Gualala Community Services District

WASTEWATER FACILITIES PLAN OF STUDY

Submitted by:

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Jose Diaz

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Project Name:

Gualala Community Service District
Wastewater Facilities Improvement Project

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INTRODUCTION

MC Engineering is pleased to submit this proposal for wastewater treatment planning services to the Gualala Community Services District (GCSD). The proposed services include:

- Investigation and needs analysis of future bio-solids disposal methods for the GSCD Wastewater Treatment Plant.
- Investigation and needs analysis of existing septic system failures with recommended alternatives for future Septic Tank Effluent Pumping (STEP) system.
- Condition assessment of the existing GCSD sewer collection system and lift stations including developing recommendations for enforcing grease trap ordinances.
- Mapping of the existing collection system and evaluation of Inflow and Infiltration issues
- Investigation and feasibility of abandonment of the Sea Ranch North Wastewater Treatment Plant and consolidation with the GCSD Wastewater Treatment Plant.
- Review and update of existing RWQCB Waste Discharge Orders for consolidation of the Sea Ranch and GCSD Wastewater Treatment Plants.
- Development of a cost-effective Capital Cost Improvement Plan (CIP) for the District.
- Preparation of necessary CEQA and NEPA Documentation.
- Grant Administration Assistance, including possible income survey and public participation.

PLAN OF STUDY BACKGROUND

The Gualala Community Services District (GCSD) was established in 1986 in response to adverse impacts from failing area septic systems. The Mendocino County Board of Supervisors approved the district formation pursuant to a 1987 pollution study which resulted in the State Water Resources Control Board (SWRCB) listing of Gualala as an eligible community. As a result of failing septic systems, an alternative solution was implemented, primarily near the main business district along Highway 1, that included construction of a Septic Tank Effluent Pumping (STEP) system along with a tertiary treatment facility to primarily serve the business district area and some of the nearby residents in Gualala. This system included only short sections of arterials on Pacific Woods and Old Stage Road in Gualala and was completed in 1993. (See Appendix C, System Boundaries) There are currently an approximate 400 septic systems in Gualala that are still in operation, many of which have been encountering problems and failures. A water quality sampling program, conducted on nearby streams, is intended to assess the impact on the environment along with an analysis of failure rates based on an analysis of septic system operation data through a combination of communications with the Mendocino County Health Department, maintenance company interviews, and household surveys.

The GCSD maintains the on-site septic systems through routine inspection and repair of customer tanks and pumps and pumping out of septic tanks on an annual basis for businesses and as-needed for residential customers. Pumps ranging in size from ½ HP to 2 HP are maintained by the GCSD staff. Grease traps at local businesses also present on-going challenges and either new ordinances, or enforcement of existing ordinances, is needed. A treatment plant schematic is included in "Exhibit B" on the following page from the recent technical report.

The Sonoma County Water Agency (SCWA) currently owns and operates several wastewater treatment plants south of the main planning area in Gualala, including the Sea Ranch North (formerly CSA #6) Wastewater Treatment Plant (WWTP). The Sea Ranch North WWTP is located on the northern end of Sea Ranch, east of Highway 1. Currently, the effluent from the Sea Ranch North WWTP, currently maintained by Sonoma County, is pumped to the Gualala Community Services District (GCSD) WWTP for tertiary treatment and reuse on the nearby Sea Ranch Golf Links (formerly Sea Ranch Village, Incorporated (SRVI)), please refer to Appendix D for a Collection System Map. This reuse activity is regulated by Order No. 92-121, which names both GCSD and Sea Ranch Golf Links.

The Sea Ranch North WWTP is permitted by RWQCB Order no. 94-4 to discharge 1) secondary effluent to the GCSD WWTP, 2) filtered, disinfected effluent to an 8.4 M gal storage pond on the Sea Ranch North WWTP site, or 3) to a percolation pond located on the Sea Ranch Golf Links. Both Order No. 92-121 and 94-4 are outdated and the operation of the existing GCSD and Sea Ranch North facilities are no longer adequately described in the findings contained in these Orders.

In addition, SCWA, GCSD and Sea Ranch Golf Links are interested in the possibility of consolidating waste discharge orders for the Sea Ranch North and GCSD WWTPs. This includes the potential abandonment of the Sea Ranch North WWTP and pumping of raw sewage, currently treated on site, to the GSCD WWTP for treatment and subsequent reuse on the Golf Links. All parties are also interested in maintaining the ability to discharge treated effluent to the percolation pond on the Sea Ranch Golf Links.

A Sewer Feasibility Study was completed by Winzler and Kelly Consulting Engineers in November of 2002 which evaluated the feasibility of connecting Zones 3 and 4 and the Ocean Ridge Drive area in Gualala to the GCSD

sewer service area while evaluating the ability of the existing GSCD WWTP to accommodate related flows. At the time, expanding the sewer service to other parcels in Gualala was reportedly rejected by the future potential customers in Gualala due in large to the relatively high amortized cost for capital and O&M costs for service. Grant funding was not available to cost-effectively fund the necessary improvements.

