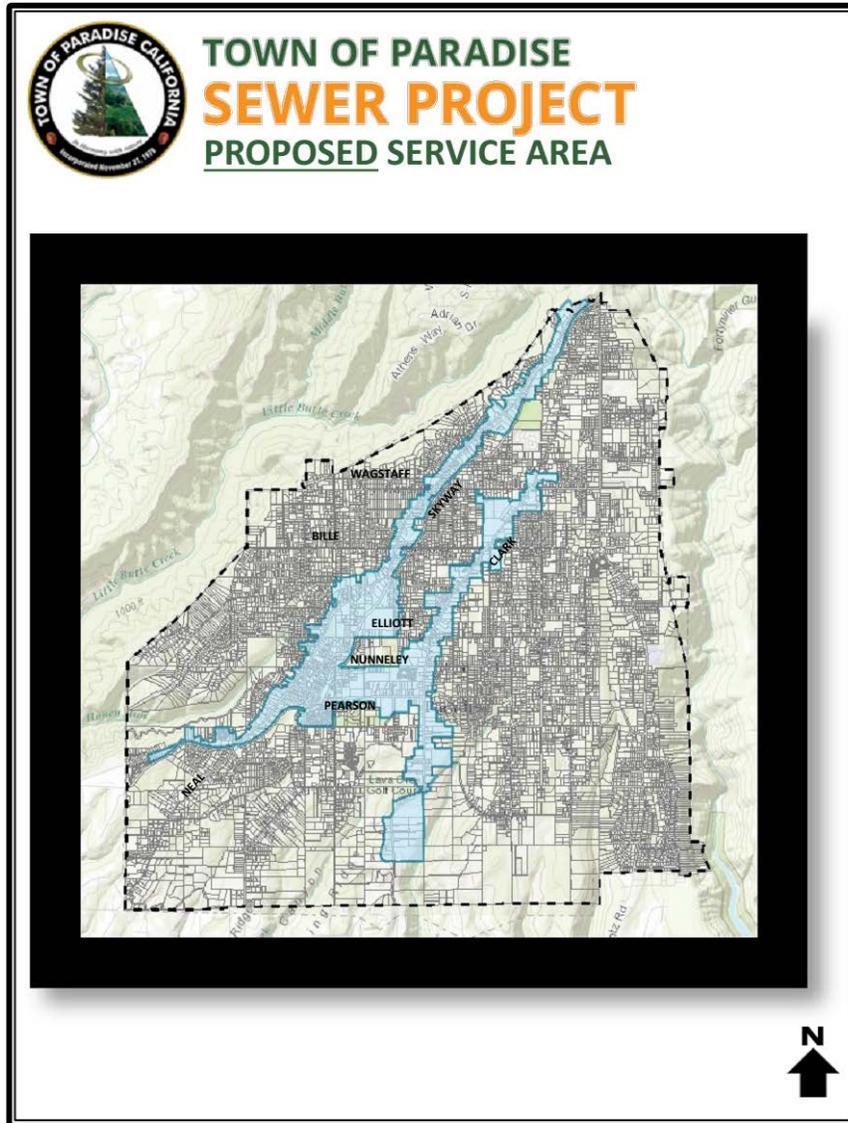
The technical solutions for the Town of Paradise Sewer Project may not be new, but the approach to the project will be. The project need, scoping, option development, option screening, preferred option, assessment district formation, and funding analysis will all be transparent and vetted with the public.

You can learn more about the Project, including information about public meetings and technical studies, by visiting the Project website at [www.paradisesewer.com](http://www.paradisesewer.com)



Funding for the Feasibility Study Project has been provided in full or in part through an agreement with the State Water Resources Control Board. California's Clean Water State Revolving Fund is capitalized through a variety of funding sources, including grants from the United States Environmental Protection Agency and state bond proceeds. The contents of this document do not necessarily reflect the views and policies of the foregoing, nor does the mention of trade names or commercial products constitute endorsement or recommendation for use.

Appendix B – Public Outreach Collateral Material





## Appendix B – Public Outreach Collateral Material

### Questions and Answers

- Has a vacuum system been considered or only a gravity system?

We have looked at both. Right now, we are looking at a hybrid system for collection that include Septic Tank Effluent Pumps (STEP) and gravity collection with lift stations.

- Where will the tertiary land treatment plant be located and will the water be suitable for reuse?

Wastewater Treatment Plant (WWTP) location depends on the alternative. We are looking at locations close to Town near Skyway as well as location further off of “the ridge” adjacent to Neal Road and Clark Road.

If a tertiary treatment system were utilized and disinfection added then the effluent would be suitable for re-use for irrigation.

- Which waterway will the plant discharge to?

Some alternatives would not have a creek discharge, but the options close to Town and the tertiary treatment option would utilize a National Pollutant Discharge Elimination System (NPDES) permit via the Regional Water Quality Control Board (RWQCB) to discharge to a creek. Locations for potential discharge are Nugen Creek and Hamlin Creek.

- When you met with Paradise Irrigation District (PID), who did you meet with, when, and what did you discuss?

We met with the Director and his engineer about a week ago to discuss the PID water management plan with regard to reclaimed water planning. We also discussed water demands, pipeline and pump station cost data, and agreed to coordinate on project status. Engineering and technical feasibility topics were discussed. There were no discussions on policy issues.

- We have seen this done in cities before; will you consider pumping to waste water treatment plants?

We are considering a regional option that would pump the collected wastewater to Chico’s WWTP.

- Can I opt out? We already paid a bond for a sewer link at Skyway.

Council will decide if properties within the service area can opt out of connection or delay connection to a later date. Typically, all parcels within a service area map are assessed for their apportioned cost of the capital project commensurate with their benefit. Some communities have elected to allow a delay for actual connection, connection fee, and monthly service charges depending on the situation.

- Who determines the potential benefit to properties and their value?

An engineer’s report is written based on the preliminary design of the system. The cost to build the project is spread over the assessed parcels based on benefit. Benefit is typically defined by the volume of wastewater anticipated to be generated by the property. The volume of wastewater generated is assumed based on land use.

- What if a property hasn’t yet been developed? Will there be zoning changes allowed?

Zoning changes would work through the Town’s standard process. However, the anticipated benefits and assessment would be based on current zoning. Note that a connection fee and monthly maintenance fee would not be required for undeveloped properties within the service area.

- Some property cannot be serviced without a line going through an adjacent property. Will there be easements for this?

Yes. The need for specific easements would be determined in the final design phase. But, if a connection to the system cannot be made from the public right-of-way, then an easement would be negotiated and purchased to provide a connection and service.

- I am not in the blue area. When can I get a connected and what about connecting Magalia?

The current service area is focused on the commercial corridors and urban core of the Town and there are no plans for additional expansion at this time.

- Some Chico properties have had hefty assessments, have you gone over these for comparison?

## Appendix B – Public Outreach Collateral Material

We have coordinated with Chico staff on engineering elements, construction costs, and hydraulic capacity, but have not reviewed their current assessments. The Town of Paradise Assessment will be specific to the sewer project and needs of the Town's urban core.

- The timeline goes through mid-2017, but how long before actual use?

If the project is approved by council and stakeholders support the sewer district formation, then construction could be complete in 4-5 years.

- Have you looked at sites for a potential location for treatment plants?

We have assessed multiple potentially viable sites and they will be evaluated in the alternatives analysis.

- Will there be restrictions placed on future rezoning permits?

Currently there are restrictions with regard to septic tank and leach-field capacities for several properties. A sewer system and treatment would remove those restrictions for those served.

Since the benefit and assessment are tied to the present zoned use, a change in zoning may require additional fee to match connection fee to updated zoning. This decision would need to be brought to the Town Planning Department and brought to Council for a vote.

- The three case studies shows yield significant differences in costs. Are these appropriate for the Feasibility Study?

The methodology of project cost apportionment is appropriate for the TOP Sewer Feasibility Study. However, the regulatory motivators, technical solution, and construction cost is different for each of the case studies and specific to the situation.

- I am on the edge of the proposed district. How will the boundaries become settled?

The boundaries could change right up until an assessment is voted upon. However, for the purposes of the study, the service area will be set for sizing the system and treatment alternatives.

- It seems that you're focusing on commercial septic tanks in the urban core. About how many businesses and residences are included? If I am not in the corridor, will I still be assessed?

Based on the current assessment area, about 35% of the parcels are residential. Only those parcels within the service area would be assessed. You would only be assessed if you are in the service area and receive the benefit of sewer service. Preliminarily there are 1,471 planned service connections.

- Will the sewer system require more water than what is already used? Will the Town lose water to run the system?

The Town would likely not use more water than is used today. It is anticipated that a sewer system would support growth in the urban core, but the sewer system does not need additional water to work.

- I am currently 1-2 blocks out of the boundary. Can I opt to get pulled in in the end?

You can make a request and it will be evaluated. Town Council will ultimately decide if the service area expands to serve additional areas.

- Do we get a vote on this?

Yes. Anyone who is in the service area will vote to decide whether or not to move forward with a project.

- Do you believe there will be an increase in commercial growth?

Yes. Case studies have shown this to be the case.

- Does one alternative method seem superior?

We are still assessing the pros and cons of each option and developing the costs for comparison.

- Is running the system downhill to the treatment plant quicker?

Construction could likely be faster for the regional option, however environmental permitting and easement acquisition could take longer than a treatment plant option.

- What is the assessment per parcel after grants? Do home and business owners have to come up with the money at the beginning?

## Appendix B – Public Outreach Collateral Material

We do not have a preferred option, full cost estimate, or grant allocation yet. However, all available grants would be pursued to help offset the cost per parcel before an assessment would be allocated. The cost of the initial project, after grants, would be paid for by assessment on property. Home and business owners would have to pay for connection fees once the system was operational.

- Are you using PID's numbers for water usage in order for accuracy?

Our initial assessment of flows have been based on established planning parameters. Our assessment of future flow is consistent with previous studies and similar communities for flow estimation. However, we have requested the demand data from PID and will re-evaluate the estimated flow data based on current usage.



# Town of Paradise Sewer Project Draft Feasibility Report Public Comments

\*Comments in this report were transcribed verbatim and not corrected for grammar, spelling, or punctuation.

Name	Contact	Date	Comment	Date of Response	Response
G.J. Meisner	<a href="mailto:gjmeisner@gmail.com">gjmeisner@gmail.com</a>	3/1/17	<p>I am generally a proponent of government infrastructure spending. Unlike other kinds of government spending programs, there is little question as to the immediate benefits. That being said, I can see why infrastructure is falling apart in the United States. Costs for infrastructure projects of more than minimal size far outstrip any community's capacity to fund it. The costs must be socialized at the state or federal level. Lots of marketing dollars have been aimed at the American public for the past 40 years to turn public opinion against socialized infrastructure expenditures. A crumbling infrastructure and inability to fund new projects is the result.</p> <p>Assessing \$1140/yr in additional property taxes to residents-in addition to ~\$200/month of rental and service fees is, as the study indicates, a non-starter. This rate is also expected to be the average. The highest assessment is upwards of \$10,000 annually.</p> <p>PID recently proposed a much more modest rate increase plan that should be instructional to the current town council.</p> <p>The Proposal goes on that to be feasible, grants would have to be acquired that would bring down the monthly rate to ~\$89/month. Many of the town's residents are on fixed incomes. I can only imagine the reaction this proposal is going to get from those folks.</p> <p>In my opinion, this project is a non-starter without a much higher socialized commitment--closer to the historical rate of 75%.</p> <p>Other concerns: The recommendation of option C is troubling, because it removes the ability to locally control rates. We would be stuck with whatever rates Chico determined to impose. Even if rates were negotiated for a term, after the term, we would be vulnerable to rates that might make this option untenable and we would be, once again, at square one.</p> <p>Ground water contamination was cited as a major reason to do this. This is not a problem for folks who get their water from Paradise reservoir. Unless we are considering a sewer system for Magalia? There are problems for those who have private wells and are downstream of local Paradise septic tanks but not far enough for natural filtration to mitigate. I am surprised that in areas where the contamination is too high, the County/City hasn't already placed a moratorium on building and/or there has been no proposal that Paradise consider extending City water to some of those, specific areas.</p> <p>Now, let us be clear; this action would be taken almost solely for the interests of the business community in Paradise. The rest of Paradise seems to be excluded from examining this proposal and sharing the costs. Insulating the town council from a larger, potential backlash, but concentrating the costs in the defined service area. This also limits the decision-makers to a group that I am guessing is largely composed of business owners. If this goes through, increased population pressures, will, however, affect all of Paradise. It is also the smaller population of residential users that are likely to have the most difficulty paying the new fees and will likely raise the most objections. It is notable that with the preponderance of business users in the service area, the residential users are likely to have less say in the outcome with this model.</p> <p>Overall, this action is aimed at increasing the population of Paradise and increasing the value of and, indeed, feasibility of dense, multi-unit housing projects. It would also create possibilities for even further commercial development along the identified corridors.</p> <p>Paradise is largely a retirement community, so who is it exactly that wants increased population growth and the degradation of our standard of living that this entails? The next infrastructure project we'll be talking about is raising the height of Paradise reservoir to meet the water needs of the growing population. Or, widening the</p>	4/6/2017	<p>Mr. Meisner, Thank you for your comments. As you have assessed, the primary beneficiary of the project is the businesses currently limited by the constraints of their existing sewer treatment systems. Therefore the project area is an attempt to balance areas of service and benefit to areas that could grow commercially in the near term if a sewer system were installed. The project's initial attempt to allocate costs to pay back the funding sources (assessments for bonds and monthly rates for state loans) skews the burden slightly more to the commercial property owners.</p> <p>In addition to commercial benefits, areas along the urban corridors would be better able to serve multi-family residential development options that are not currently available due to septic system and leach-field limitations.</p> <p>Town staff share your concerns on the projects affordability to fixed income residents and we are looking for ways to lower the overall project cost as well as increase funding to lower the residential and commercial cost burden.</p>

