

96-187

MARIPOSA COUNTY  
BOARD OF SUPERVISORS

AGENDA  
ACTION FORM

AGENDA DATE: 05-07-96  
AGENDA ITEM NO.: 4-C

DEPARTMENT: Public Works

By: Clifton Price

Phone: 966-5356

Facilities Maintenance Manager

RECOMMENDED ACTION AND JUSTIFICATION: (Policy Item: Yes\_\_\_ No\_X)

Resolution appropriating \$3,700 from the Coulterville Service Area Contingency line for the implementation of the State-approved Sludge Disposal Plan (Attachment #2) at the Coulterville wastewater treatment facility irrigation sprayfield.

A liner was installed at the storage reservoir at this facility. As part of the repairs, the accumulated sludge was removed and stored onsite. A sludge disposal plan was required by the California Regional Water Quality Control Board. The plan was prepared, submitted for their approval and finally recently approved. At this time, the weather window is right for implementing this plan and labor hours are available to complete the work. A small amount of overtime will be necessary.

BACKGROUND AND HISTORY OF BOARD ACTIONS:

Repairs to the storage reservoir at the Coulterville wastewater treatment facility were previously approved by the Board as part of the overall rehabilitation of this facility.

LIST ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

- 1) No action. Delay in implementation of State-approved sludge disposal plan. The weather limits the period available for this type of work.

COSTS: ( ) Not Applicable

A. Budgeted current FY \$0

B. Total anticipated costs \$3,700

C. Required additional funding \$3,700

D. Internal transfers \$

SOURCE: (x) 4/5th Vote Required

A. Unanticipated revenues \$

B. Reserve for contingencies \$

C. Source description: Coulterville Contingency

Balance in Reserve for Contingency

if approved: \$

SPECIAL INSTRUCTIONS:  
List the attachments and number the pages consecutively:

1. Budget Action

2. Sludge Disposal Plan

CLERK'S USE ONLY

Res. No.: 96-187 Ord. No. \_\_\_\_\_

Vote - Ayes: 5 Noes: \_\_\_\_\_

Absent: \_\_\_\_\_ Abstained: \_\_\_\_\_

( ) Approved ( ) Denied

( ) Minute Order Attached ( ) No Action Necessary

The foregoing instrument is a correct copy of the original on file in this office.

Date: \_\_\_\_\_

ATTEST: MARGIE WILLIAMS, Clerk of the Board  
County of Mariposa, State of California

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

ADMINISTRATIVE OFFICER'S RECOMMENDATION:  
This item on agenda as:

Recommended

Not Recommended

For Policy Determination

Submitted with Comment

Returned for Further Action

Comment: \_\_\_\_\_

A.O. Initials: *M*

**COUNTY OF  
MARIPOSA**

**BUDGET ACTION FORM**

**DEPT/DIV:** Public Works

**CONTACT:** Michael D. Edwards

**DATE:** April 24, 1996

**PHONE:** 966-5356

**ACTION REQUESTED:** (Check All That Apply)

- Budget appropriation by Board of Supervisors (4/5ths Vote Required): Amending the total amount available in the County Budget, or in any one fund of the budget, or appropriating Reserve for Contingencies;
- Transfer by Board of Supervisors (3/5ths Vote Required): Moving existing appropriation from one budget to another, or between categories within a budget unit;
- Transfer by Administrator: Moving existing appropriations within a single budget category between line items (i.e. services and supplies, etc.);
- Transfer by Auditor: Moving salaries between line items to accommodate variances internal to salaries; OR transfers within the County budget under \$50.00 to accommodate minor variations from the budget.

<u>FUND/DEPT/ACCT NO.</u>	<u>LINE ITEM DESCRIPTION</u>	<u>AMOUNT (FROM)/TO</u>
314-0903-852-1090	Coulterville Contingency	(\$3,700)
314-0903-852-0418	Coulterville Water Prof.Serv.	\$1,500
314-0903-853-0418	Coulterville Sewer Prof.Serv.	\$2,000
001-0128-309-1600	Facilities Maint. Transfer In	\$200
001-0128-473-0230	Facilities Maint. Overtime	\$200

Justification: See attached Board item.