In 2015 the Sonoma County Water Agency retained Stantec Engineers to prepare an Assessment of the Sea Ranch North (formerly CSA #6) Wastewater Treatment Plant (WWTP) or the Sea Ranch Golf Course Links WTP treatment plant capacity along with a Title 22 compliance evaluation for GCSD with consideration of including the Sea Ranch North WWTP flows with an additional 174 future connections in Sea Ranch. It is important to note that the Stantec report did not assume any additional flows from north of the Gualala River in their capacity evaluation. Stantec estimated a total future average annual flow of 38,000 gpd from Gualala and 43,000 gpd from Sea Ranch North (an increase of 11,000 gpd from Sea Ranch).

Gualala Community Services District (GCSD) collection system is a series of sewer mains that are either gravity or force main. The system is considered a step system, whereas the commercial buildings and residential homes utilize septic tanks as part of the collection system. The septic tanks hold most of the solids and only the liquid wastewater is pumped into the collections system. Each septic tank has its own ½ hp – 2hp submersible pump along with a float system for pump control. The solids in the commercial tanks are checked every quarter while the residential tanks are check once a year by trained staff. Any solids removed from the septic tanks are taken to H Bar H AG Soil Amendment, which is an approved dumping site located in Point Arena, Ca.

The collection system starts at Old Coast Hwy, which is where Lift Station #1 (LS#1) is located. LS#1 is fed from the homes located on Old Coast Hwy and Big Gulch Rd. The flow is pump from LS#1 and runs along Old Coast Hwy to State Hwy 1 and flow terminates at Lift Station #2 (LS#2), which is located on Robinson Reef. LS#2 is also fed by homes located on Robinson Reef and Windward Ct. The flow is pump from LS#2 back to State Hwy. 1 and terminates at Lift Station #4 (LS#4), which is located on Old Stage Road. Lift Station #3 (LS#3) is located at the end of Coral Ct. and is fed from homes located on Westward Ho, Pacific Dr, and Coral Ct. Flows from LS#3 are pumped to State Hwy 1 and terminates at LS#4. LS#4 also receives additional flows from Pacific Woods, Sedalia Dr., Hubert Dr., Ocean Dr., Cypress Way, an easement located on the south end of Gualala Supermarket, Center St., and Bodhi Tree Lane. From LS#4 the raw wastewater is then pump to the WWTP where it is treated to a tertiary level. The water is reclaimed and is discharged to the Sea Ranch Golf Links to be used as irrigation for the gold course.

GCSD is currently in the process of renewing their Waste Discharge Permit and has prepared initial engineering reports and documents to support this effort. Comments have been received from the North Coast RWQCB and the State Division of Drinking Water (DDW) staff. After the initial reports are accepted, it is anticipated that new waste discharge requirements will include provisions for consolidating both permits and establishing new related operating, monitoring, and reporting requirements for the combined system. The tasks associated with this proposed planning grant process may provide additional information and recommendations for the preliminary draft permit.

GCSD has historically generated relatively low volumes of biosolids, due in part to the long sludge age in the aeration basin and stable sludge that results. What little has remained on site has reportedly been *buried*, a practice that the RWQCB has indicated *is not* going to be acceptable in the future. Septage from the customer tanks is reportedly currently discharged to a pond north of Manchester and accepted by an area farmer for subsequent use as a fertilizer. As more solids are generated at the plant due to the additional flows and loads and lower sludge age, additional biosolids will result.

There is currently limited data on the existing influent flows and loads from both Gualala and the Sea Ranch North WWTP. The limited data along with past studies indicates relatively high Inflow and Infiltration (I/I) during the winter months with corresponding peaking of approximately 10:1. During these historic peaks, flows from the Gualala service area increased from approximately 30,000 gpd to over 300,000 gpd according to plant staff and records. This in turn impacts the ability of existing plant processes to accommodate future flows, with many of the unit processes marginally capable of handling anticipated peaks. The Stantec study (prepared in December of 2015) identified deficiencies with the exiting storage in a 1-in-100 year storm season without the use of existing percolation ponds. Limited maps are available for the existing Gualala collection system. The condition of the gravity sewers and manholes is questionable and the resulting peak wet weather flows suggest that investments in reducing I/I related flows is warranted.

The median household income for the primary study area, as determined by SWRCB staff, indicate Gualala is considered a severely disadvantaged community with a median household income (MHI) of $36,275 (56.9 % of the statewide average) and may be eligible for grant funding of proposed improvements. Meanwhile, MC Engineering is seeking grant funding of the proposed planning study through existing programs offered by the SWRCB.