Name	Contact	Date	Comment	Date of Response	Response
			<p>Skyway, or Clark road, or expanding the capacity of local schools, police, fire, etc. All of this assessed on the backs of a largely, fixed-income population-while we lose more and more of our standard of living--the quiet, the trees...all so we can increase property values and drive more customers by local businesses.</p> <p>I'm guessing there are interim steps that can be taken before trying to force fixed-income residents into an extra hundred dollars a month that they can't afford. Divert some local revenue or assess an additional dollar of property taxes to all Paradise residents and subsidize the purchase of composting toilets for problem-area residents. Build in-situ systems for corridor businesses. Pipe and pump to locations in town areas with good perk characteristics for a pooled-septic treatment? The options provided in this proposal are geared towards a scaleable, central system for unlimited population growth. I'm guessing only a business owner or large property owner would find this desirable.</p> <p>For what it's worth,</p> <p>G.J. Meisner Proposed Service Area resident</p>		
Jim Richards	6200 Skyway Paradise, CA 530 762-9464 <a href="mailto:jim.richards@prodigy.net">jim.richards@prodigy.net</a>	3/3/17	<p>Following are Comments and Proposal in response to the February 28, 2017 presentation of the draft Sewer Project Report.</p> <p><b>Town of Paradise Sewer Project Comments on Draft Report of February 28, 2017</b></p> <p><b>James Richards, PE Tuscan Ridge Development 6200 Skyway Paradise, CA 530 762-9464</b></p> <p><u>Comment</u></p> <p>The February 2017 Draft Report on the Towns Sewer Project identifies potential project costs and the need for grants to implement a Sewer Plan, yet to be identified and adopted by the Town. It is to a large extent a redux of previous studies of sewerage Paradise and does not introduce any new concepts or approaches that were discussed in the previous studies and reports. It suggests that discharging to the City of Chico will be the recommended project, although that solution was rejected by Town residents following a similar study completed in 2010.</p> <p>Previous Paradise Sewer studies included a alternative of using the treated waste water at Tuscan Ridge Golf course. That alternative was dismissed in the 2010 report based on an overly simplistic negative analysis that identified issues but did not consider obvious mitigations of them,</p> <p>The Tuscan Ridge Community development is expanding beyond that envisioned in 2010 by adding addition land, approximately 1000 acres, in order to expand the golf course. The Tuscan Ridge development includes a waste water treatment and disposal system to recycle the waste water for use on the golf course in accordance with rules established by the State Water Board in 2016 in Title 22. There is sufficient land at Tuscan Ridge to also handle treatment and disposal of the waste water from the largely commercial Paradise sewer district identified in the February 2017 Draft Report.</p> <p>Substantial grant funds are available for recycling water in California. Recycled waste water systems (Purple Pipe Systems) are operating in water systems of Northern California, i.e. El Dorado Hills and Clovis and in Southern California. Use of recycled water is currently being proposed for domestic use (drinking) in some water systems in California. Use of recycling is consistent with the continually increasing demand for water from a growing population and a continually challenging dynamic water supply.</p>	4/6/2017	<p>Mr. Richards, Thank you for your comments and proposal on behalf of Tuscan Ridge.</p> <p>Regardless of the preferred option for conveyance and treatment of wastewater for the Town, the project is few years away for a few reasons. 1.) The Town needs significant additional funding to lower the assessment and monthly rate burden to the Town residents and businesses within the service area and this will take time to procure through a significant lobbying effort. 2.) The preferred option hinges on acceptability of another agency that must be fully vetted. 3.) The preferred option requires preliminary design and an EIR that will likely need to satisfy CEQA and NEPA, depending on funding sources.</p> <p>Note that the Grant funding mentioned for recycled water is limited to the public sector uses. If the water will be used for profit (private golf course), then grant funding may not be available. We understand that a Community Service District may be formed to help alleviate that limitation for the Tuscan Ridge developments and treatment plant.</p> <p>We are enthusiastic that the Tuscan Ridge development is growing and that a Presby treatment system may be permitted for treatment and water reuse here in California. If the Town cannot reach agreement with the City of Chico, then local wastewater treatment will be preferred and the potential cost savings of this technology could be effective in lowering the cost burden of the project.</p> <p>Note that the regional option may still have opportunities for collaboration with Tuscan Ridge by building a turnout on the Regional Pipeline for treatment at the Tuscan Ridge WWTP for reuse and irrigation. This would provide Tuscan Ridge with additional reclaimed water for irrigation, but limit the treatment commitment to actual seasonal irrigation demand of the Golf Course. This scalping plant could benefit both parties.</p> <p>We hope to continue to discuss reuse options with Tuscan Ridge going</p>

Name	Contact	Date	Comment	Date of Response	Response
			<p><b><u>Proposal</u></b></p> <p>The developers of the Tuscan ridge Community offer to share the waste water treatment and recycling capability of the Tuscan Ridge Community Development with the town of Paradise with the goal of reducing the cost of to Paradise in order to improve the economy and environment of Butte County. Partnering between the Town of Paradise and the Tuscan Ridge Community in one waste water treatment and disposal system is logically expected to reduce the Town's costs to a more affordable level, increasing the feasibility of actually providing sewer service.. This opportunity to partner with Tuscan Ridge is available to the Town for a limited period. The planning, permitting, designing and provisions for the Tuscan Ridge Community are underway and the schedule will be maintained.</p> <p>You can contact the Tuscan Ridge Developers to arrange for initial discussions and further negotiations through me at the above address. Please let us know of your intent by March 15, 2017. It is necessary for the Tuscan Ridge development schedule to reach an agreement to proceed as Partners by mid-June of 2017.</p> <p>Thank you.</p>		forward as we attempt to remove the barriers to building a sewer project for the Town's urban core.
Neil Randall	<a href="mailto:randallradio916@gmail.com">randallradio916@gmail.com</a>	2/28/17	<p>My name is Neil Randall and my wife and I own a property in the purposed sewer district area. Feel free to enter this into the official record. Our house is on land zoned multifamily but is only a single family home and with only the one structure. Our house is fine on septic and we are fine with continuing to be on septic.</p> <p>It would be great if Paradise was on sewer and had done it years ago but after reviewing the draft the costs associated per household is just too great. On average Septic runs around \$100 yearly vs the proposed \$1400 yearly so I would have to vote "no" on joining the district just for that reason. Also, if we sell the house being in the district and having to pay such a huge increase in property tax would make us less competitive. The monetary value of the house would be harmed and have to be listed lower to offset the 20 years of taxes and \$28,000 difference vs other houses not in the sewer district.</p> <p>I can agree that sewer is needed for Paradise to grow it's commercial corridor by making it easier for new business particularly food based to start. I disagree on the actual growth for existing restaurant business' opening up for more capacity in the short term.</p> <p>To me this is a civic improvement to increase the # of business (like a starbucks) in Paradise and thus increasing tax revenue. If Town of Paradise really wants a sewer I would suggest limiting it to a commercial corridor and having the entire town vote on a usage fee or tax added to everyone as the sewer would help Paradise as a whole.</p> <p>Neil Randall</p>		<p>Thank you for your comments.</p> <p>Town staff share your concerns on the affordability of the project to residential users in the service area.</p> <p>To your comment regarding a tax added to everyone; we cannot levy assessment to people that are not primary beneficiaries of the sewer service. Secondary benefit cannot be used to justify a generalized tax or assessment.</p>
Jim Passanisi	<a href="mailto:jhpass80@gmail.com">jhpass80@gmail.com</a>	3/5/17	<p>I own property in Paradise. Every property owner has a benefit of the successful completion of the sewer project, not just the properties currently within the assessment district's boundaries. I realize that including all properties in the town will add a higher level of difficulty getting project approval. However, the town's economic vitality affects all owners. A calculation of benefit to each property needs to be considered and proposed to the community. Even a \$10 property tax assessment per year will help contribute to paying debt service for the project.</p>		<p>Thank you for your comment. Assessment of secondary benefit for every property in town is not a trivial task and is subjective. Unfortunately, secondary benefit cannot be used to justify a generalized tax or assessment. Levied assessments must be commensurate with direct benefits provide to the individual parcels. Note that those property owners not in the Service Area District will continue to pay a yearly assessment per the Town's on-site ordinance to monitor and maintain septic systems.</p>
Richard Randlett	<a href="mailto:randcodevelopment@yahoo.com">randcodevelopment@yahoo.com</a>	3/6/17	<p>SIRS/MAMS: PLEASE DO NOT APPROVE THIS SEWER PROJECT, UNLESS IT CAN SERVE EVERY PARCEL IN PARADISE!!! THANK YOU, PATRICIA C. JONES 530-877-0808 randcodevelopment@yahoo.com apn. 055-290-093-000 please advise me via email, that you received this comment!!</p>		<p>Thank you for your comment. Providing Sewer service to every parcel in Paradise would greatly increase the cost of the collection system. The additional infrastructure (pipes, pump stations, and treatment), as well as the permitting; has a much greater cost than sewer for just the commercial corridor identified. Also, parcels with more land and lower sewer flows are generally functioning well on septic and the added project cost is a difficult proposition for those parcel owners relative to</p>

Name	Contact	Date	Comment	Date of Response	Response
John Gillander	<a href="mailto:jwgillander@gmail.com">jwgillander@gmail.com</a>	3/8/17	<p>This project is an absolute pipe dream. Any plan that includes using the City of Chico's sewer plan is doomed to failure and a complete waste of our tax dollars. The Chico city council is going back to a liberal majority in the 2018 election and it will stay that way for at least 8 years.</p> <p>The liberals on the city council will not honor any agreement to use their sewer plant because the project includes a Walmart super store. That's just an undeniable fact. Walmart had to wait through 12 years of liberal city councils obstructing and then denying their super store expansion project in Chico. It wasn't until after a conservative majority took over in 2014 that the expansion of their Chico store was approved.</p> <p>The liberals on the Chico city council will not be up front or honest with you. They will wait until a critical environmental approval is needed and then trump up reasons to deny your project. This has been the way they have operated since the early 1980s. Current Chico Councilman Karl Ory was on the council back then. Have a look at the movement that he is leading to overturn the conservative majority's decision on Chico Scrap Metal. He will be mayor again in 2018.</p> <p>You need to face the reality that the Chico city council swings from conservative to liberal. THE COUNCIL WILL TURN LIBERAL AGAIN AND ANY PROJECT THAT REQUIRES THEIR APPROVAL WILL BE KILLED.</p> <p>Another point. Make absolutely no concessions or added environmental review in the hope of appeasing the Butte Environmental Council. Do the necessary environmental review and nothing more. Butte Environmental Council is a no growth obstructionist organization. No matter what they get you to agree to they will still file an obstructionist lawsuit to try to stop or just delay your project. Note, they don't actually have the money to follow through on a lawsuit. However look how long they were able to delay the Hwy project from Oroville to Chico. Look how much they drove up the cost of the project even though in the end they lost.</p> <p>John Gillander 5533 Belviso Terrace Paradise</p> <p>PS: Since you had me make my comments in writing I expect that you answer my comments in writing. If you continue with the pipe dream of using the City of Chico sewer plant I want written prove that I told you so and your reasons why you ignored me.</p>		<p>their perceived benefits.</p> <p>Thank you for your comments and we understand your concerns that a regional option carries with it additional risks and coordination that we attempt to account for in the decision matrix and criteria. There are other alternatives (Option B and D) that we would continue to explore in parallel to the regional option that would maintain local control and treatment for the Town of Paradise if the preferred option cannot come to terms. However, the secondary options are likely to cost more over the long-term due to treatment plant renewal and/or modification to meet future discharge regulations. While these pressures exist over the long-term for the Chico Water Pollution Control Plan (WPCP) as well, the additional cost to Paradise rate payers would be attenuated in a regional system as Paradise sewer stakeholders would represent 10-15% of the flows to the WPCP and contribute very few solids.</p>
Mitchell M. Johns	<a href="mailto:mjohns1953@comcast.net">mjohns1953@comcast.net</a>	3/9/17	<p>Dear Staff, I did not see where I can make comments regarding the Draft Feasibility Report and request that my comments be included with the other citizens who have made comments. (I am resending this as I believe that my first letter to you was returned)</p> <p>I have downloaded the draft feasibility report regarding sewer options for the Town of Paradise. I will spend more time reviewing this document. However, given the tentative recommendation of a pipeline to Chico and its management of the areas to be connected to this pipeline, I believe that its implementation would result in enormous, unexpected costs (overruns) to the homes to be connected, the annual management of the special sewer management area, and Chico wastewater treatment costs over a future period. Note that the septage will still have to be pumped from the homes. This is in addition to the special assessment fee for individual homeowners that I believe will result in unexpected increases per capita. <u>I can see where the enormity of the unforeseen costs will result in all Paradise property owners needing to be taxed.</u> Frankly, this option only benefits real estate developers and related. If you can get the infrastructure paid by grants that would be ideal. However, I predict the annual operating costs in association with the city of Chico will be unacceptable.</p> <p>I am a soil scientist who have had extensive experience with septic systems and land application. Within the last year upon my retirement, I have allowed my Certified Professional Soil Scientist license to lapse. Thus, my comments are based on my professional background and experience.</p>		<p>Thank you for your comments. Our apologies for the confusion on how and where to provide comment. Thank you for your persistence on getting us your comments; they are appreciated. We understand that at this feasibility level the individual detailed costs are difficult to <u>fully</u> predict. But we have made conservative assumptions for connection costs. At this point, the project needs significant support to acquire grant funding to offset the cost to rate payers.</p> <p>The cluster systems have been looked at in the past. They are adequate for smaller flows, but even with a small cluster of businesses, the adequate soils and land needed for effluent disposal is difficult to find near town. The size of this project far exceeds the flows a cluster system could support. This means that several cluster systems would be needed. The operation, maintenance, and permitting of several cluster systems would increase the cost of those systems and further limit the benefits to the cluster systems and continue the restriction of growth in the community. Area for a leach field (down slope) would still require a pipeline to a location where enough suitable soil is present.</p>

