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TOWN OF PARADISE



Sewer Project Feasibility Study

March 1989



TOWN OF PARADISE PLANNING

Kennedy/Jenks/Chilton

K/J/C 882511

TOWN OF PARADISE PLANNING DEPT. 5555 SKYWAY PARADISE, CA 95969

Kennedy/Jenks/Chilton

TOWN OF PARADISE CENTRAL AREA WASTEWATER AND SLUDGE FACILITIES SEWER PROJECT FEASIBILITY STUDY

prepared for

Town of Paradise Department of Public Works
Jon Lander, Director of Public Works

prepared by

Kennedy/Jenks/Chilton Consulting Engineers Sacramento, California

March 1989

K/J/C 882511.00

Kennedy/Jenks/Chilton

Consulting Engineers

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17 March 1989

Town of Paradise Department of Public Works 5555 Skyway Paradise, CA 95969

Attention: Mr. Jon Lander, P. E., Town Engineer

Subject:

Central Area Wastewater and Sludge Facilities

Preliminary Engineer's Report

K/J/C 882511.00

Gentlemen:

In accordance with our Agreement for Engineering Services dated 5 April 1988, we are submitting 20 copies of our Preliminary Engineer's Report on the Town's central area wastewater and sludge facilities.

Kennedy/Jenks/Chilton personnel who participated in the preparation of this report included R. M. Sanchez Adams, Project Manager, D. M. Galway and K. Sullivan, Project Engineers, and R. A. Ryder, J. C. Calmer, and J. H. Jenks, technical reviewers. The engineering office of James C. Hanson performed preliminary geotechnical surveys for alternative wastewater effluent storage reservoirs and treatment plant ponds. James Hatter and Victor Subbotin of M. L. Stern & Co., and Robert Brunsell of Sturgis, Ness, Brunsell & Sperry provided consultation on financing and assessment proceedings. NorthStar Engineering prepared overlay maps of the service area.

We wish to express our sincere appreciation to the staff of the Town of Paradise for their assistance throughout the preparation of this report. We wish to mention in particular Mr. Jon Lander, Town Engineer, Mr. Al McGreehan, Planning Director, and Mr. Michael Hays, Town Manager. In addition, Mr. Henry Martin, Butte County District Sanitarian for Paradise Ridge, provided valuable input regarding existing on-site system sizes and system failures.

SUMMARY OF RECOMMENDATIONS

The central commercial, multi-family residential, and industrial area of the Town of Paradise is currently the largest unsewered urbanized area in the State of California. Past studies have documented the limited capacity of Paradise Ridge soils to accept an increased loading of septic tank effluent from the areas of the Town most likely to experience growth. The Town Council has acted on its concern with this matter by enacting an On-Site Systems Ordinance restricting the density of development to a level commensurate with the assimilative capacity of area soils. In addition, the Town authorized this study to move forward with establishing a properly planned and constructed wastewater system for the central area of the Town.

Mr. Jon Lander Town of Paradise 17 March 1989 Page Two

This report presents analyses supporting a recommendation to proceed with the formation of a Special Assessment District to fund the design and construction of a conventional gravity sewer system for the Clark Road and Skyway corridors of the Town as far north as Wagstaff, an aerated lagoon system for biological treatment of the collected wastewater and also the septage from Paradise Ridge, and an advanced treatment system for further treatment and disinfection of the wastewater effluent prior to discharge onto the former McKnight Ranch property south of Neal Road near Elliot Spring.

We estimate that the proposed wastewater collection service area now contains approximately 2,700 Equivalent Dwelling Units (EDU's); that is, the wastewater flow estimated to be generated from within this area is approximately equal to that generated by 2,700 single-family residences. Only 400 EDU's actually represent single-family homes; the remainder is from mobile home parks, apartments, and other multi-family residential areas; from stores, motels, restaurants and other businesses; from schools, churches and health care centers; and from industries.

The total cost of the proposed wastewater facilities is estimated to be \$14.5 million, or almost \$5,400 per EDU. However, the collection system will be sized to serve all 8,400 EDU's ultimately expected to connect at buildout conditions, and the biological and advanced treatment facilities will be sized to serve the extra 1,700 EDU's expected to connect within the first 10 to 15 years. In order to fund the design and construction, we believe it would be fair to attempt to establish a connection charge structure that encourages early connection and that allocates payment for future-capacity elements of the system to future connectors to a reasonable extent. Such a structure would minimize both the debt service paid by initial connectors and the monthly sewer service charge paid by all connectors.

We are expecting that an additional 300 EDU's will join the 2,700 now existing by the time the initial funding must be obtained. The connection charges from the remaining 1,400 EDU's expected to connect over the following decade are proposed to be allocated partly to debt service and partly to a sinking fund for the treatment plant expansion projected to occur in approximately 10 years. We are projecting at this time, therefore, that the connection charge would be established at \$3,500 per EDU connecting initially. This amount would be financed by an assessment bond and the debt service payments (approximately \$30.50/month) would appear on the property tax bill over a 20-year period. Any connections occurring after the formation of the assessment district would be charged \$4,000 per EDU payable as a lump sum at the time of connection. It is not considered necessary at this time to assess properties on the basis of land area or front footage. Therefore, initially, vacant property would not be assessed, but would be charged \$4,000 per EDU at the time of connection in the future.

All properties connected to the sewer would pay a monthly sewer service charge projected to be \$13.50 per EDU initially. As more properties connect, the revenue from this source could be sufficient to justify a reduction. Over a 10-year period, we project that the monthly charge could be reduced to \$9.25

Mr. Jon Lander Town of Paradise 17 March 1989 Page Three

per EDU in stages, assuming that all 1,400 extra EDU's have connected by that time. We have calculated a proposed septage tipping fee of 3.5 cents per gallon, and a projected annual revenue from this source of \$80,000.

PROGRAM IMPLEMENTATION

The attached report establishes the technical and financial feasibility of proceeding with the central area wastewater and sludge facilities. It will be necessary for the Town Council to authorize certain actions before the assessment district can be formed and design studies, detailed design, and construction can proceed.

First, the Council must authorize preparation of an Engineer's Report for the Central Area Wastewater Assessment District in a form satisfying the requirements of the Improvement Bond Act of 1915. This will involve preparation of an assessment diagram utilizing the overlay maps prepared during this study, generation of the report text utilizing much of the information presented in this report, and developing the detailed assessment spread for each parcel of land to be included in the proposed district. Next, the Council must hold a public hearing to certify the Environmental Impact Report and to consider protests of property owners proposed to be included in the district. Protests must be resolved. Funds for preparation of the Engineer's Report and for protest resolution are not currently appropriated.

Furthermore, the Department of Public Works is not currently staffed to provide the project management and coordination functions necessary to prepare for district formation, nor for right-of-way acquisition, property owner coordination, or engineering review and project management functions during design and construction. We recommend that a project manager be hired to assist the Director of Public Works at the time the Council authorizes preparation of the engineer's report for district formation, and that additional staff be hired as conditions dictate.

Assessment liens will be entered against parcels in an amount sufficient to cover the total obligations estimated at the time of the assessment district formation hearing, but they will be obligated only to the extent necessary to cover actual costs incurred in design and construction. Once the Council acts to form the assessment district, it is recommended that Series A assessment bonds be issued in an amount necessary to fund detailed design and obtaining construction bids. The maximum amount of Series A bonds is estimated at this time to be \$2 million. After bids are received and the cost of construction is known with a high degree of certainty, it is recommended that Series B assessment bonds be issued to cover construction and related costs.

Mr. Jon Lander Town of Paradise 17 March 1989 Page Four

We have enjoyed our work in preparing this report, and we look forward to continuing our work on this project through district formation, design, and construction of these needed facilities.

Very truly yours,

KENNEDY/JENKS/CHILTON

John C. Calmer, P. E.

Manager, Sacramento Branch

Russel M. Sanchez Adams, P. E.

Project Manager

enclosure: Assessment District Feasibility Report (20 copies)



TOWN OF PARADISE CENTRAL AREA WASTEWATER AND SLUDGE FACILITIES

ASSESSMENT DISTRICT FEASIBILITY REPORT

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CHAPTER 1

INTRODUCTION

AUTHORIZATION

The Town of Paradise retained Kennedy/Jenks/Chilton in April 1988 to prepare this feasibility study to support formation of an Assessment District for wastewater collection, treatment and disposal serving the central commercial, industrial and multi-family residential areas of the Town. The study has been directed by the Department of Public Works with supplementary information provided by Planning Department staff.

PRIOR STUDIES

Recognizing the potential for problems arising from inadequately maintained or failing septic systems, the Town of Paradise authorized the preparation of a pollution study in 1981. The Phase I Wastewater Management Study completed in 1983 [1], supplemented in 1984 by a report of measurements of stream pollution made during a period of the year with high groundwater [2], concluded that there was some evidence of stream contamination from septic tank drainfields, but that the pollution problem was not serious at that time. However, it was recommended that wastewater collection, treatment and disposal works be constructed for the Town.

In response to these studies, the Town enacted an On-site Systems Ordinance [3] placing conditions on new construction to help minimize the possibility of future septic system failures. In addition, the Town authorized the preparation of another wastewater management study. The Phase II Wastewater Management Study report completed in 1985 [4] studied the cost-effectiveness of alternatives for a coordinated approach to long-term management of wastewater, septage (solids pumped from septic tanks), and hazardous wastes, considering the current pattern of development within the Town limits and probable future conditions, and taking into account the Septage Management Study already completed by Butte County [5].

The Phase II study concluded that the most cost-effective program for wastewater and septage involved construction of a conventional gravity sewer system serving only the commercial, industrial and multi-family residential areas existing along the Skyway and Clark Road corridors, with treated wastewater effluent, septage and sludge reclaimed on approximately 2.500 acres of pastureland to be purchased by the Town. All other areas of town would continue to be served by on-site septic systems. An On-Site Management District would be formed to systematize the proper maintenance and inspection of these systems. The Phase II study also proposed a program for managing the hazardous wastes generated within the town.

PRESENT CONDITIONS AND NEED FOR DISTRICT FACILITIES

The implementation of the On-Site Systems Ordinance has resulted in de facto limits on density of development, in many cases limiting density to substantially less than the zoning would otherwise permit. Also, according to a State-mandated schedule, Butte County has announced that septage will not be received at the Neal Road landfill after 1991.

The Town has recognized the continuing need for a wastewater collection, treatment, and disposal system for the central areas of the Town and the need to develop an alternative to the Neal Road landfill for septage disposal. Accordingly, the Town directed the preparation of this study to update the recommendations made in the Phase II study so that the Town Council would have current information to base a decision regarding possible formation of a Special Assessment District to fund the necessary construction.

ORGANIZATION OF REPORT

This feasibility study report is presented in chapters addressing pertinent aspects of the proposed project.

Chapter 2, Service Area and Design Criteria, describes the currently proposed District boundaries (the service area) and how this area differs from that recommended in the Phase II Study [4]. Chapter 2 also develops the current and projected wastewater flow estimates, equivalent residential units of capacity, aggregate parcel area, septage quantities, effluent quality requirements, effluent storage reservoir design criteria, and cost-effectiveness analysis parameters used in subsequent chapters.

Chapter 3, Collection System Alternative Analysis, presents a cost-effectiveness analysis leading to confirmation of a conventional gravity sewer system.

Chapter 4, Wastewater and Sludge Treatment and Disposal Alternative Analysis, presents the cost-effectiveness analysis leading to confirmation of the aerated lagoon treatment process for wastewater and septage, and also evaluates four methods for possible ultimate disposal of stabilized sludge. This chapter also contains an economic analysis supporting reclamation of treated wastewater effluent as a cost-effective alternative to other options not involving reclamation.

Chapter 5, Recommended Plan, is a coordinated and more detailed description of the recommended concepts for construction, including estimated costs.

Chapter 6, Financing and Program Implementation, describes the most viable options available to the Town for financing the construction and associated costs, including grants, loans and bonds. Formation of a special assessment district for financing utilizing assessment bonds is recommended. The elements of the design program are described, and a recommended management plan presented for initial organization of the assessment district, administration of design and construction, and management of the system when completed.

Chapter 7, Assessment and Monthly User Charges, describes the suggested capitalization plan, elements of income, and a plan for amortization of financed capital and for funding of operation, maintenance, administration, and system replacement. A generic assessment method is presented in a form enabling a property owner to estimate his initial assessment (or future connection charge if not connected initially) and monthly service charge based on characteristics of a particular parcel.

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CHAPTER 2

SERVICE AREA AND DESIGN CRITERIA

The purpose of this Chapter is to establish the design criteria and cost-effectiveness analysis methodology used in this report. In particular, the development of the service area boundary is described, including the existing and projected uses and number of units to be served. Also, an estimate is presented of the number of units outside the district boundaries which can be served, and the phasing of construction of the various elements of the system is described. The present and projected quantity of septage received at the treatment facility is estimated, the effluent quality criteria for the wastewater treatment process are defined, and the design criteria for the treated effluent storage reservoir are presented. Also, the parameters used in subsequent cost-effectiveness analyses are given.

Development of Service Area Boundary

The Phase II Report [4] proposed a wastewater collection district boundary including the commercial, industrial and multi-family residential zoned areas along the Skyway and Clark Road from the south and west Town limits to the north Town limits. As part of the present study, Town Planning Department staff performed a door-to-door survey of existing uses within the sewer service area proposed in the Phase II report. Also, Town staff consulted with the Butte County Health Department Area Sanitarian to identify current problem areas with failing septic systems. As a result of these investigations, the proposed service area was modified to eliminate the area north of Wagstaff from the proposed district, to eliminate certain other areas currently developed in single-family residences, and to include some small areas either needing service because of failing septic systems or because only part of a parcel was included in the formerly-developed boundary. The area north of Wagstaff was eliminated because existing development is primarily single-family in character, and the per-unit cost to serve these residences would be quite high compared with other services in the remainder of the proposed district.

The currently proposed service area boundary is shown on the Town's zoning map, included as Figure 2-1 in a pouch bound with this report.

Census of Existing Uses in Proposed District

The commercial/industrial/multifamily-residential character of the proposed district is revealed by an analysis of the census data gathered by the Planning Department staff. Table 2-1 presents a summary of the properties to be served by the proposed district by land use zone, and Table 2-2 presents a summary of these same properties by current use. These data were abstracted from the detailed census records, and are current as of the summer of 1988. Appendix C is a printout of the census records. It should be noted that the total gross land area in the proposed district is approximately 1,300 acres. The aggregate parcel area totals just over 1,200 acres, over 92 percent of the gross land area. Thus, less than 8 percent of the land area is Town right-of-way (primarily roads). This proportion appears to be appropriate in view of the relatively large parcel sizes prevalent in the District.

TABLE 2-1
SUMMARY OF PARCEL AREA BY LAND USE ZONE

Zone	Number of Census records	Area (ac.)	Percent of total area
Single-family residentia (S-F or RR-3)	1 29	107.0 (77% vacant)	9
Multi-family residential (M-F or M-F-P)	290	294.03 (17% vacant)	25
Commercial (C-C, C-B, N-C or P-D)	863	464.65 (30% vacant)	39
Community Facilities (C-F)	51	141.6 (33% vacant)	12
Industrial (I-S)	41	180.3 (57% vacant)	15
TOTALS	1291	1207 (36% vacant)	100

Table 2-1 shows that less than 10 percent of the parcel area in the proposed district is zoned exclusively for single-family uses. Indeed, some of the parcel area included in the single-family zone category represents parcels lying partly within a non-residential zone.

Another point of note in Table 2-1 is the large proportion (over one third) of vacant land in the proposed district. A substantial portion of each zone is currently vacant, and much of this land could possibly be developed, according to the General Plan.

Institutional uses include schools, churches, and other community facilities, principally those included in the C-F Zone. Industrial uses include several light manufacturing facilities within the Town.

TABLE 2-2
SUMMARY OF PARCELS BY USE

	Census		No. of		Area,	Percent
Use	Records	%	EDU's	%	acres	of total
Residential						
Single-family	402	31	402	15	265	22
Multi-family	92	7	973	37	127	11
Subtotal	494	38	1375	52	392	33
Commercial						
Restaurants	39	3	276	11	19	1.5
Motels	10	1	57	2	7	<1
Other	427	33	642	24	213	17.5
Subtotal	476	37	975	37	239	19
Institutional	61	5	293	11	125	10.5
Industrial	13	1	15		18	1.5
Vacant	247	19			432	36
TOTALS	1291	100	2658	100	1207	100

Table 2-2, in comparison with Table 2-1, shows that the existing uses relate well to the zoning. Coincidentally, the land area currently in residential use (single-family and multi-family combined) is almost equal to the land area zoned for residential use (SF, MF, MFP, RR3 combined). However, over 95% of the parcel area in single-family use within the proposed district is located in zones other than land zoned specifically for single-family use.

Calculation of Equivalent Dwelling Units (EDU's)

The same criteria were used to relate Equivalent Dwelling Units (EDU's) to wastewater generation as in the Phase II report, adjusted as necessary for individual parcels to account for probable wastewater contribution. As part of the census data gathering, Town staff examined water consumption records for numerous businesses and institutions. The consumption records for the winter months of 1987-88 were utilized to check the assumptions regarding wastewater generation in the Phase II report [4], and to establish flow rate criteria for identifiable types of businesses. In general, flow rates during the non-irrigation season, representing wastewater contribution, were found to be the same or somewhat lower than what was assumed in the Phase II report. The values for unit flow rates as developed from water consumption data are presented in Table 2-3. Wastewater strength was not included in the EDU formulas because of the small number of connections having higher than residential strength.

TABLE 2-3
UNIT FLOW RATE DESIGN VALUES

Type of use	Unit	Average daily flow (gallons/day)
Single family residence	Residence	175 (= Equiv. Dwelling Unit)
Duplex, mobile home or multi-unit up to 6	Residence	175
Restaurant	Seat	17.5 [also calc. from water use]
Motel	Business	[calc. based on water usage]
Laundromat	Business	[calc. based on water usage]
School	Student	7.5
Multi-family	Unit	133 for more than 6 units on parcel
All other	Parcel	87.5 min. [calc. based on water usage]

An estimate was made of the number of EDU's applicable to each parcel record in the census database. Table 2-2 presents a summary of the results. The current total average daily flow estimated from the proposed district is 0.465 million gallons per day (mgd). Single-family uses contribute 15 percent of this, while the contribution of multi-family and commercial uses is equal at 37 percent each. The commercial contribution is quite high in relation to land area, amounting to 3.9 EDU's per acre compared with the average for the entire district (based on aggregate parcel area and including vacant property) of 2.1 EDU's per acre.

For the purpose of calculating flows during the rainy season, it was assumed that infiltration/inflow would contribute 100 gallons per day per connected acre initially, and 200 gallons per acre per day counting the gross acreage in the district at buildout condition in the future. Infiltration/inflow accounts for stormwater entering the collection system from illegally connected rainwater leaders, storm drain cross-connections, submerged and leaking manhole covers, and leaking building sewers, collector sewers, and trunk sewers. The initial value of infiltration/inflow assumed for the analysis was 77,500 gpd during the rainy season (170 days per year), and the design value at buildout assumed was 260,000 gpd for 170 days per year.

Projection of Future Equivalent Dwelling Units and Flow

The collection system is designed for the flow expected from the area within the district boundary shown on Figure 2-1, at the level of development expected at buildout conditions. To determine this flow, the same per-acre estimates of flow rate appropriate to the different zones in the district were used as in the Phase II Report [4]. In particular, multi-family residential zones were assumed to generate 1,330 gpd per acre average dry weather flow, and commercial and industrial zones were assumed to generate 2,000 gpd per acre average dry weather flow. Under these assumptions, future flow expected from the district was calculated to be 1.23 mgd. An additional 250,000 gpd

was allowed for future connections from areas outside the district boundary, such as from multi-family developments experiencing failing septic systems. The ultimate total EDUs for which the collection system is to be designed is therefore 8,400.

Septage Quantity and Characteristics

The Neal Road Landfill presently accepts approximately 4 million gallons of septage per year, approximately 2 million gallons per year from Paradise Ridge and the remainder from other areas in northern Butte County. The amount from Paradise Ridge will be reduced somewhat when the proposed collection system is constructed and the septic tanks in the district are abandoned, but increased somewhat when an on-site management district is formed including mandatory pumping frequencies for tanks in the district. On balance, it was assumed that the amount of septage received at the new treatment plant would initially be the same as that now received at the Neal Road Landfill from Paradise Ridge, or 2 million gallons per year, assuming that the remainder of the septage would be discharged to the Chico Wastewater Treatment Plant as is now planned. In the future at buildout conditions, it was assumed that 4.5 million gallons per year would be received at the new treatment plant. As in the Phase II Report, the septage was assumed to have a 5-day Biochemical Oxygen Demand (BOD5 or BOD) of 7,000 milligrams per liter (mg/l) and a Suspended Solids (SS) of 15,000 mg/l.

Table 2-4 presents the current assumed wastewater, infiltration/inflow and septage flows expected, and the allowance for future flows, in the initial increment of construction for the treatment plant and reclamation facilities. It also presents the corresponding flows at buildout conditions.

TABLE 2-4
DESIGN FLOW RATES

Source	CURRENT EDUs	CONDITIONS Flow	BUILDOU EDUs	T CONDITIONS Flow
	2503	mg d	2003	mgd
Resid. equiv. in district	2659	0.4654	7000	1.2276
Septage		0.0055		0.0124
Infiltration/inflow		0.0775		0.2600
Future capacity	1723	0.3016	1430	0.2500
TOTALS	4382	0.8500	8430	1.7500

Sewer Design Criteria

Sewers were designed to flow 0.8 full at capacity. Manning's "n" for open-channel hydraulics was taken to be 0.013. Minimum slope was 0.005 ft/ft for 6-inch sewers, 0.004 ft/ft for 8-inch sewers, and 0.0028 for 10-inch sewers.

Influent and Effluent quality criteria

Domestic sewage was assumed to contain 350 mg/l BOD and 400 mg/l SS. Because the ultimate disposal of treated wastewater effluent will be as reclaimed water, the level of treatment is gauged to the type of reclamation use. Table 2-5 presents the level of treatment required under the State Department of Health Services Title 22 wastewater reclamation regulations for the various possible uses of reclaimed water. In order to maximize the options for use of the reclaimed water considering the present uses of the property on which reclamation will be practiced (see Chapter 4), the level of treatment proposed is advanced secondary treatment, with the BOD and SS of the secondary treated effluent less than 10 mg/l, and the secondary effluent coagulated, clarified and filtered to less than 2 turbidity units and disinfected to less than 2.2 Maximum Probable Number (MPN) per 100 ml. At this level of treatment, the reclaimed effluent is suitable for unrestricted irrigation of food crops. unrestricted recreational impoundments, and irrigation of parks and playfields. It may also be suitable for off-site surface discharge if diluted with a sufficient flow of surface water.

1.

TABLE 2-5

CALIFORNIA WASTEWATER RECLAMATION CRITERIA

1			RE	CLAIMED W	ATER QUALI	TY
)			COLI	FCRM		
- 1			(MPN/1	OOML)	TURBI	YTIC
REC	LAIMED WATER USE	TREATMENT REQUIREMENTS	Average	Maximum	Average	Maximum
1.	Irrigation				3	
	Food Crop Irrigation	ę.				
	Spray	Oxidized, Coagulated, Clarified, Filtered and Disinfected	2.2	23	- '	-
	Surface	Oxidized and Disinfected (Primary for Orchards and Vineyards. No Fruit Contact.)	2.2	-	-	-
}	Fodder, Fiber and Seed Crops					
}	Spray or Surface	Primary	-	; =	-	-
	Pasture Irrigation for Milking Animals	Oxidized and Oisinfected	23.0	-	-	-
	Landscape Irrigation (Golf Courses, Cameteries, Freeways with Limited Public Access)	Oxidized and Disinfected	23.0	240	-	-
	(Parks, Playgrounds, and General Public Access	Oxidized, Coagulated, Clarified, Filtered, and Disinfected	2.2	23	2	5
11.	Impoundments					
	Recreation (Non-Restricted)	Oxidized, Coagulated, Clarified, Filtered, and Disinfected	2.2	23	2	5
	Recreational (Restricted)	Detpennical box besible Oxidized	2.2	-	-	-
Ì	Landscape	Oxidized and Disinfected	23.0	-	-	-
J. 11.	Groundwater Recharge					
	Comestic Water Supply Aquifers by Surface Spreading	Case by Case Recommendations Based on Treatment Provided, Effluent Quality and Quantity, Spreading Area Operations, Soil Characteristics				
1.		Hydrogeology, Resident Time and				

Distance to Withdrawal

NOTES: 1) Definitions Based on Title 22, Div. 4 of California Administrative Code (1977 Revisions).

²⁾ Primary Treatment to Provide an Effluent Settleable Solids of Less Than 0.5/ML/Hour.

Cost-effectiveness Evaluation Criteria

Cost-effectiveness evaluations were made on an annualized cost basis considering capital expenditures and operation/maintenance expenditures. The alternative with the lowest annualized cost was considered cost-effective. Table 2-6 presents the parameters used in the calculations of annualized costs. It should be noted that the analysis period is a value chosen somewhat arbitrarily, and is used only for the purpose of calculating the equivalent annual cost for the cost-effectiveness analysis. It is not necessarily related to other significant time periods regarding the facilities or their financing, such as the economic life of particular facility components or the assessment bond amortization period.

TABLE 2-6

ANNUALIZED COST PARAMETERS

Analysis period

15 years

Discount rate

10%

Cost basis

current (1988) at ENR 4470

Differential power cost

inflation factor

3% in excess of general inflation

Economic life of facilities:

Pipelines, embankments,

major structures

50 years

Other equipment

15 years

Reservoir Design Criteria

Table 2-7 gives the precipitation and evaporation data assumed for reservoir sites under consideration for this study, for the average year, once in 10 year, and once in 100 year cases. According to Central Valley Regional Water Quality Control Board staff, as long as the reclaimed water entering the reservoir has had advanced secondary treatment and disinfection, a discharge from the reservoir on a once in 10 year basis during the non-irrigation season would be acceptable. Otherwise, the reservoir must be designed to hold the reclaimed water and net of runoff and evaporation up to the 100 year season.

For the purpose of determination of runoff quantities, all rainfall except that falling on the reservoir surface was assumed to be discharged to the reservoir with a runoff coefficient of 0.85. This value is on the high end of possible values, and is chosen to be representative of the thin soils prevalent in the catchment area and their saturated condition during periods of prolonged rainfall. Further hydrological analyses would be required to establish this value with greater certainty.

ABLE 2-7

EFFLUENT STORAGE RESERVOIR SITE PRECIPITATION/EVAPORATION (INCHES)

	PRECIP. @ SITE PREC = MEAN	YR. SITE	AVE. CLASS A PAN EVAP. @	MEAN PRECIP.	10 YR. PRECIP.	MEAN PRECIP. 10 YR. PRECIP. 100 YR. PRECIP.
9.04 7.92 11.88 8.09 6.64 9.97 6.51 5.35 8.03 4.07 3.34 5.01 1.55 1.28 1.88 0.65 0.53 0.80 0.07 0.06 0.09 0.16 0.13 0.20 0.55 0.45 0.68 2.79 2.29 3.44 b.13 5.03 7.55 8.5 6.98 10.47			UKUVILLE UAM*	LESS EVAP.	LESS EVAP.	LESS EVAP.
8.09 6.64 9.97 6.51 5.35 8.03 4.07 3.34 5.01 1.55 1.28 1.88 0.65 0.53 0.80 0.07 0.06 0.09 0.16 0.13 0.20 0.55 0.45 0.68 2.79 2.29 3.44 6.13 5.03 7.55 8.5 6.98 10.47		14.25	-3.40	4.52	8.48	10.85
6.51 5.35 8.03 4.07 3.34 5.01 1.56 1.28 1.88 0.65 0.53 0.80 0.07 0.06 0.09 0.16 0.13 0.20 0.55 0.45 0.68 2.79 2.29 3.44 6.13 5.03 7.55 8.5 6.98 10.47 1		11.96	-1.45	5.24	8.52	10.51
4.07 3.34 5.01 1.55 1.28 1.88 0.65 0.53 0.80 0.07 0.06 0.09 0.16 0.13 0.20 0.55 0.45 0.68 2.79 2.29 3.44 6.13 5.03 7.55 8.5 6.98 10.47 1	8.03	9.62	-0.76	4.59	7.27	8.86
1.55 1.28 1.88 0.65 0.53 0.80 0.07 0.06 0.09 0.16 0.13 0.20 0.55 0.45 0.68 2.79 2.29 3.44 6.13 5.03 7.55 8.5 6.98 10.47 1	5.01	6.02	-0.79	2.55	4.22	5.23
0.65 0.53 0.80 0.07 0.06 0.09 0.16 0.13 0.20 0.55 0.45 0.68 2.79 2.29 3.44 b.13 5.03 7.55 8.5 6.98 10.47 1	1.88	2.29	-1.27	0.01	0.61	1.02
0.07 0.06 0.09 0.16 0.13 0.20 0.55 0.45 0.68 2.79 2.29 3.44 6.13 5.03 7.55 8.5 6.98 10.47 1	0.80	96.0	-2.29	-1.76	-1.49	-1.33
0.16 0.13 0.20 0.55 0.45 0.68 2.79 2.29 3.44 6.13 5.03 7.55 8.5 6.98 10.47 1	0.09	0.10	-3.43	-3.37	-3.34	-3.33
0.55 0.45 0.68 2.79 2.29 3.44 6.13 5.03 7.55 8.5 6.98 10.47 1	0.20	0.24	-5.18	-5.05	-4.98	-4.94
2.79 2.29 3.44 6.13 5.03 7.55 8.5 6.98 10.47 1	0.68	0.81	-6.60	-6.15	-5.92	-5.79
6.13 5.03 7.55 8.5 6.98 10.47 1	3.44	4.12	-7.95	-5.66	-4.51	-3.83
8.5 6.98 10.47	7.55	90.6	-7.37	-2.34	0.18	1.69
		12.57	-5.43	1.55	5.04	7.14
1 48.71 40.00 60.00		72.00	-45.92	-5.92	14.08	26.08
Total Nov. thru May				16.12	34.32	45.30

* Precip. & Evap. data from Ref. (6).

Table 2-8 gives the mean discharge measured for Butte Creek at the gaging station immediately downstream of its confluence with Little Butte Creek. These data were taken from Table III-10 in Reference [4], and are used in the analysis of the non-reclamation alternative for wastewater effluent in Chapter 4.

TABLE 2-8
FLOW IN BUTTE CREEK BY MONTH

Month	Mean	Discharge	in	CFS
January		262		
February		550		
March		621		
April April		545		
May		566		
June		245		
July		152		
August		160		
September		109		
October		115		
November		126		
December		118		

CHAPTER 3

COLLECTION SYSTEM ALTERNATIVE ANALYSIS

BACKGROUND

The 1985 Phase II Wastewater Management Plan report [4] included an alternative analysis comparing a conventional gravity raw sewage collection system with a small-diameter gravity (SDG) septic tank effluent collection system for the central Paradise area. The conventional gravity system was recommended as the more cost-effective.

As part of the feasibility analysis for the proposed Central Area Assessment District, the Town of Paradise has requested that the septic tank effluent collection system be re-evaluated. This chapter presents the requested analysis.

DEVELOPMENT OF ALTERNATIVES

Golf Course Reclamation Preliminary Analysis

The Tall Pines Golf Course and about 40 acres nearby on Clark Road are owned by Paradise West, a joint venture of Sacramento Savings and Community Development Construction, Inc. The joint venture is planning a multi-unit residential development and hotel complex on these sites. In late 1987, a study was conducted to evaluate alternatives for wastewater treatment and disposal. A wastewater reclamation plant with summertime irrigation of the golf course was identified as feasible. At that time, however, the only feasible wet-season alternative was storage of treated effluent in an on-site reservoir. Construction of the reservoir proved to be quite costly.

Another wet-season disposal alternative was subsequently identified. This alternative involved rapid infiltration of filtered wastewater effluent into the soil through a network of buried perforated pipes. This concept met with the tentative approval of the Central Valley Regional Water Quality Control Board staff, and rendered the reclamation alternative feasible from a construction cost standpoint.

The Town of Paradise also expressed interest in evaluating the usefulness of a reclamation plant at the golf course to serve the Easy Street Industrial Park development just south on Clark Road. As part of the general analysis of wastewater collection and treatment alternatives for the proposed Central Area Assessment District, the Town directed the preparation of an analysis of subalternatives involving the possibility of constructing and operating a 250,000 gallon per day satellite reclamation plant at the golf course.

Alternatives developed and evaluated included:

Alternative GC-A - Golf Course Reclamation Plant, year-round operation.

Alternative GC-B - Summer irrigation of golf course with reclaimed water pumped from main plant.

<u>Alternative GC-C</u> - Golf Course Reclamation Plant, summer operation, with winter flows pumped to main plant.

<u>Alternative GC-D</u> - No reclamation. Golf Course irrigated with water purchased from Paradise Irrigation District (PID).

The results are summarized in Table 3-1. Alternative GC-D is favored over Alternatives GC-A and GC-C by a large margin. Alternatives GC-A and GC-C are fairly comparable, and Alternative GC-B is by far the most expensive.

Besides cost-effectiveness, the following factors also bear on the analysis.

Although Alternative GC-D is the lowest in annualized cost, Alternative GC-A could be implemented somewhat sooner. This may be of benefit considering the timing of development plans for both Paradise West and the Industrial Park.

The reclaimed water produced under Alternatives GC-A or GC-C has some value as a supplement to the current supply of water available from Paradise Irrigation District (PID). Indications from the District are that additional source development and increased rates would both probably have to occur before additional water could be purchased. The assumption made in this analysis was that 140 acre-feet per year would be applied to the golf course. This is a small portion of the current average 8,000 acre-feet per year sold by PID. Furthermore, it was assumed that the current PID rate of \$100 per acre-foot would double in the future. The total cost to society to provide reclaimed water can be calculated by subtracting the annualized cost of Alternative GC-D, less the amount included for purchase of PID water, from the annualized cost of the next cheapest, Alternative GC-A, and dividing the difference by 140 acre-feet per year. This cost is over \$700 per acre-foot. Looking at the situation another way, reclamation plant construction would have to be between \$500,000 and \$600,000 lower in order for the cost of producing the reclaimed water to be comparable to the purchase price of PID water.

In the absence of compelling reasons to build a reclamation plant, it is apparent that all wastewater should be conveyed to the central treatment plant as in Alternative GC-D. Compelling reasons might include the desirability of early development in the lower Clark Road area requiring wastewater treatment and disposal, whereby Alternative GC-A would be implemented, or the inability to purchase the required golf course irrigation water from PID, whereby either Alternative GC-A or GC-C would be implemented, depending on the timing of availability of the central treatment plant.

TABLE 3-1

GOLF COURSE RECLAMATION ALTERNATIVE ANALYSIS

Alternative item Note	Cost (\$K) L	ife (Yr)	Int. (%)	Factor A	nn. Cost(\$K/yr)
GC-A - Year-Round Ope		Course	Ü	1,2,	
Equipment Other Cap. Power Other O&M	1,351.2 901.2 31.7/yr 89.1/yr	15 50 	10 10 13	.1315 .1009 1.2719 1.0000	177.6 90.9 40.3 89.1
Total (Rounded)					398
GC-B - Pump Reclaimed	Water from Ma	in Plant			
Equipment Other Cap. Power Other O&M	1,351.2 1,496.4 54.8/yr 93.6/yr	15 50 	10 10 13	.1315 .1009 1.2719 1.0000	177.6 150.9 69.7 93.6
Total (Rounded)					492
GC-C - Summer Operati	on of Golf Cour	se Reclar	nation		
Equipment Other Cap. Power Other O&M	1,756.8 284.4 38.6/yr 94.8/yr	15 50 	10 10 13	.1315 .1009 1.2719 1.0000	231.0 28.7 49.1 94.8
Total (Rounded)					404
GC-D - No Reclamation					
Equipment Other Cap. Power Other O&M Water purchase	1,021.2 122.4 38.3/yr 93.6/yr 28.0/yr	15 50 	10 10 13 	.1315 .1009 1.2719 1.0000 1.0000	134.3 12.3 48.7 93.6 28.0
Total (Rounded)					317

NOTES:

- 1. 0.13147 = Capital Recovery Factor, 10%, 15 yr.
- 2. 0.10086 = Capital Recovery Factor, 10%, 50 yr.
- 3. 3% added to power cost rate due to assumed power cost inflation 3% greater rate than inflation.
- 4. 1.27194 = Compound Amount Factor, 13%, 15 yr. times Sinking Fund Factor, 10%, 15 yr.
- 5. Construction cost with 20% contingency included.

Collection System Alternatives

Using the USGS topographic maps, the Assessor's Parcel Maps, and information from the 1985 plan [4], a gravity collection system was laid out from the northern boundary of the planned Assessment District at Wagstaff to the currently planned location of the wastewater treatment plant on Neal Road at Elliot Spring. The layout is presented on Figure 2-1. When developing profiles of the major trunk lines, it was discovered that wastewater from the Clark Road area north of Buschmann could flow by gravity west along Buschmann into the Skyway trunk via an inverted siphon. This allowed planning a smaller pump station for lower Clark Road than originally shown in the 1985 plan.

Wastewater flows from the currently planned collection area were estimated based on census data provided by the Town of Paradise Planning Department, using the flow rate per acre assumed in the 1985 report for commercial and industrial areas. Unit counts were made for multi-family developments, and small lots currently in single family use were assumed to remain in that use. The ultimate wastewater flow rate is estimated to be 1.5 million gallons per day (mgd) Average Dry Weather Flow (ADWF). See Chapter 2. Applying a standard peaking factor and an allowance for wet season infiltration/inflow, the Peak Wet Weather Flow (PWWF) capacity of the conventional gravity sewer system would be 2.4 mgd, and the PWWF capacity of the small-diameter gravity septic tank effluent collection system would be 1.8 mgd.

The lines were sized for self-cleaning velocities at minimum flow, and the lines were assumed to flow 0.8 full at PWWF. In general, lines needed to be one pipe size smaller for the small-diameter gravity system than for the conventional gravity system.

Due to the generously sloping topography of both the Skyway and Clark Road collection areas, a gravity collection system was considered more appropriate than a system employing individual pumps, either raw sewage grinder pumps or septic tank effluent pumps. During the sewer layout work, it was noted that there were several parcels best served with individual pumps in order to avoid long reaches of gravity sewer placed in easement along back lot lines or across the middle of parcels. Also, several small pump stations were necessary, as well as the larger Lower Clark Road pump station. The system capacity was calculated assuming there would be no reclamation plant at the Tall Pines Golf Course.

Where possible, gravity lines were located in public right of way. Where this was not possible, the lines were routed along a private driveway or street, and when absolutely necessary, lines were routed along property lines. In no case were lines run across the middle of properties.

The existing sewers and laterals installed under Skyway Assessment District No. 1 in 1974 were all incorporated into both gravity systems. The existing construction was accounted for in the quantity takeoffs.

ANALYSIS OF ALTERNATIVES

Tables 3-2 and 3-3 present the estimated construction cost and annual operation and maintenance costs of the conventional gravity sewers and the small-diameter gravity septic tank effluent sewers, including the cost of easements. The unit prices for construction of sewers were estimated from

recent bid prices for projects paying state prevailing wages, and include incidental items such as manholes, air and vacuum release valves, and tees for laterals. Costs are in 1988 dollars, ENR 4470. An allowance was made for repairs and replacements to septic tanks required if the SDG system were constructed, but no allowance was made for installation of new septic tanks that would be required for future service connections to the SDG system, nor for abandoning septic tanks and constructing building sewers to connect to a conventional system.

As shown in Table 3-4, the two gravity collection system alternatives have nearly the same annualized cost, although the construction cost of the SDG system is less.

Referring to Table 3-3, the \$1,000,000 allowed for septic tank repairs and replacement during construction of the SDG system will be paid for by each affected property owner, and will not be part of the costs to be funded by the planned Assessment District. Thus, it could be argued that from the point of view of the planned capital requirement of the district, the SDG system should be built. Opposing this argument, though, is the consideration that the assessment spread will not account for the extra costs to be borne by some properties to obtain the same benefit. Those properties required to repair or replace septic tanks might justifiably protest their assessment as inequitable relative to others in the district. Furthermore, the total construction cost incurred by both present and future ratepayers is likely to be more for the SDG system if the cost of future septic tanks is considered.

The major noneconomic factor affecting the comparison of the two collection system alternatives is the relative ease of maintenance of the systems. date, SDG systems have all been constructed in predominately residential areas, and no SDG systems to our knowledge have been designed for commercial areas. Commercial septic tanks are on the average much larger and require pumping much more frequently than residential septic tanks. It is harder to place the commercial tanks on a regular pumping schedule because of the varying loads they accept. In the case of food service establishments, the septage collected from the tanks is likely to contain more grease and other difficult to handle solid material than residential septage. Furthermore, pumping septic tanks will require entry onto private property, necessitating maintenance of a Right of Entry agreement for every property. Pumping of some tanks will require excavation and restoration of landscaping. By contrast. maintenance of conventional gravity systems includes regular inspection, and flushing or rodding when necessary, all accomplished on public right of way or permanent easement. In either case, maintenance of a few pump stations will be necessary.

CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented herein, the recommendation of the 1985 plan appears to be still valid, and therefore the conventional gravity system should be constructed. It should be noted that in the future, residential areas can still connect to the gravity system with septic tank effluent pumps and small diameter force mains should connection of these areas prove necessary or desirable.