In summary, the proposed planning study is intended to address several adverse impacts and impending issues in the service area including:

- Threats to public drinking water supplies as identified in the North Gualala Water Company's sanitary survey
- Pending violations from the RWQCB for deficiencies in current biosolids disposal practices
- Failing septic systems posing additional threats to public health, safety, and the environment
- Adoption of viable regulatory permit language that encourages and accommodates consolidation with the Sea Ranch North WWTP while establishing the GCSD as a responsible local entity for overseeing the use of reclaimed water
- Sound practices for addressing storage and disposal during peak storm events

PLANNING STUDY SCOPE AND NEEDS ANALYSIS

Based on existing and potential water quality problems, this proposed scope of the planning study will provide a detailed system-wide evaluation, needs analysis, and provide cost-effective solutions and alternatives to address all current and future problems. The proposed scope of work is outlined below:

- Determination of the quantity and quality of future biosolids that will be generated at the GSCD WWTP and corresponding disposal alternatives and costs.
- Verification of the current impacts to the Gualala community and magnitude of problems associated with failing septic systems in un-sewered areas of Gualala while assessing community support for expanding the STEP system.
- Evaluation and mapping of the existing collection system, which includes assessment of existing outdated lift stations and related capital and O&M costs affecting future operational needs.
- Assess the overall impact to the existing GSCD WWTP with consideration of the future implications of growth in the entire service area and potential I/I reductions in the collection system in order to equitably evaluate related costs for service and allocation of existing capacity.
- Develop more detailed estimates of associated costs with the proposed abandonment of the Sea Ranch North WWTP and consolidation with the GCSD WWTP.
- Evaluation of proposed new waste discharge requirements and the associated liabilities and responsibilities GCSD will be assuming through consolidation of the GCSD WWTP and the Sea Ranch North WWTP
- Overall verification of costs of these future improvements and impacts to ratepayers with consideration of long-term replacement and maintenance funds. This includes providing cost-effective alternative evaluations.
- Identification and initial applications for securing grant funding of recommended improvements.

PRELIMINARY DETAILED SCOPE OF WORK

We have prepared the tasks below based on a combination of our project experience and specific requests made by the Gualala Community Services District.

TASK 1, WASTE DISCHARGE PERMIT REVIEW AND ASSISTANCE

This task will include reviewing the final Engineer's Report and RWQCB draft permit and providing comments and recommendations for the final permit language with consideration of the long-term operational impacts to the GCSD. This will include a minimum of one meeting with the assigned RWQCB engineer to discuss various aspects of the permit along with identification and delineation of roles and responsibilities that will be taken into consideration in the subsequent Consolidation Evaluation under Task 2. Key considerations associated with the waste discharge permit will be summarized in a separate technical memo that will ultimately be incorporated into the final project report.

TASK 2, CONSOLIDATION EVALUATION

Incorporating the Sea Ranch North WWTP will include re-opening of the existing Tri-Party agreement that defines roles and responsibilities with respect to the treatment and disposal of treated effluent on the Sea Ranch golf course. By accepting new flows, there is a corresponding need to develop clear responsibilities for maintenance of the collection system, effluent storage, and golf course irrigation system. Cost implications of the consolidation will be further refined as part of Task 8 below. Key considerations associated with the consolidation will be summarized in a separate technical memo that will ultimately be incorporated into the final project report.

TASK 3, BIOSOLIDS MANAGEMENT PLAN

The proposed biosolids management plant will include developing current and projected solids loadings for the plant, determining the related volatile solids reduction, and the resulting biosolids production. Future disposal costs will be very dependent upon both the quantity of bio-solids produced, the bio-solids treatment process, and the relative moisture content. Due to the minimal amount of influent loading data, there is a need to collect composite samples of each influent stream, one for flows from Gualala, and a second at the headworks of the Sea Ranch North WWTP. This task includes cost-effective alternatives.

Dewatering will be a key determining factor for estimating the ultimate solids production for the plant. A site plan will be developed that may include a lot line adjustment on the westerly boundary of the existing WWTP. Several options for dewatering will be explored including the following:

- Drying beds
- Geotextile dewatering bags
- Mechanical dewatering

The Environmental Protection Agency (EPA) regulates biosolids for land application and surface disposal under CFR 40 Part 503," The Standards for the Use or Disposal of Sewage Sludge". In general, the Part 503 regulations set allowable concentration of pollutants (metals) and pathogen reduction criteria for land application and surface disposal. Land Application are those methods that take advantage of the nutrient content or soil conditioning properties of the biosolids including agricultural reuse. Surface Disposal are those methods of putting biosolids on land at high rates for final disposal rather than using the organic content in the biosolids to condition the soil or using the nutrients in the biosolids to fertilize crops. Surface Disposal includes monofills, surface impoundments, and dedicated sludge disposal sites.