Name	Contact	Date	Comment	Date of Response	Response
			<p>Yes I need to review further the other options. I was recently a member of the town's planning commission. I believe that the town's best option is to just focus on the downtown area where there are concentrated businesses. Implementation of an advanced cluster treatment system with a multi-acre (e.g., 10 acres) leach field (just south (downslope) of town limits) is perhaps your best, most cost-effective option.</p> <p>Again, the town of Paradise should not agree to a costly option (pipeline to Chico) without finalizing with accuracy, the projected costs to develop and manage. If you seek favor with this option, then I recommend that you indicate to all property owners the long-term costs (i.e., assessment costs, etc.) with sufficient accuracy for citizens to make an informed decision.</p> <p>I am willing to assist the town professionally in further exploration of an advanced cluster system for focus on our downtown area.</p> <p>Sincerely, Mitchell M. Johns</p> <p>Mitchell M. Johns, Ph.D. Professor Emeritus of Soil and Plant Science College of Agriculture California State University Chico, CA 95929-0310 530-872-0651</p>		
Terry L Mallan -Mallan Family LLC	820 College Hill Rd, Paradise, CA 95969 530-877-7775 <a href="mailto:TMMallan@sbcglobal.net">TMMallan@sbcglobal.net</a>	3/6/17	Are you coming down Mallan Ln to 5603 to the in on our San Filter for the Shoping Center on Pearson Rd? It comes from 454 to 488 Pearson Rd property		The proposed service area boundary does not current include 5603 Mallan Lane, but the parcel that contains 454 to 488 Pearson Rd is included in the boundary.
Owen & Eileen Hollingsworth	8601 Skyway, Paradise, 95969 530-520-8883	3/2/17	<p>Do we have to hookup to sewer? Who pays for physical hookup? Can there be more than one connection Our rental units are all low income We put a \$25,000 septic on this property in 2008</p>		<p>Thank you for your comments. There are policy options still requiring a decision. If the project acquires the needed funding and the Town votes to form a special sewer district, then the Town Council will need to decide if parcels within the service area can opt-out of the service area.</p> <p>Another decision that needs to be made is whether all in the service area pay assessment for the district to fund the building of the project, but are able make a connection later and pay connection costs later. These issues are yet to be determined.</p> <p>Our preliminary assumption is that all within the district will pay assessment and will connect when the pipeline is available. The property owner will pay for private property improvements and connection.</p> <p>There can be more than one unit per connection, but each unit would have an individual sewer bill.</p>
Al McGreehan	P.O. Box 1575, Paradise, CA 95967 <a href="mailto:amcgreehan@att.net">amcgreehan@att.net</a>	3/1/17	<p>It was mentioned relative to project option "C" of the sewer project draft feasibility report presentation on Feb. 28<sup>th</sup> that Mr. Orin Bennett of the engineering firm that produced the report has considerable experience with the "regional agreement" participation process. A detailed summary of such experience (partially within California) would be helpful to the Paradise Citizenry and more importantly to our community decision maker, the Town Council.</p> <p>Al McGreehan 3/1/17</p>		<p>Thank you for your comments.</p> <p>The team's experience was stated in the Proposal for the project.</p> <p>Town staff can provide a copy of the proposal.</p>
Imogene A McCulloch	P.O. Box 2294, Paradise, CA 95967 530-877-6133  <i>Property Address:</i> 8092 Skyway	3/13/17	<p>I, for one do not aprove of this sewer plan.</p> <p>Why!! I remember the nightmare it was in another town I lived in when they put sewer lines in. Font yard, drive ways, etc. torn up for months!</p> <p>As you see I live on Skyway – just an old (90) lady and my home. No Business!! Many of us have drain ditches next to the rode as our homes are lower than the road and with out the ditch our homes and yards got flooded when</p>		<p>Thank you for your comments and we understand your concerns. Your concerns of flooding would be addressed during construction and the sewer line would be located a safe distance from water pipelines per State Division of Drinking Water guidelines for avoidance of cross contamination.</p>

Name	Contact	Date	Comment	Date of Response	Response
	Paradise, CA 95969		<p>you dig to put in sewer lines the ditches will be destroyed, our homes flooded! Besides the sewer lines will be alone side our water lines, not a good idea.</p> <p>Also I lived here when this plan was tried out before and determined not practical! What in the world makes you think its any better now?</p> <p>It may be better for Business people but not for the rest of us!</p> <p>Please think this over!</p> <p>Please!</p> <p>Imogene McCulloch</p>		<p>See here for more information.  <a href="http://www.waterboards.ca.gov/drinking_water/programs/">http://www.waterboards.ca.gov/drinking_water/programs/</a></p> <p>The need for a sewer system in Paradise is still present, which is why so much effort has been put into finding a solution.</p>
Ginny & Joe Church	5619 Sierra Park Dr., Paradise, CA 95969 530-877-2561	3/3/17	<p>Our comments and questions on the sewer matter follow.</p> <ol style="list-style-type: none"> <li>1. A strong suggestion to the town council and applicable staff: - Remember the P.I.D. Board of Director public relations disaster of 2016 regarding major projects proposals and costs.</li> <li>2. Our opinion (strongly). The sewer project boundary be moved west off Sierra Park Dr and south to wherever it goes to the Memorial Trail from, at the least, Pearson Rd south to Neal Rd. It is fuzzy in its present location while Memorial Trail is a sharply defined, easily locateable Paradise feature that separates neighborhoods rather than dividing them which the present location now does.</li> <li>3. The Tuesday 2/28/2017 public sewer feasibility report meeting was deficient for the following reasons, <ol style="list-style-type: none"> <li>a. It was scheduled and conducted at the same time as the Trump "State of the Nation" speech. Good or bad choice?</li> <li>b. No relevant or useful handout information such as a contact package of the Feasibility Report for meeting attendee to visually in-hand review to prep for the presentation</li> <li>c. No printed project timeline handout for attendees to see how the project whatever involved lays over whatever there is involved and what each phase is. It's needed.</li> <li>d. The presentations visual displays, printed and drawn, were too small and too far away to be understandable for me, thus another reason for applicable handouts</li> <li>e. Recusing (a lousy uppity word to me – how about "excuse", "remove", "disqualify" or the link) was pointless since the Council did nothing official except open and close the meeting.</li> <li>f. Probably something else but that will do for now.</li> </ol> </li> <li>4. In the big and long view, how will dealing with sewer tie in with that other major Town proposal, also expensive, the undergrounding of utility lines, and long term too coordinated?</li> <li>5. Does long-time planning include possible/probable expansion over the whole town? Camel's head in the tent syndrome.</li> <li>6. And again, move the boundary to the Memorial Trail. And also 31 day response tie is too short go to 90 days.</li> </ol> <p>Joe Church</p>		<p>Thank you for your comments.</p> <p>The project report was made available for review before the February 28 presentation on both the Town and Project website. The intent of the public presentation was to introduce the draft report and start the public comment period where the Town could spend the time to review and make comments.</p> <p>The project timeline is largely depending on acquiring additional grant funding, but near term schedules were discussed in the presentation which is now available on the webpage (<a href="http://www.Paradisesewer.com">www. Paradiesewer.com</a>).</p> <p>There is adequate space in the public right of way for undergrounding of powerlines and future sewer pipelines. Coordinating with utilities is a standard procedure in preliminary design of infrastructure.</p> <p>The project is only sized to include the commercial urban corridors. Expansion to the rest of the residential areas of town would require significant additional infrastructure (capacity) not included in the study.</p>
Terry Wilson	<a href="mailto:yatsomi@pacbell.net">yatsomi@pacbell.net</a>	3/17/17	<p>When ToP upgraded the alleyway paralleling Pearson between Almond and Black Olive our rental lost ground. Granted, according to the map, it was never technically ours but was in use on our side of a very old fence line. Not complaining, just wondering what potential impact may be to our home and 3 rentals should a sewer system be installed.</p> <p>What are chances of Town claiming it's right of way along our properties? (ie will system be installed under present roadway, or will presently unused right of way property be dug up?)</p> <p>Thank you, Terry Wilson (home 5403 Black Olive Drive) and for Robert Fischer, Terry Wilson, Stan Fischer owners: 5355 Black Olive Drive, 5460 and 5860 Almond Street.</p>		<p>Thank you for your comments.</p> <p>The potential impacts to each parcel cannot be determined until the design of the project is underway.</p> <p>The location of the pipeline in the right of way cannot be determined until the design phase of the project is underway. Existing utilities (such as water) could dictate where the sewer line needs to be located.</p>
Kenneth Goacher	<a href="mailto:rayann1957@comcast.net">rayann1957@comcast.net</a>	3/20/17	<p>please do no consider this project unless it can serve everyone in paradise ( not just the businesses) if it just serves the businesses then let the businesses pay for it, not the general public...thank you</p> <p>Kenneth Goacher</p>		<p>Thank you for your comment.</p> <p>The team has attempted to balance the cost and size of the project to serve the areas of greatest need and potential commercial growth.</p> <p>The project will be paid for by grant funding from the federal and state level and those that are in the service area. The general public will not pay for the project.</p>
Ann K. & Randall R.	5911 Almond Street	3/20/17	March 18, 2017		Thank you for your comments. Town staff and council will take them

Name	Contact	Date	Comment	Date of Response	Response
McPherran	Paradise, CA 95969 530-872-1376 <a href="mailto:pog@sunset.net">pog@sunset.net</a>		<p>To the Town of Paradise:</p> <p>This letter is in response to the Town of Paradise request for input on the proposed sewer project. A successfully implemented and workable sewer disposal system would be beneficial to the total population of the Town of Paradise CA. The contracted engineers for the Town of Paradise, through the vehicle of their public meetings, have indicated that this current sewer project will have a useful lifetime of several decades. The Town of Paradise provided a map of the life expectancy of the septic systems along the Skyway corridor. We believe in the interest of transparency that the same type of map for the life expectancy of the septic systems on the Clark Road corridor should also be made available.</p> <p>The fees structure for the proposed project will be determined by the “assessment” by the city engineers of the “benefit” each parcel receives from the new sewer system. The benefit is related to land use and the anticipated water/sewer flow. The methodology of this assessment will need to be defined exactly in order to maintain transparency.</p> <p>The proposed cost of the initial project buildout would depend on which of the following are chosen:</p> <ol style="list-style-type: none"> <li>1) \$64 million (- \$8 million of SRF grant money) for the MBR treatment facility with stream discharge. This included the treatment facility, main pipeline construction, and partial hookups to the systems in the Proposal Sewer Service Area.</li> <li>2) \$84 million (- \$8 million of SRF grant money) for the regional pipeline to the Chico, CA waste facility. This includes the main pipeline construction and partial hookups to the systems in the Proposal Sewer Service Area.</li> <li>3) Not accepting the proposed engineering designs due to the significant cost involved is still an option for the voting parcel owners.</li> </ol> <p>It is our belief that the regional pipeline option (\$84 million - \$8 million of SRF grant money) provides the best long-term benefits with the lowest maintenance and operating cost structure for the Town of Paradise.</p> <p>Data provided from the Town of Paradise proposal statement indicate that there have been six failed attempts prior to the current town proposal. We believe that the current Town of Paradise Sewer Project is also destined to fail for the following reasons:</p> <ol style="list-style-type: none"> <li>1) There are 11,000+ septic systems within the town limits according to the data from the Town of Paradise proposal statement. The defined borders of the Proposed Sewer Service Area are arbitrarily assigned and contain only 1,471 septic parcels. The current plan proposes that this arbitrarily-selected group representing only 13.4% of the septic systems will finance the bulk of the town project. It is our opinion that the Town of Paradise Sewer Project at it is currently proposed is both arbitrary and discriminator, requiring only 13.4% of the septic parcels to pay the front-end cost of installation and hookup of the new town sewer system. This point would certainly initiate legal challenge to the Town of Paradise.</li> <li>2) If the regional pipeline option (\$84 million - \$8 million of SRF grant money) is chosen, the mean cost per parcel would be \$51,665. Of the 1,471 septic parcels, 985 are businesses and 485 are residences. The businesses will pay 2-to-1 to the residences which will decrease the cost to the residents while increasing the small business cost. This is likely to drive out many of the small businesses in the Proposed Sewer Service Area while many of the residents on fixed incomes may be forced from their homes or apartments as the cost/rents go up. Depriving residents of their place of living in order to fix their septic system does not appear to be very civic-minded.</li> <li>3) Those businesses and residences who septic systems have been maintained and which have adequate land for further utilization will have a reasonable expectation to opt out of participation in the cost of the Proposed Sewer Service Area project. It would seem illogical to determine that those parcels in good septic health not be allowed to utilize their septic systems while allowing the remaining 9,529 septic systems outside of this area to continue to use theirs. If these parcels are denied the option to</li> </ol>		<p>into consideration.</p> <p>The map of areas having difficulty along the Skyway corridor was based on onsite septic tracking by the town official. It was meant to illustrate the lack of options available with regard to adequate land space for additional leachfields.</p> <p>The transparency you are looking for regarding assessment will come during the formation of a district and the resolutions and ordinances that would be developed at such time. The level of detail in this study provides a broad look at the potential cost and assessments in order to select a preferred alternative to carry forward for further analysis and acquire grant funding support.</p> <p>The proposed service area was established through city planning, with a focus on the commercial corridor, which includes some residential parcels. The system would be designed for the designated service area, not the entire town. The parcels not included in the district would remain on septic indefinitely and only enjoy secondary benefits of an improved business climate. The cost of the system cannot be assessed to parcels which will not have direct benefit (connection) to the system.</p>