TABLE 3-2

CONVENTIONAL GRAVITY SEWER COLLECTION SYSTEM COSTS

Item	Quantity	/ Unit	Unit \$	Extension, \$K
A. CONSTRUCTION COST				
4" Force Main	5,400	LF	10	54
6" Sewer	61,700	LF	30	1,851
6" Force Main	6,000	LF		90
8" Sewer	42,400	LF	35	1,484
10" Sewer	13,600	LF	45	612
12" Sewer	17,500	LF	48	840
Lateral Sewers	17,500	LF	20	350
Indiv. Pumps	57	EΑ	6,000	342
Small Pump Station	4	EA	40,000	160
Medium Pump Station	1	EA	75,000	75
Inverted Siphon	1		20,000	20
Permanent Easement	272,000		0.25	68
Temporary Easement	470,000	SF	0.05	28
TOTAL CONSTRUCTION				5,974
B. OPERATION AND MAINT	ENANCE CO	ST		
Sewer Maintenance	151,000		0.20/yr	30/yr
Pump Maintenance	57	EA	50/yr	3/yr
Pump Station Maint.	5	EA	6000/yr	30/yr
Pump Station Power	187,500	kwn/yr	0.08/Kwh	15/yr
TOTAL O&M				78/yr

TABLE 3-3
SDG SEWER COLLECTION SYSTEM COSTS

Item	Quantit	y Unit	Unit \$	Extension, \$K
A. CONSTRUCTION COST				
3" Force Main 4" Sewer	5,400 61,700	LF LF	8 20	43 1.230
4" Force Main	6,000	LF	10	60
6" Sewer	42,400	LF	23	975
8" Sewer	13,600	LF	30	408
10" Sewer	17,500	LF	45	788
Lateral Sewers	17,500	LF	18	315
Septic Tank Replacement		EΑ	2,000	1,000
Individual Pumps	57	EΑ	Market State Control of the Control	114
Small Pump Station	4	EΑ		140
Medium Pump Station	1	EA		65
Inverted Siphon	1	EA		15
Permanent Easement	272,000			68
Temporary Easement	470,000	SF	0.05	24
TOTAL CONSTRUCTION				5,245
B. OPERATION AND MAINT	ENANCE CO	OSTS		
Sewer Maintenance	151,100		0.10/yr	15/yr
Septic Tank Pumping		EDU/yr		167/yr
Pump Maintenance	57	EA	20/yr	1/yr
Pump Station Maint.	5	EA	5000/yr	25/yr
Pump Station Power	102,500	Kwn/yr	0.08/Kwh	13/yr
TOTAL 0&M				221/yr

TABLE 3-4

COMPARISON OF COLLECTION SYSTEM ALTERNATIVES

Alternative item	Cost (\$K) Li	fe (Yr) Int.	(%)	Factor	Ann. Cost(\$K/yr)
Note (See Table 3-	-1) 5		3	1,2,4)
COL-A - Conventional Gravity Sewers					
Equipment	602.4	15	10	.1315	79.2
Other Capital	6,445.9	50	10	.1009	650.1
Power	15.0/yr		13	1.2719	19.1
Other O&M	63.0/yr			1.0000	63.0
Total (Rounded)					810
COL-B - Small Diameter Gravity Septic Tank Effluent Sewers					
Equipment	382.8	15	10	.1315	50.3
Other Capital	5,834.6	50	10	.1009	588.5
Power	13.0/yr		13	1.2719	16.5
Other O&M	208.0/yr			1.0000	208.0
Total (Rounded)					860

CHAPTER 4

WASTEWATER AND SLUDGE TREATMENT AND DISPOSAL ALTERNATIVE ANALYSIS

INTRODUCTION

The 1985 Phase II Wastewater Management Plan Report [4] included an alternative analysis comparing various wastewater treatment processes. The recommended plan was to utilize aerated lagoons for wastewater treatment, with septage and sludge to be treated at another site.

The purpose of this Chapter is to update the 1985 analysis considering the current options available for treatment plant and reclamation siting, current costs, and adding the Sequencing Batch Reactor and oxidation ditch "boat" clarifier to the analysis. An economic analysis is presented to establish the cost-effectiveness of using reclaimed wastewater effluent for irrigation and other beneficial uses versus a non-reclamation alternative.

Also, this Chapter contains an analysis of the feasibility of including hydroelectric energy recovery in the reclamation program.

BACKGROUND

In the 1985 Plan, it was assumed that the wastewater treatment plant would be constructed on a site just south of the Town limit near Wayland and Foster Roads, and that sludge and septage would be lagooned on land purchased by the Town for reclamation purposes from the McKnight Ranch interests.

The McKnight Ranch is under new ownership, and it has been decided that the Town will not purchase the land to be used for wastewater reclamation. Also, septage and sludge should be stabilized to maintain the widest range of options for beneficial use and ultimate disposal. The preferred site for the wastewater treatment plant has been changed to avoid impending housing development and to provide easier access for septage haulers. The new preferred site is a portion of the McKnight Ranch property on Neal Road near Elliot Spring. See Figures 5-1 and 5-2. Other sites along Neal Road are physically possible, but the preferred site was chosen due to its distance from present and planned housing development and its relative proximity to the collection system, minimizing trunk line costs.

DEVELOPMENT OF WASTEWATER TREATMENT AND SLUDGE STABILIZATION ALTERNATIVES

Wastewater treatment and sludge stabilization alternatives were developed as coordinated processes all occurring on the same site. Wastewater and sludge treatment alternatives developed were as follows:

Alternative A - Aerated Lagoons. Under this alternative, screened (but not degritted) raw wastewater and septage would be co-treated in a lagoon sized to provide sludge and grit storage. Screening would be employed to remove floatable plastics and other matter not readily treatable in the biological treatment processes following. The screenings would be compacted and hauled to a landfill. Each summer, one lagoon would be taken out of service and the accumulated stabilized sludge allowed to dry before being removed for beneficial use or ultimate disposal. Sludge could also be removed in a semi-liquid or semi-solid state, depending on the form required by the ultimate disposal

arrangement. See Figure 4-1.

The aerated lagoon treatment process is a variation on the extended aeration activated sludge biological treatment process. It does not involve the application of chemicals. Wastewater and solids to be treated enter the lagoon and are thoroghly mixed with aerobic microorganisms (activated sludge) suspended in the lagoon. These microorganisms consume suspended and dissolved organic material, both that in the influent and that remaining from dead activated sludge organisms. Air is dissolved in the water in the lagoon by means of mechanical aerators powered by electricity to supply the microorganisms with the necessary oxygen for their metabolism. Designs normally call for the average hydraulic retention time of liquid in the initial (aerated) lagoon at the design average value of influent flow to be 7 days, followed by another aerated lagoon with an average hydraulic retention time of 7 days, for a total of 14 days. At this value of hydraulic retention time, the wastewater will receive treatment to secondary level (30 milligrams per liter (mg/l) each of BOD and suspended solids), and the nitrogen in the treated effluent will be in the ammonia form.

As wastewater is continuously admitted to the lagoons, a mixture of treated wastewater effluent and activated sludge is pushed into a quiescent area where no mixing occurs. There, the activated sludge organisms settle out and the clarified effluent is decanted and directed to a polishing and flow equalizing pond prior to further treatment or discharge.

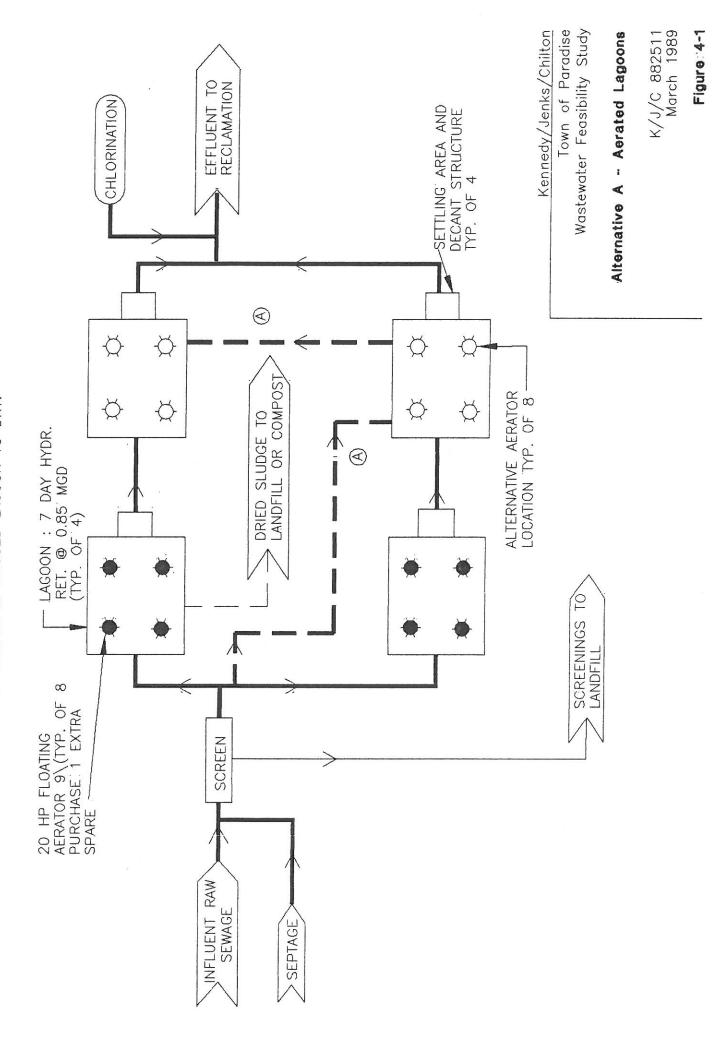
In the aerated lagoon system, it is normal for some portions of the bottom of the lagoon to accumulate solids (sludge) in piles where not enough oxygen is received to sustain activated sludge microorganisms. These piles do, however, support anaerobic microbial life not requiring oxygen for metabolism. The sludge will digest and change in composition over time to a stabilized form that will not putrefy further to a significantly degree.

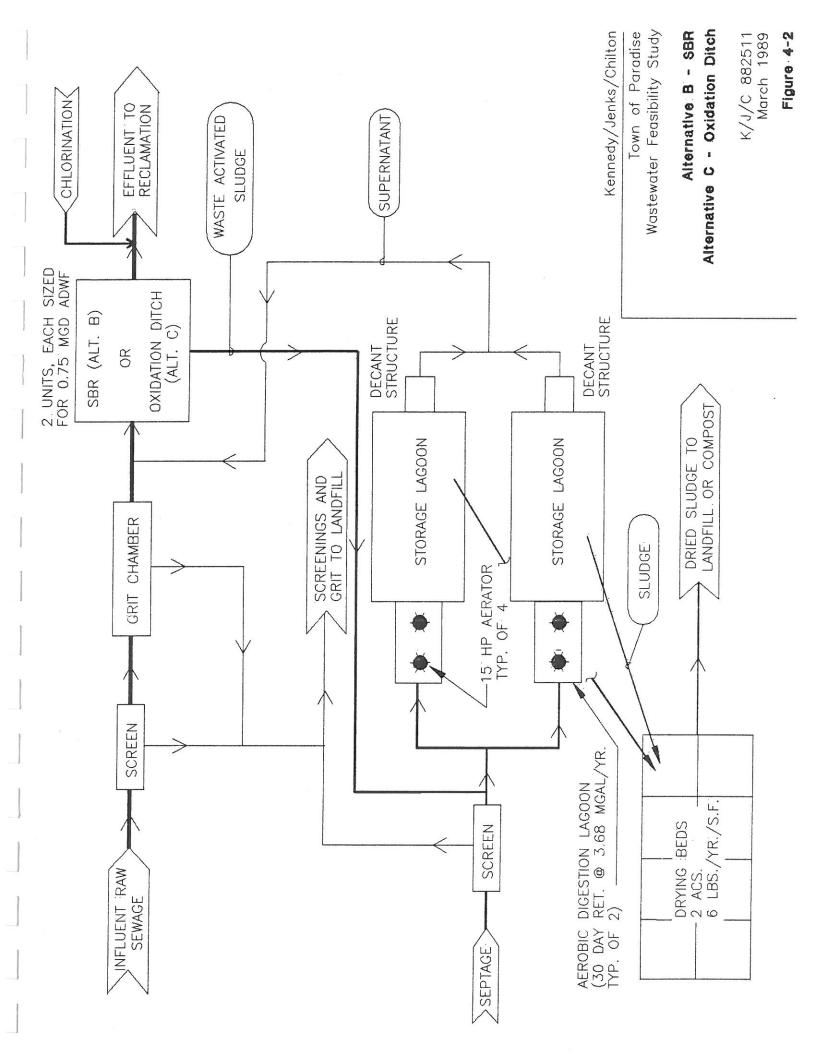
Alternative B - Sequencing Batch Reactor (SBR). A particular variety of SBR, the Intermittent Cycle Extended Aeration System, is evaluated in this alternative, as it was in the Golf Course Reclamation Alternative Analysis in Chapter 3. In this alternative, the raw wastewater would be screened and degritted before biological treatment, and the septage would be screened (but not degritted) at its own headworks before stabilization in an aerobic sludge lagoon. Biological solids wasted from the SBR would be stabilized in the same aerobic lagoon. The stabilized sludge would be stored in another lagoon and either removed in a semi-liquid state or dried in drying beds during the summer season. See Figure 4-2.

Screening of the influent wastewater and septage would be employed for the same purpose and in the same manner as for the Aerated Lagoon, Alternative A. In addition, to prevent buildup of difficult-to-handle solids in the Sequencing Batch Reactor treatment tanks, a small settling chamber would be employed to remove dense granular material (grit). The grit would be dewatered and hauled to landfill along with the compacted screenings.

The Sequencing Batch Reactor is another variation on the extended aeration activated sludge process. The major difference between the SBR process and the aerated lagoon process is that instead of flowing continuously through a sequence of chambers as in the lagoon process, batches of wastewater are treated one by one in a single tank. The various elements of the activated

EXAMPLE OF ALTERNATIVE FLOW PATH UTILIZED DURING SUMMER MONTHS TO ALLW ACCUMULATED SLUDGE IN UNUSED LAGOON TO DRY. (4)





sludge process occur in sequence for each batch, as follows: Influent wastewater enters the SBR tank until the tank is full. Aeration and mixing occur, allowing activated sludge left over from the previous batch to consume dissolved and suspended organic material in the wastewater. After a period of several hours, the air and mixing are turned off and the solid material in the tank is allowed to settle. The clarified effluent is then decanted from the surface and more wastewater is admitted, commencing another sequence.

At the same time that clarified effluent is being decanted from the surface of the SBR tank, a portion of the settled solids is withdrawn from the bottom of the tank, representing the portion of the influent wastewater solids not consumed and the portion of the activated sludge microbial mass grown during the preceding period of aeration. These solids are wasted to an aerated lagoon similar in design to that described under Alternative A, but smaller in volume. The aerated sludge lagoon system also receives screened septage. The combined solids are stabilized by means of aerobic activated sludge microorganisms. The stabilized solids are allowed to settle in the lagoon and the clarified liquid redirected to the SBR system for treatment prior to disposal along with the treated wastewater effluent.

Alternative C - Oxidation Ditch with Boat Clarifier. Under this alternative, an oxidation ditch with internal "boat" type clarifier would be employed for wastewater treatment. All other features of this alternative are the same as Alternative B. See Figure 4-2.

The principle of operation of the Oxidation Ditch is the same as the aerated lagoon, except that the volume of wastewater maintained under aeration is much smaller. Aeration and mixing are both accomplished by rotating brushes, jet aerators, or similar devices which direct the liquid around a racetrack-shaped channel. Because the channel volume is much less than that of an aerated lagoon, the electrical power input required to keep the solids in suspension is less, and the concentration of activated sludge solids in the oxidation ditch is much higher. Because of the necessity to separate clarified effluent from the solids and to maintain the concentration of activated sludge microorganisms in the oxidation ditch, a clarification device is employed which continuously returns the settled solids to the oxidation ditch while decanting clarified wastewater effluent. As in the SBR process, a portion of the settled solids is withdrawn to be stabilized by a separate aerated lagoon system along with the screened septage solids.

Facultative Lagoons as developed in the 1985 Report were not included in the analysis because of the extensive sitework required, the potential for seasonal odor problems, and the requirement for separate septage stabilization and drying facilities.

Features Common to All Alternatives

Common to all alternatives, and not part of the cost-effectiveness analysis, are the following features:

- Land acquisition.
- o Roads, fencing and sitework.
- o Laboratory and office building at site.

- o Three-phase power service to site.
- Emergency generator and automatic transfer switch.
- o Telephone service to site.
- Potable water service at site.
- Automatic telephone dialer for alarm transmittal.

Chlorination facilities employing sodium hypochlorite (bleach) are included for all alternatives under the reclamation element of construction. This system would be used for wastewater effluent disinfection, activated sludge maintenance (anticipated to be required only on an intermittent basis), and prechlorination of influent wastewater and septage if necessary for odor suppression.

The treatment processes were selected from those with proven low maintenance, operational simplicity, and ability to handle varying loads. In particular, anaerobic digestion of septage and sludges was not considered appropriate for this project because of the expense and complication of the facilities and difficulty of operation considering the small amount of methane gas expected to be produced.

The potential for odors and nuisance from each of the alternatives investigated should be minimal and nearly equal. The odors could arise mostly from the lagooning and drying of stabilized sludge. Odors that can arise from operations at the headworks can be dealt with by proper handling of screenings and grit, such as by compacting and bagging them prior to hauling, and by prechlorination of the influent when necessary.

Wastewater effluent would be treated to secondary treatment standards, defined as 30 milligrams per liter (mg/l) each of 5-day Biochemical Oxygen Demand (BOD5) and suspended solids, This would render the effluent suitable for pasture and forage crop irrigation and, with further treatment, for golf course irrigation and other uses. Liquid or partially dried stabilized sludge would be suitable for agricultural application, and stabilized sludge dried to greater than 50% solids content could be utilized as daily cover material at a landfill.

Advanced treatment and disinfection were not included in the basic analyses of secondary treatment process. Advanced treatment and disinfection are treated as part of the analysis of cost-effectiveness of various reclamation alternatives in this chapter.

ANALYSIS OF WASTEWATER TREATMENT AND SLUDGE STABILIZATION ALTERNATIVES

Construction, operation and maintenance costs were developed for the three alternatives. A cost-effectiveness comparison was made among the alternatives by computing annualized costs from the capital and annual expenditures assuming facility lives and interest rates as in Chapter 2.

As shown in Table 4-1, the total annualized cost of Alternative A (Aerated Lagoons) is approximately 10% lower than that of the next more costly, Alter-

Kennedy/Jenks/Chilton

native B (SBR). A combination of high capital cost and high power cost tend to eliminate Alternative C (Oxidation Ditch) from consideration. The higher power cost of Alternative A is offset by lower overall capital cost, especially the savings afforded by not having to construct separate sludge stabilization, storage and drying facilities.

The following non-economic factors also favor Aerated Lagoons over the Sequencing Batch Reactor with separate aerobic sludge stabilization.

- o Operation of the Aerated Lagoons would be simpler. There would be a single headworks receiving septage as well as wastewater. The headworks would employ screening only, and not grit removal. The lagoons themselves would not require as much operator attention as the SBR, and the aerators are much less complex than the SBR machinery.
- o The Aerated Lagoons would have greater resistance to biological process upsets from hydraulic or organic shock loading or from light organic loading during the early years of plant operation, due to their long hydraulic residence time and relatively low concentration of biological solids.
- The lagoons would operate to equalize diurnal influent flow variations. Also, a polishing and equalization pond would follow the treatment ponds, providing further clarification of the effluent. Under these conditions, it would be possible to provide an advanced treatment unit with a constant rate of low-turbidity water.

Based on the alternative analysis presented above, the Aerated Lagoons should be constructed for combined wastewater, septage, and sludge treatment. Staging of construction can occur by providing for construction of three of the four lagoons and installation of eight aerators in the first phase, with the remainder of construction occurring as justified by increased flows.

4-5

TABLE 4-1

COMPARISON OF TREATMENT ALTERNATIVES

Alternative	Item Note	Cost (\$K) 5	Life	(Yr)	Int.	(%) Factor 1,2,4	Ann. Cost	(\$K/yr)
A - Aerated	Lagoons							
Equip Other Power Other	Cap.	389 2,066 74.5/yr 74.0/yr	15 50 		10 10 13	0.13147 0.10086 1.27194 1.00000	51.1 208.4 94.8 74.0	
Total	(Rounde	ed)					430	
B - Sequenci	ng Batch	Reactor						
Equip Other Power Other	Cap.	938 2,160 53.9/yr 87.0/yr	15 50 		10 10 13	0.13147 0.10086 1.27194 1.00000	123.3 217.9 68.5 87.0	
Total	(Rounde	d)					500	
<u>C - Oxidatio</u>	n Ditch							
Equip Other Power Other	Cap.	1,238 3,030 91.9/yr 87.0/yr	15 50 		10 10 13	0.13147 0.10086 1.27194 1.00000	162.8 305.6 116.9 87.0	
Total	(Rounde	d)					670	

NOTES:

- 1. 0.13147 = Capital Recovery Factor, 10%, 15 yr.
- 2. 0.10086 = Capital Recovery Factor, 10%, 50 yr.
- 3. 3% added to power cost rate due to assumed power cost inflation 3% greater rate than inflation.
- 4. 1.27194 = Compound Amount Factor, 13%, 15 yr. times Sinking Fund Factor, 10%, 15 yr.
- 5. Construction cost with 20% contingency included.

DEVELOPMENT OF ADVANCED TREATMENT AND RECLAMATION ALTERNATIVES

Alternatives were developed for ultimate disposal of secondary treated effluent involving various combinations of reservoir storage during different times of the year, advanced secondary treatment, surface discharge into various watercourses during the non-irrigation season, and beneficial use of reclaimed wastewater effluent. In this section, two of the elements of the alternatives will be described, and then the alternatives themselves will be developed as combinations of these elements and others unique to each alternative. As in the analysis of treatment alternatives above, the costs are based on a project sized for the ultimate wastewater flow, receiving an average of 75% of the ultimate flow rate over the life of the project.

Reservoir Storage Element

Preliminary field work was performed to find feasible reservoir sites on the former McKnight Ranch property in the vicinity of Neal Road. Appendix A describes this field work, and Figure 1 of the report shows three potentially feasible sites. The site with the highest water surface elevation, Neal Road #2, was chosen for further analysis because it offered the widest range of beneficial use locations for reservoir effluent without a pumping requirement.

The embankment for this reservoir would be a maximum of 88 feet in height, and it would be designed and constructed to meet the requirements of the State Division of Safety of Dams (DSOD).

The actual extent of embankment would differ under the various reclamation and ultimate disposal alternatives under consideration. Each alternative description includes the size of any required reservoir and its estimated construction cost.

In the 1985 Phase II Report [4], a hydroelectric generator was planned to recover the head available as the treated effluent was piped down from the treatment plant to the reservoir. A brief check was made in the current study to determine if this concept was still feasible. It was concluded that hydroelectric energy recovery was not feasible for the alternatives now under consideration, for several reasons:

- (1) The buy-back contracts now being offered by Pacific Gas & Electric only pay approximately 2.5 cents per kilowatt-hour for power sold back to the utility, compared with the 8 cents per Kwh assumed in the 1985 report.
- (2) The flow rate of treated effluent now being considered is about half of what was expected in the 1985 report.
- (3) The elevation of the planned Elliot Spring Treatment Plant is at least 300 feet lower than the site proposed in the 1985 report.

Advanced Treatment Element

For some of the alternatives, treatment beyond the secondary level is required. In these cases, further treatment is provided by coagulation, floculation and settling in an adsorption clarifier, filtration of the clarified effluent through dual granular media pressure filters, and disinfection of the filtered effluent by rapid mixing of chlorine (as hypochlorite) followed by a chlorine contact time of two hours.

The State Department of Health Services has approved this process train for production of reclaimed water suitable for unrestricted recreational impoundments, unrestricted food crop irrigation, watering of parks and playgrounds, and other beneficial uses. The treatment process has been shown to produce water with fewer than 2.2 MPN total coliform per 100 ml and near absence of viruses.

The final pond in the treatment pond system is reserved as a polishing and equalization pond. Therefore, the advanced treatment equipment can be sized for average conditions. Any flow which cannot be directed to an out-of-

service unit could be retained in the equalization pond for a period of up to several days if necessary until the unit is put back into service.

Figure 4-3 shows the process flow sheet for the advanced treatment processes. The first unit, the adsorption clarifier, combines the functions of a floc-culation tank and a solids contact clarifier while occupying much less space and being considerably more economical. Coagulant (alum and polymer) is added to the influent secondary treated wastewater to entrap colloidal materials causing turbidity. The adsorption clarifier contains buoyant granular media which adsorb and trap the floc particles. Typically, the rate of flow would be equivalent to 10 gallons per minute per square foot of clarifier area. Periodically, the accumulated solids are flushed out and the slurry directed back to the plant headworks. In the present case, for the ultimate design flow, two units would be required, each occupying a space of about 10 feet square. They would be located inside a building for ease of maintenance during inclement weather.

The pressure filters operate to remove more turbidity from the adsorption clarifier effluent. They operate at 5 gallons per minute per square foot of filter surface. Eight 7-foot diameter filter vessels are required for the ultimate wastewater flow, two of which would be reserved for backflushing or standby service at any time. The filters would be pressurized by two 25-hp feed pumps. Backwash water would be drawn from the product water stream and spent backwash water would be directed to the plant headworks. The filters and controls are supplied as pre-piped, pre-wired skid-mounted units. They would be located inside the same building as the adsorption clarifiers. Gravity filters can also be used for this treatment process.

After filtration, the filtered effluent would be chlorinated while being subjected to intense and thorough mixing. Then the chlorinated effluent flows through a pipe with enough volume so that the contact time in the pipe is at least two hours.

Development of Alternatives

Alternative REC-A - No Reclamation. Under this alternative, all treated water would be discharged indirectly to Butte Creek via subsurface seepage through mine tailings during periods of the year when the discharge would receive greater than 50:1 dilution in Butte Creek at the point of discharge. The dilution of the combined discharge of reservoir contents and treated effluent during the months of January through May would meet this dilution criterion on an average basis. For the months of February through May, average dilution is in excess of 100:1. During the other months of the year when no discharge occurs, the effluent would be stored in a reservoir as described above.

In order to maximize the utility of the reservoir as a recreational asset and minimize potential effects on Butte Creek, the secondary plant effluent would be given advanced treatment as described above. Chlorine contact would occur in a 48-inch diameter pipe 380 feet long located at the Elliott Spring site and further in an 8-inch effluent transport pipeline running down Neal Road to the reservoir site.

The reservoir would be sized to retain the 100-year frequency precipitation during the months of June through December as well as the contribution of advanced secondary treated effluent during that period. The total reservoir

volume required would be 1,000 acre-feet.

From the reservoir, a 15-inch diameter effluent pipeline would be constructed to spreading basins built on placer mining tailings on the west bank of Butte Creek just south of the Highway 99 crossing. At an assumed rate of 10 gallons per day per square foot of spreading basin surface, and allowing for precipitation on the basins, an area of 10 acres would be required. Geotechnical and hydrogeological studies need to be performed to confirm that a rate this high can be sustained for long periods.

Alternative REC-B - 100-Year Reservoir, No Advanced Treatment. Under this alternative, secondary treated effluent from the polishing and equalization pond would be chlorinated and contacted in pipes as described for Alternative REC-A, and directed to a reservoir during the non-irrigation season of the year. The disinfected effluent reaching the reservoir would have a monthly median value of 23 MPN total coliform per 100 ml. At this stage of treatment and disinfection, the reclaimed wastewater is suitable for irrigation of cemeteries, golf courses, freeway landscapes, limited food crops where the water does not come in contact with fruit, and for landscape impoundments (no boating, fishing or swimming). The reclaimed water would receive further dilution from stormwater runoff in the reservoir. During the irrigation season, all reclaimed water would be utilized on the former McKnight Ranch property, with no off-site surface discharge allowed at any time.

The reservoir would be sized to retain the runoff occurring during the once in 100-year high precipitation season along with the accumulated reclaimed water. The required reservoir size in this case is 2,170 acre-feet.

Not included in the cost of this alternative are the capital improvements necessary to make beneficial use of the reservoir contents and the remainder of the year's contribution of reclaimed water during the irrigation season. Under the conditions of the ultimate project, approximately 550 acres would have to be improved for this purpose.

Alternative REC-C - 10-Year Reservoir, Advanced Treatment. This alternative is similar to Alternative REC-B, but is based on allowing a reservoir overflow on the average of once in 10 years during the non-irrigation season, with discharge of the overflow to a streamcourse entering Hamlin Slough and ultimately entering Butte Creek. The feasibility of this alternative is based on a precedent set by the Central Valley Regional Water Quality Control Board in allowing discharges of disinfected secondary treated effluent to watercourses at elevation 1000 ft. or below where the surface water is not used as a source of domestic supply. The feasibility of this approach was confirmed in discussions with RWQCB staff (R. Dykstra telephone conversation with R. Adams, Kennedy/Jenks/Chilton, 26 February 1989).

In order to maximize the utility of the reclaimed water while minimizing potential adverse effects on watercourses or other beneficial uses, advanced treatment was assumed for this alternative, as it was for Alternative REC-A.

The size of reservoir required under this alternative is 1,650 acre-feet.

This alternative is similar to Alternative REC-C, in that no discharge to a surface watercourse is allowed during the irrigation season, and no costs are included for improvement of the approximately 500 acres required for bene-

ficial use of the ultimate wastewater flow.

Alternative REC-D - No Reservoir; Advanced Treatment. The present owners of the McKnight Ranch are not using water in significant amounts on the property at the present time. They have expressed willingness to make beneficial use on a long-term basis of reclaimed water which has received advanced treatment. Furthermore, delivery of reclaimed water at a high elevation maximizes options for the place of use. This alternative was developed in order to minimize the amount of reclaimed water introduced to the McKnight Ranch property considering the present low water use and the expense of facilities required to accomplish beneficial use.

Under this alternative, secondary treated effluent would receive advanced treatment as described above. The filtered water would be chlorinated and the chlorine contact time accomplished in two parallel 72-inch diameter pipes located at the Elliot Spring site. The disinfected reclaimed water would be discharged at the head of Nugen Canyon as a surface flow in the existing stream course. The chlorine residual would dissipate in a short time of travel in the stream course and in high-elevation impoundments through the action of oxygenation. This point of discharge is nearly 5 miles distant from the opposite (west) property line by way of stream courses in Nugen and Hamlin Canyons. During the summer months, beneficial use could be made of the reclaimed water in a series of small impoundments creating a wetland environment. (Note that for the purpose of this analysis, no costs for such impoundments were included.) No reclaimed effluent would be discharged off of the property during the irrigation season.

During the non-irrigation season, the reclaimed water would receive dilution from runoff and surface flows before reaching Hamlin Slough at Highway 99.

The concept of this alternative has the tentative concurrence of Central Valley Regional Water Quality Control Board staff.

Analysis of Alternatives

A cost-effectiveness analysis was prepared on the same basis as used for the collection and treatment alternatives (see Chapter 2). Table 4-2 presents the results. On an annualized cost basis, Alternative REC-D (No Reservoir; Advanced Treatment) is significantly favored over any of the others.

Other factors affecting the choice of alternatives are ease of operation and maintenance, implementability, and flexibility regarding use of treated effluent.

Alternative REC-B has the lowest operation and maintenance cost. However, it is the most restrictive with regard to the potential uses of reclaimed water. It appears to be readily implementable.

TABLE 4-2

COMPARISON OF RECLAMATION ALTERNATIVES

Alternative item Note (See Table		ife (Yr)	Int. (%)	Factor 1,2,4	Ann. Cost (K/yr)
REC-A - No Reclamation	on				
Equipment Other Cap. Power Other O&M	792.0 3,576.0 23.2/yr 95.7/yr	15 50 	10 10 13	.1315 .1009 1.2719 1.0000	104.1 360.7 29.5 95.7
Total (Rounded)					590
REC-B - 100 Yr. Rese	rvoir				
Equipment Other Cap. Power Other O&M	36.0 3,697.2 .0/yr 20.0/yr	15 50 	10 10 13	.1315 .1009 1.2719 1.0000	4.7 372.9 .0 20.0
Total (Rounded)					398
REC-C - 10-Yr. Reserv	voir; Adv. Trea	tment			
Equipment Other Cap. Power Other O&M	792.0 3,432.0 23.2/yr 85.7/yr	15 50 	10 10 13	.1315 .1009 1.2719 1.0000	104.1 346.2 29.5 85.7
Total (Rounded)					565
REC-D - No Reservoir	: Adv. Treatmen	t			
Equipment Other Cap. Power Other O&M	792.0 590.4 23.2/yr 77.9/yr	15 50 	10 10 13	.1315 .1009 1.2719 1.0000	104.1 59.5 29.5 77.9
Total (Rounded)					271

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Alternative REC-A must be studied more before its implementability as described can be ascertained. Also, the idea of discharge adjacent to Butte Creek may be objectionable to area residents. Variations on this alternative are possible, such as transport of treated effluent to the Chico wastewater treatment plant outfall or the Chico storm sewer system. Construction of a transport pipeline to the proposed site of the spreading basins opens up opportunities for beneficial use of the reclaimed water on land nearby, such as the golf course north of Neal Road and west of Highway 99. Because of its relatively high cost and questions regarding implementability, this alternative is not given further consideration in this report.

Alternative REC-C offers advantages over Alternative REC-B in that less restrictions are put on use of the reclaimed water, but these advantages must be balanced against the higher cost of Alternative REC-C. There is a high probability that Alternative REC-C can be implemented without difficulty.

Alternative REC-D is favored by low cost, acceptability to the landowner, and wide flexibility in present and potential beneficial uses of the reclaimed water. The level of operator attention and monitoring of the treatment process, especially the advanced treatment process train, is significantly higher than required for the basic aerated lagoon type secondary treatment process. However, the process units are provided with microprocessor-based control units, and have alarm and status reporting capabilities. These processes have been demonstrated to operate with a high degree of reliability when treating wastewater effluents.

The probability that Alternative REC-D can be implemented without difficulty is affected by the certainty to which acceptable beneficial use arrangements can be agreed upon among the landowner, the Town of Paradise, and the RWQCB. Because of the precedents set, the high degree of treatment provided, and the distance between the point of introduction of reclaimed water and the property line, it is very likely that this alternative can be implemented.

Because of its low annualized cost and acceptable implementability, Alternative REC-D (No Reservoir; Advanced Treatment) is the recommended reclamation alternative.

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CHAPTER 5

RECOMMENDED PLAN

This Chapter contains a description of the proposed special assessment district and the facilities to be constructed for wastewater collection, treatment, and disposal for beneficial use and/or discharge. Construction costs of the recommended project are presented for both the initial increment of construction and the future increment of construction when the treatment capacity needs to be expanded. Operation and maintenance costs, and allowance for replacement reserves, are also presented. See Figure 5-1 for a location plan of the service area, trunk sewer, treatment plant location, and area planned for reclamation of the treated wastewater effluent.

Proposed Central Area Wastewater Assessment District

The geographical area and number of units to be served (present and projected) are as described in Chapter 2. See Figure 2-1 for a detailed map of the proposed district boundaries. In brief, the district boundaries are proposed to encompass the commercial, industrial and multi-family residential areas now existing along the Skyway and Clark Road corridors as far north as Wagstaff. Presently, there are estimated to be approximately 2,700 Equivalent Dwelling Units (EDU's) within the proposed District; that is, the present wastewater flow projection is what would be expected from that number of single-family homes. The system is designed on the assumption that the number of EDU's would more than triple to 8,400 EDU's in the future at buildout conditions.

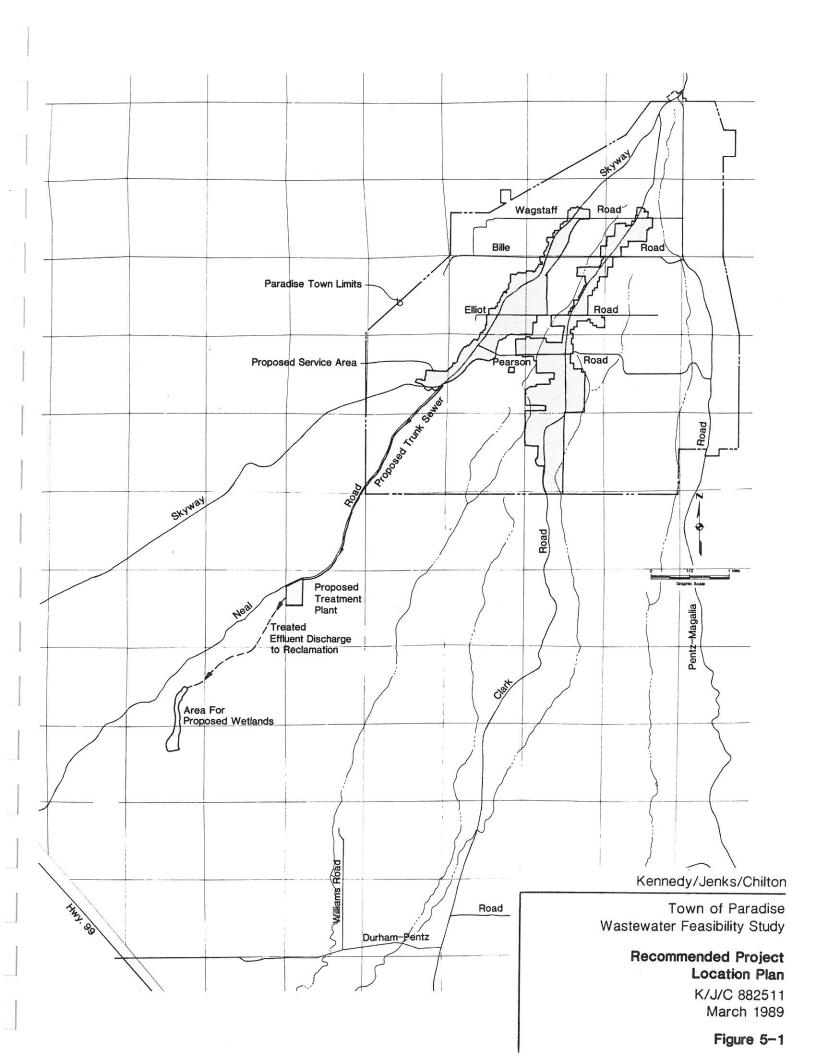
The current average wastewater flow from this area during wet weather conditions is estimated to be 540,000 gallons per day, and the current average wastewater flow during dry weather is estimated to be 460,000 gallons per day.

Wastewater Collection

Collection of wastewater from the Central Area is proposed via a conventional gravity sewer system as described in Chapter 3. See Figure 2-1. Six-inch collector sewers will discharge into 8-inch and 10-inch main sewers. Individual parcels will connect with 4-inch or 6-inch side sewers. The Clark Road system will discharge to a 10-inch diameter trunk sewer near the intersection of The Skyway and Neal Road via a double-barrel 8-inch inverted siphon along the western extension of Buschmann Road. Five small areas not able to be economically served directly by gravity will be provided with package type sewage pump stations. Also, Clark Road south of Buschmann will be served by an 80,000 gallon per day pump station located within the Easy Street Industrial Park. A small number of parcels (estimated at up to 50) will not be able to be served by gravity, and will be provided with individual sewage pumps.

At Skyway and Neal Roads, a 12-inch trunk sewer will collect all wastewater. The trunk will run along Neal Road to the treatment plant site near Elliot Spring. See Figure 5-1.

The cost of the collection and trunk sewer system is presented in Table 3-2. All of this construction is required in the initial phase of work.



Wastewater and Sludge Treatment

Both wastewater from the central area collection system and septage pumped from the remaining septic tanks on Paradise Ridge (including the remainder of the Town of Paradise and other communities north along the ridge) will be received at the treatment plant headworks near Elliot Spring on the south side of Neal Road. See Figure 5-2. After screening, aerated lagoons will treat the combined wastewater and septage utilizing aerobic suspended micro-organisms.

The wastewater will be mixed and aerated for a minimum of 14 days in two stages of aerated lagoons, and then the solid material settled out. Removal of BOD and suspended solids in the lagoons is expected to be 93 to 95 percent, at an organic loading rate of 600 lb BOD per acre per day.

The clarified, stabilized treated effluent will then be given advanced treatment by coagulation with alum and polymer, clarification, filtration through mixed-media filters, and chlorination and chlorine contact prior to being discharged to a streamcourse at the head of Nugen Canyon on the former McKnight Ranch property.