Ultimately the disposal mechanism (landfill, land application, surface disposal, etc.) is governed by the quality of the biosolids produced. The regulations establish levels of biosolids quality with respect to ten heavy metal concentrations and two levels of quality with respect to pathogens , Class A and Class B. Under the Part 503 regulation, fewer restrictions are imposed on the use of higher quality biosolids. The following disposal mechanisms will be explored through the evaluation, with appropriate costs associated with each of the following:

- Landfill Disposal
- Direct Land Application
- Third Party or On-site Composting followed by Land Application or Sale of Compost

The entity preparing the finished bio-solids (whether a bulk or bagged product) must certify through periodic sampling that the material meets these criteria and keep records describing the methods used to meet pathogen reduction and vector attraction reduction requirements. After developing a preferred alternative, preliminary costs associated with anticipated required monitoring and reporting will be developed.

Deliverables: Detailed criteria for up to 4 pilot projects including meter locations GIS maps of proposed test meters and collectors as well as related metrics and performance evaluation criteria for each vendor.

TASK 4, SEPTIC TO SEWER PROJECT ASSESSMENT

This task will include revisiting the previous study prepared by Winzler and Kelly in 2001 and will require close coordination with State and County officials, the local community, and the GCSD staff and board. Various sub-tasks are presented in Tasks 4.1 to 4.9 as follows:

TASK 4.1, PREPARE MAILERS AND CONDUCT PUBLIC SURVEYS

MC Engineering will develop a database of all potential customers that would benefit in Zones 3 and 4 and Ocean Ridge Drive service areas. A mailer will be prepared explaining the nature of the existing sewer related issues and potential solutions. The mailer will include key questions needed to evaluate public support for constructing an expanded STEP system including input on existing septic system age, performance, and maintenance costs. In addition to specific questions, the overall level of interest will be solicited and results compiled for use in the feasibility study. Base maps depicting each potential future customer will be prepared in GIS and the GIS database populated with relevant information from each customer.

TASK 4.2, REVIEW OF SEPTIC MAINTENANCE AND FAILURE RECORDS

County records and records for historic septic system replacements, repairs, and maintenance will be researched and documented in a GIS linked database. MC Engineering staff will interview area septage haulers and maintenance companies in order to better understand current performance of area septic systems.

TASK 4.3, SAMPLING OF AREA CREEKS

A critical consideration of the septic to sewer feasibility will be assessing the impact to the environment and local drainages, creeks, and estuaries under the current conditions. Potential health related impacts must be assessed in cooperation with County and State health officials based on appropriate legal monitoring and reporting practices.

It is quite possible that failing septic systems have impacted local drainages and this will be evident in the form of elevated coliform levels, nitrates, and other key constituents that will be verified during the planning study and confirmed with GCSD and County officials prior to conducting sampling. It is anticipated that grab samples will be needed from a minimum of three local drainages. Results will be compiled and shared as directed by County and State officials and GCSD board and staff.

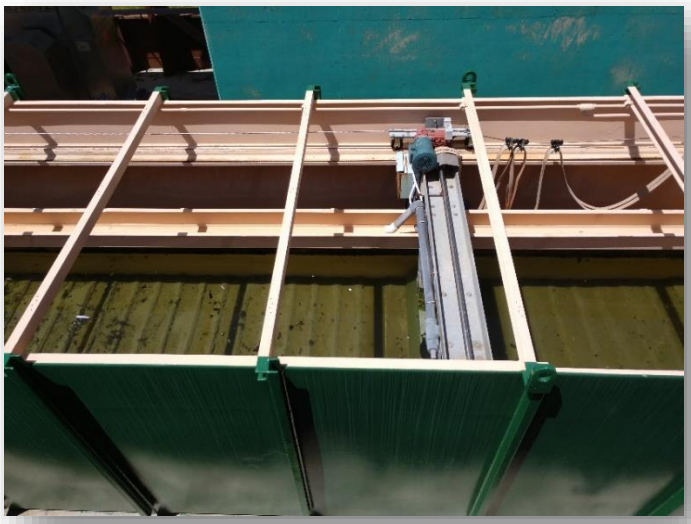
TASK 4.4, REVIEW OF PREVIOUS ALIGNMENT STUDY AND PRELIMINARY DESIGN

In order to develop an updated project feasibility, the preliminary alignment proposed by Winzler and Kelly will be surveyed by taking roadway centerline elevations at 50-foot intervals and entering each alignment into a base AutoCAD file and GIS map. Proposed distances, grades, and elevations will be used to verify pipe sizes, pump station locations, and areas conducive to gravity feed. Ultimately revised costs for the main collection system extensions will be developed along with rough estimates that will likely be incurred by each respective resident for connecting to the new system.

TASK 4.5, PLANT CAPACITY EVALUATION WITH ADDITIONAL GUALALA SERVICE AREAS FLOWS

The prior study by Stantec neglected to include any future flows from north of the Gualala River. Projections for Gualala will be used to re-visit the plant capacity and ultimately verify related process requirements and associated costs. Appropriate considerations will be given to reducing peak I/I related inflow and infiltration with and without peak flow attenuation that might be possible through the proper use of existing or newly constructed equalization storage facilities. The capacity evaluation will be used to appropriately assess the impact of increased flows from each potential new customer and generate a nexus that can be used for establishing future connection fees and monthly rates under subsequent tasks.