Name	Contact	Date	Comment	Date of Response	Response
			<p>opt out, it will certainly lead to a legal challenge against the town.</p> <p>4) It is our opinion that the conceptual model for the Town of Paradise Sewer Project is flawed. According to the town engineer and contracted engineers, this project will have long-term benefits for the entire town. Therefore, the costs of the main town collection truck pipelines, associate public works, and the necessary regional pipeline to Chico should be covered by all 11,000 parcels. If the 11,000 parcel cost-base was utilized, the mean per parcel cost would decrease to \$6,909 spread over 10 to 20 years. As in the above calculations, businesses would pay 2-to-1 to residences. Individual hookups to the trunk lines would be assessed as described above. This method seems much more equitable and stands, in our opinion, a far greater chance of acceptance and implementation.</p> <p>5) The town attorney has determined that Town Council member Mr. Scott Lotter does not need to recuse himself from voting on the Town of Paradise Sewer Project Proposal. Mr. Lotter owns a large business with significant water/sewage flow within the Proposed Sewer Service Area (or close enough to the service area to derive benefit in the reasonable near future). Mr. Lotter's business is required to maintain a very expensive and sophisticated sewage processing system on his business parcel. While we often support Mr. Lotter's business, we believe his vote is problematic and will certainly be open to legal challenge regardless of the town attorney's assessment. Either way Mr. Lotter casts his vote, there will be assertions of bias Project, it can be claimed that his vote was motivated by the desire to no longer have to maintain the very expensive sewage processing system that he currently utilizes. If Mr. Lotter votes against the Town of Paradise Sewer Project, it can be claimed that his vote was motivated by the desire of not incurring additional sewage fees as he has already paid for the sewage processing system that he currently utilizes successfully. It is our position that Mr. Lotter needs to recuse himself to avoid the legal challenge that will certainly occur if he votes.</p> <p>6) There are currently five voting members on the Paradise Town Council. Two members have already recused themselves, and as indicated above, we believe Mr. Lotter needs to recuse himself also. This does not leave enough members to make a reasonable quorum.</p> <p>Based on the data provided by the town, we believe the most viable choice is the regional pipeline option (\$84 million - \$8 million of SRF grant money). Our preeminent concern with every option (aside from no new sewer system at all) is that an arbitrarily chosen, small percentage of the town (13.4%) will be expected to bear the brunt of the costs of the start-up on a project which will benefit the total population of the town for decades.</p> <p>Respectfully, Ann K. McPherran, OD Randall R. McPherran, OD</p>		
Jim Harding	530-680-8722 <a href="mailto:harding10@icloud.com">harding10@icloud.com</a>	3/25/17	<p>Town Sewer Project</p> <p>I feel the cost to land owner is being varnished over. I would like an explanation to how the proposed "sewer" is better than onsite treatment. "Town of Paradise Sewer" is a misrepresentation, as you are currently discussing "water transport and treatment" Residents and businesses will still be handling all but water treatment onsite.</p> <p>With the current proposal, the land owner will need to add infrastructure to his tank and most likely replace it. (we will ignore this cost) The tank remains, which is the greatest source of high level contamination to our community. The landowner still faces pumping and inspections from the town agency as before. He has now added pumps and filters requiring annual maintenance. ( we will ignore this cost too) He is still doing initial anaerobic pretreatment onsite, as well as handling all the solids. But he is now expected to have an additional annual cost of roughly \$4000 (per your meeting, best case).</p> <p>Currently, a proposal to disperse this liquid would now only involve treatment and sanitization.(assuming a total failure in a bad area such as down town business district) This could be addressed with Orenco treatment systems using an aerobic treatment, ultraviolet light sanitation and bed dispersal. This system currently runs as high as \$40,000 for a single family unit. (worst case, including a new tank etc) With a 30 year fix 5% loan the payment is \$ 2577 annually. Close to half the cost to the consumer.</p> <p>This solution recharges our ground water which is a current California issue, handles the effluent and saves the end user. I struggle to see the improvement other than "government expansion" and the Walmart sales tax going into the town coffers. ( I freely admit sales tax is good for us, but at what cost?)</p>		<p>Thank you for your comments.</p> <p>You are correct that additional infrastructure will be required at each parcel including a new tank (potentially) and a pumping system to the sewer collection system. This cost will be borne by the land owner and has been included in our financial assessment.</p> <p>According to the Town's onsite management records, the principal source of failures is assumed to be the leachfields/dry wells used for disposal of septic system effluents. It is this lack of onsite capacity that is driving the need for a collection and treatment system. Not every parcel owner has the land available for the onsite treatment system you describe.</p> <p>Even with the sewer project, there will be a need for septage hauling and potentially improved onsite systems for failed leachfields outside of the service area.</p> <p>We concur that the current cost per connection is too high and we will</p>

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			<p>As a owner, operator and installer of advanced systems in the town of Paradise I know that the technology scales and cost per gallon of treated effluent drops. The restaurants and other businesses are struggling and that will continue regardless of where their liquids go. But a greater cost just to remove water will not make more sales or higher retail prices in our down town.</p> <p>Ignoring the inevitable overruns, congestion during construction and a multitude of other issues how is this better. Our waste water is going into the ground or rivers regardless, we have to clean and sanitize it sooner or later. Why not “in our back yard”? How can a business get more business by having a higher end cost for septic disposal? We are basically built out. If we had more land for commercial development maybe we could add more leach field in the first place.</p> <p>Sincerely</p> <p>Jim Harding Owner of Effected Properties and opposed to an unaffordable water treatment solution.</p> <p>Jim Harding Harding Enterprizes Inc 530-680-8722 <a href="mailto:harding10@icloud.com">harding10@icloud.com</a></p>		<p>be seeking additional grant funding to advance the project forward. We appreciate the data you have provided for costs of replacing failed systems with onsite treatment systems.</p>
Geoff Chinnock	Morrison & Company 10 Landing Circle, Ste. 5 Chico, CA 95973 Office: 530 893-4764	3/26/17	<p>I have reviewed the draft feasibility study regarding the proposed sewer project in Paradise. My house is within the proposed district boundaries. I’m including Ms. Bennett-Lynch of Bennett Engineering on this email.</p> <ol style="list-style-type: none"> <li>1) Are there plans to include cost projections for residential users if the project. For example what would the costs be a residential user if the project received \$40m, or \$60m in grant funding?</li> <li>2) What are the assumed cost increased (i.e. inflation rate) if this project does not take place for another 5 years or so?</li> <li>3) The report references a Mello-Roos district that has non-contiguous users, I’d appreciate it if this concept was explored more fully in the final report</li> <li>4) The report cites benefits to business, will the final report also cite fiscal impact to those businesses that are unable to pay for connections fees and what their impact might be?</li> <li>5) Are the costs to fix the roads once connection is completed included in the report?</li> <li>6) Will the final report explore the feasibility of a project if no/very few residential users are part of the district?</li> <li>7) The report cites increased property values, but does not cite a source. Please include qualifications on real estate valuation or source in final report</li> <li>8) Who is responsible for the cost of installing pumps in septic tanks and connecting to the main line? Is this an additional cost the user would bare as well or part of the amounts presented in the report?</li> <li>9) As discussed at the workshop in January please add more detail and specificity to the costs for both commercial and residential users</li> <li>10) If the proposed option C in the report is not financially feasible, why is it the preferred option? Why isn’t the No Project option the preferred option with commentary that once a certain level of funding was secured option C would be the preferred option?</li> <li>11) On page 92 the process of forming a special district is outlined as requiring 50 percent plus one of all parcel owners. This indicates that all parcels get one vote. Town staff has communicated at the workshops that voting would be weighted based on ‘benefit’ rather than each parcel equally. This discrepancy is significant and needs to be clearly understood by all potential users – please provide clarification.</li> <li>12) The inclusion of median household income in the report is very helpful in assessing financial feasibility. It would be helpful to know what percentage of MHI other communities have had for projects that actually moved forward</li> </ol> <p>Thank you, <b>Geoff Chinnock, Managing Principal</b></p>		<p>Thank you for your comments.</p> <ol style="list-style-type: none"> <li>1) The average cost for residential customers associated with different grant funding options are being further defined for the final draft.</li> <li>2) The project was projected for construction over a three period starting in 2020. If a project does not take place for another 5 years, it can be estimated the construction cost could increase in the range of 2.5% per year, depending on market conditions.</li> <li>3) We will add to this discussion in the final report as it may be the method of district formation if parcels are allowed to opt out. Voting requirements for a District formation are different for Mello-Roos.</li> <li>4) This report will not predict fiscal impacts to businesses that do not connect to the sewer system. The existing limitation on businesses with sewer restriction can be expected and the fiscal impact of failures to on site systems can be seen in the previous failures in town. The “affordability” of the project is different for every business and cannot be assessed in this report. Final costs and benefits will be determined by each parcel owner prior to voting on whether to form the district and build the project. The economic study and impact is based on regional studies and is meant to be interpreted in broad terms.</li> <li>5) The costs take into consideration the price for placing pipe in the streets and restoring the pavement.</li> <li>6) No, the report will only look at the feasibility of a system that uses the proposed service area boundary and mix of residential and commercial users.</li> <li>7) Comment Noted. The Final report will verify study source.</li> <li>8) This cost is captured in the report and is paid for by the property owner. We have assumed that cost could be financed from a low interest loan from the Town to each</li> </ol>