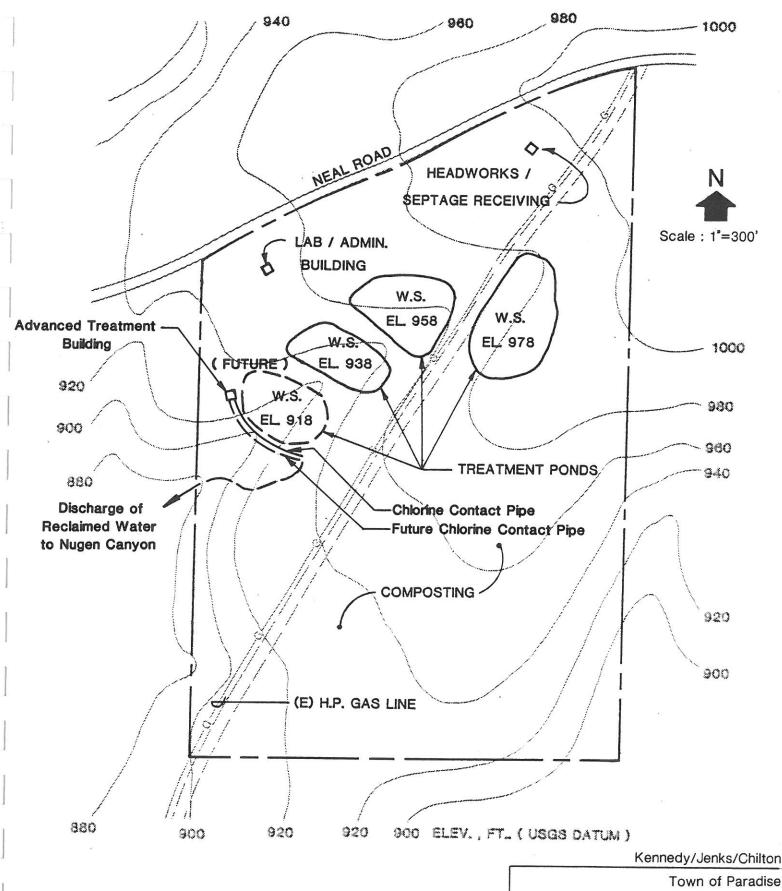
Appendix A presents the results of a preliminary geotechnical survey of the proposed treatment plant site. The survey recommends that the ponds be constructed utilizing the natural depression of the land, as shown on Figure 5-2, due to the shallow soils prevalent on the site.

Three of the four treatment ponds, the headworks, the administration/laboratory building, nine aerators (eight installed and one spare), and half of the advanced treatment facilities will be constructed in the initial increment of construction. See Table 5-1 for the construction cost of the initial increment of these facilities, and Table 5-2 for the construction cost of the future treatment plant capacity expansion. The land acquisition cost is not included at this time, pending the conclusion of negotiations with the property owners.

Effluent and Sludge Disposal

The effluent discharged to Nugen Canyon is currently planned to be used to create wetland habitat on the McKnight Ranch property. Other permitted reclamation uses are also under consideration by the property owners. The cost of the treatment facilities presented in Tables 5-1 and 5-2 does not include the construction of the wetland impoundments or any other improvements related to reclamation use of the effluent. These would be the responsibility of the owners of the McKnight Ranch property. During the summer months, all treated effluent is expected to be consumed at the point of beneficial use on the McKnight Ranch property through percolation, evaporation, and plant evapotranspiration, and no effluent will be discharged directly to local surface watercourses. Depending on precipitation and runoff patterns, some treated effluent, diluted with stream flow, may reach Hamlin Slough during the rainy season and ultimately reach Butte Creek near Durham.

Over a period of a year or so, stabilized solids (sludge) arising from septage, solids in the influent wastewater, sludge from the adsorption clarifier and pressure filter backwashes, and microorganisms grown in the treatment process will build up on the bottom of the aerated lagoon that has been in



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Figure 5 - 2

CONSTRUCTION COST OF RECOMMENDED TREATMENT FACILITIES
Initial Increment Construction

TABLE 5-1

Item	Quant. U	nit l	Jnit \$	Extension (\$K)
Treatment Ponds and aerators				
Clearing	9	AC	3,50	
Earthwork	90,750	CY	10	
Lining	375,705	SF		1 188
Decant Structures	2	EA	10,000	
Aerators, 20 Hp	9	EΑ	20,000	
Misc. piping and valves	6	EA	4,000	
Fencing and misc. site work	1	LS		
Elec. service and switchgear	1	LS	40,000	
Headworks with screening	1	LS		
Telephone service	1	LS	4,000	
Alarm dialer	1	LS		
Elec. service to site	1 500	LS		
Laboratory/Office Building	1,500	SF		
Potable water service	1	LS		
Emergency generator & ATS	1	LS	120,000	120
Subtotal				1,990
Advanced Treatment and Disinfection				
Adsorption clarifier	1	EA	110,000	110
Filtration system	1	EA	110,000	
Coagulant feed system	1	LS	10,000	
Hypochlorite feed w/mixer	1	LS		
Mudwell and sludge trans. pump	1	LS		
1280 SF bldg w/ HVAC, site work	1	LS	200,000	
Chlorine contact pipe	335	LF	188	
Valves at chlorine contact	2	EA	6.250	
Inlet and outlet concrete	1	LS	20,000	
Subtotal				589
GRAND TOTAL				2,579

CONSTRUCTION COST OF RECOMMENDED TREATMENT FACILITIES
Future Increment Construction

TABLE 5-2

Item	Quant. U	nit l	Jnit \$ Ex	(tension (\$K)
Treatment Ponds and aerators				
Clearing Earthwork Lining Aerators, 20 Hp Misc. piping and valves Subtotal	30,250 125,235 9 2	AC CY SF EA EA	3,500 10 1 20,000 4,000	11 303 63 180 8
Advanced Treatment and Disinfection				
Adsorption clarifier Filtration system Coagulant feed system Hypochlorite feed w/mixer Mudwell and sludge trans. pump 1280 SF bldg w/ HVAC, site work Chlorine contact pipe Valves at chlorine contact Inlet and outlet concrete	1 1 1 1 1 335 2	EA LS LS LS LS LF EA LS	44,000 20,000 200,000 188	110 110 10 44 20 200 63 13 20
Subtotal				589
GRAND TOTAL				1,153

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service. At the beginning of a dry season of the year, the wastewater will be directed to another lagoon and the sludge in the formerly operating lagoon allowed to dry. Depending on availability of disposal sites, the dried, stabilized sludge will be disposed of in one of the following ways:

- o Co-compost with lawn and tree trimmings; haul off-site for agricultural or municipal soil amendment. Figure 5-1 indicates an area of 15 to 20 acres on the Elliot Spring site suitable for a composting operation.
- o Haul semi-liquid sludge offsite for agricultural soil amendment.
- o Haul semi-solid sludge offsite for agricultural soil amendment.
- Haul dried sludge to landfill for use as daily cover material.

It is highly probable that the stabilized sludge will be accepted for soil amendment by area farmers or on the McKnight Ranch property. In the event that land application does not develop, the dried sludge can be hauled to an area landfill. The sludge is not expected to be classified as a toxic or hazardous waste because of its origin from domestic wastewater.

Operation and maintenance costs and allowance for replacement and operating reserves are shown in Table 5-3.

The operating costs for sludge hauling and disposal could be as much as \$170 per ton of dried solids, or over \$45,000 per year. The cost could be much lower if the sludge is dried and hauled to a landfill, or if the sludge is cocomposted with yard waste and sold as a soil amendment. Pending further study of yard waste management and sludge disposal and marketing options, the cost for sludge disposal is not included in Table 5-3.

Reserves for construction of the future treatment plant capacity expansion are not included in Table 5-3. They are planned to be allocated from a portion of the connection fees collected from properties connecting to the system in the future. See Chapter 7 for a projection of this reserve account.

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TABLE 5-3

0&M AND RESERVE FUND ANNUAL EXPENDITURE PROJECTION Recommended Project

<u>Item</u>	Cost, \$K/year
Collection system O&M (See Table 3-2)	78
Secondary Treatment labor (\$210/mgal x 0.85x365 mgal/yr)	65
Secondary Treatment Power	100
Secondary Treatment Chemicals	4
Advanced Treatment	76
Administration	105
Replacement and Operating Reserves	140
TOTAL	568

CHAPTER 6

FINANCING AND PROGRAM IMPLEMENTATION

INTRODUCTION

This Chapter describes various ways available to the Town to finance and implement the design, construction and long-term operation and maintenance (including ultimate replacement) of the project described in Chapter 5. Several possible sources of funds are described, along with the procedures necessary to follow in order to obtain such funds. The elements of the detailed design process and organizational requirements for system operation and maintenance are described as well.

AVAILABLE FINANCING MECHANISMS

A number of methods of financing sewer system improvements may be adopted to meet the needs of the Town of Paradise. These include special assessment proceedings, as well as sale of connection rights (Escondido Plan), Mello-Roos Community Facilities Act of 1982, Certificates of Participation, reimbursement agreements, the use of accumulated reserves ("pay-as-you-go"), general obligation bonds (Prop. 46 at 3 June 1986 election reinstated G.O. bonds), Water Reclamation Loan, or some combination of these mechanisms. Some of these methods will prove more adaptable to the Town's needs than others, but all are described in this section.

Special Assessment Proceedings

The basic premise of the special assessment is that properties should be assessed for the costs of public improvements in proportion to the specific benefit which each property receives from the improvements. Historically, benefit for wastewater improvements has been allocated to any one or a combination of several attributes of a parcel and its improvements, including parcel area, front footage, and the amount and strength of wastewater discharged to the system. The allocation is usually made by assigning the cost of a major element of the system in a rational manner to a parcel attribute.

The following is an example of an allocation method currently in use for a large special assessment district funding a complete wastewater system. In this district, parcels are assessed for service sewer stubs, front footage, parcel area, and wastewater quantity. The stub charge is assessed for each service sewer stubbed out to a parcel. Normally a parcel requires only one stub, but for some large parcels containing several businesses, several stubs may be necessary. The assessments collected from this source pay for the service sewers up to the property line. The front footage charge is assessed at a rate per lineal foot of frontage on a street where a small-diameter (6" or 8") collector sewer is laid. The assessments collected from this source are allocated to the cost of the collector sewers, on the basis that the length of

collector sewer is roughly proportional to the front footage of parcels to be served. The <u>area charge</u> is assessed at a rate per unit of parcel area. The assessments collected from this source are allocated to the cost of larger-diameter (10" and greater) trunk and interceptor sewers, on the basis that the interceptors are designed for the ultimate development population of the area served, and vacant property which could be developed should pay some of the cost of these oversized sewers. Finally, the <u>capacity charge</u> is assessed at a rate per Equivalent Dwelling Unit of wastewater flow and strength. The assessments collected from this source pay for the treatment and disposal facilities including sludge disposal, on the basis that the size of these facilities is proportional to the amount of wastewater and sludge treated.

Special assessment proceedings are utilized for facilities which are clearly of local benefit, not of general benefit to the entire Town. As a part of a project, the "buy-in" costs for sewer service or fees can be assessed and financed. The sewer connection fees are transmitted and accumulated by the operating public agency.

Unless the assessments are quite small, provision is usually made in the assessment proceedings for bonds issued to represent the assessments. This gives the property owners the opportunity to pay the assessments in installments, rather than in a lump sum, with interest at a tax-exempt rate. Although the Town conducting the assessment proceedings issues the bonds on behalf of the assessed properties, the bonds are not a debt of the Town.

Accordingly, there are laws both for setting forth procedures for levying assessments and constructing the improvements and laws providing for the issuance of bonds. A brief description of the procedural acts follows. Appendix B presents answers to common questions raised regarding special assessment districts.

Municipal Improvement Act of 1913. This Act provides for the formation of an assessment district, the levy of an assessment and the creation of a lien against property. The proceedings under the 1913 Act are initiated by a resolution of intention. The resolution may be initiated either by petition of affected property owners or by the Town Council. No election is required. The resolution calls for the preparation of an engineer's report which contains plans and specifications, a cost estimate, a diagram showing the properties to be assessed and the proposed improvements, and a list of proposed assessments. If the engineer's report is acceptable, the Town Council adopts a resolution approving the report and setting the time and place for a public hearing.

Notice of the hearing must be published, posted, and mailed to all owners of property to be assessed. The notice shows the amount proposed to be assessed against the individual property. Usually construction bids are received prior to the time of the hearing. If the bids are below the estimates contained in the engineer's report, the assessment may be reduced at the time of the hearing. If there is no majority protest or if the protest is overruled, the assessments may be confirmed

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and recorded. Property owners then have 30 days to pay their assessments, following which bonds may be issued under provisions of the Improvement Bond Act of 1915 to represent the unpaid assessments. Other than the provision for assessment protests, there is no requirement for an election to form the district and confirm the assessments.

Improvement Bond Act of 1915. Under the 1915 Act, all of the assessments are pooled and an issue of bonds representing all of the assessments is sold. Funds to pay bond interest and principal are derived by adding an amount equal to the pro-rata share of annual bond service requirements to the property tax bill for each property against which there is an unpaid assessment. The unpaid assessments, together with interest due, are collected in annual installments in the same manner as general real property taxes are collected. Assessments also receive the same treatment as general taxes with regard to the time allotted before payments due become delinquent and the penalties which are imposed. The properties upon which the assessments were levied are subject to the same provisions for sale and redemption as are properties for nonpayment of general taxes.

In the event of a delinquency in the payment of any installment of the assessments, there is a mandatory duty on the part of the Town to be the purchaser of property upon which the installment of the assessment is delinquent. There exists a contingent liability to pay and transfer from Town's surplus funds, if available, into the Redemption Fund the amount of the delinquent assessment installment. The Town is also obligated to pay and transfer from surplus funds, if available, into the Redemption Fund, the amount of any future delinquent assessment and interest installments on the property, pending redemptions.

To further secure the bonds, the issuing agency creates from bond proceeds a Special Reserve Fund to provide available funds from which the Town can make payments of the amount of delinquent assessments. The Reserve Fund is held by the issuer as a separate trust account, and an amount equal to 10 percent of the bonds issued is typically deposited into the fund. A program funded by \$10 million of State general obligation bonds is planned for implementation in 1989 to assist local governments in satisfying the bond reserve requirements. The Town may be able to arrange for this, eliminating the requirement for the Special Reserve Fund.

In the event of delinquency in the payment of any installment of an unpaid assessment, the Town adopts an ordinance to commence institution of a court action to foreclose the lien of such unpaid assessment. In such action, the real property subject to the unpaid assessment may be sold at judicial foreclosure sale. Upon such sale, the right of redemption is limited to one year from the date of sale, as distinguised from the five-year redemption period in the event of a tax sale.

Bond principal is payable each year, commencing not less than ten months after the date of the bonds. The principal may be repaid in up to 25 annual installments. The current market has accepted 1915 Act bonds

payable over 20 years, although a shorter maturity schedule may result in lower interest rates. There are no provisions in the 1915 Act regarding the amount of bond principal which must be repaid each year. Accordingly, it is possible to provide a maturity schedule which results in equal annual debt service (principal and interest). Bond interest is payable semi-annually, commencing on the date which falls six months before the first principal payment date. The maximum interest is 12 percent; however, there is no limitation on the amount of discount.

Escondido Plan

The Escondido Plan is based upon a program which offers for sale for a limited period (two months) new sewer connection rights to a proposed expanded system capable of serving the "subscribed to" additional developments. The City would legally notify by mail, advertise in local newspapers, and alert through utility billings all property owners "of record" located within the sewer service area. During a specific period (two months), sewer connection rights will be for sale at a specific price. Consequences of not participating during this subscription period will be explained, including the possible inability to obtain building permits for a five-to-ten year period until a subsequent sale of sewer rights is conducted. Sewer connection rights would be sold under various programs, all resulting in a guarantee to the Town of immediately available funds to undertake the projects.

Mello-Roos Community Facilities Act of 1982

The Town can consider conducting proceedings under provisions of the Mello-Roos Community Facilities Act of 1982. Mello-Roos proceedings can be used to provide any kind of facilities with a useful life of five years or longer which the Town is authorized by law to construct, own, or operate and which are made necessary by development. They cannot replace, (although they could upgrade) existing facilities. Services which may be supplied through the Act are more narrowly defined, but include sewer services, including operation and maintenance of systems. If the Town wishes to proceed with Mello-Roos, and wishes to sell bonds in the proceedings, it begins by passing two resolutions.

The Resolution of Intention must include the following items:

- Statement that a community facilities district is proposed and describe its boundaries.
- o Statement of the name proposed as "Community Facilities District No. ".
- o Description of the proposed facilities and services.
- o Statement that a special tax is to be levied and description of the method of apportionment;

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- Conclusion that the proposed facilities and services are necessary;
- o A public hearing scheduled 30 to 60 days hence.

The Council also passes a Resolution to Incur Bonded Indebtedness which indicates:

- o Necessity for the bonded indebtedness.
- o Purpose of the debt.
- o Amount of the debt.
- o Time and place for hearing on the question of incurring bonded indebtedness.

Notice of both hearings is published. At the hearings, interested persons may appear and protest any aspect of the Resolution of Intention. Written protests by the owners of fifty percent or more of the land area require abandonment of the proceedings as do protests by fifty percent of the registered voters in the district.

If, at the close of the hearing, the legislative body decides to go forward, it will pass a Resolution of Formation which will be, in essence, the charter of the Community Facilities District. It would also pass a Resolution of Necessity to Incur Bonded Indebtedness. Both resolutions must be submitted to the voters, and both must receive a two-thirds positive vote to be approved.

The law permits the two issues to be combined in a single ballot measure, and also permits the establishment of the appropriations limit (although it requires only a majority vote) to be combined in the same ballot measure.

Following a favorable vote, the legislative body could levy the special tax, to the extent authorized by the Resolution of Formation, by ordinance. The legislative body may also then provide for the form, execution, and issuance of bonds. The special tax is enforced in the same way that property taxes are enforced, although the legislative body will also have the remedy of foreclosure and can covenant with the bondholders to pursue that remedy upon reasonable terms.

This mechanism has been primarily used in support of new large developments (subdivisions) with limited (few) ownerships. The special tax and basis of levy (dwelling units - area) can be developed, which is acceptable to the limited landowners. This can result in favorable special tax and bond measure votes.

Certificates of Participation

Certificates of Participation, or COP's, are presently being used to finance a variety of projects. With a certificate of participation, the public entity is not the immediate owner of the facility, but rather becomes the lessee. Another public or private entity may be identified to function as the lessor. The lessor will arrange the financing and construction of the project and then lease it to the Town. The governmental unit (such as the Town) which proposes to occupy or to use the facility initiates the process by agreeing in principle to enter into a contract to lease certain specified property (either real or personal) from the lessor. The contract provides the terms and circumstances under which the purchase is divided into periodic installment payments. The payments will include an interest component which may be made annually, semi-annually, or more frequently. To finance the lease, the lessor may then assign to a third party (trustee) its right to receive the installment payments, and the trustee, in turn, provides the financ-The trustee then cares the lease into smaller interests (represented by the certificates) which are underwritten by investment bankers and sold to investors. The certificates of participation represent (or certify) each investor's percentage ownership in the lease and the entitlement to receive his/her respective portion of principal and interest payments. Most frequently, certificates are issued in \$5,000 denominations. The public agency (lessee) is obligated under the agreement to make lease payments from lawfully available annual appropriations. Neither the full faith and credit nor taxing power of the lessee is pledged; however, the lease agreement provides in its annual budget. If the Town is to consider and become a lessee under this type of financing, it must address the source and flow of annual revenues to make rental payments.

Installments due under a lease for sewer system improvements might be payable solely from connection charges. Investors are reluctant to participate in financings secured solely by projected future growth and collection of connection fees.

Reimbursement Agreements

Reimbursement agreements are similar to purchase contracts and have been extensively utilized by public agencies and by privately-owned utilities under Rule 15 of the State of California Public Utilities Commission.

The landowner requiring service agrees to advance costs toward and to assist in the construction (to acceptable standards) of projects which are completed, conveyed or dedicated to the operating public entity. The dedicator (developer) is reimbursed through a surcharge on the basic sewer fees levied, by the owner/operator of the utility, against initial and future customers as they obtain benefit from the constructed elements. Agreements include provisions that a percent of fees from future consumers is reimbursed over a maximum period, or a credit can be given to future sewer changes.

Use of Accumulated Revenues

The Town can consider following the practice of financing sewer improvements from accumulated surplus revenues as well as from developer advances.

1933 Act and 1941 Act Revenue Bonds

Revenue bonds, issued under the Revenue Acts of 1933 or 1941, are designated to finance facilities which provide benefits to a group of readily identifiable users. Debt service payments are met from charges placed exclusively on the users of the public enterprise. User charges may include service charges, tolls, connection fees, stand-by charges, admission fees, leases, and rents.

The Sewer Revenue Bond Act of 1933 contained in Chapter 5, commencing with Section 4950 of Part 3 of Division 5 of the Health and Safety Code, allows for financing of sewerage projects. These issues do not need voter approval unless 15% of the property owners or registered voters petition an election.

The Revenue Act of 1941 found in Chapter 6, commencing with Section 54300, of Part 1, Division 2, Title 5 of the Government Code, may also be used to finance sewerage systems, but needs a simple majority vote in favor of a bond measure to authorize issuance of securities.

Security on revenue bonds is provided in four ways:

- (1) The coverage ratio of pledged net revenues to annual debt service requirements. An acceptable coverage ratio is usually 1.25 to 1.50 times the annual debt service; however, this may vary by type of issue and historical record of the issuer.
- (2) Establishment and maintenance of a reserve fund equal to average or maximum annual debt service, but not to exceed 15% of the bond proceeds.
- (3) Additional covenants required of the issuer as listed below:
 - O Acquisition, construction, and completion of the project in a timely manner.
 - o Efficient operation of the project and prescription and collection of adequate service charges.
 - o Proper maintenance of the project.
 - Collection and holding of project revenues in trust as trust funds.
 - o Prompt payment of bonds and interest.

- o Prompt payment of all claims and encumbrances.
- o No provision of free public service.
- o Deny permission of competing projects.
- o Customary insurance must be current.
- o Securance of suitable fidelity bonds.
- o Employment of a reputable consulting engineer.
- Employment of a certified public accountant to make annual audits and reports.
- o Permission granted to bondholders to inspect accounts and records and be provided with reports.
- (4) The revenue bonds may be guaranteed by the State government. A program funded by \$10 million of State general obligation bonds is planned for implementation in 1989 for guarantee of local revenue bond issues for wastewater system construction and improvement.

Additional revenue bonds may be issued provided an earnings test is met, i.e., pledged net revenues shall be sufficient to provide coverage of debt service on all outstanding revenue bonds plus the additional revenue bonds to be issued. The existing sewer bond indenture must be reviewed by counsel to identify issuance of additional Sewer Revenue Bonds.

State Loan Programs

Loan funds are available at one half the current State General Obligation Bond interest rate, or about 4% currently, to finance wastewater systems and reclamation facilities. The State Water Resources Control Board, Division of Loans and Grants, administers these loans. The wastewater system loans are made to public agencies with a demonstrated pollution problem and who are on the state priority list. The Town of Paradise is not now on this priority list, and is not currently eligible to receive a wastewater system loan. Loans for water reclamation facilities up to \$5 million are available from a \$30 million bond issue passed at the 1988 general election. The loans are available to public utilities for construction of reclamation facilities which can be shown to be cost-effective relative to other disposal options not involving reclamation. A cost-effectiveness analysis must be presented with the loan application, along with letters of intent from reclaimed water users showing that the reclaimed water will be put to beneficial use on a long-term basis. It will be possible for the Town to apply for a water reclamation loan for the advanced treatment facilities at the proposed Elliot Spring treatment plant site.

RECOMMENDED FINANCING MECHANISM

Because of the unavailability of significant amounts of grants and loans at the present time, and the lack of any accumulated revenues designated for wastewater, it will be necessary to consider other financing methods. It is the recommendation of the financial consultant that issuance of 1915 Act assessment bonds under the procedures of the 1913 Municipal Improvement Act is the most straightforward method of financing the proposed improvements. Although a Water Reclamation Loan may be available for the proposed advanced treatment facility, its cost is a small percentage of the total. In order to simplify and expedite the funding arrangements, it is not expected that the Town will apply for a Water Reclamation Loan at this time.

In calculating assessments, allocation of the capital costs of the recommended project to parcel attributes must be done considering the relative costs of the various capital elements, the relative aggregate amounts of the various parcel attributes, and the potential effects on parcel owners, especially the effect on the rate of development of vacant parcels. A trial method involving assessments on front footage, parcel area, and EDU's was rejected because of the relatively large assessment calculated for larger parcels and vacant parcels. It was considered that owners of such parcels would feel pressure to develop in order to realize enough income to pay the sewer assessments, and that such development may not be consistent with the Town's development planning. Rather, it was considered that an assessment based solely on EDU's, unless the amount calculated was inordinately large, would be most equitable. Therefore, initial assessments on the property in the District are planned to be made on a per-EDU basis, with the total assessment lien large enough to cover all anticipated costs of the first increment. Cost estimates at this stage are not based on any detailed design, and are inflated to cover possible construction cost increases between the time of the estimate and the receipt of construction bids.

The need for funds occurs in three stages: (1) Design of the initial increment of facility construction, (2) actual construction of the first increment, and (3) future design and construction of the second increment when the capacity of the first-increment treatment facilities is reached.

To fund the first two stages, two series of assessment bonds are recommended to be issued. Series A bonds will fund pre-design, detailed design, and right-of-way acquisition activities up to receipt of construction bids. Series B bonds will be issued in an amount necessary only to cover the construction bid amount, construction management services, and Town staff project management functions through the construction period.

It is recommended that the bond debt service be collected partly as an assessment on the property tax roll, and partly from an allocation of future connection charge receipts. This will have the effect of shifting some of the burden of payment for currently oversized facilities to

future users. The amount required for operation and maintenance will be collected from those parcels connected to the sewer as a monthly sewer service charge. See Chapter 7 for projections of the amount of assessment and sewer service charge per EDU.

Design and construction of the future treatment plant expansion is planned to be funded from revenue accumulated from future connection fees. See Chapter 7.

PROPOSED STAFFING PLAN

Operation and maintenance costs for the collection system and treatment plant are presented in Chapters 3, 4, and 5.

The collection system will require 1.5 full-time equivalent personnel for sewer cleaning, pump station preventive and corrective maintenance, and individual sewage pump maintenance.

The treatment and sludge stabilization facilities operation and maintenance will require a half time laboratory technician, a chief operator and an assistant operator, for a staffing level of 2.5 full time equivalents.

Administration of the sewer utility (including an on-site maintenance district if implemented) is estimated to require a superintendent and a clerical assistant for a total of two full-time equivalents.

The sewer utility will also require accounting for the recovery of bonded indebtedness on the tax roll, and customer recordkeeping including billing and accounting for septage tipping fees and monthly sewer service charges. These functions could either be performed by the Town's financial services department with appropriate addition of staff, or contracted out.

Total staffing for the sewer utility is estimated at 6 full-time equivalent personnel. Part-time assignments of several persons will be required to fill these positions in a manner providing the required on-call availability to meet emergency needs.

It is proposed that the sewer utility be run as a component of the Department of Public Works because of the relatively small number of personnel required, the ease of coordination with other functions of the Department, and efficiency in personnel administration and coordination of assignments. In addition, it will be possible to utilize the sewer utility personnel to help staff the On-Site Systems Management District planned for the remainder of the area in the Town outside the proposed Special Assessment District.

CHAPTER 7

ASSESSMENT SPREAD AND MONTHLY USER CHARGES

In this Chapter, the capital elements of the proposed construction, and operation and maintenance projections, are presented to form the basis for: (1) initial assessments to fund design and construction of the initial increment of construction by means of an assessment bond, (2) connection charges for future connections to the facilities to fund the future increment of construction and assist in meeting the bond debt service, and (3) the charge to be made for septage accepted at the proposed Elliot Spring Wastewater Treatment Plant.

Table 7-1 presents the initial increment and future increment capital expenditures estimated at this time for the project.

To the estimated construction costs presented in Chapters 3 and 5 for the collection and treatment elements of the project are added 20 percent each for construction contingency and engineering through completion of construction, and 5 percent for administrative and project management effort by Town staff. The expenses and reserves associated with issuance of the assessment bonds are estimated at 15.6 percent of the construction cost with contingency, engineering, and administration included.

Table 7-2 presents an analysis of charges to be made to various classes of users, including septage discharges, assuming the wastewater flow and strength values presented in Chapter 2 for the existing uses in the proposed district. Unit rates for recovery of debt service and operation and maintenance expenses were developed using the procedures established by the federal Environmental Protection Agency for wastewater system revenue programs. It was assumed that the treatment plant debt and 0&M (except for advanced treatment) are allocable equally to flow, BOD loading rate, and suspended solids (SS) loading rate, and that all other cost elements are allocable only to flow. The flow values listed for all user groups except Septage and Future Capacity include an allowance for infiltration/inflow.

With the projected annual septage revenue of approximately \$80,000 as indicated in Table 7-2, and assuming 2 million gallons per year of septage received, the septage tipping fee calculates to a little over 3.5 cents per gallon. For comparison, 3.5 cents per gallon is the rate planned to be charged by the City of Chico when septage is received at their wastewater treatment plant in the future.

The total for operation and maintenance is estimated at \$568,000 per year. See Table 5-3. Of this amount, \$80,000 is expected to be collected as tipping fees from septage haulers, leaving \$488,000 to be collected from connected services via a monthly sewer service charge. Based on an initial number of 3,000 EDU's as estimated in Chapter 2, the initial sewer service charge is expected to be set at approximately \$13.50 per month per EDU. If all 1,400 additional EDU's connect in a ten to twelve year period as expected, the sewer service charge may be able to be reduced to a little as \$9.25 per month per EDU with 4,400 EDU's connected. See Table 7-3.

TABLE 7-1

CAPITAL COST OF RECOMMENDED PROJECT

Initial Increment Construction - Capital cost in \$million

Item	Construc- Right of Engin-	Right o	f Engin-	Admin- istra-		Sub	Bond		
		way	eer ing	rlon	tlngency	Total	Cost	Total	
Collection system (including trunk sewer)	6.3	.1	1.2	ů.	1.2	8.7	1.3	10.0	
Treatment plant	2.5		9.	.2	9.	3.9	9.	4.5	
TOTALS	8.4	۲.	1.8	.5	1.8	12.6	1.9	14.5	
Future Increment Construction - Capital cost in \$million	on - Capita	al cost	illim \$milli	on					
Item	Construc- tion	Right of Engin- way eering	Engin- eering	Admin- istra- tion	Con- tingency	Sub Total	Bond	Total	
Collection system (including trunk sewer)								0.	
reatment plant	1.1		.2	.1	.2	1.6		1.6	
TOTALS	1.1	0.	.2	1.	2.	1.6	0.	1.6	

TABLE 7-2

VASTEMATER UTILITY REVENUE PROGRAM

Total \$	\$140,804 \$7,419 \$27,407 \$467,370 \$132,551 \$388,474 \$193,181 \$0 \$79,727 \$728,595
Tot. OGAIS	\$37,874 \$1,996 \$7,369 \$125,709 \$35,652 \$82,972 \$51,958 \$26,950 \$197,542
Tot. Debt\$	\$102,930 \$5,423 \$20,038 \$341,660 \$96,899 \$225,503 \$141,223 \$52,778 \$531,053
) OGN \$ unit rate \$22.10	\$3,779 \$129 \$12,553 \$12,553 \$8,288 \$8,288 \$5,194 \$0 \$15,205 \$22,233
SS CHARGES — Debt \$ 6 unit rate 6	\$6,975 \$357 \$1,346 \$23,169 \$6,567 \$15,296 \$9,586 \$0 \$28,064 \$41,035
SS SS Ib/dy 6 1	171 9 33 568 161 375 235 688 1006
OGM \$ unit rate \$28.03	\$4,205 \$224 \$813 \$13,931 \$3,952 \$9,194 \$5,746 \$8,998 \$24,666
——————————————————————————————————————	\$7,761 \$414 \$1,500 \$25,715 \$7,295 \$16,971 \$10,607 \$0 \$16,609 \$45,531
BOD BOD 1b/dy @ 1	150 8 29 497 141 328 205 321 880 2559
) < OGY \$ unit rate \$499,478	\$29,890 \$1,573 \$5,827 \$99,226 \$28,142 \$65,490 \$41,019 \$0 \$2,747 \$150,643
<	.0598 \$88,194 .0031 \$4,642 .0117 \$17,192 .0563 \$23,036 .1311 \$193,236 .0821 \$121,030 .0055 \$8,106 .3016 \$444,488 .8500 \$1,252,700
Flow	.0598 .0031 .0117 .1987 .0563 .1311 .0821 .0055
# Users User Group	61 Institutional 13 Light Manufacturing 10 Motel 92 Multi-family residential 39 Restaurants 427 Misc. Commercial 402 Single-family res. 238 Vacant parcels Septage Future capacity TOTALS

Kennedy/Jenks/Chilton

Debt service on the bonds is estimated at \$1,517,500 per year. Over two thirds of this will be collected on the tax roll from parcel owners included in the initial assessment spread at an estimated rate of \$30.50 per month per EDU payable over a 20 year period, and the remainder is expected to be allocated from future connection charge receipts as indicated in Table 7-3.

Calculation of Debt Service and Sewer Service Charges

Table 7-3 shows the sewer service charge necessary to satisfy debt service and 0&M obligations assuming the values shown for the number of initial connections, the rate of future connections, and the reserve account for the future treatment plant capacity expansion funded from a portion of the future connection charge receipts. Also indicated is a trial value of assessment to be actually placed initially on the assumed 3,000 EDU's connecting at the beginning of the project, and the estimated connection charge for future connectors.

The initial assessment is expected to be levied in two phases, the first levy made to satisfy debt service on approximately \$2 million of Series A assessment bonds to pay for engineering design and right-of-way acquisition activities up until receipt of construction bids, and the second levy made to satisfy debt service on approximately \$12.5 million of Series B assessment bonds to pay for construction and construction management activities. See Chapter 6. Assuming that the bonds are amortized over a 20 year period as currently expected, the charges to initially-connecting properties would be reduced at the end of 20 years to a monthly amount necessary to fund the 0&M and system replacement reserve requirements existing at that time.

To the initial assessment or connection charge must be added the out-of-pocket costs necessary to abandon any existing septic tank and connect to the service sewer (usually terminated at the property line). It should be pointed out, as well, that the future connection charge is due as a lump sum at the time of connection, and cannot be financed through the initial series of assessment bonds.

Grant or loan programs, such as federal Economic Development Administration grants, federal Community Development Block Grants, and state Rural Renaissance grants, may be available to help certain individual parcel owners with connection charges, out-of-pocket expenses, and a portion of the monthly sewer service charge.

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TABLE 7-3

CALCULATION OF SEWER SERVICE CHARGE AND CONNECTION FEE

\$14.5 million (financed with assessment bond amortized over 20 years at 8% interest) Initial increment capital cost:

Assumptions:

140 additional connections per year 3000 initial connections

Parameters:

		or \$30.52/mo/EDU, payable for 20 years	3,500 \$/EDU		= \$568K - \$80K septage income
 1,518 \$K/yr	419 \$K/yr	1,099 \$K/yr,	3,500 \$/EDU	7.00%	488 \$K/yr
 Annual bond debt service	Debt svc. req. from future conn.	Debt svc. avail. from init. conn.	Trial initial conn. charge	Interest rate on reserve account	Annual O&M

Schedule of future charges & revenue:

				\$K/yr for	\$K/yr for \$K/yr for \$/mo./EDU	\$/mo./EDU	Total	\$K Expansion
Year	Added connections	\$/conn.	ns \$/conn. Tot. \$K/yr	Debt syc,	Reserve S	Reserve Sew.svc.chg	conn.	Reserve @ 10 vr.
0						13.56	3000	
-	140	4000	260	419	141	12.96	3140	260
2	140	4000	999	419	141	12.41	3280	243
3	140	4000	999	419	141	11.90	3420	227
4	140	4000	260	419	141	11.43	3560	212
છ	140	4000	999	419	141	11.00	3700	198
9	140	4000	260	419	141	10.60	3840	185
7	140	4000	999	419	141	10.22	3980	173
8	140	4000	999	419	141	9.88	4120	162
6	140	4000	999	419	141	9.55	4260	151
10	140	4000	260	419	141	9.25	4400	141
10-year total								1,953
				Minimum R (1,500 \$	equirement Kescal, a	Requirement for Reserve Account \$K escal. at 3%/yr for 9 yr.)	Account 9 yr.)	1,957

REFERENCES

- Town of Paradies Wastewater Management Study, Phase I Report, J. M. Montgomery Engineers, May 1983.
- Town of Paradise Wastewater Management Study Supplementary Phase I Report, George Tchobanoglous, 1984.
- 3. Town of Paradise Ordinance No. 103, January 17, 1984.
- 4. Town of Paradise Wastewater Management Plan, Phase II Report, R. A. Ryder & Associates, September 1985.
- 5. Butte County Countywide Septage Study and Draft Environmental Impact Report, Brown & Caldwell, October 1981.
- 6. Butte County Design Rainfall, James Goodridge, January 1988.

APPENDIX A

GEOTECHNICAL SURVEY

JAMES C. HANSON

JAMES C. HANSON, C.E.

NICHOLAS F. BONSIGNORE, C.E. HENRY S. MATSUNAGA CONSULTING CIVIL ENGINEER
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(9 Pm C(3)8)8)11(6)1(3)3(4)5(6

November 28, 1988

Mr. Russel Sanchez Adams Kennedy/Jenks/Chilton Consulting Engineers 3336 Bradshaw Road, Suite 320 Sacramento, CA 95827

Re: Town of Paradise Wastewater Effluent Storage Reservoir and Treatment Pond Site - Reconnaissance Evaluation

Dear Mr. Adams:

Pursuant to our letter of agreement dated April 25, 1988 we have completed a reconnaissance level evaluation and construction cost estimate for the referenced project. Included herein is a discussion of site selection, preliminary site exploration and design considerations, and construction cost estimates pertaining to the effluent storage reservoir. In addition, a brief discussion of the suitability of the proposed treatment pond site near Elliot Spring is provided. The information and conclusions contained herein should be considered as very preliminary and adequate for general planning purposes only. Should the Town of Paradise elect to proceed with the proposed project, a more detailed evaluation of the effluent storage dam and reservoir site and treatment pond feasibility should be initiated at the earliest possible stage in the process.

WASTEWATER EFFLUENT STORAGE RESERVOIR

Initially it was our understanding that the Town was negotiating with property owners along Pentz Road east of Highway 99 for possible wastewater effluent storage and disposal facility sites. Early in the site selection stage, several sites in the vicinity of Cory Canyon were under consideration, however, as other elements of the project became better defined, we were directed by Kennedy/Jenks/Chilton (KJC) to evaluate potential reservoir sites on the Horning Property (formerly the McKnight Ranch) near the intersection of Neal Road and Highway 99. KJC

To: Mr. Russel Sanchez Adams November 28, 1988 Page 2

further indicated that the ultimate design wastewater storage requirement would be approximately 1050 acre-feet for the period of November through May. To this value was to be added sufficient storage volume to impound rainfall and runoff from the 100-year annual precipitation for the same period. It is our understanding that the peak storage volume would be required in the month of May, since subsequent effluent inflow and runoff would be directed to disposal by irrigation on the Horning property. Further, the contemplated irrigation requirement would utilize the entire reservoir volume during the irrigation season. Accordingly, we assumed that the reservoir would be empty at the end of each irrigation season and, therefore, we included no provisions for carryover storage.

The precipitation characteristics of the area were based on climatological information analyzed and provided by KJC. The storage volume required to accommodate the runoff from rainfall on the reservoir and tributary drainage area was based on the 100-year precipitation for the period November thru May, estimated at about 66 inches. It was assumed that the resulting runoff was 100% on the reservoir area and 85% on the tributary drainage above reservoir high water. An allowance of about 21 inches was made for evaporation from the maximum reservoir surface for the same period of November through May.

Inspection of United States Geological Survey 7-1/2' quadrangle maps indicated three possible sites for the effluent storage reservoir in the Neal Road vicinity (see Figure 1). Of these, the Neal Road #2 site was selected for further evaluation based on its proximity to Neal Road and the fact that it is higher in elevation than the other two, thus making it more desirable for gravity irrigation deliveries. It is suggested, however, that consideration be given to the Neal Road #1 and #3 sites in future studies as both of these sites require less earthwork for embankment construction. The Neal Road #2 site has a tributary drainage area of about 250 acres (including the reservoir area). Based on the rainfall and runoff characteristics previously discussed, it was determined that the total storage requirement at this site would be about 2170 acre-feet. The rainfall runoff contribution to the total storage requirement could be significantly reduced by the construction of ditches to intercept and convey tributary runoff around the reservoir. For purposes of this study, however, it was assumed that the reservoir would store the entire runoff.

The maximum storage volume of 2170 acre-feet at the Neal Road #2 location requires a dam about 88' in height having a crest length of about 1300'. Based on this height and storage volume, the dam would fall under jurisdiction of the State Department of Water Resources, Division

To: Mr. Russel Sanchez Adams November 28, 1988 Page 3

of Safety of Dams (DSOD). The State requires submission and approval of construction plans and specifications supported by detailed site-specific geotechnical information prior to issuance of approvals to proceed with construction. During construction the dam would be further subject to periodic inspections by DSOD engineers.

On November 9, 1988, Nick Bonsignore of my staff and Charles Van Alstine, Registered Engineering Geologist, conducted a preliminary field investigation of the Neal Road #2 site. This investigation included use of a D-8 bulldozer equipped with 2' rippers for exploration purposes. The details of this preliminary field investigation are provided in Mr. Van Alstine's memorandum dated November 9, 1988 and appended hereto as Attachment #1. Generally speaking, the site is characterized by a rather thin soil layer overlying relatively hard sandstone that appears to be rippable to a depth of several feet and possibly deeper. Very hard volcanic "cap rock" layers are exposed at upper elevations within the proposed reservoir area.