Department Head Signature: *Michael D. Edwards* Date: 4/24/96  
 Approved By: Res. No. 96-187 Clerk: *[Signature]* Date: 5-2-96  
 Administrator: \_\_\_\_\_ Date: \_\_\_\_\_  
 Auditor: *[Signature]* Date: 4/25/96

**AUDITOR'S USE ONLY:**

Description: \_\_\_\_\_ Transfer No.: \_\_\_\_\_  
 \_\_\_\_\_ B.R. No.: \_\_\_\_\_

**COULTERVILLE  
WASTEWATER TREATMENT PLANT  
SLUDGE DISPOSAL PLAN**

**Prepared for**

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION  
3614 EAST ASHLAN AVENUE  
FRESNO, CA 93726**

**Prepared by**

**COUNTY OF MARIPOSA  
DEPARTMENT OF PUBLIC WORKS  
4639 BEN HUR ROAD  
MARIPOSA, CA 95338**

**November 1994**

## PREFACE

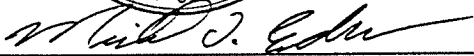
This report has been prepared by Clifton W. Price, Facilities Maintenance Manager, of the Public Works Department of Mariposa County. Contributors to the report are:

Michael D. Edwards, P.E., Public Works Director

David L. Tucker, P.E., Senior Civil Engineer

This report has been prepared under the direction of and approved for release to the California Regional Water Quality Control Board by:



  
\_\_\_\_\_  
Michael D. Edwards, P.E.

# TABLE OF CONTENTS

1	INTRODUCTION
2	PROPOSAL
2.1	LAND APPLICATION
2.2	POLLUTANT LIMITS
2.3	PATHOGEN AND VECTOR ATTRACTION REDUCTION
2.4	MANAGEMENT PRACTICES
2.5	MONITORING
2.6	RECORDKEEPING
2.7	REPORTING
2.8	RECOMMENDATIONS
3	SPRAY FIELD SEEDING
	APPENDIX A: ENGINEER'S SLUDGE EVALUATION
	APPENDIX B: CERTIFICATES OF ANALYSIS
	APPENDIX C: SUMMARY OF 40 CFR PART 503
	APPENDIX D: WASTE DISCHARGE REQUIREMENTS #85-256

# 1. INTRODUCTION

Mariposa County began clean up of the leaking facultative storage reservoir at the Coulterville Wastewater Treatment Plant in preparation for repairs in July of 1994. The California Regional Water Quality Control Board (CRWQCB) staff in Fresno have been very cooperative and helpful in allowing Mariposa County to proceed in a timely manner with all repairs to date.

A necessity of the clean up efforts was to remove the sludge blanket and a good amount of aquatic weeds from the pond. We have completed the facultative storage reservoir repairs. It has been requested by the CRWQCB that Mariposa County present them with a final sludge disposal plan. The dried sludge has been removed from the drying ponds and stored in a mound onsite, on visquene and covered with visquene.

The plan that follows is being submitted to the CRWQCB in Fresno for approval. Mariposa County is ready to implement this plan for final sludge disposal upon CRWQCB concurrence.

# 2. PROPOSAL

## 2.1 LAND APPLICATION

Permitted land application includes all forms of applying bulk sewage sludge to land for beneficial uses at agronomic rates ( rates designed to provide the amount of nitrogen needed by the crop or vegetation grown on the land while minimizing the amount that passes below the root zone).

The amount of sludge to be applied to the spray field is approximately 1000 cubic feet. The area to which it will be applied is seven acres of land within the fenced, limited public access area of the Coulterville WWTP which is appropriately gated for grazing purposes. The neighboring rancher will graze his beef cattle in accordance with appropriate management practices under County direction. The agronomic rates will be met as supported by Appendix A and section 3. We intend to burn the dried aquatic weeds removed from the reservoir on site and work them into the soil prior to planting as additional fertilizer. This burn would be managed as an agricultural burn in accordance with air quality control regulations. As a reminder to the reader, this is a once in twenty year plan.