Name	Contact	Date	Comment	Date of Response	Response
			<p><b>Morrison &amp; Company</b>  <b>10 Landing Circle, Ste. 5</b>  <b>Chico, CA 95973</b>  <b>Office: 530 893-4764</b>  <b>Email: <a href="mailto:gchinnock@morrisonco.net">gchinnock@morrisonco.net</a></b>  <b>Web: <a href="http://www.morrisonco.net">www.morrisonco.net</a></b></p>		<p>owner, butt this will need to be affirmed by Town Council before moving forward.</p> <p>9) Additional detail will be added to the report to help clarify the differences between residential and commercial costs.</p> <p>10) The “No Project” option does not address the existing situation for the Town. A Preferred option offers a solution to the restriction placed on the town by lack of sewer.</p> <p>11) The final report will add clarity to this issue.</p> <p>12) This would require additional research to gather information of communities with similar projects. (Yucca, Port St. Lucie, Malibu, the MHI will vary greatly.) This information can be added. The MHI of similar communities in California have been added to the discussion regarding rates.</p>
Pat Jones	5287 & 5281Pentz Road Paradise, CA 95969 530-877-0808 <a href="mailto:randlodevelopment@yahoo.com">randlodevelopment@yahoo.com</a>	3/22/17	<p>We would like to see the sewer system serving all parcels &amp; a local sewage plant built &amp; controlled by Paradise!</p> <p>Dick &amp; Pat</p>		Thank you for your comment.
Sarah Bates	584WA James Drive Paradise CA 95969 <a href="mailto:sarahinparadise03@gmail.com">sarahinparadise03@gmail.com</a>	3/22/17	<p>I believe option B should be explored more – creating settling ponds below Paradise to serve wildlife, to recharge the water table, and encourage tourism for bird watching, animal observation, native habitat restoration.</p> <p>I also don’t believe its wise to send discharge to Chico.</p> <p>Thanks!</p>		Thank you for your comments. The report has considered the secondary benefits you describe.
Lorraine Dechter – <i>Action News Now</i>	5721 Scottwood Rd. Paradise, CA 95969 <a href="mailto:ldechter@actionnewsnow.com">ldechter@actionnewsnow.com</a>	3/22/17	As a reporter and a resident, I would like to see the “Beneficial Use” flushed out more before decision is made (for public & city officials).		<p>Thank you for your comment.</p> <p>The beneficial use (reuse) requires a significant amount of infrastructure (piping) to bring the recycled water to areas where it is acceptable to apply recycled water. This also requires significant volume of storage and land, as water cannot be applied during wet weather. Therefore beneficial uses add to the cost of an already expensive project. The team continues to look for opportunities for re-use but will likely need cost offsets to make the options feasible and recent discussions have yielded additional opportunities for reuse under option D.</p>
Gregory S. Avila	3725 Honey Run Rd / 3723 Paradise, CA 95969 707-266-8817 <a href="mailto:oakland529@yahoo.com">oakland529@yahoo.com</a>	3/22/17	<p>I am 31 yr old, disabled army vet, I have a wise, 5 yr old and 2 yr old, own 2 houseses in town and moved up from bay area 3 yr ago. The septic is the only issue with living in Paradise. A sewer in the bussiness section if not anywere makes sense. If infulstrucure is put in at any fashion has the opertunity to expand. Just the purposed area will benifit as in the 3 yr I been here most bussnissess have left, cut back, or switched multiple times. I feel as a home owner on a fixed VA budget with the multiple proposed options, even the most expensive to the indavidule is better in the long run. People need to consider the \$500+ septic operation permit every couple years which I pay for double for 2 septics on one property as well as genreal maintence. In 3 yr in town I have paid both permits yearly as well as \$8,000 for new leach lines (which although up to code close to creek on property an inpeeds what I would like to do with my property because 100’s of feet of leech line and 2 tanks). None of this was told when I moved here as a first time buyer, vet, new family.) If looking for future success with whatever motive, IE: Elderly community, spawning bussniess, up and coming family, or self sustainably a sewer system is key and honestly whatever the cost as in the long run it is cheaper and better and more envirnmentally safe. I can speak better, but this is just the tip of it. As a military police officer I have worked in developing countries around the world at helping them meet first world criteria and one of the first is working sewer. FYI: Paradise is the largest municipality west of Mississippi river without sewer.</p>		<p>Thank you for your comments.</p> <p>The cost data you have provided for onsite system maintenance and rehabilitation is very helpful to describing the no project option to other residences.</p>
Sinclair’s Automotive & Towing	6475 Skyway Paradise 95969 530-872-3380 <a href="mailto:sinclairstow@sbcglobal.net">sinclairstow@sbcglobal.net</a>	3/22/17	In the late 80’s payments were made to a sewer fund that later collapsed. We never received a refund and the money seems to have disappeared. Would like to know if the significant pmts made will now go towards any additional taxation to support the new proposal since we are on a razors edge of being taxed by the town and state and may have to close our doors because of it? Have grants & government monies been applied for to ease the amount homeowners and property owners are going to have to pay and what is the difference if any		Thank you for your comments. Note that on-site assessment will continue for those parcels outside of the service area. We are not aware of any residual funds from prior assessments.

Name	Contact	Date	Comment	Date of Response	Response
			between residential and Business responsibility.		The primary difference between residential and business properties is the capacity potential each parcel contributes to the flows. This would be defined during the formation of a district.
Dan Wentland – <i>Senior Center</i>	877 Nunneley	3/22/17	The Senior Center operates in the red every month/year and there is no way we could ever afford to incur any additional debt...especially as large as this could/will be.		Thank you for your comment.
Joyce Wilkie	397 Pearson Rd Paradise, CA 95969 530-877-7180	3/22/17	I realize it is early in the process. However it appears this sewer project will only benefit the Businesses & the Town with additional tax dollars.  More & bigger businesses will result in more traffic on roads that are inadequate and already a mess during commute hours.  With larger towns & cities, only a few minutes to an hour or so at a maximum, available in the Valley it seems this will create more problems for both residences & the town in the future.  Many of the residences are here simply because they prefer the slower pace & lifestyle the Town currently provides.		Thank you for your comments.  The idea is not to change the town, but rather allow for the business in town to be sustainable in order to maintain a healthy economy for the Town of Paradise.
Linda Haddeman	1826 Greenway Lane Paradise, CA 95969 530-876-0275 <a href="mailto:tedandlinda@saber.net">tedandlinda@saber.net</a>	3/22/17	My question is: Will the sewer project be paid for by the residents and businesses located within the boundaries of the actual sewer system, or will it be paid for by all residents of the Town of Paradise?		Thank you for your comments. The project would be paid for by the residents and businesses located within the district boundary.
Judy Higgins	<a href="mailto:judyrex66@yahoo.com">judyrex66@yahoo.com</a>	3/28/17	I just noticed that my address falls in the blue area and that I'm expected to pay \$190 extra a month. This is a big fat NO for me. I don't make that kind of money and barely can afford my house payment now. I flat out refuse to be extorted out of my money. I will fight and raise hell before I lose my house to you . Judy Higgins		Thank you for your comments. The project's intent is not to force costs that lead to foreclosures. The costs presented in the report are averages. Each parcel will be looked at separately during the assessment process.
Diana Shuey	6571 Rocky Lane Paradise CA 95969 530-877-0320 OR 530-513-7222 <a href="mailto:shueyd@rocketmail.com">shueyd@rocketmail.com</a>	3/29/17	This is a request to have my parcel withdrawn from the proposed sewer assessment district. The tax burden would exceed any supposed benefit from increased property values. According to the town engineer, Marc Mattox with whom I spoke on March 23, 2017, it appears that my parcel was included in the proposed district in error. My parcel does not front on Skyway. It fronts on Rocky Lane where there is no proposed trunk line. Other parcels on Rocky Lane are not included in the district unless they also front onto Skyway, except the adjacent parcel which may also be in error. (to the south) My parcel is almost 1/2 acre. In addition, since I do not want to be included in the district, I would be a definite NO vote against it. The district would have a better chance of success if parcels are included which owners do want to be included and would vote YES. My parcel is not in the densely populated core commercial area. The supposed increased property values would not benefit me, since I have no interest in selling or developing my property with a multi-family dwelling or build a restaurant or motel. I am not sure encouraging growth of the town is a good idea anyway, due to the high fire danger. P.S. My house has one bedroom.		Thank you for your comments.  The final boundary for a district has not been set and your concerns will be considered before finalization. A defined boundary was required for cost estimating purposes and a feasibility analysis and may be modified during the formation of a district.
Carol Serrano	5902 Oakmore Dr Pdse, CA 95969 877-1606 <a href="mailto:rxrn5902@gmail.com">rxrn5902@gmail.com</a>	3/30/17	As a 40 yr resident (home owner) of Pdse., and knowing the limitations the septic system is causing many residents, especially the commercial district, I am supportive of a sewer system. I suspect the cost, unless well funded by grants, will be prohibitive for those included in the proposed area map. A sewer system will help the entire community so everyone should have "some skin in the game," just like school funding, not everyone has children attending school, but the school funds are derived from the entire population. We experienced leach field failure in '09, and it was costly to redo. When we moved here, we have 0 experience with septic maintenance. We had a new home (it was a spec property). We had it checked for pumping several times by different companies, and received different info regarding efficiency tips. It's just difficult to know how to look at the situation. Good luck.		Thank you for your comments.  Please note that we cannot assess parcels outside the service area for perceived secondary benefits. Assessed costs must be tied to benefits to each parcel within the service area.
Ron Serrano	5902 Oakmore Dr Paradise 95969 530-877-1606 <a href="mailto:rxrn5902@gmail.com">rxrn5902@gmail.com</a>	3/30/17	As a 40 year resident of Paradise, and being interested in the future of Paradise: I believe that District property owners should pay for the services they will receive, and should be billed accordingly. But, I feel that other property owners should bare some burden I.E.: School Bonds, other District taxes etc – Everyone pass something for the benefit of the community I realize this complicates billing and a method for assessment would need to be developed that is fair.		Thank you for your comments.  Please note that we cannot assess parcels outside the service area for perceived secondary benefits. Assessed costs must be tied to benefits to each parcel within the service area.

Name	Contact	Date	Comment	Date of Response	Response
Donna Nicholson	5617 Scottwood Rd Paradise, Calif 95969 530-872-7120	?? (no stamp)	too costly		We appreciate your concern.
Helen Cook	1475 Bennett Rd Paradise, Calif 95969 530-877-5283	3/20/17	too expensive		We appreciate your concern.
Donna D Nicholson	1429 Bennett Rd Paradise, Calif 95969 530-872-7120	3/20/17	too expensive + I have this home + 3 rentals so that would cost me \$4300 x 4 = \$17,200 a year...plus my house so it will be \$21,500 a year...my 4 rentals are about \$700 a month each for rent. I would have to ask \$300 <u>more</u> a month on each of them to come out even.		Thank you for your comments. Please keep in mind the cost presented is an average based on the feasibility level design. Each connection will be analyzed and priced accordingly.
Donna Nicholson	740 Spring Lane Paradise, Calif 95969 530-872-7120	?? (no stamp)	too expensive		We appreciate your concern.
Donna Nicholson	746 Spring Lane Paradise, Calif 95969	?? (no stamp)	too costly		We appreciate your concern.
Donna Nicholson	5837 Queen Dr Paradise, Calif 95969	?? (no stamp)	too expensive		We appreciate your concern.
Charles Rough – Paradise Citizens' Alliance		3/30/17	<i>*Due to the length of the comment (9 pages), please see the PDF attached in Appendix A.</i>		Thank you for your comments. We have addressed your thematic input thorough the development of the final report.
E.M. West – Tuscan Ridge Assoc. LLC	P.O. Box 1837 Paradise, CA 95967 530-872-5850 <a href="mailto:mizwesthill@gmail.com">mizwesthill@gmail.com</a>	3/31/17	<i>*Due to the length of the comment (4 pages), please see the PDF attached in Appendix B.</i>		Thank you for your comments.  A key objective for the feasibility study is to analyze a complete system that can collect, convey, treat and dispose of effluent in a manner which will be acceptable to the permitting agencies. We feel it is too soon to commit to this particular technology for treatment even though we agree that if permitted the process could reduce project costs.





March 30, 2018

Dear Mayor Lotter and Members of the Paradise Town Council:

The Paradise Citizens' Alliance (PCA) congratulates the Town of Paradise for taking a significant step forward in the consideration of a possible sewer system for the predominately commercial areas in our community with the development of this draft sewer feasibility study, and for pursuing the grant funding that made this sewer feasibility study possible.

These are important achievements towards ultimately developing a credible body of knowledge from which our community and the Town Council can evaluate, analyze, discuss, and determine the merits of a major infrastructure improvement project of this magnitude for Paradise.

As a community organization dedicated to greater civic engagement in our community, we are equally impressed with the extensive public participatory process that the Town of Paradise has established from the very beginning.

The PCA greatly appreciates the Town's invitation to the community to provide written public comments concerning the draft sewer feasibility study. While we believe this draft study is a commendable effort, we recognize that at this point it's a work in progress, and in keeping with the Town's invitation for public input, subject to further changes, modifications, and improvements.

Therefore, the PCA's attached written comments are intended solely to assist the Town of Paradise with its current efforts to further improve the thoroughness and credibility of the information, evaluation, and analysis in the draft sewer feasibility study so that the final sewer feasibility study is a document the Town Council can justifiably rely on when making a well-informed decision on the sewer issue.

Sincerely,

Charles Rough, Chair

cc: Paradise Town Council  
Lauren Gill, Town Manager

6894 Zenith Lane Paradise, CA 95969

[info@paradise.ca.org](mailto:info@paradise.ca.org)

**Comments by the Paradise Citizens' Alliance  
Concerning the TOP's Draft Sewer Feasibility Study**

The following comments are not to be construed as the Paradise Citizens' Alliance taking a position at this time on a proposed sewer system for the commercial areas in our community.

These written comments represent our organization's contribution to the Town's overall effort to further improve the draft sewer feasibility study so that the final Town Council adopted sewer feasibility study is as thorough, accurate, and complete as possible.

Therefore, we view our effort, as well as others in our community who have already provided input or who may submit written comments by the March 31 public comments deadline, as playing a highly constructive role to ensure that our community, Town Council, and Town staff have all the information necessary to make a well-informed decision on an issue of this magnitude and importance.

With this in mind, we submit the following comments concerning the draft sewer feasibility study:

**Summary of PCA's Comments:**

1. The draft sewer feasibility study is a commendable effort but still requires additional information, analysis, and evaluation before the TOP can make a well-informed determination as to the feasibility of a proposed sewer system for Paradise.
2. The draft sewer feasibility study provides a good explanation of the beneficial impacts that public infrastructure projects, such as wastewater-related projects, generally have as a catalyst for economic growth. However, for the purpose of the TOP's determination of the feasibility, as well as justification for a sewer system in Paradise, the final study needs a far more comprehensive identification of the projected financial and economic benefits to Paradise.