Due to the limited availability of fine-grained soils in the general area, we anticipate that a zoned embankment design with a central core will be required (see Figure 2). The primary elements of the design include a core zone comprised of low permeability fine-grained materials, upstream and downstream shell zones comprised of random rockier materials, and an internal chimney/foundation drain zone composed of imported processed sands and gravels. The preliminary design shown should be considered as conceptual and to be used for estimating purposes only. Although we believe the final design would include at least the three zones indicated, their configuration could be considerably different based on the final evaluation of material availability, strength parameters, internal hydraulic characteristics of the proposed zonal materials, and the possible phasing of the embankment construction. Materials for the embankment construction would come primarily from within the reservoir area, however, preliminary calculations indicate that much of the core zone material would have to be obtained from sources outside the reservoir area. Assuming a 1 foot depth of available topsoil, the affected area could be as much as 70 or 80 acres. It is believed that most, if not all, of the random zone materials can be obtained from within the reservoir area, however, deeper excavations (3' to 5') outside of the reservoir encompassing perhaps 5 to 10 acres may be required. Select drain materials would necessarily be obtained from commercial suppliers in the general area. Preliminary observations indicate that suitable embankment foundation can be obtained on hard volcanic rock at very shallow depths. We therefore do not anticipate any unusual or extraordinary foundation treatment measures. A nominal core trench is shown which would provide positive underseepage control.

To: Mr. Russel Sanchez Adams November 28, 1988 Page 4

The outlet conduit diameter has been sized at 30" in accordance with DSOD requirements that it be capable of draining at lease one-half the storage volume in 7 days. The outlet has been located very near the bottom of the reservoir to allow full utilization of the reservoir volume. We anticipate that the outlet would be a cast-in-place reinforced concrete conduit with a heavy-duty hydraulically controlled slide gate at the upstream end.

Cost estimates based on this preliminary design are shown on Table 1 and are predicated on prices considered to be applicable during 1988. Such costs include allowances for contingencies, engineering, design, supervision, inspection, and administration of contracts. Cost data used were obtained from product manufacturers and installers, construction firms, standard cost estimating guide publications, and from comparison with similar projects.

Based on some very general assumptions, we have estimated the amount of water necessary for embankment construction to be about 80 acre-feet. The owner of the property, Mr. Chuck Horning, has indicated that three large production wells exist on the ranch, one of which was recently tested at 1830 gpm. This production rate would be adequate for construction water requirements. The estimated cost of pumping the required volume of construction water has been included in Table 1.

TREATMENT PONDS SITE

Our field exploration of November 9, 1988 included site evaluation and backhoe test pits at the proposed treatment pond site near Elliot Spring (see Figure 1). Observations are summarized in Mr. Van Alstine's memorandum dated November 9, 1988 (Attachment 2). Very generally, this site is characterized by very hard volcanic agglomerate cap rock overlain by a thin layer of fine-grain soils. It is our opinion that the construction of cut-and-fill ponds as presently anticipated would be very difficult and relatively expensive. Such construction would require judicious excavation, stockpiling and placement of locally available fine-grained materials, and further would probably require use of very heavy-duty earthwork equipment for ripping and excavating the harder rock.

It is suggested that further study of this site include consideration of constructing a series of small non-jurisdictional dams across the existing draws which would create the necessary pond volume. This would probably require less earthwork than the presently contemplated design. Further subsurface exploration of this site is necessary and will require the use of a large bulldozer with a ripper. You should also be aware

To: Mr. Russel Sanchez Adams November 28, 1988 Page 5

that a buried gas line traverses the site adjacent to the existing northeast-to-southwest trending dirt road (see Figure 1).

We trust that the foregoing discussion satisfies your requirements at this time. We would be pleased to continue our services on this project as the need arises. Please call if you have questions or require additional information.

Very truly yours,

James C. Hanson Consulting Civil Engineer

1c

Enclosures

cc: Charles Van Alstine

ABLE TOWN OF PARADISE

782

WASTEWATER EFFLUENT STORAGE RESERVOIR ESTIMATED CONSTRUCTION COSTS

Total Cost			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2,571,600		67,800		21,300	2,660,700	665,200	3,325,900	498.900	3,824,800	25,300	3 850 100	
Cost		60,000 28,500 57,100 37,000	62,400 62,400 102,400 922,300 1,239,500		54,100 7,400 6,300	l I	12,600									
Unit Price (dollars)		1,000.00 370.00 2.10 5.00	16.00 16.00 16.00 6.30 3.70		115.00 7,350.00 6,300.00		8.40	ė:		(a)						
Unit		Acres Acres C.Y.			L.F. EACH EACH		L.F. A.F.									
Quantity	 	60 77 27,200 7,400	3,900 3,900 6,400 146,400 335,000		470		1,500									
Item	EARTHWORK	A. CLEAR & GRUB DAM & RESERVOIR SITE B. CLEAR SUPPLEMENTAL BORROW AREA C. EMBANKMENT FOUNDATION STRIPPING D. CUTOFF TRENCH EXCAVATION & CLEANUP E. FOUNDATION DRAIN <1	GRAVEL SAND & GRAVEL F. CHIMNEY DRAIN (SAND & GRAVEL) <1 G. ZONE 1 IMPERVIOUS FILL <2 H. ZONE 2 RANDOM FILL <2	OUTLET CONDUIT A. 30" DIA. CAST-IN-PLACE	CONCRETE PIPE B. 30" HEAVY DUTY SLIDE GATE C. TRASH RACK & GATE CONTROLS	MIS	A. FERFORATED FOUNDATION DRAIN PIPE B. CONSTRUCTION WATER <3		SUBTOTAL	CONTINGENCIES @ 25%	TOTAL DIRECT CONSTRUCTION COST	ENGINEERING & ADMINISTRATION @ 15%	SUBTOTAL	DIVISION OF SAFETY OF DAMS FEE	TOTAL	
i	I.			11.		III.										

⁷

DRAIN MATERIALS ASSUMED TO BE PROCESSED SAND AND GRAVEL OBTAINED FROM OFF-SITE COMMERCIAL SOURCES.

ZONE 1 AND ZONE 2 MATERIALS ASSUMED AVAILABLE FROM ON-SITE SOURCES.

ESTIMATED COST OF PUMPING FROM EXISTING WELLS LOCATED ON THE HORNING RANCH. \$ ° 5

3/9/89 TP-2170A.WK1

2170 ACRE-FOOT WASTEWATER EFFLUENT STORAGE RESERVOIR 2-STAGE CONSTRUCTION, ESTIMATED CONSTRUCTION COSTS

STAGE 1 - 1650 ACRE-FOOT CAPACITY

	Item	Quantity	Unit	Unit Price (dollars)	Cost (dollars)	Total Cost (dollars)
ı.	EARTHWORK					
	A. CLEAR & GRUB					
	DAM & RESERVOIR SITE	50	Acres	1,000.00	50,000	
	B. CLEAR SUPPLEMENTAL BORROW AREA	58	Acres	370.00	21,500	
	C. EMBANKMENT FOUNDATION STRIPPING	22,270	C.Y.	2.10	46,800	
	D. CUTOFF TRENCH EXCAVATION & CLEANUP	7,000	C.Y.	5.00	35,000	
	E. FOUNDATION DRAIN <1					
	GRAVEL	3,105	C.Y.	16.00	49,700	
	SAND & GRAVEL	3,105	C.Y.	16.00	49,700	
	F. CHIMNEY DRAIN (SAND & GRAVEL) <1	5,860	C.Y.	16.00	93,800	
	G. ZONE 1 IMPERVIOUS FILL <2	123,450	C.Y.	6.30	777,700	
	H. ZONE 2 RANDOM FILL <2	240,680	C.Y.	3.70	890,500	
						2,014,700
II.	OUTLET CONDUIT					
	A. 30" DIA. CAST-IN-PLACE					
	CONCRETE PIPE	470	L.F.	115.00	54,100	
	B. 30" HEAVY DUTY SLIDE GATE	1	EACH	7,350.00	7,400	
	C. TRASH RACK & GATE CONTROLS	1	EACH	5,000.00	5,000	
						66,500
III.	MISCELLANEOUS					© (100 miles)
	A. PERFORATED FOUNDATION DRAIN PIPE	1,200	L.F.	8.40	10,100	
	B. CONSTRUCTION WATER <3	62.5	A.F.	105.00	6,600	
						16,700
						105. * .8 7572
	SUBTOTAL					2,097,900
	CONTINGENCIES @ 25%					524,500
	TOTAL DIRECT CONSTRUCTION COST					2,622,400
	ENGINEERING & ADMINISTRATION @ 15%					393,400
	SUBTOTAL					3,015,800
	DIVISION OF SAFETY OF DAMS FEE					22,100
	TOTAL					7 077 000
						3,037,900
						=======

<1 DRAIN MATERIALS ASSUMED TO BE PROCESSED SAND AND GRAVEL OBTAINED FROM OFF-SITE COMMERCIAL SOURCES.

<2 ZONE 1 AND ZONE 2 MATERIALS ASSUMED AVAILABLE FROM ON-SITE SOURCES.</p>

<3 ESTIMATED COST OF PUMPING FROM EXISTING WELLS LOCATED ON THE HORNING RANCH.</p>

3/9/89 TP-2170B.WK1

2170 ACRE-FOOT WASTEWATER EFFLUENT STORAGE RESERVOIR 2-STAGE CONSTRUCTION, ESTIMATED CONSTRUCTION COSTS

STAGE 2 - 2170 ACRE-FOOT CAPACITY

	Item	Quantity	Unit	Unit Price (dollars)	Cost (dollars)	Total Cost (dollars)
I.	EARTHWORK					
	A. CLEAR & GRUB DAM & RESERVOIR SITE B. CLEAR SUPPLEMENTAL BORROW AREA C. EMBANKMENT FOUNDATION STRIPPING D. CUTOFF TRENCH EXCAVATION & CLEANUP E. FOUNDATION DRAIN <1 GRAVEL	10 19 4,260 400	Acres Acres C.Y. C.Y.	1,000.00 370.00 2.10 5.00	10,000 7,000 8,900 2,000	
	SAND & GRAVEL	2,130	C.Y.	16.00	34,100	
	F. CHIMNEY DRAIN (SAND & GRAVEL) <1 G. ZONE 1 IMPERVIOUS FILL <2	1,860 20,120	C.Y.	16.00 6.30	29,800	
	H. ZONE 2 RANDOM FILL <2	95,700	C.Y.	3.70	126,800 354,100	
						606,800
11.	OUTLET CONDUIT					
	A. EXTEND GATE CONTROLS	1	EACH	1,300.00	1,300	
						4.700
III.	MISCELLANEOUS					1,300
	A. PERFORATED FOUNDATION DRAIN PIPE	300	L.F.	8.40	2,500	
	B. CONSTRUCTION WATER <3	20.0	A.F.	105.00	2,100	
					-,	
						4,600
	SUBTOTAL					612,700
	CONTINGENCIES @ 25%					153,200
	TOTAL DIRECT CONSTRUCTION COST					765,900
	ENGINEERING & ADMINISTRATION @ 15%					114,900
	SUBTOTAL					880,800
	DIVISION OF SAFETY OF DAMS FEE					12,800
	TOTAL					893,600

<1 DRAIN MATERIALS ASSUMED TO BE PROCESSED SAND AND GRAVEL OBTAINED FROM OFF-SITE COMMERCIAL SOURCES.

<2 ZONE 1 AND ZONE 2 MATERIALS ASSUMED AVAILABLE FROM ON-SITE SOURCES.</p>

<3 ESTIMATED COST OF PUMPING FROM EXISTING WELLS LOCATED ON THE HORNING RANCH.</p>

3/9/89 TP-1650A.WK1

1650 ACRE-FOOT WASTEWATER EFFLUENT STORAGE RESERVOIR 2-STAGE CONSTRUCTION, ESTIMATED CONSTRUCTION COSTS

STAGE 1 - 1100 ACRE-FOOT CAPACITY

	Item	Quantity	Unit	Unit Price (dollars)	Cost (dollars)	Total Cost (dollars)
I.	EARTHWORK					
	A SIEAR S ORUE					
	A. CLEAR & GRUB					
	DAM & RESERVOIR SITE B. CLEAR SUPPLEMENTAL BORROW AREA	41	Acres	1,000.00	41,000	
		39 17,270	Acres C.Y.	370.00	14,400	
	D. CUTOFF TRENCH EXCAVATION & CLEANUP		C.Y.	2.10 5.00	36,300	
	E. FOUNDATION DRAIN <1	0,150	U. I.	5.00	30,800	
	GRAVEL	2,375	C.Y.	16.00	38,000	
	SAND & GRAVEL	2,375	C.Y.	16.00	38,000	
	F. CHIMNEY DRAIN (SAND & GRAVEL) <1	4,290	C.Y.	16.00	68,600	
	G. ZONE 1 IMPERVIOUS FILL <2	91,800	C.Y.	6.30	578,300	
	H. ZONE 2 RANDOM FILL <2	150,470	C.Y.	3.70	556,700	
						1,402,100
п.	OUTLET CONDUIT					
	A. 30" DIA. CAST-IN-PLACE					
	CONCRETE PIPE	425	L.F.	115.00	49 000	
	B. 30" HEAVY DUTY SLIDE GATE	1	EACH	7,350.00	48,900 7,400	
	C. TRASH RACK & GATE CONTROLS	1	EACH	4,000.00	4,000	
			LAGII	4,000.00	4,000	
						60,300
III.	MISCELLANEOUS					00,300
	A. PERFORATED FOUNDATION DRAIN PIPE	1,060	L.F.	8.40	8,900	
	B. CONSTRUCTION WATER <3	40.5	A.F.	105.00	4,300	
						13,200
	SUBTOTAL					1,475,600
	CONTINGENCIES a 25%					
	CONTINUENCIES & 23%					368,900
	TOTAL DIRECT CONSTRUCTION COST					4 0// 500
	TOTAL DIRECT CONSTRUCTION COST					1,844,500
	ENGINEERING & ADMINISTRATION @ 15%					276,700
	SUBTOTAL					2,121,200
	DIVISION OF SAFETY OF DAMS FEE					10 500
	THE STATE OF THE S					18,500
	TOTAL					2,139,700

<1 DRAIN MATERIALS ASSUMED TO BE PROCESSED SAND AND GRAVEL OBTAINED FROM OFF-SITE COMMERCIAL SOURCES.

<2 ZONE 1 AND ZONE 2 MATERIALS ASSUMED AVAILABLE FROM ON-SITE SOURCES.</p>

<3 ESTIMATED COST OF PUMPING FROM EXISTING WELLS LOCATED ON THE HORNING RANCH.</p>

1650 ACRE-FOOT WASTEWATER EFFLUENT STORAGE RESERVOIR 2-STAGE CONSTRUCTION, ESTIMATED CONSTRUCTION COSTS

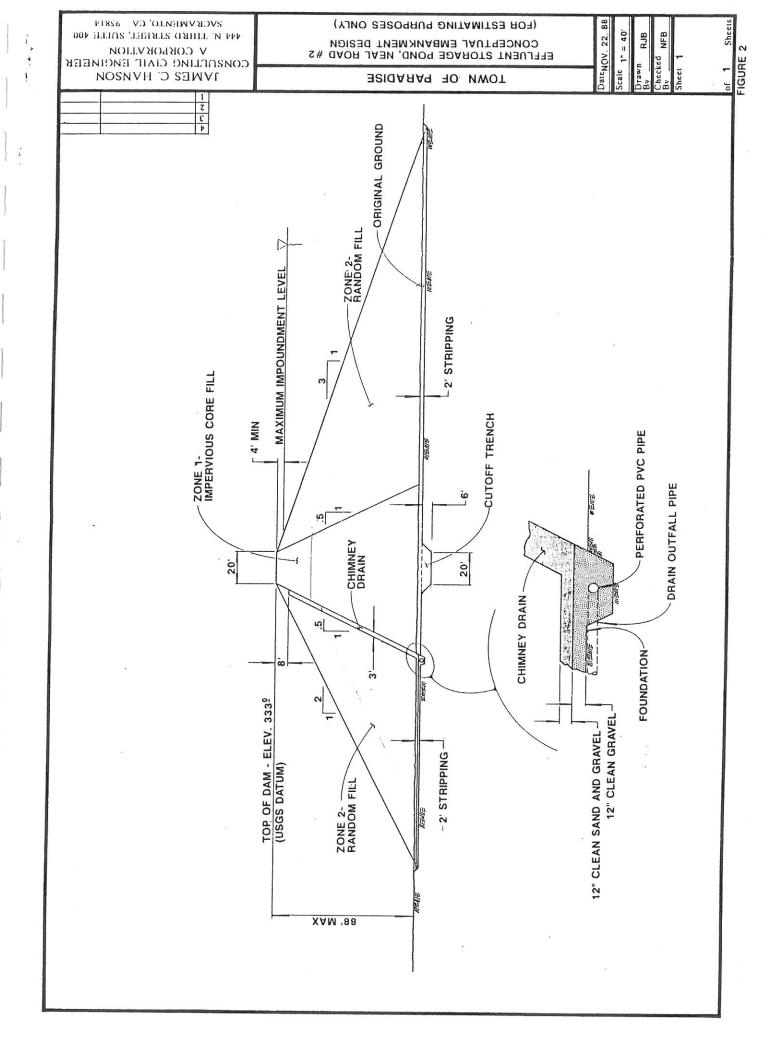
STAGE 2 - 1650 ACRE-FOOT CAPACITY

				Unit Price	Cost	Total Cost
	Item	Quantity	Unit	(dollars)	(dollars)	(dollars)
I.	EARTHWORK					
	A. CLEAR & GRUB					
	DAM & RESERVOIR SITE	9	Acres	1,000.00	9,000	
	B. CLEAR SUPPLEMENTAL BORROW AREA	19	Acres	370.00	7,000	
	C. EMBANKMENT FOUNDATION STRIPPING	4,950	C.Y.	2.10	10,400	
	D. CUTOFF TRENCH EXCAVATION & CLEANUP E. FOUNDATION DRAIN <1	850	C.Y.	5.00	4,300	
	GRAVEL	2,475	C.Y.	16.00	39,600	
	SAND & GRAVEL	2,475	C.Y.	16.00	39,600	
	F. CHIMNEY DRAIN (SAND & GRAVEL) <1	2,360	C.Y.	16.00	37,800	
	G. ZONE 1 IMPERVIOUS FILL <2	28,100		6.30	177,000	
	H. ZONE 2 RANDOM FILL <2	104,470	C.Y.	3.70	386,500	
					******	711,200
II.	OUTLET CONDUIT					
	A. EXTEND GATE CONTROLS	1	EACH	1,000.00	1,000	
				\$1 . \$2		
						1,000
III.	MISCELLANEOUS					550
	A. PERFORATED FOUNDATION DRAIN PIPE	140	L.F.	8.40	1,200	
	B. CONSTRUCTION WATER <3	22.0	A.F.	105.00	2,300	
						3,500
	SUBTOTAL					715,700
	CONTINGENCIES a 25%					178,900
	TOTAL DIRECT CONSTRUCTION COST					894,600
	ENGINEERING & ADMINISTRATION @ 15%					134,200
	SUBTOTAL					1,028,800
	DIVISION OF SAFETY OF DAMS FEE					14,100
	TOTAL					1,042,900
						========

<1 DRAIN MATERIALS ASSUMED TO BE PROCESSED SAND AND GRAVEL OBTAINED FROM OFF-SITE COMMERCIAL SOURCES.

<2 ZONE 1 AND ZONE 2 MATERIALS ASSUMED AVAILABLE FROM ON-SITE SOURCES.</p>

<3 ESTIMATED COST OF PUMPING FROM EXISTING WELLS LOCATED ON THE HORNING RANCH.</p>



NOV 15 1988

JAMES C. HANSON

CHARLES VAN ALSTINE Geological/Geotechnical Engineer

PRELIMINARY FIELD OBSERVATIONS

Memorandum to File

JOB: Paradise Wastewater System

Job No.108

LOCATION: Neal Road Dam Site Day: Wednesday, Nov. 9, 1988

PERSON: Van Alstine

Present at Site: Van Alstine and Nick Bonsignore

OBSERVATIONS:

- 1. Nick and I reviewed two dam sites in the canyon south of the Neal Road sanitary landfill. We excavated four test trenches with a D-8 Cat in the area of Neal Road Site No. 2; we took bulk samples of typical materials for laboratory testing and reference.
- 2. The sites are in a broad canyon with steep irregular slopes near the top; moderate slopes below; and gentle slopes adjacent to the nominal intermittent stream channel. There is approximately 150 feet of relief.

The area supports a scattered oak trees and moderate grass cover.

3. The geologic sequence in the area is well exposed and consists of a very uniform sequence of mid-Tertiary volcanic agglomerate and sandstone layers. The layers dip very gently to the west. Individual layers can be traced for thousands of feet.

The very hard volcanic agglomerate layers are conspicuous because they cap the ridges and are exposed as cliffs in the upper part of the slope. However, the sandstone layers comprise the major portion of the sequence. The sandstone is well exposed

along the stream channel and in the lower slopes. Conglomerate—which is often a major portion of this unit—is a minor portion here. The sandstone is well indurated, but generally not as hard as the volcanic conglomerate. In both of these layers, fractures are very wide spaced. Layering is locally a plane of weakness in the sandstone where it has been appreciably weathered.

There were no substantial springs observed in the slopes nor was there evidence of persistent shallow groundwater.

- 4. Weathering has been slight and is limited to near-surface materials. The topsoil layer is very thin and discontinuous. A 1/2 to 1 foot layer of clayey silt is widely but irregularly exposed on lower slopes. Alluvium along the channel is limited to thin (1/2 to 1-1/2 foot) sparsely distributed layers of silty gravel.
 - 5. A. The bedrock in the area can provide adequate and uniform support for a dam embankment. Stripping to achieve general support on bedrock would be minimal and the materials could be used in embankment. The cut-off under the impervious section would be relatively shallow.
 - B. Both the sandstone and the volcanic agglomerate are estimated to have low permeability. Both lateral and vertical water movement would be limited to the widely scattered fractures and perhaps, some layering planes.
 - C. It likely is feasible to "bench" diversion ditches into the sandstone above reservoir level. This would be moderately difficult to very difficult excavation (see below).
 - D. The only apparent source for major quantities of random embankment materials is the sandstone within the reservoir. These materials are estimated to be moderately difficult to difficult excavation; heavyduty equipment (D-9 or D-10) would be required. With careful excavating techniques, the amount of "oversize" can be minimized. The near-surface sandstone will break down readily to provide a "fines bound" material; deeper materials may provide fewer fines and more hard fragments. Heavy-duty compaction equipment will be required (say, Caterpillar 835 or equivalent). Grid rollers might be effective in breaking down sandstone materials in borrow areas. With careful management of

borrow areas, it likely is feasible to place the coarser/ harder materials in the downstream section and the materials with more fines in the central section of the dam.

Considering the available materials, we suggest that an impervious section near the upstream face be utilized in design. The section should be the minimum thickness which is compatible with acceptable internal hydraulic gradient. The quantity of impervious material within the reservois area is very limited. The surficial soil layer could be excavated over this entire site and stockpiled. It likely would be feasible (but difficult) to blend these materials with 1 to 2 parts of processed weathered sandstone.

It may be necessary to consider importing fine-grained soil or adding clay to processed weathered sandstone in order to obtain adequate quantities of impervious material.

E. It might be feasible to make free-draining rock fill materials on the site. However, it would be necessary to selectively excavate and process the harder bedrock materials (e.g., the cap rock) for such purpose. The nominal amounts of gravel along the stream channel at the site are not a significant materials source. Similar materials from the general area would be worth investigating.

Charles Van Alstine

Information copy: Nick Bonsignore

NOV 15 1988

JAMES C. HANSON

CHARLES VAN ALSTINE Geological/Geotechnical Engineer

PRELIMINARY FIELD OBSERVATIONS

Memorandum to File

JOB: Paradise Wastewater System

Job No. 108

LOCATION: Elliot Springs Treatment Pond Site Day: Wed. 11-09

Neal Road, west of Paradise

Present at Site: Van Alstine and Nick Bonsignore (visit by Paradise City Engineer).

OBSERVATIONS:

- 1. Planned construction consists of four treatment ponds with a total of about 9 surface acres to be located south and east of Elliot Springs. Tentative pond configuration consists of four square ponds within an overall area about 600 feet by 600 feet. The ponds would be about 15 feet deep (12 foot water depth).
- 2. The surface on the parcel slopes gently to the west. The head of a drainageway extends into the westerly portion of the parcel. A gas line extends diagonally across the parcel. The area supports sparse to moderate oak and grass cover.
- 3. Bedrock in the area is a mid-Tertiary sequence consisting of volcanic agglomerate, sandstone, and conglomerate. Only the volcanic agglomerate cap rock is exposed in the area of this site. Exposures to the west suggest the cap rock is in excess of 50 feet thick at this location.

The cap rock is very hard bedrock with few "defects". It is exposed in local outcrops, along the slopes of the drainageway, and in numerous shallow man-related excavations.

4. We excavated 9 backhoe test pits to the top of the hard rock. The area is mantled by an irregular layer of very rocky silt soil. The thickness of the soil over most of the site is 1 foot or less. Locally on the west it is 2 to 2-1/2 feet thick.

The upper surface of the volcanic agglomerate is weathered, especially where the bedrock is mantled by topsoil. The thickness of weathering is variable. Typically, moderate weathering extends to depths of 1/2 to 1 foot below the soil; locally on the west, to depths of 3 or 4 feet. The thickness of slightly weathered material (very difficult excavation for backhoe) likely extends another 2 to 5 feet. The slightly weathered bedrock will be moderate excavation for heavy-duty equipment (D-9, D-10). The underlying "fresh" metavolcanic rock is difficult excavation even for heavy-duty equipment.

- 5. In order to construct the ponds as tentatively shown, the following steps are implied:
 - A. Strip and stockpile all soil and moderately weathered volcanic agglomerate from the area of the proposed ponds;
 - B. Excavate the hard volcanic agglomerate to achieve the desired depth and materials. This would require very heavy-duty equipment and operators experienced in excavating such materials so as to provide sizes suitable for construction of dikes.
 - C. Construct the main dike sections using the excavated volcanic agglomerate.
 - D. Process the stripped material to remove rocks and provide suitably impervious materials. Place this impervious material as a 2 to 4 foot thick layer on the inside of the ponds. If interior slopes are 3:1 or flatter, it would be feasible to compact the impervious materials against the slope. If slopes are steeper than 3:1, it would be necessary to place this layer in horizontal lifts with small equipment.
- 6. It appears that there may be an option in the same general area for constructing a series of ponds along the upper reaches of the drainageway. It likely would be necessary to excavate the materials in the reservoir (per above) and dikes would be constructed in a similar fashion. However, only one dike per pond would be required. If the total volume of the four ponds exceeds 58 acre-feet, it would be essential to construct all of the dikes to high standards in order to keep the facility out of Division of Safety of Dams jurisdiction.

7. Although construction conditions at this site would be difficult, the conditions here are similar to those in essentially all of the area west of the town of Paradise and substantially better sites might not be available.

Charles Van Alstine

Information copy: Bonsignore

APPENDIX B

QUESTIONS AND ANSWERS
ABOUT ASSESSMENT DISTRICTS
IN CALIFORNIA

QUESTIONS AND ANSWERS ABOUT ASSESSMENT DISTRICTS IN CALIFORNIA

Prepared by

Sturgis, Ness, Brunsell & Sperry a professional corporation Attorneys at Law Emeryville, California

October, 1988

INTRODUCTION

This brochure contains brief answers to commonly-asked questions about special assessment districts in California.

Although a number of special assessment procedures are contained in state law as well as in the ordinances of charter cities and counties, the great majority of assessment proceedings for capital improvements are conducted under the Municipal Improvement Act of 1913 (Section 10000 et seq., California Streets and Highways Code). The 1913 Act is usually used in combination with the Improvement Bond Act of 1915 (Section 8500 et seq., Streets and Highways Code). The 1913 Act contains the procedures for levying assessments; the 1915 Act permits the issuance of improvement bonds and the repayment of assessments over a period of years.

In this brochure the answers are based on the 1913 and 1915 Acts, but many of the answers also apply to other assessment procedures. Note that the popular Mello-Roos Community Facilities District Λ ct is not a special assessment statute and is not covered in this brochure.

For convenience, references in the brochure are to cities and city officials, but counties and independent special districts may also conduct assessment proceedings.

The answers given here are brief, but assessment law is complex. Further information about any question can be obtained from the public agency conducting the assessment proceedings or from its municipal bond counsel.

STURGIS, NESS, BRUNSELL & SPERRY October, 1988

QUESTIONS AND ANSWERS ABOUT ASSESSMENT DISTRICTS IN CALIFORNIA

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Part 1 IN GENERAL

What kinds of improvements are financed by special assessments?

The list is long. Among the most common are streets, sidewalks, landscaping, lighting, sewer and water lines, storm drains and other improvements associated with public streets.

Assessments may also be used to finance public parks, wharves, parking lots or structures, sea walls, reservoirs and many other types of public improvement.

In general the improvement must meet two standards:

* It must be a public improvement -- that is, it must be owned and managed either by a public agency or a publicly-regulated utility company.

* It mus be a local type of improvement that has a special benefit to land in the assessment district, over and above the benefit to the community as a whole.

What is an assessment district?

An assessment district is an area of land specially benefitted by a public improvement. The assessment district is formed by a city (or a county or independent special district, such as a county water district, sanitary district or community services district) which is responsible for the improvement.

The city levies an assessment against each parcel of land benefitted by the improvement, in proportion to benefit. All of the assessed land, taken together, constitutes the assessment district. The city then sells improvement bonds to raise the money to build or buy the improvement. The owners of the assessed land repay the bonds over a period of years.

An "assessment district" is not a separate legal entity like a water district or sanitary district. The term is simply used to describe the area of land that the city has assessed for the improvement. An assessment district is also sometimes called a special assessment district, an improvement district or a local improvement district (LID).

Is the assessment a tax?

No. Special assessments are not considered to be taxes, because they represent the cost of a particular improvement that benefits the assessed land

rather than the cost of government in general. The assessment may be payable along with general property taxes but is always shown as a separate item on the tax bill.

Can an assessment district be formed to improve a private street?

No. With minor exceptions, the improvements financed by assessments must be owned by a public agency or a regulated public utility.

If the city approves, a private street can be dedicated to the city by the owners, and assessments can be used to bring the street up to public standards. The street is then maintained by the city at city expense.

Can any private improvements be included in an assessment district?

In a few cases. For example, if the grade of a street or utility is to be changed, the cost of rebuilding a driveway or raising or lowering a house sewer may be included in the owner's assessment, with the owner's consent.

Can assessments be used to acquire land for an improvement?

Yes. The city is required to pay fair market value for any land acquired for public purposes. The cost of these acquisitions is included as a part of the project cost and is assessed to the benefitted land.

In certain cases the owners find it more economical to dedicate the needed land to the city without cost, in order to save the cost of appraisals and right-of-way agents' fces.

Can assessments be used for anything but new construction?

Yes. The city can levy assessments to finance the purchase of existing improvements. For example, assessments can be used to purchase a private water company in order to place the water system under public ownership.

How is an assessment district formed?

The city must follow a procedure established by state law (or in some cases by city ordinance). The procedure usually starts with a petition to the city, signed by the owners who will be assessed and who want the improvement. If the city council accepts the petition, a complete engineering report is prepared, including a proposed assessment on each parcel of benefitted land.

When the report is filed with the city council, the owners are notified and a public hearing is held. Dissatisfied owners may protest at the hearing.

After the hearing the city council may levy the assessment, with or without changes, or may abandon the improvement project.

How long does it take to form an assessment district?

It depends on the size and complexity of the project. For new construction the engineering report must include plans and specifications. Additional time may be required to comply with environmental laws. In general the time required may range from a few months to more than a year.

How much does it cost to form an assessment district?

In addition to the cost of designing and building the improvement, assessments include the cost of preparing the engineering report, resolutions, notices and other documents; the cost of publishing, mailing, posting and recording notices; and the cost of printing, selling and servicing improvement bonds. In large projects (\$5 million or more) these costs should amount to less than five percent of the assessment; the smaller the project, the larger the percentage.

Where improvement bonds are issued, the assessments may also include a set-aside for reserves (which eventually is credited to the assessments) and a discount on the sale of the bonds (which is effectively a form of prepaid interest).

The amount of these "incidental expenses" for a particular improvement project can be estimated in advance with reasonable accuracy.

How are the improvement costs shared?

The improvement cost is divided among the parcels of benefitted land in proportion to benefit. There is no fixed formula in the law for determining benefit. Every project must be evaluated individually according to the type of improvement and the nature of the land assessed. Factors like parcel area, frontage on the improvement, topography and exist-

ing or potential uses of the land may be taken into account.

What is meant by "special benefit"?

"Special benefit" is the benefit to a parcel of land from a public improvement, over and above the benefit enjoyed by the public or the community as a whole. For example, a street improvement benefits anyone who uses the street but has special benefit to property located on the street. A sanitary sewer has special benefit to property connected to the sewer even though the whole community benefits from the existence of the sewer system.

Are all costs of the improvement assessed?

Not necessarily. In some cases the city may make a contribution to the project from other funds, especially if the improvement has a strong community-wide benefit. For certain types of projects state or federal grants may also be available.

Is there a limit on the amount of the assessment?

As a rule of thumb the assessment should not exceed 30-40% of the value of the assessed land with the improvement complete. Higher assessments make the sale of improvement bonds difficult or impossible. In a few unusual cases a legal limitation may be imposed on the assessments.

Can land be assessed over the owner's objection?

Yes. The city council has the duty to divide the cost of the improvement fairly among the benefitted parcels of land, even if some owners object. Every owner has the right to protest at the public hearing on the assessment.

How does Proposition 13 affect assessments?

Proposition 13 (Article XIIIA of the California Constitution), which limits taxes, does not limit benefit assessments for capital improvements.

Can publicly-owned land be assessed?

There are legal problems (too complex to describe briefly) in assessing land owned by a public agency. If the public land is benefitted by the improvement, the public agency can make a cash contribution to the project.

Part 2 STARTING THE PROJECT

How is the assessment process started?

The usual first step is that owners of land to be benefitted by the proposed improvement sign a petition, asking the city council to build (or buy) the improvement and form the assessment district. The form of petition should be obtained from the city or its counsel.

Before circulating the petition the owners may want to hold one or more meetings with city staff and consultants to get questions answered.

Who signs the assessment petition?

The petition must be signed by those who hold legal title to the land in the proposed assessment district, as shown on the records of the county assessor.

If the land is held in joint tenancy or tenancy-in-common, any one of the owners may sign for all. If the land is owned as husband and wife, either may sign for both. If the land is in trust, the trustee must sign.

Renters and lessees should not sign the legal petition, but their support of the project by separate letter may influence the decision of the city council.

Signatures on the petition are not required to be notarized.

How many signatures are needed on the petition?

The petition should be signed by owners representing at least 60% of the net land area (not counting public streets) to be included in the assessment district. The 60% requirement is measured only by land area -- not by number of parcels, value of property, frontage on the improvement or amount of proposed assessments.

The 60% requirement is set by state law, but the city may make additional requirements before accepting a petition.

Can an owner who signs the petition object later?

Yes, unless the petition contains a specific waiver of the owner's right to protest. For example, a petitioning owner might still want to protest at the public hearing if the cost of the improvement turns out to be much higher than expected.

Assessment petitions typically include a waiver of proceedings under the Special Assessment Investigation, Limitation and Majority Protest Act of 1931, also referred to as Division 4 of the Streets and Highways Code. This waiver is not a waiver of the owner's right to protest at the hearing.

Why does the petition contain a waiver of Division 4 of the Streets and Highways Code?

Division 4, unless waived, requires the city to prepare a special report in addition to the regular engineer's report on the improvement project. The special report contains the assessed valuation of each land parcel and the amount of existing assessments, if any, against the land. The waiver saves the time and cost of preparing the special report.

Division 4 also contains a legal limit on the amount of the assessments, but the city council can exceed the limit anyway on a finding that the project is economically feasible.

Can assessments be levied without a petition?

Yes, but cities often are not willing to pay engineering expenses for the project unless the owners show their support by signing the petition.

In some cases the city may start the assessment process without a petition if obtaining signatures is difficult because of a very large number of owners or a large number of non-resident owners. In a few cases cities have levied assessments for sanitary sewers against the wishes of a majority of owners, in order to abate a health hazard.

What happens when the petition is presented to the city?

If the city council decides to move ahead with the assessment process, it appoints an "engineer of work", either the city engineer or an outside consultant, to prepare the engineer's report on the project. The city council also appoints a

municipal bond counsel to supervise the legal proceedings.

What does the engineer of work do?

The engineer of work is a civil engineer or other person qualified to prepare the report on the improvement project. This work includes designing the improvement (if new construction), estimating its cost and proposing an assessment on each benefitted parcel of land. The engineer of work may also be employed to supervise construction of the improvement and to inspect the work.

What does the municipal bond counsel do?

The bond counsel is a law firm specializing in the legal work required to levy assessments and issue improvement bonds. The bond counsel typically prepares all of the documents needed to form the assessment district -- resolutions, affidavits, notices and the like -- and supervises the assessment procedures to be sure that all legal requirements are met. When the improvement bonds are issued, the bond counsel renders a legal opinion as to the validity, enforceability and tax-exempt status of the bonds.

Part 3 COSTS OF THE PROJECT; THE ENGINEER'S REPORT

What does the engineer's report contain?

The project report (usually called the engineer's report) contains at least the following:

- a) Plans and specifications for new construction, if any.
- b) A description of existing improvements to be acquired, if any.
- c) A description of land, easements and rights-of-way, if any, to be acquired for the project.
- d) A complete project cost estimate, including incidental expenses.
- e) An assessment roll, showing the amount that the engineer of work proposes to assess against each parcel of benefitted land.
- f) An assessment diagram, showing all the parcels of land in the assessment district.

The report may also include the engineer's worksheets, showing a breakdown of the component costs in each assessment. It may describe in words the method or formula used by the engineer to calculate each assessment.

What costs are included in the cost estimate?

The engineer's report includes a complete listing of all the expected costs of the project. These include the direct costs of constructing and/or acquiring the improvement, as well as an allowance for construction contingencies.

The estimate also lists indirect costs ("incidental expenses") such as engineering, legal and administrative costs. The estimate normally includes an allowance for establishing a reserve fund, to protect the purchasers of improvement bonds against delinquencies in assessment payments, and an allowance for selling improvement bonds at less than their face value (the "bond discount").

If funds are being contributed to the project from sources other than assessments, these contributions will be shown in the estimate as a deduction from the amount to be assessed.

What are "incidental expenses"?

The term "incidental expenses" covers a wide variety of indirect costs that may occur in one or another

assessment project. Most common are the cost of preparing plans and specifications and other costs of preparing the engineer's report; inspection fees; the fee of bond counsel; the fee of right-of-way agents and appraisers and other costs of acquiring land; the cost of printing, selling and servicing improvement bonds; and administrative costs of the city in publishing, posting and mailing notices and in processing documents.

What is a "bond discount"?

For technical reasons improvement bonds are almost always sold by the city for less than the face value ("par value") of the bonds. The difference between the face value of the bonds and their selling price is called the bond discount; it is usually expressed as a percentage of the face value, and is usually in the range of 1.5% to 3%.

An allowance for bond discount must be made in the project cost estimate, so that the sale of the bonds will raise enough money to complete the project. The bond discount can be thought of as a form of prepaid interest; it is taken into account in calculating the net interest rate on the bonds.

What is the purpose of a reserve fund?

When improvement bonds are sold by the city, a part of the proceeds are set aside in a special reserve fund. If any assessed owner fails to pay an assessment installment on time, the reserve fund is drawn down to make up the difference, so that the bond principal and interest can be paid on time. When the owner pays the delinquent assessment, the money is restored to the reserve fund.

An allowance for the reserve fund is made in the project cost estimate. The amount of the reserve varies with each project, depending on project size, number of parcels, parcel values compared to assessment amounts, and other such factors.

The reserve fund may be reduced annually or may be held and used to pay the final bond principal and interest. In either case the reserve fund is credited on the assessment installments. An owner who pays the assessment in full at any time

receives a credit for the owner's prorata share of the reserve fund.

What is an assessment diagram?

The assessment diagram is simply a map showing each parcel of land within the boundaries of the assessment district. The diagram is prepared by the engineer of work as a part of his report.

If the assessment district is formed, the diagram is filed in the county recorder's office in the Book of Maps of Assessment and Community Facilities Districts.

What is an assessment roll?

The assessment roll is a list of each parcel of land in the assessment district, together with the amount of the assessment assigned to each parcel. Each parcel is given a distinctive assessment number, which matches the number shown on the assessment diagram. The assessment roll is a part of the engineer's report.

Don't confuse the assessment roll in assessment districts with the county assessor's roll, which is a listing of assessed valuations of all land in the county for property tax purposes.

What is an "assessment spread"?

"Assessment spread" is another term for the assessment roll. When the engineer of work calculates the amount of the assessment against each benefitted parcel of land, he is said to be "spreading the assessment". His worksheets are referred to as "spread sheets".

Is there a formula for determining benefit?

There is no formula in the law for determining benefit. It is up to the engineer of work to recommend a division of the project cost among the benefitted parcels of land on any basis that seems to treat all owners fairly. In spreading the assessment the engineer of work usually develops an objective formula for the particular project, using factors like parcel acreage, frontage on the improvement, land use, and the like.

Does the engineer make the final decision on assessments?

No. The assessment roll contained in the engineer's report is the engineer's recommendation to the city council. The city council must notify all owners and hold a public hearing on the report. After the

hearing the city council makes the final decision, which may include changes in the assessments or even an abandonment of the project.