Processes to be re-assessed will include the aeration basin, clarifier, filters, disinfection system, storage requirements and solids handling (with consideration of Task 3 results). A key consideration will include the use of the existing percolation ponds to offset storage requirements. An updated water balance will be prepared for the future flow projections with consideration of the additional flows from Gualala. The results of the updated capacity evaluation will be reported in a technical memo that will ultimately be incorporated into the final project report.



Tertiary filters at the Gualala Wastewater Treatment Plant.

TASK 4.7, UPDATED SEPTIC TO SEWER SYSTEM COST ESTIMATES

The previous costs presented in the 2002 study by Winzler and Kelly will be updated based on anticipated bid prices and any refinements identified under tasks 4.4 and 4.5 above. These costs, along with projections on the impact to operations will be used to assess both capital costs and future assessed costs with an expanded STEP system in Gualala and additional lots in Sea Ranch. This task includes cost-effective alternatives.

TASK 4.8, TOWN HALL PRESENTATION AND MEETING

A public presentation will be made which will include results of both the public and sanitary surveys, anticipated capital, and O&M costs. It is assumed that grant funding will be secured to offset capital costs and that there may be a net reduction in current O&M costs with a broader customer base in the future. Results of the public workshop and community input will be documented in the final project feasibility report.

TASK 4.9, FINAL SEPTIC TO SEWER FEASIBILITY TECHNICAL MEMO

Results from tasks 4.1 to 4.8 will be presented in a final report and to GCSD and State officials for comment. Once received, comments and final recommendations will be compiled into a separate TM that will ultimately be incorporated in the final project report. This task includes cost-effective alternatives.

TASK 5, COLLECTION SYSTEM EVALUATION

The existing collection system in Sea Ranch is reportedly well documented, however, accurate record drawings and maps of the Gualala system are lacking. MC Engineering will conduct a survey of the GCSD collection system and shoot the rim of each manhole while "dipping" each manhole to verify the pipe size and invert elevation of the sewer lines. Force-main alignments will be plotted in GIS based on best available information and a comprehensive map book will be developed for the existing collection system north of the Gualala river. Lines with historically high maintenance will be subject to CCTV based on budget availability. Areas with historically high I/I will be subject to smoke testing based on budget availability. The condition of the existing collection system will be evaluated based on these results and recommendations developed for rehabilitation will be presented in a separate TM that will be incorporated into the overall final project report. This task includes cost-effective alternatives.

TASK 6, LIFT STATION EVALUATION

MC Engineering will visit each of the four existing lift stations, review maintenance records and historical flows, and discuss the condition with GCSD staff. Recommendations will be developed for upgrading existing control panels along with suggested monitoring, alarming, and communications capabilities. The condition of the existing lift stations will be evaluated based on these results and recommendations developed for rehabilitation will be presented in a separate TM that will be incorporated into the overall final project report. This task includes cost-effective alternatives.

TASK 7, FINAL REPORT

The final report will include an Executive Summary along with a compilation of the six TMs from tasks 1 through 6 above. The report will serve as a basis for developing equitable rates in the future as well as providing the necessary technical backup for the associated environmental document to be prepared under Task 8 below.

TASK 8, ENVIROMENTAL REVIEW

It is assumed that the proposed projects will all be constructed within existing roadways and/or on the existing WWTP site. One exception will be a possible expansion area on the west side of the WWTP site. A preliminary budget is included in the initial planning study grant assuming all recommended improvements can be completed with a Negative Declaration as the basis. Details of the actual environmental review and related CEQA process are subject to revision once the specific project related technical requirements and associated environmental permitting requirements are refined.

TASK 9, UPDATED RATE STUDY

The report and related environmental document will be used as the basis for developing recommendations for future assessments for monthly operating costs and connection fees. This will include identifying related financial implications associated with the including the Sea Ranch flows at the GCSD plant. The rate study will include appropriate backup to support a Prop 218 process if needed.

TASK 10, GRANT APPLICATIONS FOR FUNDING RELATED IMPROVEMENTS

MC Engineering will rely on the report and study recommendations to pursue a variety of grant opportunities for funding recommended improvements. Potential funding agencies include:

- USDA loans and grants
- Community Development Block Grants (CDBG)
- SWRCB and SRF loans and grants
- DWR loans and grants
- EDA grants
- Clean Beaches Initiative
- Proposition 50
- Tax Exempt Bond Financing

Appendix A

Proposed Project Budget

BUDGET

We have prepared the tasks below based on a combination of our project experience and specific requests made by the Gualala Community Services District.