## Paradise Citizens' Alliance Sewer Study Comments

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3. The estimated project cost for the preferred Chico/regional alternative, (or any of the project-related alternatives identified in the draft sewer feasibility study), needs to be further increased due to the likelihood that the project won't start actual construction for a number of years. If this is true, it will have a corresponding effect on the additional financing costs and the increased amount of state and federal grants needed to minimize the cost impact on the residential and commercial property owners in the sewer service area.
4. The final sewer feasibility study needs to include a discussion of the potential risks associated with the preferred Chico/regional alternative.
5. Due to water conservation trends in Paradise the final sewer feasibility study needs to re-analyze the flows Paradise will generate to the Chico wastewater treatment plant (which if lower might make this regional approach more favorable to Chico).
6. The final sewer feasibility study needs to more fully explore the income producing potential of a sewer system and how these might further reduce the estimated costs of the project-related alternatives, and the resulting cost burden on the residential and commercial property owners in the sewer service area.
7. The final sewer feasibility study needs to reevaluate the number of projected septic system failures over the next 10 years, better explain with greater specificity the actual economic loss and environmental threat facing the TOP as a result of projected septic system failures, and justify why this more immediate problem facing a very limited number of properties in the sewer service area warrants a sewer system that the overwhelming majority of unaffected properties in this same sewer service area must financially support.
8. While we accept No Project alternative as the no sewer project alternative identified in the draft sewer feasibility study, the final sewer feasibility study needs to go further than to characterize the No Project alternative as the status quo option, and actually explore possible innovative approaches and emerging technologies that might more cost effectively address the immediate septic system failure problem facing the TOP and the downtown.

### The Economic Benefits of the Sewer Project

In October, 2015, the PCA submitted twelve questions to the TOP we identified as as needed to be addressed in any sewer feasibility study (which we've had posted on our website ever since). One of those questions we raised emphasized the fundamental importance of including in such a study a comprehensive economic

## Paradise Citizens' Alliance Sewer Study Comments

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impact analysis that would determine the projected economic gains to Paradise with a sewer system.

1. The financial and economic benefits identified in the draft feasibility study are either identified as regional benefits or benefits to "Paradise and its vicinity," and require greater detail or explanation.
2. The final sewer feasibility study needs to better define the projected return in terms of projected financial, business, and economic benefits to Paradise and the affected property owners in the sewer service area in order to justify a costly public infrastructure investment of this kind.
3. The final sewer feasibility study requires a comprehensive, projected financial and economic impacts analysis providing (at the very least) the following information:
  - a. The actual projected estimate of businesses in Paradise closing due to failed septic systems over the next ten years, the resulting economic loss (jobs, property values, sales, etc.) and financial loss to the TOP (property tax, sales tax revenues, etc.).
  - b. The net projected economic gains to Paradise from more fully maximized commercial development on the remaining undeveloped parcels, and redevelopment of existing parcels (including business expansions) within the proposed sewer service area.
  - c. The net projected gains in retail/commercial sales and resulting increased sales tax revenues to the TOP.
  - d. The net projected gains in Paradise's property values and resulting increased property tax revenues to the TOP.
  - e. The projected jobs growth in Paradise by economic sector and type of job (other than those jobs associated with building or managing & maintaining the sewer system).

Note: The draft sewer feasibility study's explanation of estimated jobs growth was confusing (55 jobs in wastewater related activities; 161 additional jobs in all sectors "in Paradise and vicinity"). The study lacked an explanation of how many of the wastewater-related jobs were permanent (having to do with the management & maintenance of a sewer system) or temporary (having to do with

## Paradise Citizens' Alliance Sewer Study Comments

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construction of a sewer system). Moreover, there was no additional breakdown or methodology provided which explains how the estimated, additional 161 jobs "in all sectors," was determined, or how many of these actually were jobs gains in Paradise.

4. We look forward to a more balanced and better informed presentation in the final study about the state of our local economy than the negative portrayal in the draft sewer feasibility study attributable to the lack of a sewer. We're concerned that the negative and distorted picture it paints of a supposedly stagnant local economy ignores a number of economic forces in Paradise, such as the growing and dynamic healthcare sector (unique for a rural community like Paradise), which are anything but stagnant. Furthermore, this negative portrayal may have the unintended consequences in the interim of hurting existing businesses and undermining our local economy, affecting property values, and discouraging new business investment in Paradise.

### The Preferred Regional/Chico Alternative

1. The final sewer feasibility study should include with its explanation of the regional/Chico alternative (as the preferred alternative) a discussion of the possible risks associated with taking this regional approach which might affect the residential and commercial property owners in the sewer service area, and possibly impact the sustainability of the sewer system itself.

We're confident the TOP is well aware of the political risks for Paradise by contracting with Chico to use their wastewater treatment plant.

However, assuming Chico agrees to allow Paradise to use their treatment plant, there are two issues associated with an agreement with Chico that pose possible risks to the TOP, and which needs to be addressed to protect our sewer service area property owners and the continued utility of the sewer system.

They include: 1.) the uncertain cost burden to property owners in the sewer service area due to fees charged by Chico over Paradise's long term use of their wastewater treatment plant (as an industrial user), and 2) the possibility that Chico might at some point in the future elect to exercise, with proper notification, the termination of Paradise's use of their treatment plant, leaving the TOP vulnerable with an ineffective, non-functioning sewer system and a non-repayable, defaulting debt.

## Paradise Citizens' Alliance Sewer Study Comments

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2. Our recommendation is that the Town Council hold off approving a sewer system based on the preferred Chico/regional alternative until the concerns just mentioned above are addressed to the satisfaction of the Town Council and staff.

This includes 1) developing a rate structure which fairly compensates Chico for the use of their treatment plant, while at the same time protects Paradise residential and commercial Paradise property owners in the sewer service area from costly built-in fee escalators over the long term, and 2) developing an agreement with Chico that is either a permanent treatment plant use agreement, or instead makes the option of pulling out of such an agreement by either party a financially undesirable and difficult option.

3. The final sewer feasibility study needs to better emphasize that under this preferred alternative the sewer system is not a conventional sewer collection system. Instead, property owners in the sewer service area will continue to use their septic tanks for the solids, while the wastewater will be separated and piped to Chico for treatment (Chico will not accept the solids). This raises the possibility that some property owners in the proposed sewer service area may need to upgrade their septic tanks when the sewer collection and pumping system is constructed. Also, property owners in the sewer service area might have to pay for the periodic pumping of their septic tanks in addition to the other sewer system-related costs they may incur.
4. This preferred alternate presents a possible problem for the TOP when it comes to the disposal of the sewage pumped from septic tanks by the septic haulers. The County landfill is either not accepting or close to not accepting the sewage from septic tanks. This will result in increased transportation costs for the septic haulers and increased pumping costs for businesses and residents in Paradise. However, some the construction of some sort of sewage retention station might be a possible income generator to help reduce the project costs for the sewer system.
5. The final sewer feasibility study needs a substantive discussion of the potential income/revenue offsets to this preferred alternative's projects costs relative to Tuscan Ridge and the generation of power from the high velocity of Paradise's wastewater being piped down the Skyway to Chico.

## Paradise Citizens' Alliance Sewer Study Comments

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6. The draft sewer feasibility study identifies the cost of the Chico alternative as \$ 83 million. In our considered opinion, the more likely cost for this alternative by the time this project actually starts construction could be \$100 million or more, with public financing costs for the part of the project not funded by grants, etc., amounting to an additional \$ 8-10 million (as opposed to the additional \$6.1 million identified in the draft study).

According to the draft study, this significantly higher cost is mostly due to the more extensive infrastructure improvements (within the Chico city limits) necessary to convey Paradise's wastewater once it reaches Chico to their treatment plant. In our considered opinion, we'd recommend an engineering reevaluation or independent second opinion on the engineering to determine if there are areas where the project costs for this preferred alternative could be further reduced.

7. The draft sewer feasibility study identified "\$ 40 million or more" as the amount of grants funding needed. In our opinion, the more likely amount which will be needed in state and federal grants is closer to \$ 60-80 million (based on the \$ 100 million or more estimate).

To reach this much higher benchmark in outright grants funding makes this a much more difficult challenge. Notwithstanding the political will as well as skill of our Town Council and staff, the current lack of available state and federal grants funding overall, even after taking into account the various types of grants a project of this type might be eligible for or pursue is not encouraging, but not hopeless.

We'd recommend the TOP seriously consider that in addition to utilizing our own local legislative and congressional representatives, that the TOP retain the services of paid professional lobbyists both in Sacramento and Washington, D.C., with not only the political connections we need on the state and federal levels, but who have proven track records with helping to secure funding for similar type projects.

### **The Failed Septic System Problem**

The draft sewer feasibility study identifies the immediate economic and environmental problem facing the TOP as potentially 122 failed septic systems over the next 10 years. This compares to 1,421 total parcels in the proposed sewer service area.

## Paradise Citizens' Alliance Sewer Study Comments

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1. The final sewer feasibility study needs to reevaluate the number of septic systems slated to fail in the next 5 to 10 years, and if that number is less or more than the 122 systems cited in this draft sewer feasibility study, and previous TOP reports.
2. The final sewer feasibility study needs to measure the economic loss, if any, from the current 54 failed septic systems, or the potential number of failed systems over the next 10 years. The fact that many of these businesses with currently failed septic systems are still operating their businesses raises questions as to the degree of potential economic loss the TOP might actually sustain in the short or long term.
3. The final sewer feasibility study needs to identify the actual environmental threat to surface and ground water as a result of the current 54 failed systems, the potential septic system failures over the next 10 years, and the potential threat they pose, if any, to the remaining parcels in the proposed sewer area, and beyond.
4. The final sewer feasibility study needs to explain the statement made in the draft sewer feasibility study that businesses and property owners in the proposed sewer service area are experiencing high repair and maintenance costs associated with their existing septic systems. How many property owners in the proposed sewer service area are affected in this manner and what kind of repair and maintenance costs are they incurring?

### The No Project Alternative

1. The draft sewer feasibility study appropriately identifies the no project alternative as the alternative in which a sewer system doesn't get built in Paradise. However, the draft study characterizes this choice as maintaining the status quo, which conveys the impression that the TOP would allow septic systems to continue failing and the affected businesses operating as best they can under the circumstances.

There needs to be some attention devoted in the final sewer feasibility study, even as an addendum, resulting from a No Project decision to proactively exploring the range of cost effective possibilities, innovative approaches, emerging technologies, and potential private/public partnerships to resolve the immediate septic system failure problem in the downtown.

## Paradise Citizens' Alliance Sewer Study Comments

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### **Cost-Related Impacts for Residential & Commercial Property Owners (in the sewer service area)**

1. For the sake of the affected residential and commercial property owners in the proposed sewer service area, the final sewer feasibility study needs further clarification of all potential costs, fees, assessments, etc., that they might be paying per project alternative to resolve any confusion from the draft sewer feasibility study. It's vitally important to attempt to address this now considering that the primary question these affected property owners are asking now and will increasingly ask during the sewer assessment district formation effort is how much they are going to pay.
2. The final sewer feasibility study needs to emphasize that the feasibility of building a sewer system in Paradise, with this kind of cost involved, primarily depends on the TOP successfully obtaining a combination of state and federal grants that cover the majority of those project costs, so that the financial impact on residential and commercial property owners in the sewer service area is nominal.

### **Conclusion:**

If a sewer project is approved for Paradise, it will represent without exception the single, most expensive and ambitious public infrastructure improvement project in the history of the Town of Paradise.

Therefore, we urge the Town Council and Town staff to take the time needed to develop a credible, final sewer feasibility study document which thoroughly explores and evaluates all possibilities involved with building or not building a sewer system in Paradise.

## Appendix B

March 31, 2017

Ms Lauren Gill  
Town Manager  
Town of Paradise  
5555 Skyway  
Paradise, CA 95969

Mr. Orin Bennett  
Bennett Engineering  
1082 Sunrise Avenue  
Suite 100  
Roseville, CA 95661

Dear Ms. Gill and Mr. Bennett:

On March 22, 2017, my team and representatives from Presby Environmental met with representatives of Bennett Engineering and the Town of Paradise. The purpose of the meeting was for us to offer a alternative to the Bennett's draft feasibility study ("Town of Paradise Sewer Project" report) prepared by Bennett Engineering (Bennett).

We have information that was not known to Bennett which we believe alters the preferred choice for Paradise's handling of wastewater, and which will provide a better short-term and long-term solution to Paradise's waste water disposal solution. At the meeting, you requested a brief conceptual summary regarding how the feasibility study should be modified to reflect this new information. This is in response to your request.

In 2015, Robert Crandall (representing Presby) and Lee Rashkin (Vice President, Presby) made a presentation to members of the Paradise Town Council, the Town Manager, and Town staff about the Presby Environmental technology with regard to its utilization for treatment of wastewater from the Paradise business district. The Town expressed interest in the technology, however factors of land availability within the city limits and the issue of disposal of the treated water were not considered by the Town to be solved by the Presby technology.

Subsequently, in 2016, Robert Crandall met with me, my son Mark West, and my engineer James Richards to discuss use of the Presby system at the Tuscan Ridge Golf Course planned unit development. The purpose of the meeting was to explore the use of the Presby system for handling waste water from the planned residential development at Tuscan Ridge. The waste water would be reclaimed and reused for irrigation of the golf course during the non-rainy months and stored or discharged to subsurface during the rainy season. We very much liked the simplicity, effectiveness, cost, and minimal maintenance requirement of the Presby system. We are currently including it as part of our infrastructure for the Tuscan Ridge development.