Part 4 THE PROTEST HEARING

How are owners notified of the public hearing?

In 1913 Act assessment proceedings, notice of the protest hearing is given in three ways:

- * By first class mail to owners of land in the assessment district, as their names and addresses appear on the county tax rolls, or as known to the city clerk. The notice by mail shows the amount of the proposed assessment against the owner's parcel.
- * By publication of a general notice twice in a local newspaper.
- * By posting a general notice along open streets in the assessment district.

What should an owner do to protest the assessment?

First, the owner should talk to the engineer of work well before the hearing. If the engineer agrees with the owner's objection, the engineer's report can be corrected before the hearing is held. Otherwise, the owner may file a written protest with the city clerk before the time set for the hearing.

There is no standard form for the written protest. A letter addressed to the city council will do. The letter should contain:

- a) A statement that the owner is protesting the assessment, and a statement of the reasons for the protest.
- b) An identification of the owner's parcel of land by its assessment number as shown on the notice, or by some other description sufficient to identify the assessment being protested.
 - c) The signature of the owner.

What happens at the hearing?

Typically the engineer of work gives an oral summary of the written report that he has filed with the city council. Then the floor is open for any interested person to speak for or against the project, the boundaries of the district or the amounts of the assessments. An owner or his representative may speak at the hearing, whether or not the owner has filed a written protest.

Are landowners the only ones who can protest at the hearing?

No. Any interested person may appear at the hearing and address the city council. However, only the written protests of assessed owners are counted in determining whether a majority protest exists.

Can protests be withdrawn at the hearing?

Yes. At any time before the conclusion of the hearing, a written protest may be withdrawn in writing.

What is a "majority protest"?

A majority protest exists if, at the end of the hearing, the written protests of assessed owners represent more than one-half of the area of land to be assessed. The calculation of majority protest is based on land area only -- not on number of protests, amounts of proposed assessments, or value of land in the protest.

What happens if there is a majority protest?

Ordinarily the city council has the authority to overrule a majority protest by a four-fifths vote, but in practice it is very unusual for a majority protest to be overruled. Unless overruled, a majority protest requires abandonment of the project for at least one year.

Can the city council increase assessments at the hearing, or add new land to the assessment district?

No, unless the affected owners consent in writing. Otherwise the city council must call an additional hearing and give notice to the affected owners.

Can the city council exclude land from the assessment district at the hearing?

Yes. The city council must exclude land if it finds that the land will not benefit from the improvement, but the remaining assessments cannot be

increased without written consent or a new hearing.

Can the city council make changes in the improvements at the hearing?

Yes. If the change alters the benefit to any parcel of land, the council must modify the assessment and must call a new hearing or obtain written consent if any assessments are increased.

Can the hearing be continued to a later date?

Yes, in the discretion of the city council.

What choices does the city council have after the hearing?

The city council has several options:

- * It may abandon the project.
- * It may approve the engineer's report as submitted and levy the assessments.
- * It may modify the report, and then approve the report as modified unless a new hearing is required because of increased assessments.
- * It may delay any action for further consideration or further information.

Can changes be made in the assessments after they are levied?

Yes. If assessments are increased or new assessments are added, the city council must obtain written consent of the affected owners or call a new hearing.

What is an "assessment lien"?

The assessment lien is an encumbrance on the assessed land, similar to the lien for property taxes. The lien remains on the assessed land, and will be shown on any complete title report, until the assessment is paid in full.

Part 5 DOING THE WORK: THE IMPROVEMENT FUND

When can construction of the improvements begin?

Bids for construction are often received before the hearing on the engineer's report, so that the contract can be awarded as soon as the assessments are levied. Contract formalities may take another two weeks or so; then work can begin.

The city council may choose to delay award of the contract until improvement bonds are sold and funds for the project are received.

Does the construction work go to public bid?

Yes, with a few exceptions. The city may make a contract with another public agency or a regulated public utility to do the work, without competitive bidding; or the city may do the work with its own forces. Otherwise the construction contract is awarded after open, competitive bidding.

Does the city have to accept the lowest construction bid?

The contract, if awarded, must go to the lowest responsible bidder. The city always reserves the right to reject all bids; this is necessarily so if bids are received before the hearing, since the city council may decide to abandon the project.

What happens if the construction cost exceeds the estimate?

The city council may make up the difference out of other city funds or may levy a supplemental assessment. The procedure for a supplemental assessment is the same as for the original assessment.

The allowance for contingencies in the original project budget is usually sufficient to cover any cost overruns.

What is the "improvement fund"?

This is a separate fund (sometimes called the "construction fund") which is set up to pay for all costs of the improvement project, including incidental expenses. Money in the fund comes from the pay-

ment of assessments in cash, if any, and from the proceeds of the sale of improvement bonds.

Is the improvement fund invested at interest before it is spent?

Yes, in the same manner as other city funds. Investment earnings are held in the fund and used to help pay for the project.

If money is left in the improvement fund after completion of the project, what happens to the surplus?

At the option of the city council, the surplus may be used to maintain the improvement until it is used up, or the surplus may be credited on each assessment. Assessment credits result in either a cash refund to the owner or a reduction in future installment payments of the assessment.

Part 6 PAYING THE ASSESSMENT

Can the assessment be paid in cash without interest?

Yes. After the assessment is levied, the city mails an assessment notice to each owner. The owner has 30 days after the date of the notice to pay all or a part of the assessment in cash without interest. After that improvement bonds are issued in the amount of the unpaid assessments.

Can the assessment be paid in installments?

Yes. The number of annual installments depends on the term of the improvement bonds that the city issues. Owners who pay in installments also must pay interest, at the same rate or rates that the city must pay on the improvement bonds.

How many years may the assessment installments be spread over?

The law allows up to 40 years, but improvement bonds with such a long term do not have a ready market and would bear punishing interest rates. A term of 15 or 20 years is typical. In general, the shorter the term, the lower the interest rate.

How are assessment installments collected?

The installments appear as a separate item on the county property tax bill. The tax bill may be paid in full each tax year by December 10, or in semiannual installments by December 10 and April 10.

What is the interest rate on installment payments?

The same as the interest rate on the improvement bonds; that depends on prevailing rates in the financial markets at the time the bonds are sold. If the improvement bonds are tax-exempt (as they almost always are), the bond rates will be lower than comparable mortgage interest rates.

Are installment payments the same each year?

Usually about the same, although there may be a small variation from year to year as a result of the improvement bonds being issued in rounded denominations. In exceptional cases the city may set up a repayment schedule for the bonds such that the annual installments will vary in amount.

The first annual installment may include more than one year's interest, depending on the time of year when the bonds are issued. This will cause the first installment to be higher than the rest.

Can the assessment be paid off at any time after bonds are issued?

Yes, but with some additional cost. The owner must pay a premium, usually amounting to 3% of the unpaid balance of the assessment. This premium is passed along to the owners of the bonds that are retired ahead of schedule.

The owner must also pay interest to the next date on which improvement bonds can be retired; this can be from three to nine months of interest, depending on when the payment is made.

In addition the city may make a small administrative charge for retiring bonds ahead of schedule.

If assessed land is sold, does the assessment have to be paid off?

No, unless the buyer of the land insists on it. The assessment follows the land regardless of changes of ownership. The contract for the sale of the land should be clear as to whether the assessment is to be paid off or assumed by the buyer. No notice to the city or consent of the city is required.

If an owner pays the assessment in full, is credit given for a share of the reserve fund?

Yes. The owner's prorata share of the reserve fund is subtracted from the amount the owner must pay.

What happens if the owner does not pay an assessment installment?

The city usually has the obligation of foreclosing on the land in a court action, as a part of its contract with the holders of the improvement bonds. If a court action is not brought, the land will be sold by the county in the same manner as a sale for delinquent property taxes.

What are the penalties for not paying the assessment installments on time?

The penalties are the same as for delinquency in the payment of property taxes. Currently these penaltics amount to 10% of the amount of the delinquent installment, plus an additional 2% per month beginning July 1 following the date of delinquency.

The city can elect to replace the 10% lump sum penalty with a 2% per month penalty.

If the city brings a court foreclosure action, the owner is also liable for the city's attorneys' fees.

If some owners do not pay their installments, are the other assessments increased to make up the difference?

No.

Part 7 IMPROVEMENT BONDS

What are improvement bonds?

Improvement bonds are certificates showing that the assessment district is indebted to the holders of the bonds. The bonds are usually issued in even amounts of \$1,000 or \$5,000.

The city issues the bonds for the amount of assessments to be paid in installments.

Who buys the bonds?

The bonds are sold to a securities firm (called a "bond underwriter") that buys and sells municipal bonds. The underwriter then resells the bonds to corporations, funds and individuals as an investment.

When are the bonds sold?

Soon after the assessed owners have had a 30-day period to pay their assessments in cash without interest.

How are the bonds sold?

At the option of the city council, the bonds may be sold by competitive bid or to a selected underwriter without bidding.

Are the bonds tax-exempt?

Interest earned by the holders of the bonds is exempt from California personal income tax, and with few exceptions is excluded from gross income for federal income tax purposes. As a result the bonds bear a lower interest rate than comparable taxable securities.

Do all bonds bear the same interest rate?

Not usually. These are "serial" bonds -- that is, some bonds come due each year over the term of the entire bond issue. Bonds that mature earlier tend to bear a lower interest rate than bonds that mature later. This means that the *rate* of interest paid by the owners may rise slightly over the years, as earlier bonds are retired, but the *amount* of interest declines because fewer bonds are outstanding.

How are the interest rates set?

In competitive bidding the bidders set the rates; the winner is the bidder that states the lowest net interest rate, taking into account both the bond rates and the bond discount.

In non-competitive sales the city and the selected bond underwriter negotiate and agree on a schedule of rates.

If interest rates come down, can bonds with high rates be replaced by lower-rate bonds?

Yes. This procedure is called a "refunding".

The city's contract with the bondholders may prevent a refunding for a period of years after the bonds are issued.

Are improvement bonds "rated"?

To receive a quality rating on the bonds, the city must apply to a national rating agency and pay a fee. The rating agency may or may not be willing to provide a rating for bonds of this type. Most improvement bonds in California are non-rated.

Can payment of the improvement bonds be insured?

In some cases. Each bond issue is evaluated on its own merits. If the bond issue is insured, the insurance premium is included as an incidental expense of the project. The insurance tends to lower the interest rate on the bonds.

APPENDIX C

PARCEL CENSUS DATA SHEETS

Town of Paradise Wastewater Feasibility Study Parcel Information

Explanation of Column Headings

Record # - Accession Number of item entered into database.

Parcel No. - Asssessor's Parcel Number (APN).

Situs Address - Address of parcel corresponding to APN.

Owner, Owner's Street Address, City, State - Owner of parcel.

Zone - Land Use Zone from Paradise Zoning Map (see Figure 2-1).

Front Footage - Lineal feet of frontage on street. The notation "frontage" or "frontage land use" followed by two numbers separated by a slash mark (/) entered in the "Other information" column indicates frontage on two streets (i.e., corner lot).

Area, acres - Parcel area.

Building area, sq. ft. - Area of building on parcel (where available).

Current use - Use classified according to the following table:

I	Institutional (school, church, government,etc.)
LM	Light Manufacturing
M	Motel
MF	Multi-family residential
0	Office-type business
R	Restaurant
RS	Retail Sales business
S	Service business (including medical & dental)
SF	Single-family residential
V	Vacant parcel

EDU's - Preliminary calculation of Equivalent Dwelling Units assigned to a parcel. See Chapter 2. Vacant parcels are assigned 0.5 EDU per parcel in this listing, but it is not currently planned to assign any EDU's to vacant parcels when developing the detailed assessment spread.

Business name - Name of business currently occupying parcel, where available.

Other information - Additional descriptive information about the parcel.

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Other information	1,800 person capacity government 0/RS 200 person capacity 500 capacity 250 person capacity	200 person capacity MF-2 d.u. 110 students 400 person capacity frontage land use 430/1000	frontage land use 150/150 frontage land use 84/100
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Front footage	700 372 446 900 171 171 185 311 40 90 138	287 121 188 75 438	118 158 158 56 198 198 52 52 52 52 52 52 52 52 52 52 52 52 52
Zone		:	55555555555555555555555555555555555555
City, State	Beverly Hills Magalie Salt Lake City Sacramento		San Rabon
Owner's Street Address	6491 Clark Road P.O. Box 456 9864 Wilshire Blvd 8272 Skvuey P.O. Box 985 P.O. Box 985 P.O. Box 327 P.O. Box 631 P.O. Box 1176 P.	780 Luther Drive P.O. Box 1600 P.O. Box 1600 P.O. Box 1600 6187 Greenwood Drive 6187 Greenwood Drive	6187 Greenwood Drive 6187 Greenwood Drive P.O. Box 1878 2452 Paddock Drive 1541 Judy Lane 5665 Scottwood 5325 Black Olive 6491 Clark Road
Omer	6459 Clark Pine Grove Sub Chrstn/Nssrry Allnc Chrch 6469 Clark Road No VALUE 6580 Clark Road Amer. Bapt. Church/No. CA 6626 Clark Road Paradise Plaza 8272, 8292 Skyway Lesiis Stanton 1967 Skyway Norman Wright 1795 Bille Hamilton 1275 Bille Jesus Christ Latter Day 5275 Skyway Loyal Grder of Boose 311 Circlewood First Church of Nazarene 6769 Skyway Saint Germain Foundation 791 Luther Rose Busch	Litheran Church Bishop of Sac Bishop of Sac Bishop of Sac	1.L. Fierro 1.L. Fierro Lucille Hoffman Burte County Pacific Telephone Pacific Telephone Pacific Telephone Pacific Telephone Pacific Telephone Pacific Telephone Orn of Paradise Town of Paradise
Situs Address	6491 Clark Road 6580 Clark Road 6580 Clark Road 6526 Clark Road 8272, 8292 Skyuay 7867 Skyuay 7874 Skyuay 7874 Skyuay 7875 Sille 1275 Bille 5275 Skyuay 7811 Circlewood 6769 Skyuay	788 A&B Luther Drive 771 Elliott 765 Elliott 783 Elliott 6550 Skyway 6626 Skyway	6626 Skyway 747 Elliott Road 6634 Skyway 5912 Allannd 772 Elliott 786 Elliott
Record # Parcel No. Situs Address	19 59-28-184 20 59-28-98 31 59-28-99 50 59-28-99 50 59-28-99 148 51-15-2-34 151 51-15-2-34 151 51-15-2-34 152 51-17-3-56 208 51-17-3-56 208 51-17-3-58 206 51-17-3-58 206 51-31-3-59 206 52-86-38 305 52-86-38	338 52-88-64 331 52-88-65 329 52-88-67 333 52-88-67 334 52-88-94	335 57-88-9, 336 57-88-9, 336 57-88-9, 412 52-12-2-29 516 52-15-2 528 52-15-3 517 52-15-3 517 52-15-3 517 52-15-3 517 52-15-3 517 52-15-3 517 52-15-3 517 52-15-3 517 52-15-3 517 52-15-3 517 52-15-3 517 52-2-18 52-22-2-18 52-22-2-18 52-22-2-18 52-22-2-18 52-22-2-18 52-22-2-18 52-22-2-18 52-22-2-18 52-22-2-18 52-22-2-19 52-22-2-18 52-22-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2

	Others in the second se	ici III olmbilool				99 bed 1440 students B 7.5 apd/student design	values							698 capacity		980 students	688 students	400 capacity		capacity	90 capacity	m Animal Shelter				frontage land use 188/384				Mfg. 1 house on - 26; all part of	Heinke's Fruit Juices	(numerous buildings)	mfg 1 house on - 26; all part of	Heinke's Fruit Juices	(numerous buildings)	Mfg. 1 house on - 26; part of Heinke's	Fruit Juices	(numerous buildings)	(part of Heinke's)	: :	+ 8.000 so feet		to de	18 units		1110	16 Units	ZIITS
	Area, Building Current FDM's Rustrace name			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		62.00 Paradise High School 164		1.00 Assembly of God Youth House	1.00 Assembly of God Church	1.00 Und Fellows	1.00 Library Unabel	1.69 Masonic	8.58 Church of the Masi	Church		0			6.58 Work Training Center	3.50 Calvary Bapt Chrch/Chrst Schol 300 capacity	88	1.00 IOWN OT FBFBGISE Animal Sheltr Town Animal Shelter	1.80 Crown Cabinets	2.20 Cabinet Country (shields elec)	1.00 Cabinet Shop	1.88 Cabinet Shop from		1.00 Custom Cabinet Shop	1.00 Bill's Cabinet Shop	1.00 Mfg.	Heir		1.00 mfg.	Heir		1.86 1165 mfg.	F	eru.)		1.86 PAL Plastics	2.00 Fashion Optical + 8.	1.88 unknown furniture fabrication		Note	nose Gandens Motel			
	Building Current	area, use	sq. ft.		1 2000					1 9901		77			3006 1	. 1 9	1 0 I	8 I	4580 I	8 I				• •	MT 889	MT 886	2.00	11 A99	1000 LM	5		;	5			5			2588 LM	5888 Lil	5000 LF	1886 LH	E 69	E 69	69	- GS	: IC	:
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	City, State				chico									Pleasant Hill				Salt Lake City	chico							Santa Barbara																				Los Altos	Los Altos	
	Owner's Street Address			958 Bille	375 Cohasset Road		955 Flliott Road	955 Elliott Road	P.O. Box 178	193 Valley Ridge Drive		P.O. Box 212	P.0.Box 1166	P.O. Box 23165	P.0. Box 547			50 E. North Temple	2233 Fair Street	5858 Clark Road	Town of Paradise	3842 Silvers fourt	6232 Posev I and	P 0 Box 1287	1.0. DOX 1204	1666 Garden Street #7	6287 Clark Road	6300 Clerk Bond	E345 Clark	V 1917 COCC		5.365 Clearly			5365 Clark	!		12. P.	COCC LIBITA ROBO	//I buschaann	//1 Buschaarn	946 Easy Street	8585 Skyway	7769 Skyway	7018 SKyway	1215 Eva Avenue	1215 Eva Avenue	
	Owner			Renald Rosewood	Gladys Jennings	Paradise Unified School	Peradise Assembly of God 955 Flliott Road	Paradise Assembly of 60d 955 Elliott Road	Cherokee Odd Fellow Bl As P.O. Box 178	Safe-Way Development Ent. 193 Valley Ridge Drive	NO VALUE	Table Mt. Masonic Lodge	Magi Center	No. Cal Conf. Assn SDA	Paradise Grange	NO VALUE SCHOOL	School.	Jesus Christ Latter Day	Work Iraining Center	Calvary Baptist Church	Calif. Cities Financing	William Maylan	Eugene Trinker	R Toule	Itelton Book	Walter Deck	E.R. Gordon	•				Heinke's			Heinke's			Heinbar	Califie Machan	Calvin mackay	Calvin riscosty	J.L. Balley & Son's	Apple Hill Guest House	Galvan Worthington	Johann Klempa	Henning Fisker	Henning Fisker	
	Situs Address			958 Bille	7419 SKYWBY	1 5911 Maxwell	935 Elliott Road		1010, 1014 Elliott	5987 Clark	-30	5934 Clark	565 Pearson	5720 Academy Lane	5/84 Chapel	S& FeBrson	3003, 303/ regrison	1040 DUSCHMBITH	LOSO CWEIG	SOUR CIRTY	951 American Way	8678 Skyway	7675 Skyway	1854A Lisa Lane	883 885 Fllintt	060, 060 L111011	6287 Clark	6390 Clark	5365 Clerk			2365 CLBrk			5365 Clark			5346 Clark	951 McKale I and	OSK MoKala	Off Con State	איט נפטא טנובנו	SO/O, SOSS SKYWBY	1/69 SKyway	/WIB SKYWBY	5799 Wildwood	5799 Wildwood	
K/J/C 882511	Record # Parcel No.			822 53-82-1-72	830 53-02-1-89	1232 53-11-81-81 5911 Maxwell	1215 53-11-1-29	1216 53-11-1-31	924 53-12-26	932 53-12-47	952 53-13-1-25	953 53-13-1-94	1836 54-84-113	185/ 54-84-136	1004 54-86-70	1004 34-63-63	1101 57 05 75	C#-CG-11-73 1711	1161 54-20-48	05-17-10 TOTT	1191 55-18-76	93 51-10-2-37	171 51-16-3-38	186 51-16-4-54	321 52-08-82	70 00 10 170	862 53-84-68	981 53-15-154	1147 54-11-27			1148 54-11-28			1145 54-11-34			1159 54-12-13	1177 55-18-78	N 55-18-71	1181 55-18-7/	BO E1 18 / 07	62-9-91-1C 40	79, 50 08 13	ST-99-75 995	464 52-12-1-22	403 52-12-1-23	

Pace No. 2
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Nastewater Feasibility
Study
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Other information		4 1 2 1	28 units	Great home		38 units	76 mobiles	2 d II	7 11.	2 G.U.	20 units	15 cabins/5 mobiles	2 d.u.	2 d.u.	4 d.u.	4 d.u.	2 d.u.	-+ <u>i</u> 87	פס מוורי	b units: 6149,6147,6141A,6141B,6139,6137	LUCKY JOHN	י היה. סיקורי	7 0.0.	/ a.u.	/ a.u.	2 u.u. 8 d ::	: :: : : : : : : : : : : : : : : : : :	(achile) plust of	(monte) pinst of	2 d:u.	3 4.1.	frontage 125/148; 5 units	4 units	3 units	4 units /	3 d.u.	3 d.u.	. d.u.	'd.u.	3 d.u.	3 d.u.	21 units plus 4 SF	₩-2 d.u.	13 units	2 d.u.
Area, Building Current EDU's Business mame acres area, use		3.19 Hildwood Note:		2.00 Timber Mountain Health Center		12.80 Palos Verdes Motel	Home Park				Mobile Home Park						2.86	68.88 Skyuay Villa Mohile Home Park			06 K																	2.88	2.86			Mobile Home Park		Pine Ridge Apartments	2.00
Building Current area, use	sq. ft.	1E.	E 0	1888 M	3580 M	W 69	- B	- N	<u>#</u>	量 0	- N		- B	- S	± ∞	上	<u>#</u> 69	89 2 <u>4</u>	5	:	100	9 MF	9 16	- 	<u> </u>	- B MF	量 0	- 60 	- O	- N	90 AF	生。	<u>+</u>	<u>₩</u>	60	± 00	- E	<u>+</u> !	60	- NE	上 0	<u>1</u>	60	in i	a a
Area, I		8.52	88.3	0.11	0.25	8.3	10.24	0.32	8.65	2.51	8.38		6.28	6.25	0.42	8,48	6.29	8.70	8	:	2.39	1.25	8.58	8.55	0.41	6.63	8.28	8.3	6.29	9.14	8.24	6.48	S. 35	8.21	6.39	7 20 20 20 20 20 20 20 20 20 20 20 20 20	9.66	8 6	3 :	6.57	1.21	3.88	9.3	3. 5	F. 67
Front		181	150	33	186	150	248	101	134	188	152	i	2	123	110	116	76	218	877		3	158	189	113	128	168	æ	121	3	60	82	125	135	2 :	115	99 ;	128	971	200	3	288	38 ;	110	£ :	3
Zone		8- 8-	7	2-B	ر 1	8 -	ઝ	<u>၁</u>)	2-2 42	J-J	1	e i	Z !	± 1	± :	<u> </u>	3	ï		25	Ŧ	¥	Ī	8 - -5	8-5 A2	8- 5	8- 3	8-J 55	9	8-0	8P -	ත : ජ	ۍ د ت	ž ;	Ξ,	Ē;	E %	Ξ;	Ξ,	Ξ:	<u> </u>		5 5	י' ב
City, State										Rocklin					Mana) in	1090110					San Jose					Magalia			Chico			;	naga118										Carrenant	and allering	
Owner's Street Address		6398 Skyway	5987 Skyway	34.24 black Ulive	5446 Black Olive	Zo Best de	Se Perkside	6570 Firland	1869 Conifer Drive	3515 Creekwood Drive	7974 Skyway	186 Usllev Bidge Deive	5052 Almond	205 Course Drive	16070 Drava Count	1 000 1000 0000	OOSE CIETA NOBO	7726 Skyway	5952 Almond Street		367 S. Baywood Avenue	843 Elliott Road	634 Circlewood Drive	634 Circlewood Drive	676 Elliott	P.O. Box 148	6731 Woodland Drive	6828 Almond	1542 Biduell Avenue	P.O. Box 126	mountain Valley Investors 419 Looksley Court	7.U. BOX 33]	P ft Roy 6/3	SA38 Cherry Drive	193 Valley Ridge Drive	193 Valley Ridge Drive	193 Valley Ridge Drive	193 Valley Ridge Drive	1987 Manle Park Drive	1087 Maple Pert Drive	5052 Almond	5952 Almond	P. O. Roy 22835	P. 0. Box 753	
Owner		Yuen Hon	Joseph Schneider		Linfred Etabiasa	John Beruliak	Edith Security	Edith Reed	William Martsock	Robert Carpenter	Norman Hudson	Arch Meriana	Rudolf Schott	Thomas Uhalan	Shirley Sadler	Averst Kilentz	711200 10000	Arthur Steward	Rudolf Schott			Walter Wells	James Fallbeck	James Fallbeck	Emas Prys]	H. Cley Bompardner	Thomas Drake	Violet Minoque	John Tolle	Joseph Nugent	nountain Valley inves	Pervin Shaped	David King	Orley Modent	Charles James	Charles James	Charles James	Charles James	Lee Sorman	Lee Sorman	Rudolf Schott	Rudolf Schott	Sammy Noguchi	Thomas Drake	
Record # Parcel No. Situs Address		~	1-6 596/ 3KYUBY				3	119 K1-12-2-110 0204 Storm	ABMAYC 9000 411-7		5-15 /9/4 SKYWBY	4-33 1033, 1035 Bille	4-40 1817 Rochelle Lane	4-42 1089 Bille Road				191 51-16-4-60 7726 SKyway	1209 32-81-82-32 61xx Lucky John											-13 /21 FIF Street							6 5847 James	7 5845 James	9 5846 James						
Record # Parcel		420 52-12-2-28	715 52-27-3-11	713 52-22-13	782 52-25-88	1283 59-19-39	81 51-18-6	110 51-12-0	120 51 17 0	129 51 15 2-1	51-5-61-16 kgr	286 51-16-4-33	193 51-16-4-48	284 51-16-4-42	285 51-16-4-44	183 51-16-4-51		191 51-16-4	9-19-75 6971	24 24 24	231 52-84-84	377 50 08 00	341 32-88-89	26-20-75 75c	381 52-12-1-3	38/ 52-12-1-42	3 2 61 63 722	-71-70 ave	45/ 52-14-1-11	70-1-1-10 20-1-1-1-03 20-1-1-1-03	1-6-91-25 049	472 52-14-2-19	487 52-14-3-2	486 52-14-3-3	497 52-15-44	498 52-15-45	499 52-15-46	588 52-15-47	522 52-15-58	521 52-15-51	288 52-16-15	287 52-16-16	575 52-19-4-2	623 52-28-1-18	

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Other information		4	2011	, , ,	;; = ;	;; =; c ; c	ii 7	: : : : : : : : : : : : : : : : : : :		, c.e.	, v v,	MHP - 10 mite	16 d is citale imits	19 units	14-14-16	F-17	2 SF units	2 units	? units	8 units	incl in -45	C+ 117 : 714 H	9-3)- <u>1</u>) — <u>4</u>	×=(0-7	410	26-Ulits	91-10	F-32	Tr-40	8 units	STILL OF	fr-12 5830 Green Thurmb	Frontage land use 400	MF-16 /	7世	FE-2	7-1	stimity	F-8	Copeland	Stand & Marse	53-13-2-88.79	MF-52	
Area, Building Current EDU's Business name		2.00	2.88	3.80	3.88	3.68	98.4	38.8	3.88	3.88	3.88	16.60	14.00	19.00 Evergreen Mobile Home Park		8.88 Evergreen Mobile Home Park	2.80	2.00	2.00	8.80	6.86	98.4	98.7	96.79	80 7	90.7	13.80	12.00	22.22	25.00	20.00	8 5	88.0	2.88		12.80	7.00	2.89	4.90	6.88	8.80		1.58	38.80		
ilding Currer	sq. ft.	₩ 60	₩ 60	上	<u>*</u>	₩	9	- A	60	60		9		业 0		业	上 0	些 00	至 33	<u>34</u>	上 0	9		9		<u>1</u>		. E	- L		= ¥	M M	. 4	± ±		1 3 a	<u>J.</u>	# 0	- La	# 8	¥ 9		- H	9 MF		
Area, Buil	01	89.	6.43	8.34	8.32	6.32	6.67	8.16	87.0	68.8	0.27	1.26	1.39	6.58		1.8	1.67	8.88	8.68	6.63	6.52	8.75	2.19	2.30	8.88	0.41	1.60	8 8	2 2	5 C	. 9	 8 %	000	1.20		1.28	0.27	0.21	8.27	1.78	8.68		8.42	5.60		
Front		200	158	100	95	95	22	25	158	125	82	128	171	128		<u>8</u>	211	69	85	8	115	288	285	286	89	186	389	188	, F	186	150	989	76	137		128	141	29	19	33	218		186	827		
Zone		8-5 55	¥	8-J 5	te CA M-F	SA F	7	CA C-8	7	2 -3	¥_	£ 5	8-J	J-7 42		ပ္	2	Ţ	፮	፮	Ŧ	<u> </u>	<u>၂</u>	3	Έ	F-P-	Ŧ	HA F-P	4	0 14	. H-H		L.	4		4 4	4	M-F-P	4	F-F-P	F-F-P		¥	7 5		
City, State		Riverside		Menlo Park	Rolling Hills Estate	Richvale	Anaheim	Oakland				Redding		Redwood City				Walnut Creek										Mount lake Terrace			Magelie													Chico		
Owner's Street Address		11445 Norwood	620 Circlewood Drive	3225 Middlefield Road	15 Encento Drive	P.O. Box 303	1034 N. Lido Street	3045 Telegraph Avenue	6292 Lancaster Drive	P.O. Box 487	5994 Kibler Road	4808 Alta Camino Drive	5615 Skyway	2193 Edgewood Road	2000 6621	Service (97)	6683 Lucky John	F.U. Box 3/8/	5581 Henney View Ter.	. P. 0. Box 386		186 Valley Ridge Drive	208 Rivendell Lane	2008 Rivendell Lane		186 Valley Ridge Drive	5581 Honeyview Terrace	4201 236th St Sul, #183	1877 Shadowbrook		13145 Coutolence Drive	5581 Honeyview	5581 Honeyview Terrace	5045 Russell Drive		3361 Honeyview Terrace	186 Valley Ridge Drive		5876 Copeland	1500 Humboldt Road, Ste 1 Chico						
Omer		John Fritz	y Glenn Russell	Marth Schuett	Dean James	Lloyd Menzies	Howard Carter	Timothy Akin	Alison Campion	Joseph Kola	John McCool	Robert Bailes	Gaylon Guthrie	James Haygood	Pavillond Raken	Marie Market	Pudol 4 Minost	יייי וווווסטו	James & Era Marding	John Urispin/Heritage Lan		Arch Marjana	6148,6138,6128,6118 Clark Shelter Cove Investment	Shelter Cove Investment		000	James Harding	' Gary Northup	' Friedrich Fuchs	· NOT FOUND	Angelo Dalla	James Harding	James Harding	Benson Jones	MICADICE 120	Archit Inc.	Archy rejens	Arch Marjama	Arch Marjana	Arch Parjeas	Arch Marjesa		Lilly uwen	VillB Monerey Investors		
Situs Address						5// Uakwood	SALD UBKWOOD	55// Almond	684-788 Birch	5461 Almond	588 Dakwood Lane	5571 Skyway	5611, 5615 SKYWBY	6104, 6156 SKyuny	7289 Skyuay	6982 Lucky Toba	5981448 Mayuell	TTOWNET TOWNET	COST MAXIELL	TIANER COO	MACHINETI	114/, 115/ Elliott		6188,6898,6888,6878 Clark Shelter Cove Investment		1844, 46, 48, 58 Elliott	5941 CBmino	1877 33-48 Shadowbrook Wy Gary Northup	1877 1-32 Shadowbrook Way Friedrich Fuchs	1898 1-48 Shadoubrook Way NOT FOUND	5948 Camino	5921 Camino	475 Numeley	988 Elliott	1000 F1110++	5883 5881 Constand	1166 1168 Ellicht	1100, 1100 E1110E	1154, 1154 E1110TT	130(113 2011)0011	36/1, 36/5, 38/3, 58/1	2007 6000	30/0 uppeland	1770, 1230 E1110TT		
Record # Parcel No. Situs Address		648 52-21-1-36	C\$-1-17-76 780	91-7-17-7-19	67'8 52-21-2-25	6-7-17-75 600	0.0 52-22-3-11	MI-1-77-75 169	2-1-22-1-2	8-4-22-25 221	82-52-28	87-52-78	786 52-73-86	79-1-79-50	817 53-82-1-88	1250 53-03-05	1268 53-83-23	1255 52-01-16	1250 50-50-50	1257 53-03-45	011 52 10 2 05	67-5-91-56 116	89/ 55-18-5-31	696 55-16-5-52	1234 53-11-81-28 915 Elliott	92/ 55-12-39	71-55 516	935 53-12-55	936 53-12-56	937 53-12-57	917 53-12-62	915 53-12-71	942 53-12-72	919 53-12-73	923 53-12-8	8				3	3-1-2-1-67	971 57.12.9.30	977 57-13-2 98	00-7-01-00 011		

Page No. 5 83/86/89 Town of Paradise Mastewater Feasibility Study Parcel Information K/J/C 882511	se lify ion									Kennedy/Je
Record # Parcel No. Situs Address	. Situs Address	Owner	Owner's Street Address	City, State	Zone	Front	Area, Bur acres	wilding Current area, use sq. ft.	Area, Building Current EDU's Business name acres area, use sq. ft.	Other information
1248 53-38-999	5975 Maxwell	Central Park Assoc.	5975 Maxwell #32		¥	69	6.60	3M 80	46.88 Central Park Condo Subdiv	sopool 99
985 54-01-97	5770 Clark	J.Y. Hendricks	5778 Clark		3	128	1.68	<u>1</u>	11 00 1 & M Tailer Court	f play \$ 7 imits
1859 54-84-134	5750 Academy	Bence Pinter	6268 Posey Lane		7	268	1 28	<u> </u>	A MA Change home	אורי בי הודים
1665 54-65-75	5587 Limich	Mary Februse	5587 innich ane		L Z	2 8		= 1	0.00 070 1000	P !!
1105 54-05-81	5591 Linnich	Pe Stephenson	5501 limich lane		E 3	8 8	24.0	E 1	7.00	1-2
1862 54-85-84	5575 Linnich	Helen Uhitesel	5575 Limich Lene		E	2 5	4.0	E 1	2.00	
	5510 5500 Clent	Useront Counting	5510 Clark July Care		Ξ :	6	8.3	Ė	2.00	M-2
1127 54 98 73	EED, Clark	VIII BUBI UIIIO	SOIN CIBRY KORD SP. 13		Ī	173	6.25	9 NF	37.00	MP - 37 units
217 30 PE 021	AURI 1700	Daniel Debrado	5522 Clark		<u>ဂ</u>	89	8.38	표 0	2.80	听-2
1123 54-69-65	Clark	Jean Nolan	5542 Clerk Road		ī	8	4.80	월 6	2.00 Blue Haven MHP	MF-2/V
1116 54-89-54	1880 Buschmann	Oscar Snyder/Myrr] West	20 Williamsburg Lane	Chico	2	501	8.88	원 원	78.80 Paradise Gardens III	100 units
	1868 Buschmann	Oscar Snyder/Myrrl West	20 Williamsburg Lane	Chico	£ ₹	501	6.89	型 0	70.00 Paradise Gardens II	188 units
	1840 Buschmann	Oscar Snyder/Myrrl West	28 Williamsburg Lane	Chico	SA FF	581	8.50 80	世 0	70.80 Paradise Sardens I	188 units
1137 54-18-17	998 Bella Vista Ave	Sundance Investors Ltd	P.O. Box 371	Walnut Creek	3	28	3.11	14 0	18.88	11年
1138 54-11-23	5427 Clark	Alicia Dealba	5427 Clark Road		I-5	148	69.4	¥ 0	2.60	2 houses
1149 54-12-21	5436 Clark	Mark Diduce	14930 Diduce Way	Los Gatos	₹	125	7.50	生。	64.80 Pinecrest Mobile Home Park	79-34
	6141 Center Street	Thomas Canterbury	59850 Clark Road #125		<u>ئ</u>	33	0.22	596 0	8.50 Paradise Citizens for Life	
264 52-86-28	6178 Center	Paradise Board of Realtor	· 6178 Center Street		3	78	6.59	2500 0	0.50 Paradise Board of Realtors	
368 52-89-52	6539 Skyway	Jay Perko	6281 No-Rick Drive		<u> </u>	60	6.19	0 8	6.58	
		Marvin Galbertson	P.O. Box 1729		<u>ئ</u>	119	6.27	0 8	85.50	
477 52-14-2-17	2000	Kenneth Jarvis	P.O. Box 1958		T	2	8.12	0 8	5.50	
732 52-22-5-4	282 Pearson	Martin Conley	5309 fit. Ratchel Court	Oroville	8-5 8-5	180	6.32	3000 0	8.58 PGAE Office	
749 52-25-62	5325 Black Olive	PID				22	8.69	0 0	8.58 PID	
769 52-25-77	5555 SKy448y	TOWN HALL				53	8.89	1668 0	8.58 Help 4 People	
1894 54-85-29		Oscar Snyder	P.O. Box 14583	South Lake Tahoe	J-5 85	116	6.98	500 0	8.58 Planned Parenthood	RS/5
1 58-17-2-34		E M West	585 Manzenite Suite 3	Chico	<u>5</u>	112	96.9	5999 R	11.40 Paradise Bowl, Bar & Grill	
48 58-48-83	6626 Clark Road	Paradise Plaza	9864 Wilshire Blvd.	Beverly Hills	<u>5</u>	686	8.89	80 R	11.50 Mtn Mike's Pizza/Cntry Accents R/RS	s R/RS
58-07-05 75	6616 Clark Road	Paradise Plaza	9864 Wilshire Blvd.	Beverly Hills	2-5 5-5	0	6.99	12680 R	5.00 Dagwoods/Baskin Robins	
28 59-49-87		Paradise Plaza	9864 Wilshire Blvd	Beverly Hills	J-3 5	426	8.16	7000 R	5.00 Del Taco	
131 51-14-2-17	8186	Thomas Vengelen	8188 Skyway		ن	188	6.57	1500 R	6.48 Villa Roma Restaurant	
145 51-15-2-34		Norman Wright	P.O. Box 985		3	121	9.74	800 R	3.50 Deli Factory	
174 51-16-3-31	7639	Skyway Investors	698 Sunset		3	280	8.80	1200 R	4.08 Manny's Chile (sic) Bowl	
215 51-22-5	5225 Skyway	Jack Distler	5925 Rampart Drive #113	Carmichael	5	128	6.45	2000 R	12.08 Senor Grumpy's	
238 52-84-69	7899 Skyway	Billy McHenry	5794 Deerpark			210	8.81	1280 R	4. 58 Noterry's Restainant	
237 52-84-72	7839 SKYWBY	Joan Smith	1717 Marchattan Avenue #12 Hermose Beach	2 Hermosa Beach	5	122	6.28	1880 R	9.00 Saokie Nountain Restaurant	
273 52-86-48	6929 Skyway	James Pirmochio	23814 38th Avenue Sp. 153	3 Seattle	J-3 ₹	22	0.32	5000 R	12.50 Pinnochio's	•
348 52-88-92	6888 Skyway	T.L. Fierro	6187 Greenwood Drive		<u>ن</u>	176	8.28	1166 R	4.00 Meehos Merican Restaurent	
229 52-69-47	689	Mahmoud Nazeri	632 Halnut Street	Chico	5	163	8.22	2280 R	6.88 49er Cafe	
400 52-12-1-28		William Tilden	295 Rose Lane		-B-J	25	6.83	A 989	2.50 Domino's Pizza	frontsee land use 38/88
428 52-12-1-35		Janice Lightfoot	3685-D Commie Circle		Ţ	13	8.18	1288 R	7.48 Brunch House Cofe	
425 52-12-1-47	6371 Skyway	LMM Enterprises	78388 Skyway		<u>-</u>	123	88.	2888 R	28.88 Apple Ridge Im	front age land use 103/103/141/188
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										Ren is not onen only
641 52-12-2-3	748 Elliott	Linda Anusasananan	219 38th Avenue	San Mateo	5 5	6	8.18	3989 R	9.78 Pagoda Restaurent	מוני מוני
524 52-17-42	6725 - 6729 Skyway	John Coverston	980 Central Park Drive		<u>ئ</u>	82	8.58	2880 R	8.08 Jack-in-the-Box	plus drive their
545 52-19-1-1	6197 Skyway	John McCool	6189 Skyway		8 - -	5 23	88	3 986 8	3.80 Terry's Cozy Comer Cafe	אותף הי ואם רופים
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	Other information	1571mm										5 - Chico Academy of Dance	KS - Prospectors furniture	3 - Definett Redity				(3 C) and	1887, 1885 Elliott																						frontage land use 45/132	frontsee land use 83/158				
	Other in											S - Chic	S - 70) tracent	TIRODA 7			6887, 5883 Clark	1687, 186			R/R														RS/v		RS/R		RS/S	frontage	frontsee		RS/S		
	Area, Building Current EDU's Business name			TO. DO LA COMICIA RESTRUTANT	4.00 Ked Lion Fizza	5.00 We Lark Lounge (bar)	S. Do U	5.00 hong kestaurant	5.00 Sunset Inn	15.00 Spinning Wheel Restaurant	6.40 Kentucky Fried Chicken	6.00 COUNTRY FIERCA LETE			12.80 Ribs City	11 86 Reper King	5.48 McDonalds	5.00 Barney O'Rounkes Pub		3.80 PJ's Red Onion	5.00 Round Table	3.00 Cal. Deli, Weiss's Gifts	3.00 Dolly's Donuts	3.00 Kit Kat Club	13.00 El Molcajete	7.20 Foster's Freeze	1.80 CR Plants & Woods	8.50 Chantilly Lace	1.00 Salvation Army	1.00 Village Liquors	1.00 Payless	5.80 Albertson's	1.80 Clothes Door/Thom's Jewelers	1.86 Radio Shack/Dave's Shoes	1.00 Payless Shoes/\$5 & \$18 Store	8.58 Allison's Place	1.66 K-hart	2.50 1-Shirts/Donut Shop	0.50 Nature's Pentry	8.58 Paradise Nov and Sav	1.00 Skyway General Store	2.00 Minute Stop Food Market		1.00 Kurtz Glass Co.	8.58 Skyway Feed	0.50 Carpets
	Wilding Current	area, use sq. ft.	9 99	A 990 A	1500 F	1 000 t	1 and 1	N DOOL	7 000 t	1000 K	1000 K				69	60	1666 R	880 R		500 R	89 24	94 99	1288 R	8 88 R	2580 R	2300 R	SS 989	1180 RS	1580 RS	888 RS	47085 RS	36248 RS	8 RS	8 RS	82 82	S 2	76584 RS	12680 RS	9688 RS	2000 RS	588 RS	2000 RS		1880 RS	3000 RS	688 RS
	Area, B	BCPes	9	3 6	67.0	0 0	9.00	1.0	10.0	1.6	9 6	3			16.9	8.86	2.86	6.32		8.36	8.8	6.53	69.0	2.67	6.51	8.61	69.8	0.18	6.32	0.71	1.11	8.83	96.9	8.89	6.90	8.88	1.76	8.88	0.23	8.48	6.22	8,48		6.31	1.88	8.00
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	City, State		Sign								Castro Valley				Magalia		Chicago	Yuba City			Witsonville	8 Sacramento	Fullerton		South Lake Tahoe				Chico		Beverly Hills	Beverly Hills	Beverly Hills	Beverly Hills	Beverly Hills	Beverly Hills	Beverly Hills	Beverly Hills	Beverly Hills				1	KedIBhds		
	Owner's Street Address		16 El Cerreto Drive	193 Valley Ridge Orive	P.O. Box 14	5987 Skyway	5719 Cherokee Drive	5548 Glen Drive	5522 Skyuay	P.O. Roy 1698	18781 Crest Avenue				P.O. Box 1868	1830 Apple View Way	P.O. Box 66207	1338 Hunn Road, #3		/Zey Skyway	9275 St. Peyton Lane	555 Capital Mall, Ste 180	1750 Ladera Vista Drive	191 Valley Ridge Drive	P.O. Box 14583	646 Pearson	4614 Meadow Song Drive	981 Haggoner Road	P.O. Box 809	1349 Bille Road	9864 Hilshire Blvd.	9864 Wilshire Blvd.	9864 Wilshire Blvd.	yook Wilshire Bivd.	9804 Wilshire Blvd.	YES WIISNING BIVE.	9866 Wilshire Blvd.	9866 Wilshire Blvd.	9864 Wilshire Blvd.	3842 Silvera Court	SOUL SKYWBY	3870 Neal Road	1201 (1) (44.00 (42.00)	ומו מווומו מובבר	54.36 Clark Space 53	DEDO LIBIT SPACE 33
	Owner		Michael Pavis	Safeway Development Ent	Kenneth Redersen	Joseph Schneider	Min Au	Joel Rhodes	Opal Townsend	Duane Johnson	Jimmy & Ruth Mar				Ronald & Verdy Britzius	Gregory & Joanne Foster	McDonalds Corp	Roger Lundgren	9	Maymond baker	rayless urug stores NW	Jamo Nursery Inc.	Casper Breuer	Carlisle Richards	Uscar Snyder	M. C. Bums	Lorine Ferris	Relative Community Devel. 981 Waggoner Road	Salvation Army	Rubert Audley	Paradise Plaza	Paradise Plaza	Peredice Dist	Poradiac Place	Penedise T1828	9787 J STOR IST	Paradise F1828	reredise rieza	reredise Fleze	HITTOM LEY TOLL	bearge northian	Dernies Kohl	Boyd Johnson			
	Situs Address		6155 Skyway	6811 Skyway		5987 SKYWBY	140 Pearson	5742 Skyway	5522-5538 Skyway		7126 Skyway			100	7186 Skyway	7300 Skyuay	6190 Clark Road	5993 Clark	Jee () 2507	KBOK Clark	7000 Clark	Ent Cident	591 Sturey	5//1 Clark	XIBIT / 900	but rearson	6569 CLBrK Road	662/ Clark Koad	CATE CLBPK ROBD	Dept CIETY KOBO	DBOX XJBT1 0500	DROW TIEST DOOD	6624 Clark Road	6626 Flank Boad	66% Flark Road	6680 Clerk Boad	A616 Clark Board	COLO LIBIR ROBE	BASS CLUSTR	B(B) Charac	IDAL'NO TANK	8247 Skyway	1127 Keaen Lane	189 51-13-2-29 1165-1169 Decepter	1145-1149	
,	Record # Parcel No. Situs Address		551 52-19-1-6	572 52-19-3-11	568 52-19-3-22	645 52-21-1-6	718 52-22-4-3	759 52-25-84	793 52-26-81	801 53-01-1-95	1247 53-83-34				1246 53-83-47	1242 53-83-58	858 53-84-35	894 53-18-2-14	898 53-18-2-17	983 52-19-237	007 57-10 1 (7	1007, 57,-04,-110	1005 57 07 00	1905 24-64-69	17-09-00 76-01	26-69-95 0001	12 36 91 9	75 -61 -92 92	27 -97 -96 00	0K-07-00 /C	19-95-96 65	78-07-05 57	58-89-85 99	28-87-85 27	18-89-85 67	78-89-85	58 -68 -68 E3	10 10 10 N	3	61-18-120		185 51-13-1-18 8247 Skyuny	96 51-13-1-2	189 51-13-2-29	110 51-13-2-29	SECTION AND ADDRESS OF THE PARTY OF THE PART