The quality of the sludge to be applied has been verified as class B. The type and method of seed application is detailed in section 3 of this plan. The sludge will be applied according to management practices detailed in section 2.4. Additionally trees will be planted in the buffer zone.

## 2.2 POLLUTANT LIMITS

It is important to note that the limits set in the following comparison are set for annual application. This planned application of sludge will only occur once every twenty years. Column A represents allowable and column B represents actual planned application rate.

Pollutant	Annual Pollutant Loading Rates (kg/ha/yr)		High Quality Pollutant Concentration Limits (mg/kg)	
	A	B	A	B
Arsenic	2.0	.0014	41	1.4
Cadmium	1.9	.0007	39	0.7
Chromium	150	.004	1,200	4.1
Copper	75	.038	1,500	38
Lead	15	.008	300	7.2
Mercury	0.85	.0004	17	0.36
Molybdenum	0.90	.0009	18	0.9
Nickel	21	.003	420	2.8
Selenium	5.0	.0003	36	0.33
Zinc	140		2,800	N/R

In column B (planned application rate) the results for concentration limits are supported by certificates of analysis included in Appendix B. The representative calculated values for loading rates are based on an application over seven acres in twenty years. The loading rates do not represent a pollution threat in this instance due to the high level of quality met by the sewage sludge to be applied, the large application area and the low frequency of application.

The sludge that is planned to be spread onsite is classified as high quality in reference to pollutant limits. The limit information in the above chart was derived from the 40 CFR Part 503 regulations, summarized in Appendix C.

### 2.3 PATHOGEN AND VECTOR ATTRACTION REDUCTION

Sewage that does not qualify as class B cannot be land applied (appendix C). The geometric mean of the density of the sample taken from the storage reservoir prior to three months of air drying in the temporary storage ponds was 99,100 MPN/g (fecal coliform organisms). The allowable criteria for class B is less than 2,000,000 MPN/g.

The regulations suggest that at least seven sewage sludge samples should be collected and analyzed at the time of disposal for fecal coliform. The geometric mean of these samples would then be calculated and should meet the above criteria.

The aforementioned test results were taken from a "wet" sample which would show a much higher fecal coliform concentration than the dried samples would produce. The sludge has been appropriately treated by an accepted process to significantly reduce pathogens. The sludge was air dried for three months with two to three months of an ambient average daily temperature above zero degree celcius in unpaved basins. It is requested that the Executive Officer accept the analysis and PSRP as sufficient to allow land application.

Only one of the vector attraction reduction alternatives 1-10 must be met when bulk sewage sludge is applied to agricultural land, forest, public contact or reclamation sites (appendix C). Alternatives 7 and 8, Drying, has been met and alternative 10, Incorporation, will be met upon application. It has been observed that the sewage sludge attracts no insects or vermin.

### 2.4 MANAGEMENT PRACTICES

The management practices are represented in sections 2.4.1 through 2.4.7 and will be strictly adhered to throughout all phases of application.

#### 2.4.1

The bulk sewage sludge to be applied will not be applied to flooded, frozen or snow-covered ground so as to enter waters or wetlands of the U.S. in accordance with 40CFR part 503.

#### 2.4.2

The bulk sewage sludge will not be applied above the recommended agrinomic rate. The actual application rate of total nitrogen would be approximately three kilograms per acre. With a total phosphorus of 400mg/kg and potassium of 66mg/kg in a total of 1000 cubic feet of dried sewage sludge similarly low application rates are apparent. The spray field seeding represented in section 3 will provide for adequate absorbtion by the indicated crop.



## 2.4 MANAGEMENT PRACTICES

### 2.4.3

The bulk sewage sludge is not likely to adversely affect any threatened or endangered species as the site is and has been a dedicated fenced site for disposal of primary effluent for twenty years. No endangered species currently resides at the site or has been known to frequent the site.