The aforementioned draft Bennett study for the Town of Paradise considered four alternatives and designated the preferred alternative to be construction of a sewer collection system in the business district of Paradise and a pipeline to Chico in order to transport Paradise wastewater to the Chico WWTP for processing. One alternative (Alternative D) considered sending treated Paradise wastewater (based on MBR treatment proposed under Alternative B) to the Tuscan Ridge Golf Course for beneficial reuse. Alternative D was not evaluated as being preferred.

During the Bennett's preparation of the feasibility study for Paradise, we were actively planning the residential development project at Tuscan Ridge which included use of the Presby system for wastewater treatment. Further, in conjunction with Scott Bates, we have sought options to purchase significant acreage of additional land adjacent to the golf course. As part of our land use planning, we have included a series of water features which will be available for retention of treated wastewater in the rainy season. We will use the natural topography in creating these water features and do so with gravity flow. The golf course as it currently planned has more than sufficient space to build water features to accommodate Paradise wastewater throughout the year. Procurement of additional land will provide a cushion to handle waste from Paradise as well as the waste water generated by the Tuscan Ridge development.

The cost to treat waste water at Tuscan Ridge with the Presby system, including disinfection required to meet the State's Title 22 standards for reuse, will be substantially less than the costs projected for the MBR treatment plant used for the current Alternative D evaluation in the draft report. The availability of land and our interest in constructing water features changes the basis of the evaluation Bennett used for alternative D in the draft Paradise Report. A revision of the evaluation using the up-dated information about the Tuscan Ridge Development would make Alternative D the preferred Alternative.

Because the Presby system is modular, it can be constructed to handle increasing flows. Paradise would have the option of funding a smaller, lower cost project initially, and then adding to it needed. This would permit the Town's investment in a treatment facility to correspond closer to the actual need. The Town and its rate payers would pay for only the capacity needed during a specified time. Our estimate of the costs of treatment and dispersal at Tuscan Ridge show us that it will be significantly less expensive than extending the pipeline to Chico or doing MBR treatment and dispersal at Paradise.

Then when we examine environmental impact (the next highest weighted criterion), the result is similar. The updated Alternative D should be at least as highly scored as Alternative C. This would add an additional 30 points to the modified Alternative D and make it substantially higher overall. The basis for this assertion is that environmental impact of constructing a pipeline to Tuscan Ridge is less than constructing a pipeline all the way to Chico simply because there is less construction. The pipeline to Chico would have greater environmental impact particularly if it must cross Butte Creek. We have initiated the CEQA environmental assessment for the residential development and the wastewater treatment infrastructure. The data and information generated for supporting our belief will be confirmed long before Paradise is ready to actively pursue an alternative.

The draft study does not give adequate consideration to environmental factors within the context of our modified alternative. First, the study does not address the reduction in ground water use that would result from the use of treated waste water to irrigate the golf course. Reduction of ground water use is a priority of Butte County, and the State of California. The use of treated waste water for irrigation at Tuscan Ridge is fully in compliance with this policy.

In consideration of the fact that Tuscan Ridge Golf Course uses large amounts of water to irrigate, the reuse of treated waste water is a major deal and should be given higher consideration in scoring, even beyond the scoring for secondary benefit options.

Further, the draft study does not place value on the enhanced aesthetics to the Skyway corridor and the increased recreational opportunities which will be provided by the Tuscan Ridge development as planned as well as the enhancements to the golf course including the water features. These factors will not only increase environmental benefits, they will likely increase economic benefits and property values in the surrounding communities including Paradise.

Finally, with respect to operational issues, our modified alternative should be evaluated at least as high as Alternatives A and B, and very likely higher. One of the main features of the Presby treatment system is its very simple operation and low maintenance. The localized treatment with MBR would be far more operationally expensive, energy consuming, complicated, and has high-maintenance requirements.

Plus, the operation of the storage, dispersal, and irrigation at Tuscan Ridge will not be the responsibility of the Town of Paradise as the golf course and development will handle this. The infrastructure for irrigation is already in place. As a result of these factors, the modified Alternative D should be increased from the current score of 30 to at least the 60 or 40 for Alternatives A and B. More likely, the score will be even higher for the modified Alternative D, but in any case, an increase to 40 or 60 simply adds more points overall and makes the modified Alternative D the clear choice.

In summary, our proposal has several major advantages for Paradise:

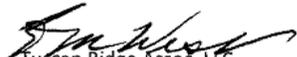
1. It essentially mirrors the preferred alternative of piping the water to Chico, except the distance and cost is substantially less. The modified alternative will not only make the handling of wastewater much more affordable to Paradise and its businesses, the facility will also be local and Paradise will have greater long term control.
2. The ready availability of treatment capacity and land for storage or dispersal provides Paradise with flexibility in terms of its planning and implementation of a sewer collection system (identified as an expensive component). Should Paradise choose to do so, it will be able to schedule and build at its own pace and within any budgetary limitations as opposed to having to cover all the costs initially and at one time.
3. The alternative for water reuse allows the opportunity to obtain State water recycling grant money. For a major project like this, every bit of grant funding helps.
4. The modified alternative is the most environmentally sound and protective option. Besides Paradise being a good steward of the environment, it enhances the quality of life for its

residents and may also provide additional justification for the State or Federal government to favorably fund the project.

Therefore, we respectfully request that the Town of Paradise direct Bennett to evaluate Alternative D on the basis of the information that we have provided here and which we can supplement with further evaluation and analysis. We will work with Bennett to develop additional information and costs detail in order to put together a modified plan of action which we strongly believe best serves the interests and capabilities of all parties concerned.

Thank you again for the opportunity to present our thoughts and ideas in context of this new information.

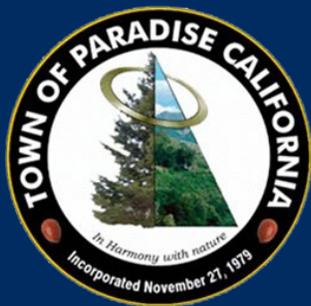
Sincerely,



Tuscan Ridge Assoc. LLC

E.M. West

Managing Member



TOWN OF PARADISE  
5555 SKYWAY  
PARADISE, CA 95969  
(530) 872-6291  
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**Subject:** FW: Coalition Request to FERC to Delay Relicense of Oroville Dam  
**Attachments:** FERC Letter FINAL 6.27.17.pdf; FERC Delay Signature Form.docx

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**From:** Sandy Linville [<mailto:slinville@orovillechamber.com>]  
**Sent:** Thursday, June 29, 2017 10:26 AM  
**To:** Lotter, Scott  
**Cc:** Volenski, Dina  
**Subject:** Coalition Request to FERC to Delay Relicense of Oroville Dam

Hello Scott,

As you may know, the Oroville Dam Coalition has written a letter to FERC, asking for a delay in the relicensing of the Dam. This time will be used for the signers to assess the impacts of the spillway incident.

This is the summary from the FERC letter, prepared by Assemblyman Gallagher:

“The undersigned entities, many of whom are parties to the licensing proceeding, and some of whom were settling parties in the Alternative Licensing Process, request that the Commission delay relicensing until the parties and the licensee can better understand the causes of this incident and how it may change the underlying assumptions of the pending license. A Board of Consultants and Forensic Team have been tasked by FERC with determining the cause of the spillway collapse and informing the reconstruction effort. The work of the Board of Consultants and Forensic Team has not yet been completed. Until this work is completed and reviewed by the licensee and undersigned entities, it is impossible to understand the full breadth of what is being relicensed.”

Attached you will find the full letter detailing the background and current situation regarding the relicensing of the Dam, concluding with a request to delay the relicense.

The Oroville Chamber of Commerce is signing this letter and ask that you join us as well. Unity of our many organizations is of utmost importance to demonstrate to FERC that the delay should be granted for us to properly assess the prior assumptions, and fully understand the relicense.

To sign the letter, please download the “FERC Delay Signature Form,” sign in blue ink, scan, and return. We are asking for all signatures to be returned before July 26.

If you have any questions, or would like additional clarification, please contact me.

Sandy Linville, PhD  
President & CEO  
**Oroville Economic Alliance**  
**Oroville Chamber of Commerce**  
1789 Montgomery Street  
Oroville, CA 95965  
530.538.2542

UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION

In the Matter of	)	July X, 2017
	)	
State of California	)	
Department of Water Resources	)	Project No. 2100
	)	
New Major License	)	
Oroville Division, State Water Facilities	)	
“Oroville Facilities”	)	

**COMMENTS ON PENDING LICENSE ISSUANCE  
BY [ENTITIES],**

Ms. Kimberley Bose, Secretary  
Federal Energy Regulatory Commission  
Via e-mail

Dear Ms. Bose:

The undersigned Alternative Licensing Process settling parties, entities and Intervenors in the above referenced matter, respectfully submit the following comments concerning the reconstruction of Oroville Dam and the pending issuance of the new project license for the Oroville Facilities, FERC No. 2100.

**SUMMARY OF THE COMMENTS**

On February 9, 2017 the flood control outlet (FCO) spillway at Oroville Dam collapsed and failed while releasing water at a fraction of its capacity. This ultimately led to the use of the emergency spillway which also nearly failed due to cutback erosion moving quickly toward the ogee weir, and ultimately necessitating the evacuation of approximately 188,000 people in Oroville and downstream communities such as Intervenors Sutter County and the City of Yuba City. Reconstruction at the Oroville Facilities is underway. This incident and reconstruction effort comes late in the relicensing of Project No. 2100. As a result of the incident, licensing issues that were expected or could have been made by the Commission’s Office of Energy Projects in relicensing are being made by the Commission’s Division of Dam Safety and Inspections in a largely CEII reconstruction effort.

The undersigned entities, many of whom are parties to the licensing proceeding, and some of whom were settling parties in the Alternative Licensing Process, request that the Commission

delay relicensing until the parties and the licensee can better understand the causes of this incident and how it may change the underlying assumptions of the pending license. A Board of Consultants and Forensic Team have been tasked by FERC with determining the cause of the spillway collapse and informing the reconstruction effort. The work of the Board of Consultants and Forensic Team has not yet been completed. Until this work is completed and reviewed by the licensee and undersigned entities, it is impossible to understand the full breadth of what is being relicensed.

Before issuing the new project license for Project No. 2100, the Commission must resolve key matters highlighted by the spillway incident and raised by some of the undersigned entities during the relicensing process. The Commission, local entities and other relicensing participants should understand the project being relicensed, how the facility will be put back into a proper and safe function, how damages will be compensated and impacts addressed, and whether the Commission's analysis and preferred alternative need to be reassessed in light of the changed conditions at the Oroville Dam complex and the downstream levees and conveyance facilities.

## **BACKGROUND**

Butte County is the host community for the Department of Water Resources' (DWR) Oroville Facilities Project on the Feather River (Project no. 2100), with 762 megawatts of hydroelectric generation capacity. Project no. 2100 covers 41,000 acres and is wholly located within the unincorporated area of Butte County. Butte County is a primary service provider to Project no. 2100 providing a broad range of "first responder" and other government services. These services include roads, traffic control, law enforcement, fire protection and rescue, and the communication systems relied on by Project no. 2100, its employees, and the many recreational visitors to Project no. 2100.

Butte County participated in the multi-year Alternative Licensing Process. Butte County is a party to the proceeding. In its Motion to Intervene on April 21, 2005, Butte County stated: "Butte County will be directly affected by many of the environmental, economic, power allocation, socioeconomic and recreation facility issues associated with this Project."<sup>1</sup> On April 22, 2005, Butte County filed a "Motion of Butte County, California for Order Requiring Conduct of Socio-Economic Impact Studies," which argued that DWR's socio-economic analysis in its Preliminary Draft Environmental Assessment was "only 12 pages long" and "wholly inadequate to support a license application or order."<sup>2</sup>

The spillways that failed on or about February 9, 2017 had the very real potential to cause the deaths of thousands of Butte County's 230,000 residents. The crisis also damaged roads and caused flooding along the Feather River. The first responder and related services provided by

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<sup>1</sup> Motion of County of Butte, California, for Leave to Intervene, Project No. 2100, (filed April 21, 2005). eLibrary no. 20050421-5003 (Butte County Intervention)

<sup>2</sup> Motion of Butte County, California for Order Requiring Conduct of Socio-Economic Impact Studies, project No. 2100, (filed April 22, 2005), eLibrary no. 20050422-0022, p. 2.