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Study Parcel Information K/3/C 882511

	221 221 ises- i not to inquire! 84 84	
Other information	frontage land use 120/218 frontage land use 145/221 120/100 RS/5 (aobile) RS/5 Some weird business noises- But no sign - preferred not to inquire! frontage land use 188/384 use type RS/0 frontage land use 188/384 use type RS/5 frontage land use 188/384 use type RS/5 frontage land use 188/384	Specific uses:
Area, Building Current EDV's Business name scres area, use sq. ft.	1.20 hobil Gas Station 1.80 Prestige hotor Sales 1.50 Exon Gas Station/Mini Mart 2.80 Paul's Donuts 8.50 Tuice as Nice Clothing 8.50 Box Office Video 1.80 Paradise Surplus 1.80 Paradise Surplus 8.50 Locks & Keys 8.50 Locks & Keys 8.50 Locks & Keys 8.50 Roristian & Satellite Sales 2.60 Cathy's Sewing Machine Sales 1.60 Larry's Anterna's (satellite) 8.50 Forfect Fit Clothes 1.60 Larry's Anterna's Labelian Builder's Supply Lumber 8.50 Forfect Fit Clothes 1.60 Larry's Anterna's Hackling 8.50 Forfect Fit Clothes 1.60 Builder's Supply Lumber 8.50 Forfect Fit Clothes 1.60 Bubette's Beauty Shop 8.50 Fidge Kids Clothing 1.60 Bub Paints 8.50 Ridge Kids Clothing 1.60 Bub Paints 8.50 Norman Printing 8.50 Norman Printing 8.60 Norman Printing 8.60 Nantucket Art 9.60 Nantucket Art	50.60 Holiday Comercial Center
wilding Current area, use sq. ft.	888 RS 88	8
Area, E	6.55 6.55	6.50
Front	128 145 165 171 172 174 174 163 163 163 164 163 164 178 163 178 163 178 163 178 163 178 163 178 163 178 163 178 178 178 178 178 178 178 178 178 178	687
Zone		2-2 53
City, State	Magelie Garberville Benecia Chico Chester Chico Chaster Chico Santa Barbara Santa Barbera Santa Barbera	Chico
Owner's Street Address	367 Roe Road 14819 hasterson lay 8726 Skyway P.0. Box 985 688 Sunset brive 688 Sunset 7787 Skyway P.0. Box 281 7787 Skyway P.0. Box 886 1828 Arrowhead Drive Drawer 5176 7867 Skyway P.0. Box 98 P.0. Box 98 1828 Arrowhead Drive Drawer 5176 7867 Skyway P.0. Box 799 F.0. Box 719 F.0. Box 342 5811 Country Club Drive 5811 Country Club Drive 1688 Garden Street #7 1688 Garden Street #7 1688 Garden Street #7	1500 Humboldt Road Ste 1
Ower	Charles McKinnon 367 Charles Stroup 1681 Howard Martinson 8226 Norman Wright 698 Skyway Investors 698 Skyway Investors 698 John Ropp 7787 B.E. Foster 7787 Gilbertson Family Trust 912 Milliam Hamilton P.O. P.O. John Ropp 611Dertson Family Trust 912 William Hamilton P.O. Reter Houtman 5335 Cetharine Burgess P.O. Hilliam Gonsalves P.O. Lewis Neider 1828 SAFOR CORP 1828 SAFOR CORP 1828 SAFOR CORP 1838 Miller Neider 1111e Mountain Valley Investors P.O. Mountain P.O. I 1680 Walter Beck 1680	Fred Hignell
Situs Address		6848, 6848 SKyway
Record # Parcel No. Situs Address	127 51-14-1-2 124 51-14-2-11 125 51-14-2-11 125 51-14-2-11 175 51-16-3-31 175 51-16-3-31 175 51-16-3-31 175 51-16-3-31 175 51-16-3-32 176 51-16-3-33 178 51-16-3-33 178 51-16-3-33 178 51-16-3-33 178 51-16-3-33 178 51-16-3-33 178 51-16-3-33 178 51-16-3-33 178 51-16-3-33 178 51-16-3-33 178 51-16-3-33 178 51-16-3-33 178 51-16-3-33 178 52-16-4-11 178 52-16-41	22/22/28-28

Leardry - 1,000 sq ft
Crystal Cleaners - 1,000 sq ft
Fuller Flowers - 1,600 sq ft
Standard Beauty Supply - 800 sq ft
E.J. Cards - 2,600 sq ft
V-Bldp - 2,000 sq ft
Sears - 1,200 sq ft
Fashion Crossroads - 1,500 sq ft
Holiday Market - 7,000 sq ft

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	2,380 sq ft sq ft sq ft t t t t t t t t t t t t t t t t t t				an ko		
Other information	Hospic Thrift Shop - 2,380 sq ft Sorouse Reitz - 4,880 sq ft First Interstate Bank - 4,880 sq ft Photo Place - 150 sq ft Paradise Chiropractic - 1,280 sq ft Paradise Coin - 880 sq ft California Properties Real Estate - 880		use type RS/S	- 5	use type RS/5 frontage land use 55/94 frontage land use 78/75 use type RS/5 use type RS/5	closed.	use type RS/S
Area, Building Current EDU's Business name acres area, use sq. ft.		1.00 Permadise Sporting Goods 1.00 PMC NM Sales/s Saver Newspaper 6.50 PMC Nobile Home Sales 6.50 Earthdance Indian Store 6.50 Skyway Tools	8.50 The Flower Shoppe 1.46 HeX Computer 1.80 Donut Hut 3.80 Shell Service Station 1.80 Recel Complian	1.00 Regal Basoline 1.00 Regal Gas Station 6.50 Al's Hardware 6.50 Paradise Suild of Arts/Crafts 1.00 Häh Auto Parts 6.50 Paradise in ord	8.50 Paradise Lock 2.00 Roy Taylor Heats 6.50 6.50 6.50 Bobcet Clothes 1.00 Alain Tomatis Photography 1.00 Custom Upholsters 1.00 Diamord Lumber 1.00 1 Hour Photo 1.50 Apple Ridge Flourist 6.50 Antiques	1.40 Paradise Boat 8.50 Books of Paradise 8.50 Demilov Home Furniture 8.50 HcCool's Sporting Goods 8.50 Longfellow TV 8.50 Birkenstock's Footprints 8.50 Hobil Oil Eas Station 8.60 CMF furniture Sales 8.50 Hiller Glass Co.	5.00 CMM Furniture Sales 8.50 AML Discount (clothes, toys) 1.00 Denny's Sanage/T&T Tire 1.70 Honey Run Tire 8.50 Western Auto
Building Current area, use sq. ft.			1286 RS 1888 RS 1286 RS	1500 RS 1500 R	1580 RS 6 RS 6 RS 1480 RS 4590 RS 1280 RS 1280 RS		4,000 RS 1200 RS 1500 RS 2500 RS
		8.28 8.98 8.95 8.95	6.86 6.86 8.23	8.88 8.98 71.98	6.12 6.12 6.12 6.18 6.18 6.18 6.28 6.25	6.56 6.11 6.14 6.15 6.15 6.45 1.18 1.18	6.06 6.08 6.11 6.35 6.35
Front		181 132 58 45 44	136 136 111 111	128 128 25 26 26 26 26 26 26 26 26 26 26 26 26 26	2 2 2 2 3 3 5 1 1 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5	G 38 88 88 8 8 8 2 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	27 125 49 110 55
Zone		222555 3	## 5	: 5	3 7 7 7 7 7 7 7 8 7 7 7 8 7 8 7 8 7 8 7	~~~~~~~~~ 5 555 5	555 55
City, State		Chico	Ainsworth .Ainsworth San Mateo	San Mateo Chico	Magalia Carrollton	Tube Lity Hepelia Nevade City Whittier Porterville	San Carlos Santa Rosa
Owner's Street Address		815 Elliott 6633 Skyway 6633 Skyway 6319 Skywayne 166 Cobasset Road 7461-D Company Cickley	Zero and Harrington St. Zero and Harrington St. 5668 Cathy Lane 219 38th Avenue		P. 0. Box 1179 P. 0. Box 1179 P. 0. Box 1179 P. 0. Box 1179 13876 Olivet Drive 419 Locksley Court 1555 Valuood Pky 5483 Black Olive Drive 990 Central Park Drive 977 Berntral Hay	1421 CORLS OFTER P.O. BOX 457 P.O. BOX 2199 6189 Skyway 15288 Torrey Pines 11488 Morthwieu Drive 112928 E. Mittlier Blvd 6118 Skyway 425 No. Main Street	bild skyway 193 Valley Ridge Drive 63 Pine Avenue 1410 White Dak Drive P.O. Box 6
Owner		Albert Penna Carl Youngdahl Carl Youngdahl Lynn Tilden Ernie Kotyluk Jumire I inhtfoot	Harold Panzer Harold Panzer Romald Sinclair Linda Anusasananan	Linda Anusasananan Lucille Hoffman C.E.M. Investment Company Milton Henderson John Tolle	Holland Freemen P.O. Box 1179 Frank Stelle Holland Freeman P.O. Box 1179 Alain Tomatis Box 1179 Alain Tomatis ISSN 01ivet Drive Mountain Valley Investors 419 Locksley Court Diamond Holdings Inc. 1555 Valuood Pky Reymond Hilson SAR3 Black 01ive D John Coverston 990 Central Park D Renald Hest 577 Barbara Hay Polland Hest A.D. Court Renald Hest	Glenn Marwell Bark of Peradise John McCool Kenneth Murray Romald Cook ARWKOD Properties Mike Denilow James Volpey Mike Denilow	nike Danilov Safeway Development Ent Robert Blake Loreta Darrough Stanley Clewett
Situs Address		823, 815 Elliott 6633 Skyuey 6671 Skyuey 6321 Skyuey 6485 Skyuey 6531 Skyuey	6645 Skyway 6635 Skyway 6675 Skyway 6680 Skyway	6490 Skyuay 6426 Skyuay 6421 Skyuay 757 Fir Street 74.1 Fir Street	6256 Skyvay 5758 Almond 626E Skyvay 6294 Skyvay 6294 Skyvay 6334 Skyvay 6455 Skyvay 5797 Skyvay 5797 Skyvay	6115 Struct 6119 Struct 6189 Struct 613 Struct 6165 Struct 6116 Struct 6118, 612, 6130 Struct 5999 Foster 6118, Struct 6118, Struct 6118, Struct 6118, Struct 6118, Struct 6118, Struct 6118, Struct 6118, Struct 6118, Struct	6625 Skyway 6687 Skyway 6887 Skyway 6851 Skyway
Record # Parcel No. Situs Address		354 52-86-93 8 361 52-89-44 6 368 52-89-48 6 423 52-12-1-27 6 423 52-12-1-35 6				22-19-1-16 22-19-1-16 22-19-1-2 22-19-1-2 22-19-2-1 22-19-2-1 22-19-2-4,5 22-19-2-8	0.0000000000000000000000000000000000000

Kennedy/Jenk	Other information		also U-Maul storage				A Paris	msc rype no/o	Murray's Auto Service 1,000 sq ft	frontage land use 20/108													(lamps)			`		• • • • • • • • • • • • • • • • • • • •						
	Area, Building Current EDU's Business name sores area, use sq. ft.	1.80 Barbara's Lamps & Antiques E.50 Hang-Up (Clothes)	_	0.50 Paradise Feed Store	8.50 House of Color - Paints	0.50 Triangle Appliance	0.50 Wig Salon	Parts		0.50 Paradise Natural Foods	0.50 Community Mouse Thrift Shop	1.88 Old Time Deli	8.50 Dick's Floor Covering	8.50 Penny Ante Antiques	2.00 K&K Auto Sales	8.50 Ray's Liquor	0.50 Elegant Rose (clothes)	6.50 New and Nearly New Consignment	0.50 Manton's Shoes	1.00 Paradise Sausage	6.50 Don's Shoes	0.50 Gloria's Antiques	0	6.58 Runner's Paradise	8.50 Plant Newsery	1.86 Shar's Consignment	8.58 Ace Handware	3.58		6.50 Paradise Imported	6.36 life Store (aloe sales)	2.88 19th Century Antiques	1.50 B&J Speed Marine	1.80 Car Sales Company
	Building Curren area, use sq. ft.	0 RS 1880 RS	1000 RS 600 RS	2888 RS	1880 RS 2888 RS	800 RS	588 RS	3000 RS	1400 RS	188 RS			1500 FS				1886 RS			800 RS	1888 RS		2000 RS	1996 75	S80 BS			2	& :	1888 RS	2 900		2000 RS	250 RS
J	Area, acres	8.86 8.28	0.48 0.14	8.19	8.16 8.34	6.80	88.88	6.39	69.0	8.33	8.16	6.11	9 9	6.71	89.0	8.35	6.17	6.80	8.38	6.17	0.17	8.17	0.87	8.85	8.83	8.3	8.88	8	5.73	8.16	3 3	× ×	87.8	6.78
	Front	28	5. 3. 2.	3 23	118	118	& &	8	88	38	78	125	8 66	265	186	138	8 £	109	ま	25 25	8 23	52	8	27 5	32 %	125	100	186	128	e :	8 8	15.0	118	150
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remandaries	City, State		Redding	Sunnyvale	Chico	3	Orland	San Reaon			:	Regalia				Chico	Chico	Chico		£	Chico						Oroville	Uroville						Negalia
	Owner's Street Address	6841 Skyway P.O. Box 26	4808 Alta Camino Drive 6060 Skyway 5436 Clark Road #64	368 E. Evelyn Suite 321	851 Karen Drive 6689 Shay Lane	6689 Shay Lane	Rt. 3 Box 3361 Rt. 3 Box 3361		758 Fir Street	5897 Debbie Lane	P. D. Box 1984	F.U. Box 1868	5825 Skyway	577 Barbara Way		Rt. 2 Box 156A	3362 Hackanore Lane	3362 Hacksmore Lane	P.O. Box 21	7.6 birch P.O. Box 3328	1925 Honey Run Road	2352 Stearns Road	P.0. Box 797	148 Peaceon		929 Thomasson Lane	5389 fft. Ratchel Court	200 Person Brod	P n Roy 40/	5577 Struggy	5576 Vista Way	P. D. Box 1394		P.O. Box 597
	Owner	Glenn Russell Horner Family Trust	Robert Bailes Robert Larson Robert Saunders	Dianne Shenill	Enery Wanee Geneva McAfee	Geneva McAfee	Agnes Kuhnen Agnes Kuhnen	Cynthia Williams	Harold Nurray	Nick Wasylina	Paradise Comm. Council	Richard Marta	Ronald Southworth	Ronald West	Kraig Kroschel	Bernard Kichter	Lois Lash	Lois Lash	Joy Miller	Garland Hart	Sarland Hart	Robert Estrem	Velme Jeffords	Velue Nessie	Bob Abercrombie	Thomas McLaughlin	Martin Conley	Hallan Irast	Jan Camerine	Doel Townsend	L.J. Ferguson	Rowland Bridges	Lawrence Fuller	Adolph Pearson
ity 8	Situs Address		5925 Foster 6862 Skyway 45 Peerson		6052 Foster		6282A Skyway		758 Fir Street	5729 Alwand Street	5726 Almond					5553, 5551 Almond			285, 289 Pearson	5537 Black Olive	175 Pearson	163, 169? Pearson	226 Black Ulive		Pearson	186 Pearson	288 Pearson FLEE FLEE Black Oliver	456 Pearson	5881 Foster Road	5558 Skyway	5585 Skyway	SAL7 SKYWBY	5376, 5398 Skyway	34/2 3KYWBY
Page No. 9 83/86/89 Town of Paradise Mastewater Feasibility Farcel Information K/J/C 882511	Record # Percel No. Situs Address	542 52-19-3-25	5/8 52-19-4-3 543 52-19-4-6 578 52-19-4-8	579 52-19-4-9	97, 52-20-1-19	625 52-28-1-19	629 52-28-1-28	622 52-20-1-31	592 52-28-1-7	593 52-28-1-9	689 52-28-2-7	12-1-1-21	650 52-21-1-37	638 52-21-1-44	646 52-21-1-7	635 52-21-2-19	701 52-22-2-15	702 52-22-2-15	785 52-22-2-17	784 52-22-2-6	787 52-22-2-8	788 52-22-2-9	718 59-22-5-14	719 52-22-4-4	727 52-22-5-2	729 52-22-5-3	733 52-22-54	768 52-26-4-31	745 52-25-29	779 52-25-79	778 52-25-93	774 52-25-94	788 52-26-77	An_07_70 741

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Wastewater Feasibility
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Parcel Information
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Other information																						6007, 5993 Clark	1887, 1885 Elliott	6007, 5993 Clark	1087, 1085 Elliott				ristopher Js, Clarice Dukes, Jeans N	Stuff, Sprouse Reitz ps/v		Discount Stockbookens	Danjeen's Tre Creen	25/55 55/55	5	<	1/2			4	K2/5		78/5 2007 :	Des Floor Covering 800 sq ft		
Area, Building Current EDU's Business name		8.58 Cal. Co. Flectrical	8.50 Florist	1.00 Lee's Food & Liquor	0.50 Beverly's Rings & Things	0.50 Video Shop	0.50 Fireplace Outlet	1.40 7-11 (with gasoline)	1.00 Pine Cone Cannery Grocery	0.50 Needleworks Used Clothing	8.50 Nancy's Books	8.50 Apple Photo	0.50 EBSY Street Antiques	6.36 Paradise Notor Sports	1.00 buttons a boas	1.00 Imperial radiator	1.00 FBradise Auto Center	0.50 A. Porter Rents (med. supply)	8.50 Doris Saw & Servic	0.58 N.V. Fence	8.50 Auto Sales - temp.	1.00 Kelsay's Tire 60		1.80 Vulture's Roost 68	16	1 00 Thomas Handings	E do Cotamos Indianas	o. be caretaly	is no came, uptown video, flower fil Christopher Js, Clarice Dukes, Jeans N	Sta Starringe Jeulees (V ps			Dai	1.28 Quick Printing, house		8.58 Coin Store	1.88 Heninovers Backbacking/Tay Srv PS/S	2 86 libboletary by Datch	6 St 111 m's Comme and Stades		ę.	6. Se navens hearing Aids	***		1.00 Goodyear Tire	
ilding Curren	area, use sq. ft.	1880 RS		1800 RS	1000 RS	880 RS	2500 RS	1890 RS	S2 889	2866	22 25	S 2000	CH DOOL	CM 0021	CN 99CT	2 900	2000 TO	Spec IS	See rs	900 RS	8 8	1200 RS		1500 RS		2500 PC	20 0	2 8	S S	82	É S E			8	386 RS	388 RS	388 RS	SS 889	2 S	1786 PS	SO 063	CN 000	2 20 20		2500 RS	
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City, State				Walnut Creek	Chico	Chico									Brownsville	Brownsville.	***************************************			CUITOS	;	Yuba City	V. 4. 0.14.	TUDB CITY			Sacramento	Witsonville		96 Secramento								chies Chies				Auburn				
Owner's Street Address		5428 Skyway	6351 Clark Road	391 Castle Crest Road	1625 Mangrove Ave	1625 Mangrove Ave	/529 SKyway	אייייאין ממזע	7,000 Skytray	76 BB Skyuay	76.88 Skyuay	76.80 Skyuny	1386 Pearson Road	1888 Heynen Road	P.0. Box 657	P.O. Box 657	14795 Holmund Drive	P. O. Roy. 84.7	AKT E Pend Attending	ETHO CHILL	2729 United	1338 Rumn Koed, #3	1739 Man Bond #1	TOOK HOURI LOOK! #2		5998 Clark	C4 Pblc Emplys Rtrant Sys 2045 Hallmark Drive, Ste4 Sacramento	9275 IS Peyton Lane		555 Capital Mall, Ste 100 Secramento				1132 Elliott	6159 Benkshire Way	6159 Benkshire Way	6159 Benkshine Way	2748 Croser Lane	6398 Clark Road	6390 Clark Road	P.0. Box 219	P.O. Box 3125	597 Pearson Road		5729 Crestview Drive	
Owner		Greg Whalen	Lee Malkin	IKIOND	Marion Hobson	narion hobson	South and Com	Pine Cone Plaza	Pine Cone Plaza	Pine Cone Plaza	Pine Cone Plaza	Pine Cone Plaza	Bernard Hoffrogge	Ralph Hein	Kenyon Miles	Kenyon Miles	Edward Porter	Donald Cumminas	North Valley Fance	Danker Inc	Door Impanor	noger Lundgren	Roser Lindonen			Maurice Couchot	CA Polc Emplys Rtrant Sy:	Payless Drugs Stores NV		Jamo Mursery Iinc.				Bonner Cordell	Betty Hemingway	Betty Hemingway	Betty Hemingway	Francis Blumert	William Noble	William Noble	Wilbur Sypherd	Nells Oil Company	David Gilbert		02-Bern Inc.	
Situs Address				/SIS SKyway	73234 SKYWBY	75.00 Charman	7575 Styden	74.00 Skyuny	74.00 Skyuay	7406 Skyway	7406 Skyway	7486 Skyway	6166 Clark Road	6200 Clark Road	6220 Clark	6220 Clark Road	6248-B Clark Road	6235 Clark Road	6158 Clark Road	6875 Clark Boad	5003 Clark	OSS CIBIN	5993 Clark	:			6828 Clark	6826 Clark		6814 Clark A, B, C, D				1132 Elliott	5954 Clark	5958 Clark	5962 Clark	5888 Clark	6398 Clark	6398 Clerk	5784 Clark	5734 Clark	597 Pearson		541 Pearson	
Record # Parcel No. Situs Address		790 52-26-92	883 53-81-1-57	6/-1-79-00 979	20-1-20-25	827 53-82-1-85	823 53-82-1-91	835 53-82-2-28	836 53-82-2-28	837 53-82-2-28	838 53-82-2-28	839 53-82-2-28	852 53-84-36	872 53-64-37	879 53-64-38	871 53-84-38	87-98-29	859 53-84-46	854 53-84-58	888 53-18-1-27	895 54-19-2-16	** 1 21 00 000	896 53-10-2-14					982 53-10-3-37		988 53-18-3-44								_			0		1021 54-64-138		1836 54-84-21	

Pace No. 11
83/86/89
Town of Paradise
Mastewater feasibility
Study
Parcel Information
K/1/C 882511

ormation																											r 1,608 sq ft	**************************************	15 buildings: pharmacy, med. lab., 15	doctors incl radiologists, 5 dentists			SBVINGS						37 20		intal				
Other information						11 os 987 m		5/58	c /cu							11	Room								RS/S		ufler Mr. Muffle		15 buildin	doctors in			Springiter Savings				`	[enco	1180 ·	2017 / 1700	Video RS Video Ru				
: EDU's Business name		1.80 Ridos Auto Parte	1.00 Hefner Interiors	8.50 Nancy's Lingerie	6.50 Paradise Emporium	1.20 Discount Liquor, game room	1.00 Neta's	1.88 syland & Martin	1 50 Hideon's Appliance	6 50 Ceremic Heaven	a Ka i indo Home Care	1 an Brandin British Comment	1.00 raradise baking company	6.50 burtham Enterprises	6.30 Record Store	8.38 Bruce's Lock	W.50 Uhristian Science Reading Room	0.50 Dell's Nursery	0.50 Children of Paradise	0.50 Angle's Pet Hut	0.50 Mann's Home Center	1.20 Diduce Construction	1.80 Ace Rentals	2.50 Boat Shop	2.80 Haircrafter	1.20 K&K Automotive	2.00 Paradise Auto Sales/Mr. Mufler Mr. Muffler 1,000 sq ft	1.00 Fulton's Bookstore	49.69		3.00 brooks ret brooming	3 so Chamber Carina	Selling officerations of A	1 80 Manaia Ranon 1 Accordance	A SA STORY THE COMME	1 00 1645 1955	1 78 Centre Beat	8 50 Elen Besty (Teen - mill some)	2 80 4-Glen Realty R-Fd Jones Stock (1180	2.88 Hose Savings	2.80 Siera Central Cred Union/Video RS Video Rental		2.30 Hair Precision	3.00 Security Pacific Bank	8.50 Paradise Realty 8.50 CPI Gravel/Rock
Area, Building Current Acres area, use	se ∓;	1889 RS		888 RS	500 RS	1000 RS	588 RS	1280 RS	1500 PS	SAM RS	Se 809		CN 1990		CN dat	400 KS	200	2886 RS	SS 889	800 RS	2200 RS	2580 RS	1000 RS	2800 RS	1666 RS	1200 RS	6800 RS	988 RS	Se	0 005	1,000 5	2 2007	2 200 5	1288 5	1000 5	1888 5	2800 5	1280 5	8 829	3700 5	12688 S		12600 5	9688 5	1588 S 8 S
Area, B		8.63	3.6	8.80	99.99	6.00	9.56	9.80	1 85	88	8	3 8	8 8	8 6	9 6	8 6	8 :	1.13	88	88	8.8	8.63	1.62	3.67	2.68	7.41	6.51	1.47	3.86	0		0 0	2 2	27. 6	35	20.00	8	39	120	8.62	6.29	;	88.8	8 : 8 :	2.78
Front		184	183	312	312	312	116	116	268	268	26.0	3,48	3,6	907	000	907	90 5	8 3	136	138	236	28	105	164	375	147	120	28	442	ř	5 5	230	28.	125	2	125	25.6	186	115	157	•		S	§ 8	827
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City, State							South Lake Tahoe	South Lake Tahoe																						ej.	Gis G	Beverly Hills	Sacramento				Oakland		Chico	Los Angeles	Beverly Hills	Daniel Life	Beverly Hills	Dever1y mills	
Owner's Street Address		P.O. Box 293	P.O. Box 748	191 Walley Ridge Drive	191 Valley Ridge Drive		P.O. Box 14583	P.O. Box 14583	488 Pearson	488 Pearson	480 Pearson	480 Pearson	480 Pearson	480 Pearson	480 Pearson	480 Pearson	480 Paerson	480 Pearson	400 real Sul	400 regrison	162/ Stark Lane	COST STEBRYS KOBO	3044 Little Grand Canyon	5368 CIBRK	198 Valley View	Seso Clark	P. O. Box III	F.U. Box 1287	771 Buschmann Road	28 Hilliensburg Lan-	28 Williamsburg Lane	9111 Wilshire Blvd.	P.O. Box 872	6635 Clark Road	7854 SKyway	1968 Dean Road	301 20th Street	5943 No. Libby Road	518 Nord Apt 5	3731 Wilshire Blvd.	9864 Wilshire Blvd	986 Uilehim Bud	9864 Wilshire Rlud	1800 Manstaff	8321 Skyway
Owner		Ella Travers	C.H. Lanser	Cerlisle Richards	Carlisle Richards	Carlisle Richards	Oscar Snyder	Oscar Snyder	Mallan Inter Vivos Trust	Mallan Inter Vivos Trust	Mallan Inter Vivos Trust	Mallan Inter Vivos Trust	Mallan Inter Vivos Trust	Hallen Inter Vivos Trust	Mallan Inter Vivos Irust	Mallan Inter Vivos Irust	Pobent Money I USL	Memorals Fine:	Hiller Parime	MITSON DONIVER	Craig Wilson	Undries montgomery	DECT RELIBIOID	Vanasperen irust	Della mullens	Pars Comm Park Med Center 771 Buschmann Road	E M West		Gibralter Savings & Loan	Sacramento Savings	Caryl Finholt	Melvin Bolin	Lyle Benedict	Central Bank	Howell Family Trust	Craig Lighty	Home Savings of America	Paradise Plaza	Paradice Plaza			Hix			
Situs Address		511 Pearson	491 Pearson	635 Pearson	651 Pearson	by regran	5657 Clark	5657 Clark	454 Pearson	456 Pearson	458 Pearson	468 Pearson	462 Pearson	464 Pearson	466 Pearson	468 Pearson	488, 482 Pearson	486 Pearson	688 Pagrson	5557 Clerk	5515 Clark	5810 Clark	5368 Clerk	5000 Clark	5834 Clark	Kend Clank	5826 Clark	י קינור זיר	711, 783 Buschmann	1448 Wasstaff	1589	6678 Clark	6653 Clark Road	6635 Clark Road	6568 Clark Road	6428 Clark Road	6489, 6485 Clark Road	1457 Wagstaff	6787 Clark Road A&B	6669 Clark Road	6616 Clerk Road	6616 Clark Road	6648-B Clark Road	1099 Wagstaff	8321 Skyway
Record # Parcel No. Situs Address		1841 54-84-24	1846 54-84-55	1660 34-64-89	68-78-75 2001	1011 34-04-59	1895 56-85-29	18% 54-85-29	1866 54-85-48	1867 54-85-48	1868 54-85-48	1869 54-85-48	1076 54-85-48	1871 54-85-48	1872 54-85-48	1073 54-05-48	1874 54-85-58	1875 54-85-58	1876 54-85-58	1117 54-19-26	1118 54-89-27	1165 54-89-64	1157 54-12-18	1150 54-19-33	1162 54-29-38	116/ 54-20-41	1163 54-29-42	75-67 30 COTT	1 -1 -12 -12 -12 -12 -12 -12 -12 -12 -12	3 58-17-2-37	4 58-17-2-38	2 58-17-2-48	6 59-19-52	7 58-19-62	25 58-28-185	34 58-58-91	21 59-20-93	42 58-36-26	39 58-36-28	41 58-36-36	52 50-40-05	28-07-82 55	57 58-48-86		

N.						*		
Kennedy/Je	Other information	9-	SF (mobile)) frontage land use 127/424		2-car
	Area, Building Current EDV's Business name Borts area, use Sq. ft.	8.50 Kemen Const Office & Rock Strg 1.00 Paradise Refrigeration? 6.00 Crone's Trensmission 1.00 lohnie's Arra Rock	1.20 Barber Shop 1.20 Dean's Skyway Radiator 8.50 Ministorage	1.10 Paradise Ambulance Service 1.30 Design Studio 6.00 Triple-5 Mini Storage 1.10 Automobile Storage 2.00 Ray's Barber's	2.00 Bill's Auto Repair 0.00 Rocky's Radiator 3.50 D.J.'s Touing Service 1.00 Duight Breed Atty. 1.20 HoSlaughlin - M.D. 6.50 NMH Income Tax Service 6.50 C-D Sharpening (tools) 6.50 Lippincott Surveying	1.40 Graphic Impressions (Printing) 8.00 John's Garge (auto repair) 1.20 Skyway Starter (auto repair) 8.00 Leisure Land Real Estate 8.50 Cal Gas Co. 2.30 Delina's Beauty Salon	8.50 Peradise Mini Storage 1.50 Arch Mariama Construction 5.20 American Savings 1.10 Ponderosa Realty 3.00 Business Offices 1.00 Business Offices 3.00 Ponderosa Professional Center 1.00 Neil Fantasia	1.00 Bacchus/Freeman CPA's 8.00 MRW Insurance 3.00 Heart Federal Savings 1.00 Paradise Mortgage 8.00 Thomas Brown Orthodontist 4.00 Car Wash 1.00 Mini Storage 2.00 Transamerica 6.00 Fancy Fingers (salon) 1.00 Chiroprector
	, Building Current s aree, use sq. ft.	7 688 S 7 588 S 8 788 S 8 2588 S		2 1288 S 3 8 S 3 8 S 3 8 S		1286 4886 1896 1296 1596 686	886 5886 2586 2486 6	1500 S 1500 S 1500 S 1500 S 1500 S 2000 S 20
	Front Area, footage acres	37 2.47 133 6.57 133 6.86 375 6.36		278 1.65 212 1.88 212 6.00 320 6.63 171 6.00				8 8.18 9 8.18 162 8.39 165 8.20 178 8.34 78 8.57 178 8.57 1
	Zone fr	\$ \$ \$	222	1			2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	222222222 5 5 5 5 5 5
	City, State	Magalia Magalia Redlands		nagaile Oroville Oroville	11	Garberville	Stockton	Aubum Chico Chico Chico
	Ower's Street Address	178 Valley View Drive P.O. Box 812 P.O. Box 812 1281 Clifton Street	1165 Wagstaff 5789 Copeland Road 5831 Wildwood Lane	72 Leslie Lane 22 Leslie Lane 5660 Cathy Lane P.O. Box 985	1841 Green Tree Court 1841 Green Tree Court 1841 Green Tree Court 8239 Skyway 698 Sunset Drive P.O. Box 201 1448 BILLE Road 912 Bedwood Police	12 Redwood Drive P.O. Box 1284 P.O. Box 1284 A. Sierra Vista Drive A. Sierra Vista Drive		94318 Skyway 94318 Skyway P.O. 80x 1228 BR 115 P.O. 80x 561 735 Genellia Drive P.O. 80x 1022 P.O. 80x 425 P.O. 80x 425
	Ouner	Calvin Keaen Donald Crone Donald Crone Boyd Johnson	Melvin Moorhead Sanford Dean Wildwood Ministorage Raymond Velliquette	Robert Stevens Robert Stevens Romald Sinclair Norman Hright	David Jerro David Jerro David Jerro David Jerro Dujoht Breed Skrway Investors B.E. Foster Narcy Eiger Thiel Lippincott	Gilbertson Family Trust R. Towle R. Towle Milland Harks Milland Harks Peter Schrades	Levis Neider Levis Neider American Savinos & Loan American Savinos & Loan T.A.C.P. Inc. John Bultema John Bultema Mountain Velley Investors	Mariane Bachus Hariane Bachus Central Calif Fed Savings Walter Pairier Jack Yernan Richard Miser Dvight Bass Dvight Bass
	Situs Address	8337 Skyvay 8271 Skyvay 8279 Skyvay 1131 Kewen Lane	1165 Magstaff 8336 Skyuay Skyuay Skyuay 8893 Skyuay	8899 SKyway 8899 SKyway 7931 SKyway 7967 SKyway	1830 Green Tree Court 1820 Green Tree Court 1841 Breen Tree Court 8864 Skyway 7655 Skyway 7849 Skyway 1847 Rochelle Lane 1867 Rochelle Lane 1867 Skyway	7654C SKYNBY 1854B Lisa Lane 7816 SKYNBY 7868 SKYNBY 7868 SKYNBY 7856 SKYNBY	4647 Neal Road 6938 Skyuay 7022 Skyuay 70334 4 E Skyuay 7036-7078 Skyuay 7076-7082 Skyuay 6885 Skyuay	96312 Skyway 6817 Skyway 6817 Skyway 6135 Center Street 6177 Center Street 6186 Skyway 6186 Skyway 6186 Center Street 6185 Center Street
Page No. 12 83/86/89 Town of Paradise Mastewater Feasibility Study Parcel Information K/J/C 882511	Record # Parcel No. Situs Address	186 51-13-1-14 186 51-13-1-17 187 51-13-1-17 98 51-13-1-2	111 51-13-2-28 117 51-13-2-51 122 51-14-2-18 144 51-15-1-21	141 51-15-1-64 142 51-15-1-64 149 51-15-2-16 146 51-15-2-34	134 51-15-3-15 135 51-15-3-15 136 51-15-3-16 1289 51-15-3-6 177 51-16-3-39 195 51-16-4-39 283 51-16-4-39 198 51-16-4-53			52-86-33 52-86-18 52-86-19 52-86-27 52-86-33 52-86-33