`	GCSD GRANT PROGRAM SUPPORT PROGRAM-MC ENGINEERING							
Task No.	**Task**	**MAC**	**PM**	**PE I**	**ADM**	**ODC**	**Subs**	**Budget**
1	**Waste Discharge Permit Review and Assistance**	24	24	0	24	$500.00	$7,500.00	$17,240.00
2	**Consolidation Evaluation**	24	40	24	12	$1,000.00		$14,700.00
3	**Biosolids Management Plan**	40	40	80	40	$1,500.00	$7,500.00	$33,600.00
4	**Septic to Sewer Project Assessment**	0	0	0	0	$1,000.00		
4.1	Prepare Mailers and Conduct Public Surveys	40	40	80	80	$1,000.00	$2,000.00	$30,200.00
4.2	Review of Septic System Maintenance and Failure History	32	32	60	60	$1,000.00	$1,000.00	$23,040.00
4.3	Sampling of Area Creeks	24	24	40	40	$5,000.00	$2,000.00	$21,880.00
4.4	Alignment Study and Preliminary Design	40	50	80	80	$1,000.00	$50,000.00	$79,750.00
4.5	Plant Capacity Evalluation with Projected Gualala Flows	40	24	80	40	$1,000.00	$7,500.00	$30,620.00
4.6	Updated Cost Estimates	32	32	60	60	$1,000.00	$1,000.00	$23,040.00
4.7	Town Hall Presentation and Meeting	16	16	16	16	$1,000.00	$1,000.00	$10,000.00
4.8	Final Septic to Sewer TM	24	40	50	40	$1,000.00	$1,000.00	$20,510.00
5	**Existing Collection System Evaluation and Mapping**	40	40	80	60	$1,000.00	$20,000.00	$46,900.00
6	**Lift Station Evaluation**	24	40	40	0	$2,000.00	$5,000.00	$21,760.00
7	**Final Report**	40	40	0	0	$1,000.00	$5,000.00	$18,800.00
8	**Enviromental Review**	24	24	24	0	$1,000.00	$50,000.00	$61,440.00
9	**Updated Rate Study**	40	40	40	40	$1,000.00	$10,000.00	$31,000.00
	TOTAL							**$484,480.00**

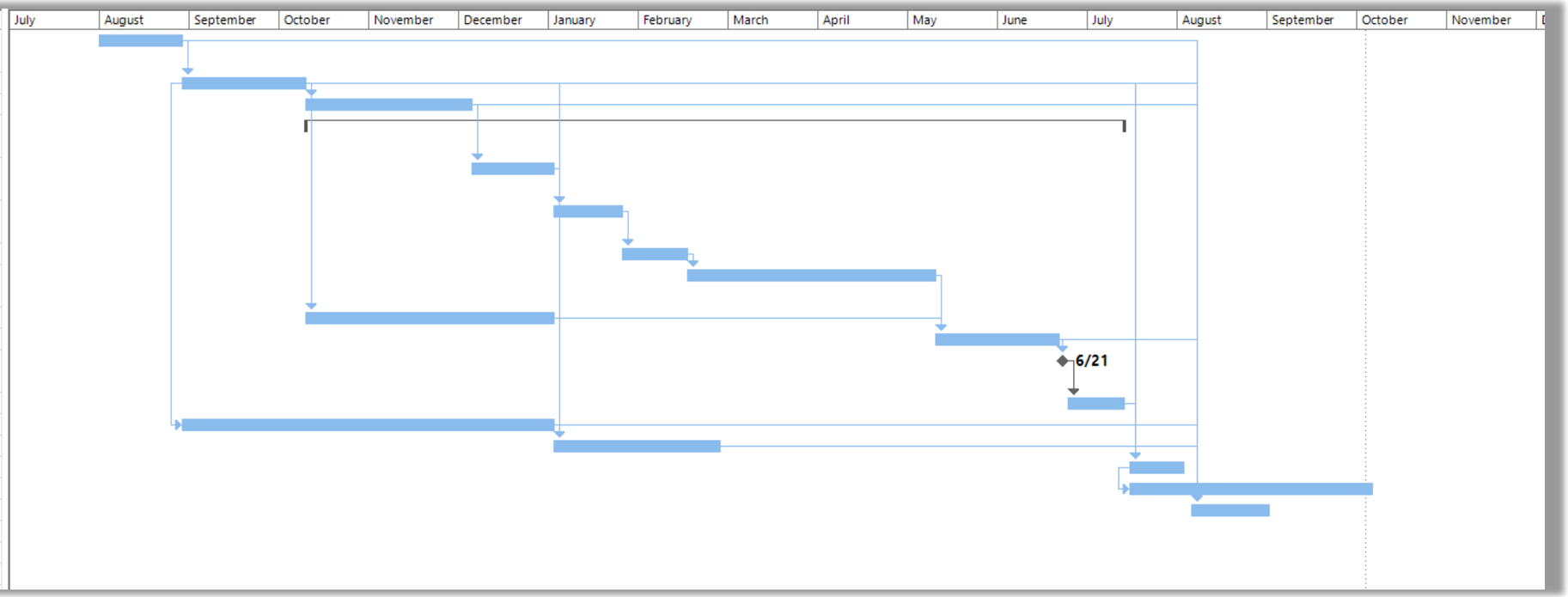
Abbreviations and Standard Hourly Rates:			
MAC: Project Manager Mark Carey, P.E.	$165.00	$/hr	
PM: Senior Engineer John Pedri, PE	$155.00	$/hr	
PEII: Project Engineer I, Jared Nelson	$115.00	$/hr	
ADM: Administrative Assistant and Junior Engineer	$65.00	$/hr	
ODC: Other Direct Costs (travel including mileage reimbursed at applicable IRS rates, reproduction costs, etc.)			