Butte County were stretched to their limits and beyond. As Butte County pointed out in a petition it filed with the Commission on February 15, 2017, Butte County is presently in an untenable position with respect to the requirements of Project no. 2100 for future demands for Butte County's services and the safety of its residents.<sup>3</sup>

Friends of the River (FOR), Sierra Club, and the South Yuba River Citizens League (SYRCL) are parties to the Oroville Dam relicensing proceeding.<sup>4</sup> The primary issue raised by these parties was for the Commission to address the physical deficiencies at the Oroville Dam complex needed to accomplish the operational requirements to conduct (when necessary) floodwater-management surcharge operations over the dam's emergency/auxiliary spillway. The California Sportfishing Protection Alliance (CSPA) is also an intervenor supporting FOR's arguments in relation to flood-related facilities modifications.<sup>5</sup> American Whitewater (AW) intervened as well, citing the FOR *et al.* intervention and recommended that the licensee respond and that the Commission analyze concerns relating to the ungated spillway at Oroville Dam.<sup>6</sup>

In their intervention in the relicensing proceeding, Sutter County, the City of Yuba City, and Levee District 1 (Sutter County *et al.*) asked the Commission for the following:

A relicensing order should be issued, consistent with the Commission's duty under section 10(a) of the Federal Power Act, which directs the licensee to investigate the adequacy and structural integrity of Oroville Dam's ungated auxiliary spillway that may currently pose a risk to the Project facilities and downstream levees in Sutter County in the event extreme flood releases are required, as recently experienced in flood release events of 1986 and 1997, and to take all necessary actions to correct any identified deficiencies, in this regard.<sup>7</sup>

FERC's Office of Energy Projects (OEP) issued a Final EIS for the relicensing of the Oroville Facilities on May 27, 2007.<sup>8</sup> The State Water Quality Control Board, issued water quality certification for the project on December 15, 2010.<sup>9</sup> The Board did not take up the request of

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<sup>3</sup> Emergency Petition of Butte County, California to Require Licensee to Correct Safety Deficiencies and Establish a Public Safety Program, Project No. 2100-000 (filed February 15, 2017), eLibrary no. 20170215-5102.

<sup>4</sup> Motion to Intervene of Friends of the River, Sierra Club, South Yuba River Citizen's League, Project No. 2100-052 (filed Oct. 17, 2005), eLibrary no. 20051017-5033 (FOR *et al.* Intervention).

<sup>5</sup> Comments and Motion to Intervene, Draft Environmental Impact for the Oroville Facilities (filed December 19, 2006), eLibrary no. 20061219-5001, p. 3. (CSPA Intervention)

<sup>6</sup> Motion to Intervene of American Rivers, American Whitewater and Chico Paddleheads (filed March 31, 2017), eLibrary no. 20060331-5090, p. 5 (AW Intervention).

<sup>7</sup> Amended Motion to Intervene of the County of Sutter, the City of Yuba City, and Levee District No. 1 of Sutter County, p. 8, March 4, 2006. (Sutter County *et al.* intervention)

<sup>8</sup> Federal Energy Regulatory Commission *Final Environmental Impact Statement for the Oroville Facilities Project* Docket No. P-2100-052, May 18, 2007, eLibrary no. 20070518-4001. (FERC Oroville FEIS)

<sup>9</sup> State of California State Water Resources Control Board Order WQ 2010-0016, Dec. 15, 2010.

FOR *et al.* that it address water qualities problems associated with the use of a hillside rather than a spillway to conduct surcharge operations, although in light of recent events, that decision now seems ill-advised.<sup>10</sup> A Biological Opinion was issued for the project on December 5, 2016.

In February 2017, both Oroville Dam complex spillways experienced significant damage causing a major dam safety incident. The very real possibility of the ogee weir failure and potential for catastrophic flooding resulted in the evacuation of 188,000 residents in the Feather River Basin, including in Oroville, Sutter County, Yuba County and the City of Yuba City. Major hillside erosion occurred when the emergency spillway was activated. Subsequent drastic changes in Feather River flows due to managing the crisis led to unprecedented sloughing of riverbanks. All of this combined to cause large-scale water quality and sedimentation issues downstream. The incident gained worldwide attention. On February 13, the Washington D.C. office of Division of Dam Safety and Inspections required DWR to appoint an outside review panel to help guide the Department and the Commission in the reconstruction effort. The letter also ordered the creation of an independent Forensic Team to determine the causes of the spillway failure.<sup>11</sup>

On April 19, 2017, FOR *et al.*, CSPA, and AW asked the Commission to clarify what decisions of concern to relicensing participants were being made in the apparent Dam Safety reconstruction process, what decisions were being made in the licensing process, and for the Commission to devise a transparent and expeditious process to make these decisions with the involvement of an informed public.<sup>12</sup> State legislators have also emphasized the importance of transparency at oversight hearings following the spillway failures.

To date, the Commission has not clarified these issues. The reconstruction phase has begun.<sup>13</sup> There is no evidence that DWR or the Division of Safety of Dams and Inspections supports or intends to build a complete emergency/auxiliary spillway not subject to major hillside erosion if used. The license has not been issued.

## COMMENTS

At this writing, the reconstruction plan appears to envision construction through at least 2017 and 2018, in addition to emergency work already completed.<sup>14</sup> This redesign and reconstruction

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<sup>10</sup> Joint comments of Friends of the River, Sierra Club, and South Yuba River Citizens League on Oroville Facilities Relicensing, FERC Project 2100, draft EIR, August 20, 2007.

<sup>11</sup> See <https://www.ferc.gov/industries/hydropower/safety/projects/oroville/2-13-17.pdf>; February 13, 2017 Letter from FERC Acting Director of Division of Dam Safety and Inspections David Capka to Acting Director of DWR William Croyle.

<sup>12</sup> FOR, Sierra Club, SYRCL, CSPA, and American Whitewater Request for Clarification and Public Process, Project 2100, April 19, 2017, eLibrary no. 20170419-5231 (FOR *et al.* April 2017 request).

<sup>13</sup> “Reconstruction begins at Oroville Dam. Will it be different this time?” Sacramento Bee, May 24, 2017. <http://www.sacbee.com/news/state/california/water-and-drought/article152381522.html>

<sup>14</sup> <http://www.capradio.org/articles/2017/05/24/oroville-spillway-repair-project-moves-into-heavy-construction-phase/>

will result in a physically different project than the project proposed in the license application and analyzed as the Commission's preferred alternative in the FEIS for the relicensing of Project no. 2100. The reconstruction effort may also affect other licensing issues, including but not limited to recreation and power generation. However, information regarding the actions that DWR is taking under direction from FERC's Division of Dam Safety and Inspections is classified as Critical Energy Infrastructure Information (CEII) and thus has limited public availability. In addition, events in 2017 have conclusively demonstrated that some of the assumptions that the Commission and licensing participants made during relicensing were unfounded, most notably that the project's "emergency spillway" was a viable flood release infrastructure.<sup>15</sup>

If, for example, hillside discharges from the emergency/auxiliary spillway remain part of the project, the recently demonstrated water quality and operational problems associated with such a decision should expand the zone of project influence and the nature of the proposed new license. In 2017, there were downstream impacts from bank erosion and associated water quality impacts of the initial spillway failure and subsequent discharge operations. Potential impacts that diverse entities raised in comments during relicensing became real. These changes may warrant

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<sup>15</sup> The susceptibility of the hillside to erosion, as noted in FOR *et al.* April 2017 request filing group and Sutter County *et al.* filings with the Commission and the State Water Resources Control Board (SWRCB), can cause downstream water-quality problems, disrupt project operations, and damage project works and lands. Although the reality of FOR *et al.*/Sutter County *et al.* concerns are apparent now, in 2005, FERC staff was dismissive. According the FERC San Francisco regional office (SFRO) of its Division of Safety of Dams, "Emergency spillway flows would flow down a channel consisting of soil, bushes, and trees covering bedrock. Erosion of one to four feet of soil cover, and debris flow including bushes, and trees would occur during a large release in the emergency spillway." Erosion of an order of magnitude or two greater was experienced at the main spillway break in 2017. Judging from the vegetation cover, there is little reason to expect that a significant emergency/auxiliary spillway discharge would not cause similar hillside erosion. But there were more problems. The SFRO limited its analysis to the PMF/spillway design flood (characterizing it as a 350,000 cfs discharge). The SFRO failed to note that use of the auxiliary spillway in a standard project flood (SPF), the flood-control design flood for Oroville Dam, is required in the Army Corps of Engineers (ACE) Oroville Dam Reservoir Regulation Manual, a discharge that would result in a reservoir surcharge of 9.7 feet (charts 16 and 32). The SFRO failed to appreciate that "interim" (in place since Oroville Dam operations began a half a century ago) operations requirements by the Corps would require DWR to limit downstream releases to protect downstream levees by surcharging the reservoir if required. The SFRO failed to consider the operational consequences of operator reluctance to damage the hillside and cause problems with project works and project lands even for events smaller than the SPF. The SFRO failed to consider that the auxiliary spillway might be needed because of operational problems with the main service spillway as just happened in the 2017 Oroville Dam incident. The SFRO accepted DWR's Project Geology Section analysis that the limited erosion that might be expected from the use of the auxiliary spillway would not "compromise the integrity of the emergency [auxiliary] spillway." There was no evidence the SFRO conducted an independent investigation. See memo from John Onderdonk, Senior Civil Engineer, San Francisco Regional Office, Division of Dam Safety and Inspections Emergency Spillway Safety Questions related to Intervention Motion, Proj. No. 2100, Letter to John Mudre, FERC Division of Hydropower Licensing, July 27, 2006. (Onderdonk Memo), eLibrary no. 20060801-0158.

recirculation of the EIS and potentially the adoption of different decisions. At minimum, the Commission should exercise caution in basing a relicensing order on previous assumptions.

There may even be changes in the Corps of Engineers' Reservoir Regulation Manual for Oroville Dam as have been requested by the Governor of California.<sup>16</sup> While the nature and schedule of such changes are speculative, the manual does describe duties that the Commission-licensed physical structures need to accomplish and thus may have some bearing on the shape of the relicensed project.<sup>17</sup>

The Forensic Team tasked with determining the cause of the spillway collapse is still conducting its work. It is our understanding that this work will also inform the reconstruction efforts to ensure that any deficiencies are properly addressed.<sup>18</sup> Until this work is completed, the parties have no way of understanding the full scope of what is being relicensed and whether reconstruction efforts have addressed the problems that may have led to the incident in the first place.

Finally, the parties also wish to have adequate time to discuss the implications of the February incident with the licensee and determine what efforts and actions will be taken to address and mitigate damage to Oroville and the downstream communities.

It also may be quite likely that the short turn-arounds in decision-making during reconstruction may make it difficult for the Commission to predict what decisions it wishes to undertake in the current dam-safety "proceeding" and what it wishes to undertake or reconsider in the licensing proceeding.

In the 11 years since the licensee reached an agreement intended to quantify and compensate for such impacts, Oroville and the downstream communities have experienced disappointing and inadequate performance by DWR with regard to the kinds of commitments that agreement

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<sup>16</sup> See [https://www.gov.ca.gov/docs/2.24.17\\_Letters.pdf](https://www.gov.ca.gov/docs/2.24.17_Letters.pdf); February 24, 2017 Letter from California Natural Resources Secretary John Laird to the Army Corps of Engineers, Bureau of Reclamation, and FEMA.

<sup>17</sup> As an important side note, there was some confusion and controversy in the relicensing proceeding about whether the Corps of Engineers manual required using the emergency/auxiliary spillway to make regulated flood-control (as opposed to dam-safety) releases. However, the FERC Oroville Facilities FEIS accepted our description of the surcharge storage capacity of the reservoir (p. C-19). Moreover, DWR operations staff (Joel Ledesma and John Leahigh) at the May 3 and 15, 2017, DWR Oroville Spillway Incident public meetings conceded that the Corps of Engineers manual requires such operations as described by FOR *et al.*, and at the May 15 meeting John Leahigh encouraged FOR *et al.* to continue to raise the issue of the operational binds that DWR finds itself in as long as use of the emergency/auxiliary spillway involves erosive overland flows.

<sup>18</sup> <https://www.ferc.gov/industries/hydropower/safety/projects/oroville/02-21-17.pdf> February 21, 2017 Letter from FERC Acting Director of Division of Dam Safety and Inspections to DWR Acting Director William Croyle.

memorialized. The issues and questions described above clearly demonstrate that DWR's commitments will need to be revisited and substantially revised in light of the spillway failures.

## CONCLUSION

It is unusual and undesirable for the Commission to relicense major hydroelectric dams with so many unresolved questions and issues. Considerable uncertainties face relicensing participants, the licensee, and the Commission's dam-safety and relicensing staff. It would be prudent for the Commission to issue a new license only when there is clarity on both the configuration of the project and its potential effects and how the damage from the February incident will be addressed by the licensee.

Relicensing participants expended considerable time and energy during the relicensing of the Oroville Facilities. The events of 2017 have strained relationships between DWR, local communities, and other relicensing participants. DWR has not systematically evaluated the impacts to local communities of the incidents of 2017, and needs to do so. While there have been initial discussions relating to the impacts of spillway failures and appropriate mitigations, more time is needed to fully address these issues and to fully identify and evaluate all impacts of any changes to the relicensed Oroville Facilities. For these reasons, along with deficiencies in the FEIS, we request that FERC delay the issuance of the new license for Project no. 2100.

[Signature blocks of representatives of entities]

cc:

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## CERTIFICATE OF SERVICE

I hereby certify that I have e-filed this document in the Commission's e-library for Project 2100-000, and have this day served this document on each person designated on the official service list compiled by the Secretary in this proceeding, via e-mail or surface mail as directed on the service list.

Dated this xxth day of July 2017.

/s/

Name  
Address

# Oroville Dam Coalition

## *Letter Asking FERC for a delay in the relicensing of Oroville Dam*

*Please sign inside of the box above using blue ink*

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Name

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Title

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Organization