	Other information	frontage land use 136/145								frontage land use 108/304				frontage land use 128/148		frontage land use 48/176	frontage land use 40/176	use type S/RS	frontage land use 25/152				use type S/RS											offices									
	Area, Building Current EDU's Business name acres erea, use sq. ft.	1.20 Beacon Station - gas	0.50 Velliquette Realty	0.50 PGandE Substation	0.50 PG&E Substation	4.00 J&A Machine Shop	6.80 JB Auto Care	8.00 Jay's Auto Body	8.88 Greg and Ron's Wheel Shop	1.80 Feather River Home Health	1.80 Mr. Charles Hair Styling	8.50 Diet Center	1.00 Beauty Concepts	8.50	8.50 North Ridge Pest Control	8.50 Ministorage	0.00 Ministorage	8.58 Acheson Sign Co.	0.50 Alpine Real Estate	1.60 Lynn Tilden Dentist	8.50 Frank Fredericks Gen. Contrctr	1.80 N&R Block Tax Service	8.50 Cobbler's Shoe Repair	1.00 Gibb's Dentist	3.00 W.R. Booth Insurance	8.80 Skyway Chiropractic	8.00 California Medical Claims	8.80 Benson Cleaners	1.00 UBK Kidge Builders	8 86 Ridgell Title Company	5.88 Butte County Title Company	8.88 Paradise Telephone Ansuering	8.86 Wildwood Beauty Salon	8.88 Enterprise-Record Neuspaper	8.50 Schiller/Roberts Law Attorneys	8.50 Auto Repair (no name visible)	1.00 Earl's Barber Shop	1.80 Medicare Supplement Health	8.88 Ado Insurance	2.80 Bank of America	8.00 Freeman Financial Services	1.00 Paradise Karate Studio	2.00 Happy Hair
	ilding Current Brea, use q. ft.	888 S	888 S	8 8	8 8	99799 S	1200 S	2000 5	1500 S	S 996	2 889	\$ 909	888 5	8 8	2708 S	S	8 8	888 5	1800 S	200 S	S 886 S	888 S	1880 S	800 S	5 889 5	S 989 S	800 5	1206 5	5 000	1508.5	1000 S	1909 S	S 989	3000 S	1200 \$	2488 S	800 S	\$ 997	\$ 807	5996 S	888 S	1999 S	1666 S
	Area, Building acres area, sq. ft.	0.41	0.27	6.73	8.84	8.88	6.89	8.80	8.80	6.60	8.89	8.80	8.14	6.38	8.89	8.80	8.64	8.28	0.09	9.86	8.68								10.01					,		0.21 2	9.85		6.86	1.29 5		9.66	28 1
		136 0.	86		8						181 8.	181 6.		128 6.		48 B.		165 8.	25 8.	45 8.	44 9.															80 6.						22 8.	85 85
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	City, State	Hanford								Sante Berbare				Los Angeles							Chico	Chico	Eureka		Ainsworth	Ainsworth	Ainsworth	ALIISWOTTN												San Francisco			Negalia
	Owner's Street Address	P.O. Box 463	6779 Skyway			5011 Country Club Drive	1600 Garden Street #7	815 Elliott	815 Elliott Road			5450 Harrison Road	5831 Wildwood Lane	5831 Wildwood Lane	666 Elliott	P.O. Box 457		166 Cohasset Road	166 Cohasset Road	P.U. Box 6324	P.0. Box	Zero and Harrington St.	Zero and Harrington St.	Zero and Hamington St.	50% Almond	P.O. Box 1878		pany P.0. Box 1938	spany P.O. Box 1938	spany P.O. Box 1938	upany P.O. Box 1938	5925 Almond Street	5660 Cathy Lane	5539 Erin Hay	P.O. Box 973	P.O. Box 973	P.O. Box 37888	P.O. Box 1179	tors 419 Locksley Court	6238 Kilgord Court			
	Owner	Virgil Anderson	Howard Velliquette	PGAE	PG&E	Karoly Kasza	Karoly Kasza	Karoly Kasza	Karoly Kasza	Walter Beck	Albert Penna	Albert Penna	Steve Genevich	Scarteen Corporation	William Sprugnce	Loren Bennett	Loren Bennett	Lawrence Acheson	Glern Maxwell	Lynn Tilden	Ernie Kotyluk	Ernie Kotyluk	beverly Eroman	WILLIAM FEFTY	narold ranzer	Herold Penzer	Harold Panzer	Don Swith	Lucille Hoffman	Lucille Hoffman	C.E.M. Investment Company P.O.	C.E.M. Investment Company P.O.	C.E.M. Investment Company P.O	C.E.M. Investment Company P.O.	Don Smith	Ronald Sinclair	Earl Williams	James Warren	James Warren	Bank of America	Holland Freeman	Mountain Valley Investors 419	Betty Gardner
	Situs Address	6981 Skyway	6779 Skyway	5980 McClain Lane	5912 McClain	795 Elliott	795 Elliott	795 Elliott	795 Elliott	803, 805 Elliott	823, 815 Elliott	823,815 Elliott	6687-6611 Skyway											64/51 Clourest						8448					5951 Almond	6888 Almond	6265 Skyway	6201 Skyway	6201 Skyway				5859 Almond Street
K/J/C 882511	Record # Parcel No. Situs Address	272 52-86-34	247 52-86-37	298 52-88-22	299 52-88-24	325 52-98-63	326 52-88-63	327 52-08-63	328 52-88-63	328 52-88-82	355 52-88-93	356 52-88-93	364 52-89-27	378 52-89-51	426 52-12-1-11	389 52-12-1-15	388 52-12-1-16	383 52-12-1-2	426 52-12-1-24	399 52-12-1-27	421 52-12-1-32	22 22-12-1-32				396 57-17-1-66	395 52-12-1-66	434 52-12-2-25		414 52-12-2-29	415 52-12-2-38	416 52-12-2-38	417 52-12-2-38	418 52-12-2-38	435 52-12-2-8	375 52-12-3-4	279 52-13-32	284 52-13-44	285 52-13-44	278 52-13-45	452 52-14-1-15	448 52-14-1-18	466 52-14-1-3

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	matic				Trontage land use 188/75	Trontage 18nd use 166/75	Trontage land use /8//5	frontage land use 85/100																	y ,	'n										frontage land use 78/77 corner									
	Other information				Trontage 18	Trontage 18	Trontage 18	frontage la		ઝ)/O such soil	/n ad/1 aer									9	rontage Jar					office	3			
	Area, Building Current EDU's Business name		9 80 Harrian Dansatt Dastict	2.00 tien vey restruct Destrict	6 As Dichard Lall Destina	a so stand that central	3 00 Mali's Hainstoling	6.50 Paradise Travel	4 7 7 7 6 4 6	Z.56 Andy's Barber Shop	1.00 Craig s Radiator	1.00 Stewart S Auto Kepair (Paint?)	1.00 bill s body shop	1.40 Storage area for McCool's	L. BV Vision Specialties	1.00 KKIJ KBGIO STUGIO	o so sussemental lanning salon	a so character storage	A SA II HALL THEN SO	1 on family Outsiden	1 GG MoVemen and I am Attended	2 00 Smith Current Brush Attorneys	S BA Paradise Automobile Flectuio	9 80 labr's Troops Tay Carrier	7.70 (Dane) of the Pines Finance I was noted	1.80 Lerry's Place (Auto Repair)	1.00 Dream Maker's Hair Salon	8.56 Academy of Dance	3.00 Quality Cleaners	1.80 KNVR Radio	1.80 Auto Repairman - Mufflers	1.80 D. Baker Welding	1.86 Mittag's Body Shop	0.30 Note: Lectronic		3 AM Continue 21 Ben Scote	8.00 Michael Localia Dentiet	8.58 Automobile Storage	2.00 Competitive Edge Hair Salon	1.80 Classic Austona Restorms			1.00 Abercrombie Insurance	0.00 William Sharrett (Tax Service)	0.50 Frank's Shoe Repair
	ilding Current	Brea, use sq. ft.	1200 5	2 008	800 5		1288 5	800 5		0 000	0 000	0 0000	5 000	2500 5	2 2007	1000 5	2000 5	2 0001	0 000	1999 5	1500 5	2 005	5 88 5	5 997	3688 5	1200 S	1000 S	1888 \$	2000 S	899 S	800 S	808 5	1500 5	c 990 y	2 003	286 5	1808 S	8	888 S	2888 \$	1868 \$	1200 S	1200 S	800 S	198 S
	Area, Bu	acres	8	5 5	8 8	8	78	0.19	2	10.0	00 . 20 12.	70.0	2 2	3 :	0.13	C7.3	3 8	3 8	3 %	2.6	14.16	28.29	2 8	8.89	0.52	8.23	6.89	8,48	8.36	8.80	0.23	6.16	9 8	2. 0	5 5	5 5	88	9.16	9.8	8.11	0.12	88.	0.16	8.86	8.86
	Front	footage	£8	2 2	190	2	198	83	07	8 %	3 5	171	٤ و	2 2	7 7	3 %	3 5	100	144	ī	5 25	3 2	3 8	88	8	141	97	158	110	158	164	3 ;	C 2	3 5	ę,	. %	136	38	97	33	33	130	25	37	125
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	City, State							Orland					6			Glies		Chies	Chico			Orland	Orland	Orland			Chico	Chico				ntntopo				Gis	Chico				La Conner				
	Owner's Street Address		743 Camellia Drive	P.O. Box 146	P.O. Box 146	P.O. Box 941	800 Elliott	P.O. Box 1185	900 Central Park Drive	5675 Skyway	5616 Jewell Road	5604 Little Grand Canyon	6189 Skyway	6129 Skyway	6177 Skyway	16 El Cerreto Drive	6118 Skyway	P.O. Box 924	P.O. Box 924	5111 Eden Road	P.O. Box 558	Rt. 3 Box 3361		Rt. 3 Box 3361	5386 Orchard Drive	6226 Skyway	680 Rio Linde Avenue	1418 Scottsdale Court	5933 Skyway	5987 SKYWBY	555 Fir Lane	P 0 Roy 328	92 Pearson	574 Dakwood	1230 Elliott Road	521 W. 11th Avenue	521 W. 11th Avenue	P.O. Box 94	5922 Foster Road	P.O. Box 801	333 Snohomish Drive	148 Pearson	162 Pearson		929 Thomasson Lane
	Owner		Harvey Parrott	Richard Hall	Richard Hall	Frank Sterle	Sone Son	Jean Welch	John Coverston	Jerone Hanley	J.W. Black	Donald Crum	John McCool	Donald Handt	James Flood	Michael Pavis	Mike Danilov	Mayne Paul	Wayne Paul	Arthur Layton	Roy McKerman	Agnes Kuhnen	Agnes Kutmen	Agnes Kuhnen	Michael Gaukel	Lawrence McMillan	Moran Enterprises	Bradley Wolfe	Jefferson Norris	Joseph Schneider	LiBrence KBy These Persolds	Jack Mitted	Bernard Shanack	Grsetic Zlatan	Mildred Fickett	Goodman Family Irust	Goodman Family Trust	Phillip Marler	William Turner	Enoch Ferrel1	William Alcorn	Velma Nassie	Bob Abercrombie	Bob Abendroubie	Thomas McLaughlin
	Situs Address		5849 Almond Street	5757 Almond Street	5759 Almond Street		806 Elliott	5867 Queen Drive	6717 Skyway	5684 Jewell Road	5651 Skyway	5747 Skyway	6195 Skyway	6129 Skyway	6181 Skyway	6149 Skyway	6887 Foster	6864 Skyway	602 Birch	722, 728 Fir Street	732, 734 Fir Street	6198 Skyway	6194 SKYWBY	62028 Skyway	5691 Almond	6226 Skyway	800 Fir Street	585 - 811 Cedar	Syst Skyway	Syd/ Skyday	29 Pearson	52 Pearson	92 Pearson	578 Oakwood	5924 Skyuay	5828 Skyway	5828 Skyway	728 Birch	5522 Foster Road	119 Pearson	5582 Almond	5495 Almond	162 Pearson	164 Pearson	196 rearson
***************************************	Record # Parcel No. Situs Address		465 52-14-1-4	468 52-14-1-9	461 52-14-1-9	1286 52-14-2-16	589 52-15-28	489 52-15-4	525 52-17-43	538 52-18-2-44	528 52-18-2-93	535 52-18-2-97	544 52-19-1-1	555 52-19-1-20	547 52-19-1-3	558 52-19-1-6	562 52-19-2-12	582 52-19-4-14	584 52-19-4-15	589 52-28-1-84	590 52-20-1-05			639 52-28-1-28	596 52-28-1-38	585 52-20-1-35	614 52-26-2-1	21-2-92-75 619		0-1-0-10-02	656 52-21-2-21	659 52-21-2-3	661 52-21-2-5	677 52-21-3-18	672 52-21-3-16	683 52-21-3-19	685 52-21-3-19	698 52-22-1-11	692 52-72-1-7	6-1-22-25 569	697 52-22-2-1	720 52-22-6-4	725 52-22-5-1	7.0 52-22-5-1	0-0-77-70 ANI

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	Other information					bldg						to me	משפו כתופון חכרותו									3 MD's	2		GMW, FW Maynard, Hulb Hands, Steret Co.,	3 offices - V	S, RS, O, R	Size Shop, Anderson Jewelry, Shearlings,	Mutrisystem, Christian Books, Paradise	Stationers, Video Rentals, Paradise	Postal Center, Barber, Little German	Restmurant, Paradise Drug, 2 offices - V					18.			8	2		
	Are, boliding Unrent EUU's Business name on Bores area, use Sq. ft.		2.80 Sfreddo's Perfect Curl (salon)	1.60 Sierra West Surveying	2.00 Skyway Auto Wrecking		1.00 Harvey Fishbein - Psychologist	2.00 Gent Set Hair Salon	1.88 Bug Factory/Anthony's Auto	8.50 Johnson's Real Estate	2 As Malking Using at their	4		6.66 Hair Talk Salon	1.70 Paradise Tropic Tans	1.70 Automatic Car Wash	8.50 James Johnson Attorney	3.00 Skyway Pet Hospital	0.50 David C. Schott Construction	8.50 Howard Realty	8.50 Central Park Properties	duends		0.50 Carlson Travel/V	le, LA Direct	₩.	6.80 DMV, Feather River Home Care, S,		N	\$\$	2	S SO Hell-Sell	1.66 Paradise Auto Rody	1.80 Terry's Transmissions	18.58 Quail Run Plaza Prof Offices	4.68 Rose Chapel Finers Hose	1.86 Clack's Auto Penair	3.90 Netric Notors	1.86 Wally Mutton Insurance	9		1.50 Farsers Insurance	
	area, use sq. ft.	;	S 887	1280 S	1 680 S	1686 S	588 5	200 2	1500 S	888 5	1000 5	9 6	S 006	1280 5	1488 5	8 8	1800 S	2888 S	8 8	500 S	\$ 886	S 8889	8 8	8 9	3500 S		80000 S					5 007	2868 S	5 006	8	8	1200 5	888 S	1888 5	2588 5	2688 S	888 5	
j	a sanda		99.	6.26	1.75	8.86	6 .29	8.80	1.00	3 6	9 6	18.32	9.30	8.86	8.58	8.88	1.00	6.30	8.86	8.98	0.27	8.81	e.58	8.36	6.56		1.89					35	0.43	8.12	2.62	88	6.11	89.8	9.69	6.39	6,58	88.	
3	footage		53	160	226	8	722	155	125	2 2	8 2	565	82	69	162	162	118	128	188	238	35	368	162	69	100		287					23	188	120	195	222	2	137	266	28	186	8	
	357		ر- 5	9-5 5	<u>.</u>	2-5	د د	هم د د د	יי פ	ب ر د خ	, ₍ , (4-1-1	ပ ပ	<u>၁</u> -	<u> </u>	7	7	٦	<u>ئ</u>	ပ္	<u>ئ</u>	4-1-4	5-5 5	J-J 5 5	<u> </u>		3					J.	J-J \$5	ე ქ	<u>ئ</u>	ን	<u>ئ</u>	J-J 55	3	ጟ	3	2	
City State	2000			Portois	1	Magalia		Ut all also	VICKSDUFG	ailaca M					chico	Chico							Campbel1	® Sacramento									Oroville	Chico				Sonolla					
Ouner's Street Address		ON Thomason I ana	777 IIIOMMOSOII FONE	F.U. DOX 842	ABMAYC GOOC	13843 50. PBPK UPIVE	6021 Seppetto Lane	2110 Change Street	133 116 (117)	P. D. Box 597	6351 Clark Road	5874 Pentz Road	P.O. Box 839	P.O. Box 839	1625 hangrove Ave	1625 Mangrove Ave	6666 Dolores Drive	7334 SKYWBY	6883 Marwell	14795 Holmwood Drive	5480 Newland Road	6161 Clark Road #8	710 McGlincey	555 Capital Hall, Ste 100 Sacramento	3876 Adobe Lane		193 Valley Ridge Drive					P.O. Box 56	3069 Messilla Valley	2748 Chamer Lane	P.O. Box 2229	6372 Clark Road	1326 Bille	339 E. 2nd Street	7455 SKyway	1940 Crandall May	7389 Skyvay	P.O. Box 219	
Ower		Thomas Melauchlin	The House	JOHN DEMOY	רבשנת א מאווצמו	Patrot Birratia	Pobert Finoconio	Rich Colline	Ronald Harris	Adolph Pearson	Lee Malkin	Feather River Hospital	Arthur Leonard	Arthur Leonard	Marion Hobson	Marion Hobson			Gregory & Joanne Foster	Edward Porter	Central Park Properties	Hoodbrook Prof. Group	James Chalmers	Jamo Nursury Inc	Floyd Powell		Safeway Development Enter 193 Valley Ridge Drive					Kermit Anderson	Jeffrey Desmet	Barker Jaynes	Queil Run Prof. Plaza	Rose Chapel Inc.	Clark White	Raymond Phipps	Walter Hutton	Francis Hoover	Alen Avis	Wilbur Sypherd	
Situs Address		192 Peerson	ELLI-ELO7 Ploch Olive	5679 5660 Sturms	EC7/ CC70 Classes	5180 Wirts Ilan	5/80 Vieta Uav	5778, 5794, Skyuay	54.28 Skyway	5498 Skyway	6351 Clark Road	6283 Clerk Road	7545 Skyway	7543, 41 SKYWBY	7321 Skyway	73238 SKYWBY	7448 Skyway	7334 Skyway/6084 Maxwell	6883 harwell	624B-C Clark Road	6201 Clark	6161 Clark Road, Stes 1-8 Woodbrook Prof. Group	1137 Elliott	Seet Clark	5923 A-J Clark		5921, 5915, 5985 CLBrk					5878 Clark	1122 Elliott	5878 Clark	5910 Clerk	6372 Clark	1326 Bille	7357 Skyway	7455 SKYWRY	74.89 Skyway	7389 Skyway	5778 Clark	
Record # Parcel No. Situs Address		731 52-22-5-3	715 52-72-E.E	765 52-25-101	1280 52.25.83	787 57-25-85	786 52-25-85	757 52-25-96	789 52-26-78	794 52-26-88	884 53-81-1-57	886 53-81-1-85	825 53-82-1-78	826 53-02-1-78	813 53-82-1-82	814 53-82-1-82	842 53-82-2-27	819 53-82-2-5	1241 55-85-11	89-39-66	27-03-00 9/8	8/8 53-88-39	918 53-18-3-28		926 55-12-56	27 62 63 620	40-71-cc 9ck					946 53-13-1-28	959 53-13-1-89	945 53-13-1-98	951 53-13-1-93	1290 53-15-132	982 53-15-71	833 53-2-1-64	829 53-2-1-80	831 53-2-1-98	832 53-2-1-98	941-18-80 VA	

	Kennedy/Jenks,	Other information	Connection 8.80 W.W. Bus Srv, Susan Fultan CPC Century 21, McClemathan Insurance,	Charles Kasza Realty, Acoustic Ear AAA Touing 2,500	Buto repair/contractor office							王-55	0000	9897													0/16-2	4	RS/S	RS/S	A TOTAL CONTRACTOR OF THE PROPERTY OF THE PROP	(601f Course Portion)	1888 sq foot club house	Plus vacant building 900 sq ft	Inother (non of 1) is a	Another 4888 of blog on parcel			
		Area, Building Current EDU's Business name Borts area, use Sq. ft.	0.00 W.W. Bus Srv, Susan Fultan CPG	8.80 Chamber of Commerce 3.80 JT MoGregor Elec. Contractor	•	8.58 Rockyard	8.58 Rock Yard	1.80 Iravers, Jacobs, Ryter Law Ofc	1.30 Ship Beauty Salon	1.80 Peradise Plumbing	0.50 RV Storage	1.00 Ray Carter, DOS	1.50 Vet Clinic 1.50 Ridge Transmission/Creeft Arts John	1.06 Art Stone Plumbing	1.00 Wright Wheel & Brake	1.20 Texaco	0.50 8-cent Copies	34.20 Haggie's Quick Wash	8.58 Marchaise	3.00 Bus Schedule	0.50 Aquatic Park	0.50 Mini Storage	8.50 Mini Storage	2.00 American Savings	2.30 Callacher Chimonecton	8.58 Mini Storage	2.00 Warehouse & duplex	4.00 Paradise Post	1.00 Auto Garage	8.50 Paradise Disposal & Storage	3.50 Bank of Paradise	1.00 Twin Pines Golf Course	4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.00 Arin's K.V. Repair	1.00 Ken 5 Mitch and Welding 2 80 Compar Engineering	8.58 Golden State Coaches	1.06	1.86	1.80
		Suilding Current area, use sq. ft.	3888 S	1880 S 1280 S		Se	288 S	1280 5	S 886	\$ 886	S	8 8	3,000 5	1000 S	\$ 286	1200 S	588 5	2000	2888 S	5 8	S 0	S	5 50 50	2 0037	1890 5	8 8	2000 5	8500 S	2000 5	1000 S		1666 5	1000 6	2002	5 6667	2000 5		98.5	ક
		Area, B	8.8	8.55 8.53		8.80	9.62	2 %	0.31	6.00	89.	6.57	8 8 8 8	8.28	8.35	8.34	88.88	99.0	1.45	8.80	8.86	1.45	39 c	90.00	25.02	2.30	R.36	1.60	98.9	8.88	.58	2.11	8	0.0	8 8	5.17	1.18	8.72	6.42
		Front	158	158		0	288	55	8	83	60	3 ;	19 K	- 93	7	266	312	276	994	69	638	87	210	133	128	887	88	149	375	375	181	216	557	3 5	3 6	657	155	*	60
		Zone	2	2.5 7.			<u>.</u> .		. J	<u> </u>	ပ္ ပ်	ა ა ჭ	I I	3.	J-J	J-J 5	<u>,</u>	, <u>t</u>	<u>;</u> ;	5	ኃ	ა : ჯ	ב ב	ب ر <u>د</u> 3	, J	7	J-J	I-5	7	၁	ጋ ;	<u>-</u> -1	3-1	ς <u>τ</u>	S - S-	NV I-S	至	ኔ	જ
		City, State									1	MODGIBNO				chico						Magalia	Chica	8								Bala				Carson City	Orinda		
		Owner's Street Address	5011 Country Club Drive	5011 Country Club Drive 5718 Cherokee Drive		7	P.O. Drauer FF	5799 Clark Road	191 Valley Ridge Drive	191 Valley Ridge Drive	508 Cottoning St	583 Pearson	9289 SKyway #34	6289 Fem Lane	5890 Debbie Lane	Urawer 3268	191 Valley Ridge Urive				1 1 1 1 1 1 1 1 1	F n Roy 1150	200 Broadusy	5528 Clark	5542 CIBrk	1117 Noffsinger Lane	2351 Stearns Road	P.O. Box 78	198 Valley View	198 Valley View	F.U. Box 2199		9946 Easy Street	946 Easy Street		5079 Ponderosa Drive	20 Eastwood Drive	1549 Hest Drive	1534 West Drive
Application Comment		Owner	Karoly Karsza	Karoly Karsza Jan McGregor		John Reily	Donald Travers	Albert Philbride	Carlisle Richards	Carlisle Richards	George Rungen	William Martin	Joseph O'Connor	Mabel Speeches	No.Cal Conf Assoc SDA	Carlisla Dichardo	Carlisle Richards	NO VALUE	NO VALUE	NO VALUE SCHOOL	NO VALUE SCHOOL	Brien Heinz	Lassen Savings	Eric Kemper	Phillip Gallagher	David Gaston	Mercedes Fisci	Lowell Blankfort	Charles Montgomery	Charles Montgomery	Paradise Lest		J.L. Bailey & Sons	J.L. Bailey & Sons		David Lippineott	Robert Hobden	Hans Boer	Charles Smith
3	lity ion	. Situs Address	5880 Clark	5798 Clark 699 Pearson Road		691 Pearson	529 Pearson	5799 Clark	5781 Clark	5761 Pages	573, 575 Pearson	583 Pearson	13 475 Pearson	615 Pearson	635 Pearson	649 Pearson	645, 647 Pearson	502 Pearson	5642 Mallan Lane	618 Pearson	54.1 Buschmann 54.20 Mallan	5636 hallan	5695 Clark	5528 Clark	5542 Clark	1117 Noffsinger	5585 Clark	SSS CLOCK	SAZA CIBIX	7.87. CLBRY	5325 V	stl	5074 Clerk Road	919 East Street	933 Easy St.	928 American May	1536 Wagstaff Road	1549 West Drive	1334 WCSL LITVE
Page No. 16 83/86/89 Toun of Paradice	Mastewater Fessibility Study Parcel Information K/J/C 882511	Record # Parcel No. Situs Address	998 54-01-110	991 54-01-110 1195 54-01-80	2 76 07	98-18-95	1839 54-84-111	996 54-84-117	1001 54-64-119	1815 54-84-129	1029 54-84-16	1842 54-84-25	1848 54-84-34,73 475 Pearson	1018 54-04-36	1812 54-84-56	1889 54-84-89	1018 54-84-89	1877 54-85-83	1878 54-85-83	1886 54-85-35	1888 54-85-69	1879 54-85-78	1091 54-05-89	1128 54-88-16	1125 54-88-22	1132 54-88-66	1119 54-89-28	1167 36-11-30	1157 56-12-33	11.55 54-12-33	1171 55-18-43		1179 55-18-74	1188 55-18-74	1291 55-18-74	1194 55-18-75	1198 59-18-2	1281 58-18-33	00-01-00 TATE

3/86/89 Town of Paradise Mastewater Feasibility Study Parcel Information K/3/C 882511										Kennedy
Record # Parcel No. Situs Address	Owner	Omer's Street Address	City, State	Zone	Front footage	Area, Bui	Suilding Current area, use sq. ft.	Area, Building Current EDU's Business name acres area, use sq. ft.	et d	Other information
1200 50-18-6 1533 West Drive 1202 50-19-42 1375 Armstrong Pl.	Vasily Gosev Clifford Hamilton	1548 West Drive 1375 Armstrong Place		\$ 55 St. 75	128	3.86	90 60 M M	1.86		
	EM West Melvin Smith	20 Williamsburg Lane 6525 Clerk Road	chico	\$ F 5	158 115	8.95 8.49	र्थ रहे र क क	1.00		
16 58-19-59 6523 Clerk Road 14 58-19-68 6543 Clerk Road 13 58-19-61 6553 Clerk Road	Ervin Armstrong Kenneth Davis George Mouser	6543 Clark Road 6543 Clark Road 6553 Clark Boad		4 4 4	28 75	6.25	्र क इ	1.86	Ŧ	
89 6	Clifford Laggen	6462 Clark Road		[; ;	378	2.16	600 SF	1.00 Paradise Custom Draperies	/RS	
		6562 Clerk Road		ድ Έ	28	6.36	र्थ रो ब्रु	1.86		
		4250 ROCKY Kinge COUFT 5468 Sawmill		ቷ ኌ	98	8.65 8.98	ત્રે તે જ જ	1.98		
32 58-28-28 6488 Clerk Road 26 58-28-25 1428 luminer	Forest Hull	200 E. Terrace Drive	Henford	5 5	202	0.92	ا د ده	1.80		
1428	James Bozzer	639 Castle Drive		<u> </u>	98	6.26	κ κ ω α	1.86		
1279 58-28-36 1373 Bille 1276 58-28-51 6432 Clark Rd.	Gonge Sciligo	1548 Rosemary Court		7 . 2	186	88.8	. જ	1.86		
	Hubert Audley	1349 Bille		፤ ፤	125	8.75 8.75	र्थ त स्टब्स	1.98		
12/8 50-20-55 1365 Bille 22 50-20-62 1429 Juniper Lane	Mary Mann/Benjamin Remy Jerry McJunkin	P.O. Box 1372 Box 17 Asfes INAX	APO Meu York	i i	125	98.90	60 00 00	1.86		
2004	William Kinnear	6530 Clark Road	45	E Œ	3 23	6.28	8 G	1.00	季	
29 58-28-81 6532 Clark Road 75 51-18-1-18 8655 Skyuay	Kurt Gurney Ualter Reck	1898 Shadowbrook May #31	Secramento Serta Barbara	7 7 2	29 8	6.17	ر د ه	1.80		i e
6998	Ferne Hewitt	8669 Skyway	Santa barbara	È ½± S	138	6.32 0.42	र्थ र स्टब्स	1.86	(mobile)	le)
// 51-18-1-12 86/5 SKyway 78 51-18-1-17 8685 Skyway	Daniel Wentland Frma Pachle	1913 Dean Road	llatroneril la	발발	38 2	6.24	60 cg	1.86		
8596	Susan Lockwood	8596 Skyway	STITALOGIEM	± ±	327	2.33		1.88		
68 51-18-2-22 8684 Skyway 92 51-18-2-23 8662 Skyway	Joe Lockwood Joe Talamantes	5190 Country Club Drive		<u>1</u> 22 122	125	6.57	र्थ रहे क क	1.98 98.1		
8654	Desdemona Ratcliff	8654 Skyway		: ½ :	8 8	86.9	α α α	1.88		
78 51-18-2-31 8618 SKyway	Billy Alexander	8618 Skyway		½	168	1.83	R SF	1.00		
71 31-18-2-31 8626 SKyway 69 51-18-2-32 8686 SKyway	Billy Alexander Forest Daoner	8618 Skyway 8686 Skyway			168	6.99 7.	9 c	1.00	(mobile)	le)
72 51-18-2-7 8634 SKYWBY	W. N. Campbell	(m) (m) (m)		e Ve	26.3	1.73	לל ל בס ב	1.86 1.86		
74 51-18-4-112 8645 SKyway	Evelyn Arnold	P.O. Box 834		Ī	165	0.24	. S	1.00		`
-	McGuigan Family Trust	967 Ocho Rios Drive	Denville	₹ 5	150	8.8	35	1.86		`
79 51-18-4-19 (6569)? Firland Drive	Chester Rogers	8637 Skyway		生。	120	1.07	त्र त्य क	1.00		
	George Hoffman	8681 Skyway		ડે ⊭	8 5	27.0	לו א פים	8.8	(alida)	. (4)
	John Yankee	8561 Skyway		: Me	211	1.32	70 T	8 88		72)
8451	Andrew Odor	8451 Skyway		生	78	8,48	. Sc.	1.86		
61 51-18-4-32 8435 Skyway 68 51-18-4-33 8423 Skyway	Leon Smith Thomas Stanling	1196 Arlene Hay		Me h	۲2 :	6.52	35 1	1.00		
	Rudolph Sebicke	1881 Wagstaff		<u> </u>	2 8	6.85 17	त्रं त क क	1.88		
103 51-13-1-12 1089 Wagstaff	Robert Wildhirt	1089 Wagstaff		3	28	6.14	, 15 15 15	1.88		

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K	Other information			(mobile)	(mobile)	(mobile)	(mobile)	193/100		(mobile)						nobile	(mobile)		frontage land use 132/200			(mobile)										\									
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	t EDU's B		1.86	1.00	1.88		8 8	1.86	1.86	 88. 8	1.88	1.00	1.88	1.86	1.88	1.66	1.00	1.88	1.66	1.86	1.86	1.88	1.60 00 0	8 8	98	1.00	1.00	1.00	1.00	1.00	1.80	8 8	8 8	9 5	9 6	8 8	3 8		1.00	1.00	1.80
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i)			6.31		8.26					1.25				1.89	. 58	9.26	6.37	97.9	0.0	8.65	0.32	20 c	9 6	89	6.57	6.45	1.32	0.93	0.52	6.26	6.25	9.50	9.5	17.0	3 %	8.26	8	8.26	1.54	6.75	1.78
{	Front	footage	375	6	23 4	9 8	8 8	193	6	328	125	152	158	3 5	* *8	136	38	2007	701	189	19	100	185	148	2	4.07	140	158	28%	188	198	100	991	8 87	1 20	98	189	186	•	165	326
	Zone		2-2	2 6	7 7	າ ບ ຮ	, <u>.</u>	3	<u>ئ</u> ر	3 5	3 2	3-3	٠ ن د	3 2	3 3	J-3 5	당 (3 3	Z.	2	ပ္ (ر د خ	ب ر د د	3 3	노	3	J-J	J-J	ረ !	<u>*</u>	E	± 14	= 12	: 32:	: 1=	⊭	*	⊭	ĭ	<u>.</u>	Į
	City, State		sp		Lono Reach											lia						Moroan Hill																			
	city,		Redlands		000	5										Magalia						Z.																			
	Owner's Street Address City,		treet	6000 Hazel Way) Street		8354 Skyway	1100 Wagstaff	8188 Skyway	SOOR CELLI) LENG	8884 Skyway	7975 Skyway	7974 SKyway	8838 Skywey	7831 Skyway	th Drive	//b/ Skyugy 698 Sinset	698 Sunset Drive		1241 Wagstaff	89/ Elliott 7787 Syuny	-		1058 Lisa Lane	1837 Bille	P.O. Box 1395	1080 Lisa Lane	1079 Lisa Lane	/856 5Kyway 5534 Sobrele	5562 Schaele	481 Leil ani Drive	5535 Schmale	5520 Schmale	5519 Schwale	6120 Lois Lane	454 Apple Lane	5586 Schmale	P.O. Box 292	5952 Almond Street	5732 Almond Street	מיבי בחוורה הוו בכו
			1201 Clifton Street	low Stefanick 6888 Hazel Way Ruby Slaton 1179 Wansteff	ser 5346 Walkerton Street	1187 Wagstaff		5	Frank Fostick 8188 Skyway				Not men mucson 7974 Skywey Devid Despain 8030 skywey			mperial 14186 Norwich Drive	Skyway Investors 608 sumset	or Nove			John Roso 7707 Styles	rnier 938 Vis Grande			চ		5	Arrive York 1079 Lise Lane	3		nan-			William Sinden 5519 Schwale	£.				Rudolf Schott 5952 Almond Street		
Noc No. 18 3/86/89 Town of Peredise Nestewater Fessibility Study	Owner's Street Address		1281 Clifton Street	log Stefanick Ruby Slaton	6417 Dak Way Narie Chlinger 5346 Walkerton Street	1187 Wagstaff Roser Erright 1187 Wagstaff	Skyway Kurt Gilbertson	Rosenond Barrum	7931 Skyuay Rocald Similar	8892 Skyway	8888 Skyway Peter Schecker		Skyway David Despain	Duight Breed	Wendell Mattox	mperial 14186 Norwich Drive	Skyway Investors	or Nove			John Rope	Norris Fournier 938 Via Grande	Robert Estrem 1061 Lisa Lane	Harry Valadez	Donald French	Lane Nancy Eiger	5	ATTINE TOPK	Sense Mitte	Anna Koller	Marsdon Sherman	Eleanor Flouer	Thomas Devlin	William Sinden	Frederick Never	Victor Briggs	Wilbur Zitter	James Quilter		Patricis Class	

Kennedy/Je	Other information	Apartment	<pre>(mobile) frontage land use 240/165 (mobile) (mobile)</pre>		(mobile) (mobile) frontage land use 93/98
	Area, Building Current EDU's Business name mores mrem, use sq. ft.		1.00 1.00 1.00 1.00 1.00		1.88 1.88 1.88 1.88 1.88 1.88 1.88 1.88
	Area, Building Curr Bores Brea, use sq. ft.	6.00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	9 B B B B B B B	***********	6.25 6.25 6.22 6.22 6.22 6.22 6.22 6.23 6.23 6.23
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	Zone	3 7 3 7 7 7 7 7	\$ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\$5\$\$3\$\$\$\$\$\$\$\$\$333	######################################
	City, State		No. Highlands	Sacramento Chico Roseville	Chico Sen Mateo
Ì	Address	e e	2 9 9	ie.	8
	Omer's Street Address	s P.O. Box 719 5963 HcClain 5978 HcClain 5977 HcClain 7818 Skywy 837 Elliott 5964 McClain Lane 5836 McClain Lane	534 Lerry May 5889 McClain Lene 5732 Shady Lene 5842 McClain 5968 McClain Lene 5955 McClain	456 Green Daks Drive P.O. Box 1680 P.O. Box 1680 P.O. Box 315 Z775 Harkness Street P.O. Box 1462 804 Luther Drive 1580 Hamboldt Rd., Stell P.O. Box 1345 S911 NcClain 5983 NcClain 5983 NcClain 6633 Skyway 6633 Skyway	60.55.3 K/May 61 Hichel 7.0. Box 386 1333 Arlington 671 Elliott Road 667 Elliott 5825 Sk/way 666 Elliott 5887 Hildwood 5799 Wildwood Lane 5228 Country Club Drive 685 Elliott 685 Elliott 685 Elliott 7.0. Box 941 219 W. 38th Avenue
	Ouner's Street	Mourtain Valley Investors P. 0. Box 719 Lonald Tucker 5963 McClain Willard Young 5985 McClain Effie McClain 5977 McClain Johann Kleape 7818 Styuey Mary Hosger 837 Elliott George Bille 5964 McClain Las Eduin Burton 5826 McClain Las	io & &	James Scales 456 Green Daks Drive Rowan Cath Bishop of Sac P.O. Box 1689 John Buigley 786 Luther Drive Therese Adams Trust P.O. Box 515 Elizabeth Pelgen 2775 Harkness Street Georgia Yost P.O. Box 1482 Joe Schean 884 Luther Drive Fred Hignell 1589 Hamboldt Rd., \$1 San Heaver P.O. Box 1345 Richard Hade 5911 hCclain Hang Buu Sky Investments 6633 Skyway Blue Sky Investments 6633 Skyway Blue Sky Investments 6633 Skyway	
Pace No. 19 13/86/89 Town of Paradise Wastewater Feasibility Study Parcel Information K/3/C 882511		Mountain Valley Investors Donald Tucker Willard Young Effie McClain Johann Kleape Mary Heager George Bille Edwin Burton	Raiph Fertig Jeanne Myers Raymond Raudio Donald Bush David Kormandy Fvelyn Wallick	SS.	Deloris Mallevand Devid C. Leroy Richard Maues Robert Conway Mildred Phelps Ronald Southworth Lewrence Acheson John Heidelberger William Richards Arden Smith Stephen Strusis Jack Walters Billy Smoots Frank Sterle Linds Anussananan

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83/86/89
Town of Paradise
Mastewater Fessibility
Study
Parcel Information
K/J/C 882511