Appendix B

Proposed Project Schedule

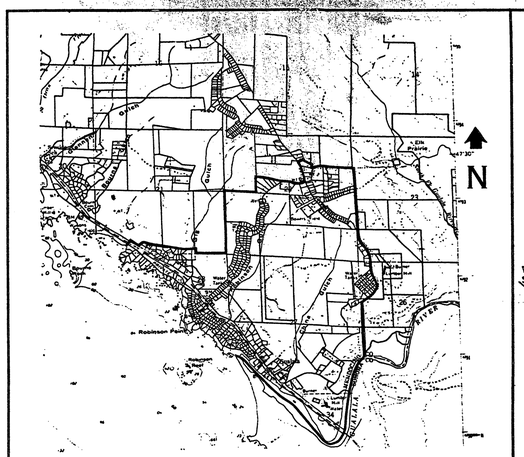
SCHEDULE

	Task Name	Duration
1	Waste Discharge Permit Review and Assistance	20 days
2	Consolidation Evaluation	30 days
3	Biosolids Management Plan	40 days
4	**Septic to Sewer Project Assessment**	**199 days**
5	Prepare Mailers and Conduct Public Surveys	20 days
6	Review of Septic System Maintenence and Failure	17 days
7	Sampling of Area Creeks	16 days
8	Alignment Study and Preliminary Design	60 days
9		60 days
10	Updates Cost Estimates	30 days
11	Town Hall Presentation and Meeting	1 day
12	Final Septic to Sewer TM	15 days
13		90 days
14	Lift Station Evaluation	40 days
15	Final Report	14 days
16	Enviromental Review	60 days
17		20 days



Appendix C

GCSD Service Area Map



LOCATION SKETCH

EXHIBIT "A"
File No.
L.A.F.C.O. Map

COMMUNITY SERVICE DISTRICT FORMATION OF GUALALA
Mendocino County, California

N58°38'E 157.50'
S 71°54' 30"E. 343.61'
S 18°08' W. 210'
S 71°54'E 80.80'
N75°45' 30" E TO NW COR OF SE 1/4 OF NE 1/4 SEC 22
IRON PIN BETWEEN LOTS 3 AND 4 MAPS 2-1-19 MCR
NORTHERLY 709.75'
S89°20'E 1289.25'
EAST LINE OF OLD STAGE RD #502
CENTER LINE OF PACIFIC WOODS RD. COUNTY RD #524
NE CORNER OF SE 1/4 OF NE 1/4 OF SEC 22
SW CORNER OF SE 1/4 OF NW 1/4 SEC 22
EASTERLY N LINE SW 1/4 OF SEC 22
N-W COR OF S-W 1/4 OF SEC 22
COMMON LINE BETWEEN SECTIONS 22 AND 23
NORTHERLY S-W COR SEC 22
WESTERLY RIGHT OF WAY STATE HIGHWAY #1
CENTERLINE BIG GULCH ROAD COUNTY ROAD # 543
S89°59'50"E, 154'
S89°59'50"E, 446.14'
NORTH LINE SEC 28
SOUTH 435.25'
CENTER LINE OF OLD STAGE ROAD COUNTY ROAD 502
N47°40'E, 140' +,-
MAPS 2-6-10 M.C.R.
MEAN HIGH TIDE LINE FROM CENTERLINE OF GUALALA RIVER TO THE NORTHERLY LINE OF SECTION 28
COMMON LINE BETWEEN SECTIONS 26 AND 27
POINT OF BEGINNING
PACIFIC OCEAN
GUALALA RIVER

145-052 145-054 145-053 145-081 145-084 145-092 145-082 145-083 145-091 145-101 145-105 145-110 145-121 145-131 145-133 145-134 145-135 145-136 145-132 145-161 145-17 145-166 145-20 145-210 145-220 145-27 145-29

N

SCALE: 1" = 768'
DISTRICT AREA: 1430 ACRES
MAP PREPARED:
MAY 8, 1986
BY:
DON MC ADAM RCE#8090

ALL AREAS OF THIS MAP AND ALL SECTIONS REFERRED TO FALL WITHIN TOWNSHIP 11 NORTH RANGE 15 WEST OF MOUNT DIABLO BASE AND MERIDIAN.