Other information								(((((((((((((((((((((mobile)					frontage land use 150/105	frontsee land use 50/50	2010		frontage land use 70/125		frontage land use 125/90						frontage land use 98/95	frontage land use 95/100			fronteen land by land	(mobile)	(2770)	s	(mobile)	(mobile)	e z						
Area, Building Current EDU's Business name		8	1.00	1.80	1.80	1.80	1.86	1 : 50	1.00	8 8	1.88	1,86	1.00	1.86	1.80	1.80	1.96	1.00	1.60	1.86	1.88	1.86	1.86	200	1.60	1.00	1.00	1.00	1.00	26 F	1.80	1.00	1.00	1.00	1.00	1.86	1.66	1.00	38 S	1.86	3 6	1.00
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City, State		San Mateo	San Mateo	El Dorado Hills	San Mateo															Committee	Campbel1									Honolulu								Herence Reach	TOTAL POOR IN			Davis
Owner's Street Address		219 30th Avenue	219 30th Avenue	3878 Stanford Lane	219 30th Avenue	5952 Alliond Street	P.0. Box 753	P.O. Box 1186	800 Elliott	5777 Almond Street	5884 Almond	727 Hamma Drive	5860 Almond Street	5851 Black Olive	5886 Almond Street	P.O. Box 1532	6190 Skyway	Took Judy Lane	795 FIF Street	816 Pre Montenne	5886 Black Dlive	6224 Savaill Road	802 Violet Way	818 Violet Way	809 Violet Way	5836 Queen	882 Windsor	805 Uindeor Priva	800 Elliott	6750 Hawaii Kai Drive	828 Elliott	848 Elliott	5846 Tulip	5846 lulip 5824 Tulip lege	5861 Pines	5851 Divern Prilus	5865 Queen Drive	825-1/2 Barview	6174 Alano May	P.O. Box 57	780 Willow Street	4483 Vista Way
Owner		Linda Anusasananan	Linda Anusasananan	Comile Carah	Linda Anusasananan Badali sabati	Sophia Corbett	Thomas Drake	Sophia Corbett	Sone Son	Lily Haueter	Mildred Bianco	Seventh Day Adventist	Mildred Scott	Margaret Finch		Juan Castro	Daniel Smith	Charles Ball	Uilliem Taylor	Kirt Panneknek	Stephen Rees	Margaret Bugnatto	William Shepard	M.K. Selberg	Robert Squires	Gregory Wauhop	Virginis Parker	Lither Whelev	Sone Son	Newton Reynolds	Vollie Boliver	Serald Nelson	Vinginia Preston	Forign Dailiei	John Bathers	Donne Younodehl	Kent hassey	Donna Glines	Dorothy Ralph	Richard Ludwick	Glen Carey	James Poff
Situs Address			5995 Altond	2007 Almond	0825 Almond 769 753 Uillow Street	5875 Almond Street	783, 711 Fir Street	5847 Almond Street	5789 Almond Street	5777 Almond Street	5888, 5884, Almond	727 Hanna	5866 Almond Street	5851 Black Olive	John - John Alliong Street	5769 bigck ulive	5735 Black Ulive	795 Fir Street	5734 Black Dlive	5798 Black Olive	5806 Black Olive	5812, 5826 Black Olive	882 Violet Way	818 Violet Way	809 Violet Way	5836 Dueen	818 Lindson	885 Windsor Drive	890 Elliott	801 Windsor Drive	828 Elliott	SAM, SAZ ELLIOT	Sase Iulip	5824 Tulip Lane	5861 Queen Drive	5851 Queen Drive	5845 Queen Drive	5837 Queen Drive	5825 Queen Drive	773 Willow Street	788 Willow Street	/65/791 Willow Street
Record # Parcel No. Situs Address		637 52-12-2-23	438 52-12-2-24	97-7-71-76 act	377 59-12-3-1	467 52-14-1-1	454 52-14-1-26	464 52-14-1-5	463 52-14-1-7	462 52-14-1-8	476 52-14-2-18	475 52-16-2-11	81-2-14-2-17	4/8 52-14-2-2	3 0 75 03 767	474 52-14-2-3	480 52-14-2-7	8-6-91-65 6C9	488 52-14-3-1	485 52-14-3-4	484 52-14-3-5	483 52-14-3-6	582 52-15-18	503 52-15-11	501 52-15-12	514 52-15-13	513 52-15-15	511 52-15-16	588 52-15-28	518 52-15-29	565 52-15-58	504 E2-15-36	587 52-15-38	495 52-15-39	498 52-15-5	491 52-15-6	192 52-15-7	493 52-15-8	696 52-15-9	293 52-16-18	284 52-16-11	241 52-16-13

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Wastewater Feasibility
Study
Percel Information
K/3/C 887511

Other information								(mobile)				(mobile)		(mobile)																					`						frontage land use 168/95 corner			
Area, Building Current EDU's Business name		1.88	1.00	1.60	1.00	1.00	1.60	1.86	1.00	1.66	1.86	1.00	1.88	1.00	99.	96.1	2.00	7.00	1 30	9 6	98 6	1.00	9 6	1.86	1.89	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.86	1.00	1.06	7.00	7.00	1.88	1.98	1.00	1.88	88	1.98	1.96
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City, State		Davis		San Bruno	Blue Jay					Zipa Zita	Virta City	Viba City	Yuba City	ì				Magalia		Chico	Chico		Fresno			Walnut Creek								Bakersfield	2111				Honoliilii	IMPINIO				
Owner's Street Address		4483 Vista Way	658 Willow Street	3320 Sunset Urive	P.U. BOX 1136	5887 Oliver	OOM Centrel Pant Pains	5675 Chains	FK7F Stylen	1651 Costs Drive	1451 Coats Drive	1451 Coats Drive	1451 Coats Drive	5691 Skyway	P.O. Box 2199	P.O. Box 2199	3867 Honey Run	14200 Racine Drive	6841 Skyway	P.O. Box 924	851 Karen Drive	Heynen Road	4774 E. Harvard	5699 Black Olive	5691 Black Olive	417 Perisamod Road	S456 Allinond	822 Cedar 8 0 8cc 353	1.U. DOX /33	1662 Pamela Prive	5825 Skyway	577 Barbara May	5887 Skyway	3712 Harvard Drive	561 Dakwood	549 Dakwood	533 Dek Juood	36 Pearson	6758 Hausti Kai Dr. \$787 Honolulu	5831 Foster Road	DBOU LOSCO L TOPO	P.O. Box 328	P.O. Box 331	574 Dakwood
Owner		James Poff	Evelyn Alsus	Teen Aber	Pinhand Lucking	Ronnie Schunbach	John Coverston	Jerone Hanley	Jerose Hanley	Roland Udovich	Roland Udovich	Roland Udovich	Roland Udovich	Robert Punteney	Bank of Paradise	Bank of Paradise	Stephen Whiteman	Jay Nielsen	Glenn Russell	Wayne Paul	Emery Wanee	Ralph Hein	Leslie Halley	Loyd Collett	Lettie Collett	James Moore	Undiain Mandania	Viadimir Mardovin Thomas Draka	Paradise Irrigation Dist	Alice Green	Ronald Southworth	Ronald West	Kraig Kroschel	Blanche Collins	Anna Huber	Zelma Stovall	No. Cal Confer Assn SDA	Ozilla Grismore	Irene Reynolds	Stanley Fischer		Frank Nizzi	Benedict DiDuca	Grsetic Zlaltan
Situs Address	\$	779 Willow Street	766 Uillou Street	777 Hillow	5776/5768 Shady I ane	5887 Oliver	6695 SKYWBY	5684 Jewell Road	5675 Skyway	515 Udovich Lane	587 Udovich Lane	511 Udovich	583 Udovich	5691 Skyway	3857 Honey Run	3859 Honey Run	3867 Honey Run	6145 Skyway	6841 Skyuay	602 Birch	718, 712 Fir Street	5669 Almond	822 Fir	834 Fir	5691 - 5699 Black Olive	3/12, 3/18 Almond James Moore 826 Feder 5431 Rlack Oliv Jessie Eister	822 Cedar Sout Siden ULIV	777 Cedar	5784 Black Olive	5632 Black Olive	5813 Skyway	577 Barbara May	5887 SKYWBY	569 Dakwood	561 Dakwood	549 Dakwood	533 Dakwood	26/36 Pearson	24 Pearson			E		5/2, 5/4 Dakwood (
Record # Parcel No. Situs Address		292 52-16-14	296 52-16-3	295 52-16-6	289 52-16-6	523 52-17-36	526 52-17-44	529 52-18-2-44	531 52-18-2-85	538 52-18-2-92	539 52-18-2-92	548 52-18-2-92	541 52-18-2-92	532 52-18-2-94	558 52-19-1-16	559 52-19-1-16	556 52-19-1-19	552 52-19-1-7	571 52-19-3-25	583 52-19-4-15	588 52-20-1-03	632 52-28-1-29	615 52-28-2-2	616 52-28-2-3	617 52-28-2-4	613 52-28-3-18	611 52-28-3-2	612 52-28-3-3		680 52-28-4-9					52-21-2-11	52-21-2-12			657 52-21-2-21	671 52-21-2-22				6/8 52-21-3-1 8

Owner's Street Address City, State

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Record # Parcel No. Situs Address

K/J/C 882511

Mastewater Feasibility Parcel Information

Study

Town of Paradise

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Page No. 83/98/88 San Lorenzo

15774 Paseo Largavista

582 Dakwood 532 Dakwood

Seorge Davish Laurence Webb Robert Moffat

5179 Black Olive 5557 Foland Road

5183 Black Olive

Zenon Huchro

Hary Figura

688 52-21-3-12 5179 Black Olive 679 52-21-3-13 5183 Black Olive

5888 SKyway 582 Dakwood 518 Dakwood 532 Oakwood

673 52-21-3-17

674 52-21-3-3 675 52-21-3-4

Magalia Dakland

5719 Cherokee Drive 5719 Cherokee Drive

5177 Black Olive

Charles Maelbrock

5169, 5177 Black Olive

Grover Adamson

15355 Humbug Road

Dane Bryan

138, 134 Pearson

774, 778 Birch

Min Au Jin Au

3845 Telegraph Avenue

Timothy Akin Joseph Kola Joseph Kola

5834 - 5856 Foster

5888, 5816 Foster 5846, 5834 Foster 5483 Black Olive

681 52-21-3-7
706 52-22-2-3
716 52-22-4-1
717 52-22-4-5
721 52-22-4-8
723 52-22-4-8
735 52-22-4-8
735 52-22-5-6
737 52-22-5-6

136 Pearson

P.O. Box 487 P.0. Box 487

Zone Front Area, Building Current EDU's Business name footbose serves, use RF 184 8.75 8.5F 1.08 CA CB 8.15 8.5F 1.08 CA CB 8.16 8.75 1.08 CA CB 8.26 8.5F 1.08 CB 1.10 8.5F 1.08 CB 1.10 8.5F 1.08 CB 1.10<	Kennedy/Jenks/Chilto	Other information																				Mobile														(mobile)			
Zone Front front Area, Building Current footage Borres area, use Front footage Borres ar		EDU's Business name			1.80	1.00	1.00	1.60	1.00	1.60	1.98	1.00	1.88	1.69	1.69	1.00	1.66	1.68	1.68	1.00	1.86	1.86	1.00		1.88	1.00	1.00	1.00	1.80	1.90	1.68	1.86	1.00	1.00	1.88	1.00	1.00	1.86	1.00
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		Zone			Ŧ	፮	8	۳ ا	ස ජ	<u>م</u> لا	<u> </u>	8-5 55	문	9 5	5	-S	2 8	<u>5</u>	5	න ට	8 : 5	2 1	<u> </u>	25	ł	¥	1	Į.	3 3	3 1	ΕŒ		T	J-0 ₹	ر ح	2	ያ ነ	0 H	2

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265 265 146 128 168

G FF-P

Magalia

4951 Foster Road

William Brewster

Flore Erickson

P.O. Box 895

6644 Dolores Drive 6894 Bowles Blvd

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77

33

San Francisco

Vicksburg

P.O. Box 1394 2119 Cherry Street

966 Corbett Avenue

5550 Vista Way

5378 Skyway

Robert Jeffords

5378, 5372 Skyway

Lloyd Gross

5728, 5736 SKYWBY

5178 Black Olive

Jerry Carpender

John Dodson Rose Chapel

Palmdale

4727 Pasco Fortune

5271 Black Olive

Verna Vanderwold Rowland Bridges

Arthur Boyle Ruth Collins Myrtle Clark

5788, 5718 SKYWBY

Phillip Kelly

5275 Black Olive

5271 Black Olive

Lauren 6ill

584 Town Lane 5899 Daksone

Carmichael

1542 Bidwell Avenue

5243 Black Olive

6848 Clark Road

August Kuentz

5233-5239 Black Olive

5243 Black Olive

Emily Hauff

Wilson Bruce

1656 Nurneley Road

Chico

5468 Almond Street

5381 Black Olive

2233 Fair Street

Work Training Center

TOWN HALL

Jessie Fischer

5355, 5363 Black Olive

738 52-22-5-8 739 52-22-5-9 772 52-25-102

5467 Skyway 5475 Skyway 5773 Foster

771 52-25-183

5381 Black Olive

5415 Black Olive 5483 Black Olive

Raymond Wilson

Ruth Norton

5415 Black Olive

Lloyd Sample

5505 So. Libby Road

P.O. Box 11

588 Dakwood Lane

Michael Merrified C. Don Jellison

> 588 Dakwood Lane 584 Dakwood Lane

742 52-25-26

3526 Garfield

P.O. Box 694

Jan Carnarius

5881 Foster Road

John Tolle

Raual Alvies

8. 38 8. 1 5. 12 5. 13

Lahaina

6491 Clark Road 6382 Clark Road 6350 Clark Road

Chrstn Assnry Alliance

6288-B Clark Road

P.O. Box 1671

701 Kinsey Way

Proc No. 23
83/86/89
Town of Parradise
Mastewater Feasibility
Study
Parcel Information
K/3/C 882511

Record # Parcel No. Situs Address	Situs Address	Owner	Owner's Street Address	City, State	Zone	Front	Area, Builo	ding Current	Area, Building Current EDU's Business name	Other information
						footage	acres area, sq. ft.	Brea, use q. ft.		
1218 53-82-1-59	7387 SKYWBY	James Luallen	2354 Florida Isne	e characteristics and the char	į	•		;		
1217 53-02-1-61	944 Thelma Court	Harold Koke	3689 Bridle Lane	Chica	ස් ජී ටී	2 ,	87.0	ر ا ا	88.7	
1219 53-82-1-63	Skyway	Raymond Phipps	339 Second Street E.	Sonoma	5 B	917	77.0	, d	1.86	
821 53-82-1-72	958 Bille	Renald Rosewood	958 Bille	!	5 -5 5	9	1 12 2 2	א פ	1.00	
812 53-82-1-81	7337, 7333 Skyway	Wanda Bowles	7337 Skyway		. J	26.0	7 7	5 to	1.00	
844 53-82-2-22	7588 Skyway	Emma Meljie	589 Roe Road		. J	118	89 1	5 6	1.00	
847 53-82-2-26	1818 Bille	Nam Molds Inc.	1010 Bille Road		2	128	8	5 b	1 00	
848 53-82-2-3	1022 Bille	Mary Smith	1022 Bille		. J	2 2	2	5 to	1.00	
849 53-82-2-4	1830 Bille	Virginia Cullen	1838 Bille		2	155	8.48	5 b	1.00	
855 53-82-51	1219 Lovely Lane	Ellery Koehler	1219 Lovely Lane		2	128	S	5 to	1.00	
1248 53-83-82	6182 Lucky John	Robert & Dorothy Craft	831 E. 3rd Ave., #11	Escondido	3 5	164	8.9	, go	8	
1261 55-151	6825 Paxwell	Darlene Guayle	6025 Maxwell		Ŧ	117	8.8	25	1.08	
1762 53-63-18	6615 Raxuell	Mary Ellen Morris	P.O. Box 1384		Ţ	112	8.88	. S	1.00	
1265 35-16-19	6883 flaxwell	Edith Marshall	6063 haxwell		¥	105	88.8	200		
87-59-56 9071	5995 Maxwell	Robert & Deborah Brock	2241 Jackson #2	San Francisco	CA TF	35	88.	, y		
8Z-59-56 5971	5997 Maxwell	Robert & Deborah Brock	2241 Jackson #2	San Francisco	CA P.F.	88	8.89	S S	1.86	
12-59-55 997	5989 haxwell	Emil Toudouze	5657 Cathy Lane		¥-F	73	8.80	. 60 . 57 . 50	1.86	
77-59-55 /97	5985 Raxwell	Emil Toudouze	5657 Cathy Lane		Ŧ	75	9.90	. S	1.80	
57-59-55	6878 Lucky John	Mangit Gyurcsak/G. Miskey	' 27 Lawnwood Drive	Chico	2-2 5	135	8.80	. W		
25-65-31	6829 Maxwell	Howard & Agnes Belch	6829 haxwell		芝	188	86.9	8 8 N	88.	
55-53-55	6879 Maxwell	Everett & Ora Wilson	6879 harvell		Έ	186	0.80	, w	96.1	
53-63-41	6839 haxwell	Rudolf Schott	5952 Almond		¥	115	. S.	5 Kr	8 8	
	6835 Maxwell	Rudolf Schott	5952 Alliond		¥	115	88	5 Kg	90.	
	6898 Lucky John	Jerold & Sandra Powell	6848 Peck Lane		2	186	89.68	. S. S.	86	eniodenni onla
	6878 Lucky John	Norma Dearyan/A. Franz	6866 Lucky John		3	989	2.38	. S	86.	asnotal nata
	6066 Lucky John	Norme Dearyan/A. Franz	6866 Lucky John		2-2	909	6.90	. S.	86.	
	6ZZI Clark Road	Henry Abbott	6221 Clark		<u>ئ</u>	168	8.87	, W	80 -	
	1726 Woodcraft	Clara Prehn	5792 Sawmill Road		2	566	77.0	, the	98 -	
	1625 Central Park Drive	Toy Staser	2589 Montgomery Way	Sacramento	J-J 5	8	8.98	50	98	
636 33-164-52	624.3 Clark Road	Jack Smith	N. 4284 Hauthorne	Spokane	J-J M	318	8.89	S SF	1.00	# J.
	6246-U LIBRY	Edward Porter	14795 Holmwood Drive		2-3	230	8.37	9 St	1.00	<u>.</u>
	APPI Cennetto	Vegga nanagement	6919 Dean Place		<u>ئ</u>	138	0.70	B SF	1.00	
	1843 Central Park	lucille Paipuster	b#21 beppetto		S-F	115	1.32	80 SV	1.00	
		4 T Healbasek	1040 CHILLIAI FAIX DEIVE		<u>ပ</u>	141	6.29	B SF	1.80	
23		Thomas Hydoens	6189 LIBTK KOBG		M-F-P	133	0.32	8 St	1.09	`
883 53-18-1-28		Rettvern Lecrent	ALD 1100		ပ္	120	87.0	8 SF	1.60	
53-18-1-29		Janet Souitti	F.U. DOI /33	Wellesley) 일	æ	0.15	8 8	1.60	
53-19-1-30	6127 Clark	legis Condens	36/3 middle Libby		7	115	8.68	و مر	1.68	
53-18-2-17	7 mm / C7899	Partie de l'over	11191 ningora	Los Alemitos	7	23	0.52	6 SY	1.88	
53-18-2-27	1181 F115.044	Naymond Daker	/289 Skyway		2	138	8.36	8 SF	1.00	
	MA FILIDIL	Roger Wrobel	1181 Elliott		ጟ	387	1.27	85 85	1.86	
12% 53-11-01-24 893 Ellicht	203 Elliott	Vellag West			芷	159	8.86	8 SF	1.60	
1250 30-11-81-26 883 E111011	983 E1110II	Steven & Donna Canterbury 7828 Skyway	7828 Skyway		Ŧ	173	8.80	8 %	1.66	
925 53-12-13	1828 F115ctt	Steven & Donna Canterbury 7020 Skyway	7828 Skyway		<u>+</u>	173	6.96	8 SF	1.80	
	110111 0701	Willero onimers	P.O. Box 16	Magalia	CA 11-P	138	1.27	8 SF	1.00	

7	ned																																								
	Kennedy	Other information						- N	ilsed by charech																	¥-35		₩-35	S3		- T	E S	_							•	house, parking
		Area, Building Current EDU's Business name acres area, use sq. ft.	98	1.00	1.00	1.88	8 8	1.86	1.80	1.00		1.56	1.00	1.00	1.00	1.80	1.00	1.66	1.60	1.00	1.80	1.00 (furthern mini atomesa)	1.00	1.00	1.00				88 88	3 8			1.88	1.88	1.60	1.80	1.98	1.80			1.00
		Building Current area, use sq. ft.	iy S	80 SP	89 S	9 69 60 69	ත් ත් පෙ පෙ	80 S	89 55	8 SF	ا د ده	ל ל פ	9 6 N		ا مر ا	15 U	אל אל פס פס	8 SF	89 SF	8 SF	وه وه در م	ν ν 20 σ	S S S	9 SF	8 SF	ا د د	ਨ s e	לא לל פס	5 b	, es	75 P	20								לל אל פס פס	
1			6.7	6.51	6.20	6.52	99.9	2.68	1.86	6.78	1.35	. e	0.17	6.17		8. 28 5. 28	0.46	8.56	8.80	3.78	1.74	0 00	6.89	0.73	69.0	8; ;	1.14	3.6	7 9	9.41	8.89	1.78	5.46	8.77	0.57	6.73	6.67	8.62	6.59	1.08	8.28
		Front footage	166	88	න ද	3 2	3 33	SS	425	139	1 10	110	S.	22	X	3 5	165	158	157	222	188	9 60	89	60	0	88 9	s 8	2 %	9 69	69	25	09	356	•	83	ౙ	œ	184	25 a	366	160
		Zone	무무	CA MF-P	4 4	+ 9- 	- A-	Ī	<u>7</u>	¥ ;	E 3	- 		5 F-P	ط الم الم	1 1	5 5 5	3-3	¥	ပ္ . ပ	ב ג ב	3 5 5	2	Ŧ	<u>"</u>	- L	E 1	: 1	<u> </u>	Ī	7	7	± 5	Ī	ቷ	J-J 75	Έ :	٠ ٢	<u>.</u>	. J	1
		City, State		Chico										Concord		Chico	Chico				Sonotes												Pleasant Hill		80.8	Sherman Daks					
1		5		ਓ										9		0																	2		- 3						
		Owner's Street Address Cii	· •		5726 Saunill Road	1854 Elliott	1038 Elliott			5581 Honavirae Tarrece	312 Rose Lane	1099 Numeley		5281 Uxford Piace C	5250 ROYBI CBIRGI LBIR 6159 Berkshire Llav		2740 Cramer Lane	5898 Clark	1246 Elliott	P. O. Roy 625	339 E. 2nd Street	5011 Country Club Drive	5011 Country Club Drive	5/22 Suste Lane	3/2/ Susie Lane	893 Rits Lane	5696 Academy Drive	5698 Academy Drive	5724 Sydney Lane	5724 Sydney Lane	191 Valley Ridge Drive	e Drive		5722 Susie Lane		3689 Cody Road	539 Pearson P n Roy 203	583 Peerson	1989 Yorktown Manor	9289 Skyway #34	5718 Academy
			5886 Green Thumb						Sare-Way Development Ent. 193 Valley Ridge Drive			2		1)e 524 Boyel Canon Jane		2478 Craner Lane	+	Harry Biothart						Donothy Street		F.	No.Cal Conf Assn SDA 5696 Academy Drive	er Vorkeis				191 Valley Ridge Drive	Assn 50A P.O. Box 23165	Barbara Arey 5722 Susie Lane	Tiester Cook	16117	Ella Travers P n Rv 203	-	Raymond Grimmet 1989 Yorktown Manor	nor	David Wolfe 5718 Academy
Tage No. 26 3/06/89 Town of Paradise Mastewater Feasibility	Study Parcel Information K/J/C 882511	Owner's Street Address	George Meyer 5886 Green Thumb	lenbach 28 Arroyo liay	Julius Gaal	John Rinaldi	t William Hook		Safe-Way Development Ent.	James Harding	1078, 1888 Elliott Jacob Brenu	1899 Nurneley Emery Watson	1142 Elliott	1146, 1148 Elliott William Krelle 5016 Boxel Canada	1114 Elliott Betty Hemingway	5868 Clark Barker Jaynes 2478 Crawer Lane	+	1246 Filliott Harry Bishbast	6372 Clark Rose Charel Tro	Way Janice Woodswebb	Reymond Phipps	Karoly Kasza		Porothy Stran	Doneld McAlpin	Aurelia Salisbury	No.Cal Conf Assn SDA	y Christopher Vorkeis	Lois Lang	Sydney Lang	Moad Carlisle Richards	191 Valley Ridge Drive	Mo. Let Lonf. Assn 50A P.O. Box 23165	Barbara Arey	Robert Colemniate	Former Schworzers	Ella Travers	William Martin	5707 Chapel Raymond Grimmet	Joseph O'Connor	

Page No. 25 83/86/89 Town of Paradise Nastewater Feasibility Study Parcel Information K/J/C 882511

Other information		, s																											Mfg. 1 house on - 26; all part of	Heinke's Fruit Juices	(numerous buildings)			3										
Area, Building Current EOU's Business name	øren, use sq. ft.	8 	200	6 SF 1.88								ל א	88.7	5 6	s th			0 SF 1.80				8 SF 1.88					8 SF 1.88	8 SF 1.88	6 SF 1.8e		3	8 8 9		1.00							B SF 1.88		8 SF 1.86	6 V 6.58
	footage acres	97 8	98 8.38		6 6.51					277 8.63	15.0 0.41							67 8.35	38 8.67	20 6.43				313 6.88					228 0.00		151				39.00	87.8 89		739 1.74	288 1.98					193 1.50
Zone		2	2	S T	Ţ	¥	3	Ϊ.	¥ ;	Z 3	, , 5	, ₍	3 4	<u>.</u>	¥	Ŧ	7-1	₽ ₹	3	7	Έ	፟		ቷ	ત્ય	જ	1-5	1-5	I-S		CA 1-5	S-I	CA I-S	I-S	I-S	ያ	I-S	# W	R-R	R-R	R-R	I-S	S-I	4-1-1-2-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-
City, State		(armichae)	Carmichael	Bakersfield						Macaila	2770671							Burbank					,	Broderick							Sunnyvale		Lomits											San Diego
Owner's Street Address		P.O. Box 282	P.O. Box 202	5 Lowa Linda Drive	5718 Churchill			520 KitB Lane	570/ Sucial can	5782 Columbine	5647 Clark	5645 Clark	1887 Buschmann Road	881 Elliott Road	5571 Linrich Lane	975 Buschmann Road	5545 Linrich Lane	1081 Country Club	5554 Clark	5522 Clark	5518 Clark Road #7	5532 Del Monte	5544 Del Monte	681 W. Capitol Avenue		5491 Dudley Lane	5385 Clark		SSSS CIBRY		1632 Swallow Drive	5372 Clark	24343 Pennsylvania Ave								1081 Elliott Road		4.110 Canada Chana	0410 tascade street
Owner		Gayle Hendricks		ts	Linky Schenk	Sydney Lang	Carlisle Kichards	Gilbert Linera	David Silbert	Burton Jacobs	Howard Boots	Erne Garrard	Norman Magness	Raymond Armstrong	Christina Hargis	Alice Cole	Harold Barton	Kristine Candelaria	Frank Nolan	Daniel DeGrado	Charles Menster	Veri 58rvis	Earl Bloodworth	Sacramento Savings	Walter Hagendorn	Joiley inter VIVOS Irus	narjorie Cox	reinke s	netrike s		Roger Auld	Ilona Harre	Vernon Bennett	Craig Wilson	Heinke's	Glenn Burge	Jeremiah Briggs	Bruce & Pearl Derryberry	Kenneth & Connie Hammer	Alfred & Evelyn Zytkoskee 5212	Charles & Diana Skahill		Roomld Mitchell	TIMOTH OTHER
Situs Address		5711 Churchill	24-84-46	5783 Churchill	5710 Churchill	570E Close	887 Pits Lone	5700 Academy	5784 Susie I ane	622 Pearson	5647 Clark	5645 Clark	1887 Buschmann	1848 (?) Buschmann	5571 Limich	975 Buschmann	5595 Linrich	5579 Linrich	SSS4 CIBRY	3522 Clark	1128 Nortsinger	5557 Pel monte	Source Avenue	E.O. D. D. J.	54.80 hadley Lane	Kape Close	Saco Clark	5365 Clark	A DEC CIER		5419 Clark	5372 Clark	5370 Clark	5364 Clark	SSSB CLBRK	SSSW CIRTY	Speed Uid Clark	Soon old Clark Kd.	5226 UIG CIBRY KG.	SZIZ UIG CIBRY KG.	5282 UIG LIBRK NG.	(Portion)	1524 Wastaff	
Record # Parcel No. Situs Address		1835 54-84-45	1834 54-84-46	1033 54-84-49	1027 54-84-52	00-10-17: NOO	1656 54-84-71	1852 54-84-79	1019 54-04-9	1885 54-85-28	1897 54-85-38	1898 54-85-31	1184 54-85-43	1103 54-05-51	1861 54-85-78	1868 54-85-88	1186 54-85-82	1663 54-65-83	17-90-50 5711	11.75 34-88-44 11.15 54 00 43	1113 54 00 31	1112 54-89-31	1121 54-09-32	1706 57 00-17	1287 56-11-1	1163 54-11-13	1166 56-11-15	1166 56-11-26	27 17 25 2411		1139 54-11-35	1155 54-12-16	1156 54-12-17	1158 54-12-18	1100 24-12-19	10-71-90 9011	1370 65 18 05	1777 55 18 97	09-91-00 C/71	1275 55-18-89	1183 55-19-13	1187 55-19-30	5 58-18-81	

Kennedy/Je	Other information	building (delapitated)	building	Wayant rest actota	ממוני בחוקים	frontage 908/448; parking lot	frontage land use 142/78						building (warehouse)						frontage land use 158/145	frontage land use 158/145	\$ 2	95	`	bldg - new office to be built	5 8 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6		o joint	building	blds	Manufacture of the constitution of	frontage land use 112/200
	Area, Building Current EDU's Business name mores area, use sq. ft.	6.58	6.5.6 6.5.6 5.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	8. 8. 8. 8. 8. 8.	8.58 6.58	8.58 8.58	6.59	83.52	8.5	6.50	20 S	6.58	8.58	. S. S.	0.50	6.58	6.58	6.58	8.58 5.0	25.00	3 3	8.50	6.58	8.58	62.0	8. S.	8.58	9.58	6.58	e. Se Poef	8.58 8.50
	, Building Currs s area, use sq. ft.	> 69	1886	3 6 4	> > 60 60	> >	> 0	> >		> :	> >	· >	> : 89 :	> >	9	> > es e	· >	> : 60 (> > so e		7		> 60	1500 V	8			146		69 6	> > s s
	Front Area, footage acres	280 1.35	165 1.93 259 6.81 188 6.43	100 6.43	271 3.98		142 8.35	78 6.28		153 1.85	8 88			148 6.48		125 1.23			150 8.100					95 8.88	223 8.98						108 8.26
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}	City, State		Beverly Hills		Magolia Magolia	Beverly Hills	. Chester	. Chester . Chester													Magalia	Magalia	San Jose							Oroville	Carmichael
	Owner's Street Address	5974 Pentz	9864 Wilshire Blvd. 5974 Pentz P.O. Box 1289 7854 Skyway	P.O. Drawer 2587 5943 No. Libby Road	P.O. Box 318 P.O. Box 318	9864 Wilshire Blwd	815 Lake Almanor West Dr.	815 Lake Almanor West Dr. 815 Lake Almanor West Dr.	8585 Skyuay	6637 Myrtle Way 732 Rille Road	732 Bille	6792 Sylmar Lane	443 Castle Drive 1860 Conifer Drive	1175 Wagstaff	5436 Clark Road, Space 57	520 Horseshoe Hill Drive	6261 Lancaster Drive	SMYS SKYWBY P 0 Roy 1284	P.0. Box 1284	7974 Skyway	14186 Norwich Drive	14106 Norwich Drive	1118 Corvallis Drive	6232 Posey Lane	4256 Rocky Ridge Court	6544 Lucky John Road	P.O. Box 517	6544 Lucky John Road	7856 Skyway	31 Short Avenue	5925 Rampart Drive #113
	Owner	Feather River Hospital	Albert Glickman Feather River Hospital Lois Butters Melvin Bolin	Hibert Audley Howell Family Trust	k Paradise Park k Paradise Park	Paradise Plaza Richard Howard	Kapose Family Irust	Rapose Family Trust Rapose Family Trust	Apple Hill Guest House	Norman Savereign Kenneth Skersick	Kenneth Skersick	Harold Hall	Unaries Found	Nancy Dann	Bornie Newsum	John Hair	Leslie Palmer	Noble more	Glenn Maxwell	Norman Hudson	Dominic Imperial	Dominic Imperial	Beatty Land Investment Co 1118 Corvallis Drive	Eugene Trinker	Retro Properties Inc.	Richard Campion	Andrew Mital	Richard Campion	Peter Schrader Pos No value	Christopher J's Inc.	Jack Distler
4.41 ×	Situs Address	6683 Clark Road	6580 Clark Road 6581 Clark Road 6621 Clark Road Clark	6486 Clark Road 1457 Wagstaff	6/09 6/05 6695 6697 Clark Paradise Park 6687,6695,6705,6709 Clark Paradise Park	8693 Skyway	(See 7 300)	51-18-4-153 8621 Skyway 51-18-4-154 8615 Skyway	8575 Skyuay	8491 Skyway	8481 Skyuby	8471 Skyuay	18319 Skyway	1175 Wagstaff	8322 Skyvay	8165 Skyway	8150 Skyuay	1828 Green Tree Court		Green Tree Court	7717 Skyway	717 Skyway	/BBY Skyway	VBW/XX C/9/	7686 Skyway	1003 Bille	77% Skyway	7628 Skyway	185/ Lisa Lane 55/1 Vista Dav	Skyway	5588 Schmale Lane
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	ity on	Situs Address	5175, 5185 SKyway SKyway	Fir Street (Almond) 6970 Skyway 6147 Center Street	6159 Center 6165 Center 6171 Center	6172 Center Street 6166 Center 6168 Center Street 6154 Center Street	6935 Skyway 851 Elliott Elliott 5997 McClain Lane	6882 Skyway 7733 Skyway 6555 Skyway 6529 Skyway 69 F F I I Int Fred		5911 Alaond 6428 Syvay —— Alaond 5973 Alaond Street —— Alaond 6225 Syvay	6231-6235 SKYWBY ————————————————————————————————————	Albord ? 6344 Skyuay 6364 Skyuay Black Olive
Page No. 27 83/86/89 Town of Paradise	Mastewater Feasibility Study Percel Information K/J/C 882511	Record # Parcel No. Situs Address	230 51-22-69 228 51-22-73 229 51-22-73	594 52-82-1-8 244 52-84-74 257 52-86-21 258 52-86-22	259 52-86-23 268 52-86-24 261 52-86-25	265 52-86-38 267 52-86-31 268 52-86-32 268 52-86-32	2/2 52-86-38 351 52-88-38 352 52-88-48 387 52-88-52	347 52-88-91 337 52-88-98 366 52-89-81 367 52-89-83 371 52-89-5	5 5 4 5 6		282 52-13-15 288 52-13-26 281 52-13-43 455 52-14-1-12 453 52-14-1-16 451 52-14-1-16	468 52-14-1-28 (442 52-14-1-29 (482 52-14-3-9)

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		Owner's Street Address	5182 Connecticut Drive 5952 Almond Street 193 Valley Ridge Drive 577 Barbare Wey	5757 Skyway 1228 Nurmeley Road 6118 Skyway 6118 Skyway P.O. Box 6	P.0. Box 924 5436 Clark Road #64 13843 So. Park Drive 5386 Orchard Orive	1880 Heynen Road 2452 Paddock Drive 2452 Paddock Drive 2452 Paddock Drive 988 Godetta Drive 27643 Sunnyridge Road 629 Circlewood Drive 2216 Hable Street	200 Hitchward Street 6671 Brookway P.O. Box 7611 S57 Barbare May 553 Fir Lane 2404 Bush Street 521 W. 11th Avenue 521 W. 11th Avenue 521 W. 11th Avenue 521 W. 11th Avenue 925 Hayes Lane P.O. Box 821	333 Snohomish Drive 333 Snohomish Drive 1925 Horey Run Road P.O. Box 3330 646 Black Olive P.O. Box 797 929 Thomasson Lene 5279 Black Olive 3220 Sunset Drive 227 Pecific Drive 227 Pecific Drive 141 Burcham Lane
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Page No. 28 83/86/89 Town of Paradise	Wastewater Feasibility Study Farcel Information K/J/C 882511	Record # Parcel No.	515 52-15-48 519 52-15-52 290 52-16-17 534 52-18-2-86 535 52-18-2-86	5.6 52-182-91 5.6 52-19-1-4 5.6 52-19-2-18 5.6 52-19-2-21 5.8 52-19-3-21 5.8 52-19-4-18	581 52-19-4-14 577 52-19-4-4 586 52-28-1-81 595 52-28-1-18	631 \$2-29-1-13 635 \$2-29-1-24 628 \$2-29-1-25 621 \$2-29-1-32 634 \$2-29-1-34 591 \$2-29-2-9 618 \$2-29-2-9	41117 681	52-22-21 52-22-21 52-22-25 52-22-31 52-22-31 52-22-31 52-22-31 52-22-31 52-22-31

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Owner		David Roberts	Edward Jimenez	Ruth Collins	John McIntosh	NO VALUE	1st Amer Title Insurance	Duane Johnson	Chrstn Mssnry Allience Ch		Calif State Auto Assoc.	Southland Corp.	Richard Campion	AMFORK Investment Ltd	Pine Cone Plaza	Paradise Investments	Paradise Investments	Richard Campion			S. Paradise Investors Ltd	Jack Smith	McDonalds Corp	Michael Pelucca	Edward Porter	North Valley Fence	Design Concepts	Tolivo Saxberg	Tolvo Saxberg	Fred Hensel	Comeine Contrito	Applied Bischer	John Uirolen	Roger Indones	Katherine Helborn	Comband & Accordance	Total Manager	Jamo Mrsury	Joan Nursury	01d Town Plaze Partner	Old Town Plaza Partners	Norbert & Naomi Smith	James & Vera Scales	1	George Meyer	Paradise Auditorium CC
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	Omer's Street Address		P.O. Box 1124	5581 Honeyview Terrace	5250 KUYAI LBNYON LBNe	7.0. Box 212	2748 Cramer I ane	P.0. Box 295		3741 Poppy Street	1264 Elliott	5/yo Clark Koad	P.U. Box 5125	F.U. BOX 293	191 Valley Ridge Drive	5887 Orrin Lane	465 Production Street	191 Valley Ridge Drive	9289 SKyway #34	Drawer 3268	191 Valley Ridge Drive	P.O. Box 14583	955 Burchmenn Dond	KO F North Tample	5587 Linrich Lane	1425 Darlene Drive	5645 Clark Road	200 Broadway	924 Westwood Blvd	646 Pearson	385 E. 47th Street	P.O. Box 5222	924 Westwood Blvd	305 E. 4/th Street	14196 Honte Lario Lane	1871 hear Bood	5715 Marijand Boad	ARIR V Styley	1888 Lisa Place	6564 Perry Road	1682 Gate Lane	681 W. Capitol Ave	681 W. Capitol Avenue
]	Owner	\$	Terradise Auditorium CC	Sames Mandang	Table # Mesonia Lodos	Ratty Haminguay	Francis Blument	Calvary Chapel of Paradse P.O. Box 295	A	Loren Walker	Stells Murray	Melle of Commen	File VII Company	Albert Philbridge	Carlisle Richards	David Gilbert	Royal Laboratories	Carlisle Richards	Joseph 0'Connor	Hall Petroleum	Carlisle Richards	Uscar Shyder	Rith Ahlen	Jesus Christ Latter Day	Mary Embree	Lee Tellkamp	Ema Gamand	Lassen Savings	Rybar & Associates	M.C. Buns	Corporate Property Invest 385 E. 47th Street	Long s urugs	Rybar & Associates	Corporate Property Invest 385 E. 4/th Street	Jack Maddellines	Follow Caith	Neory Soddard	Erroy Sumers	John Franklin	Judith Feiler	Elvie Cobb	Sacramento Savings	Sacramento Savings
atty 8	Situs Address	777 Menneller	/// Number	1134							. 1236 E1110TT	5750 Clerk	Syste Clair	5797 Clark Road	5785 CLBrrk	621 Pearson	633 Pearson	Clark		671 Pearson	65/ Pearson	S63/ LIBRK	658 Pearson	1843 Buschmann	5583 Linrich	5575 Clark	? Clark	672, 664 Pearson	5728 or 5638	634 Pearson	5/20 or 5630 Clark	3/20 or 3630 Light	5/20 or 5636 Clark	A PER DOC DO 17/6	Moffernan	Moffernoer	5498 Clark	5488 Clark	Noffsinger	Noffsinger	5491 Clark	5445 CIBH	Dudley
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Orner's Street Address	681 M. Capitol Avenue 7.0. Box 6488 1385 Cottage Lane 7.0. Box 2199 69.0. Box 3771 1289 Alderwood 7.0. Box 2199 681 M. Capitol Avenue 1752 Mittaker 1899 Drendel 946 Easy Street 951 American Way 771 Buschman 6154 Lucky John 946 Easy Street 5733 Pentz Road 5733 Pentz Road
Очлег	Paradise West Sacramento Savinas Sacramento Savinas Sacramento Savinas NO VALUE Bank of America William White Bank of Paradise Helvin Hecemier Stoneridge Paradise Paradise West/Sac. Sav. William Palmer Alvah NcKale J.L. Bailey & Sons Joseph Pairbanks Calvin Mackay Helen Taylor John Bailey James Palmer James Palmer
Situs Address	Dudley Dudley Dudley 1881 Ewald Court 5406 Clark 951 American Way 951 McKale Averue 5874 Old Clark 5875 Clark 841 Palmer Hill Road (Portion) (Portion) (Portion)
Record # Parcel No. Situs Address	1211 \$4-11-79 1208 \$4-11-31 1208 \$4-11-32 1210 \$4-11-33 1110 \$8-11-34 1153 \$4-12-68 1212 \$4-18-1-68 1212 \$4-18-1-68 1212 \$4-18-1-68 1108 \$5-33-17 1107 \$5-18-68 1108 \$5-18-79 1175 \$5-18-79 1175 \$5-18-79 1175 \$5-18-78 1175 \$5-18-78 1175 \$5-18-78 1175 \$5-18-78 1175 \$5-18-78 1175 \$5-18-78 1175 \$5-18-78 1175 \$5-18-78 1175 \$5-18-78 1175 \$5-18-78 1175 \$5-18-78 1175 \$5-18-78 1175 \$5-18-78 1175 \$5-18-78 1175 \$5-18-78 1175 \$5-18-78 1175 \$5-18-78 1177 \$5-18-78 1178 \$5-19-78 1188 \$5-19-23 1188 \$5-19-23 1188 \$5-19-28 1188 \$5-19-28 1188 \$5-19-28 1188 \$5-19-28 1188 \$5-19-28

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Town of Paradise
Mastewater Feasibility
Study
Parcel Information
K/3/C 882511