CASE
DRAWER
PAGE

AUTHORIZATION CERTIFICATE

I, _____, Chairman, Board of Supervisors, hereby certify that the _____ council did by Resolution dated _____, 1986 approved the within map and verify the boundaries shown hereon are correct.

CHAIRMAN _____

ACCEPTANCE CERTIFICATE

I, _____, Chairman of the Local Agency Formation Commission of the County of Mendocino, State of California, hereby certify that said Local Agency Formation Commission by Resolution on the _____ day of _____, 1986, approved the within map.

_____
CHAIRMAN, Local Agency Formation Commission

RECORDER'S CERTIFICATE

Filed this _____ day of _____, 19___ at ___M. in L.A.F.C.O. Map Case _____, Drawer ___, Page ___ at the request of _____ (Proponent for this application)

No Fee _____
COUNTY RECORDER

Appendix D

GCSD Boundary and Zones

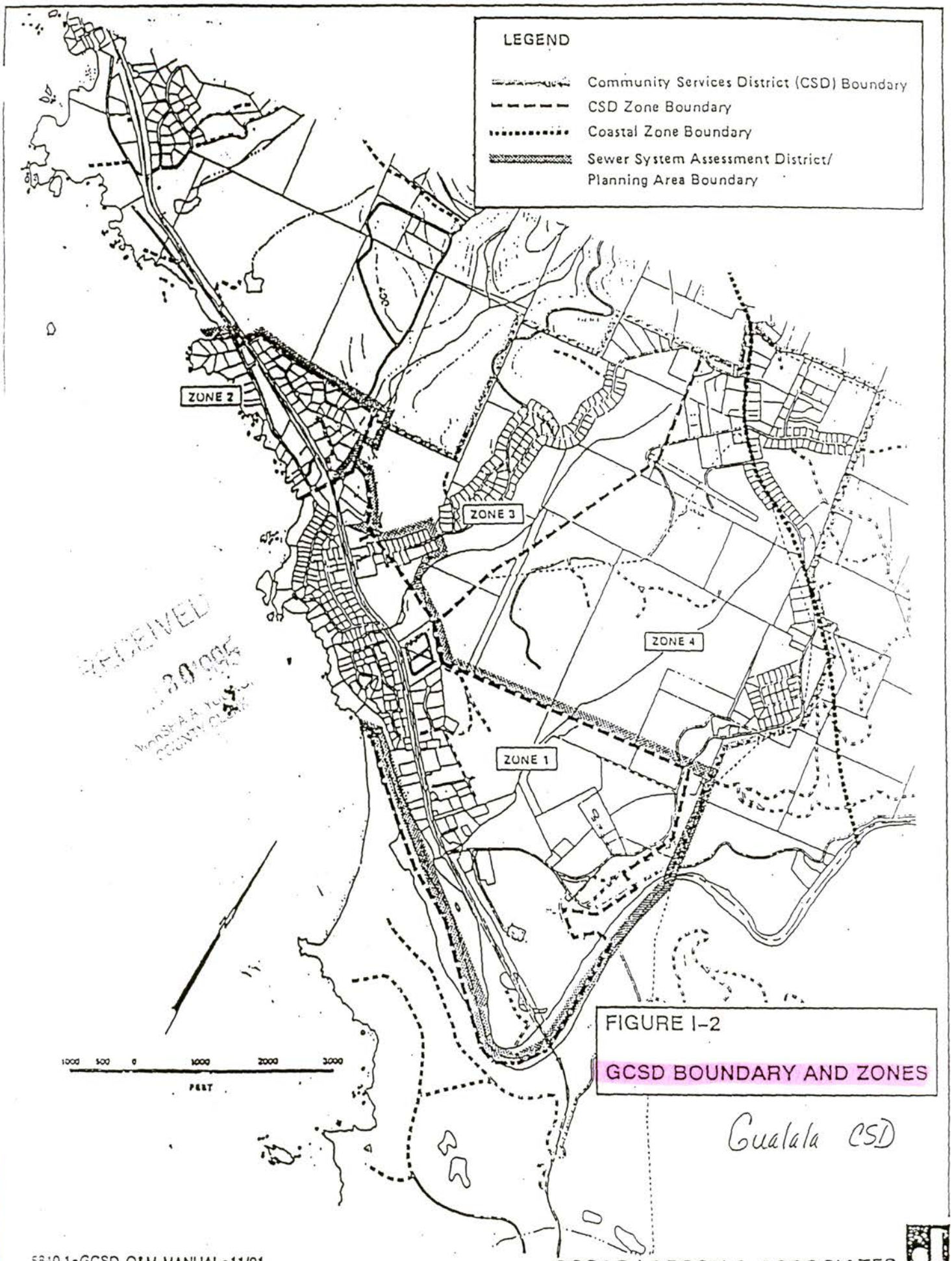


FIGURE I-2

GCSD BOUNDARY AND ZONES

Gualala CSD