### 2.4.4

The bulk sewage sludge will not be applied less than ten meters from the waters of the U.S.

### 2.4.5

There will be no food crops of any kind either grown or harvested from the land application site.

### 2.4.6

Animals will not be allowed to graze on the site for at least 30 days after the application of the sewage sludge.

### 2.4.7

Public access to the land will be restricted for at least 30 days after application of the sewage sludge and remain restricted thereafter.

### 2.4.8

The sewage sludge will be incorporated into the soil as specified in section 3.

## 2.5 MONITORING

The test results represented in this report, along with the normal monthly monitoring of this site under current Waste Discharge Requirement Order # 85-256 meets the monitoring requirements.

In accordance with CFR 40 Part 503 monitoring for pollutants, pathogen densities and vector attraction reduction requirements shall be at a minimum frequency of once per year based on the annual volume of sewage sludge disposed for volumes from 0 to 290 dry metric tons per year.

We are planning on applying only 56.7 dry metric tons of sewage sludge to the site one time in twenty years. This weight represents only five cubic yards of material per acre. Considering the high quality, the low amount being applied and the low application frequency, it is requested that the Executive Officer allow this report to be representative of having met the total required monitoring.

## 2.6 RECORDKEEPING

The sewage sludge meets at least class B pathogen reduction and the pollutant concentration limits.

The person who has prepared the sewage sludge and that applies the sewage sludge will certify that the material meets these criteria. This person will also certify that management practices and site restrictions have been met.

These records will be kept on file for a period of not less than five years.

## 2.7 REPORTING

The information required in the records will be submitted to the California Regional Water Quality Control Board once the sewage sludge has been applied.

This report along with the certifications required for recordkeeping and monitoring reports required by WDR # 85-256 (appendix D) will be representative of all the reporting necessary for the application of the sewage sludge at the Coulterville WWTP.

## 2.8 RECOMMENDATIONS

It is recommended that the Executive Officer approve this disposal plan as presented which will allow the completion of the work required for rehabilitation of the Coulterville WWTP.

### 3. SPRAYFIELD SEEDING

#### 3.1 SCOPE

This section covers the work necessary for preparing and seeding the spray disposal field.

#### 3.2 GRASS SEED

The grass seed shall be a mixture containing 50 percent Potomac orchard grass and 50 percent Fawn Tall fescue. All seed shall be certified seed, delivered in original unopened containers bearing an analysis of the contents and guaranteed 95 percent pure, and have a minimum germination rate of 80 percent.

#### 3.3 FERTILIZER

The fertilizer shall contain a minimum N-P-K ratio of 16-20-0 and shall conform to the California Food and Agricultural Code and be delivered in original unopened containers bearing an analysis of the contents. Additional fertilizer will be applied in the form of onsite, dried, certified sewage sludge.

#### 3.4 SEED BED PREPARATION

After the irrigation system reinstallation is completed, the soil surface shall be prepared leaving a smooth, fine-textured seed bed.

#### 3.5 FERTILIZER APPLICATION

The fertilizer shall be broadcast and incorporated into the soil by disking prior to seeding. The rate of application shall be a combined total of 200 pounds per acre.

#### 3.6 SEEDING

The grass seed shall be uniformly worked into the seed bed to a depth of approximately 1/4 inch and at a minimum rate of 20 pounds per acre over areas of the spray field that currently have no growth.

#### 3.7 WATERING

Watering shall be by rain and supplemented as needed by effluent in accordance with WDR order # 85-256.



# COUNTY of MARIPOSA

4639 Ben Hur Road  
Mariposa, CA 95338  
(209) 966-5356

## DEPARTMENT OF PUBLIC WORKS

Divisions of:

- Design & Construction
- Administration
- Operations

November 14, 1994

**Michael D. Edwards**  
Director

California Regional Water Quality Control Board  
Central Valley Region  
3614 East Ashlan Avenue  
Fresno, CA 93726

Attention: Larry Beatty, P.E., Senior Water Resource Control Engineer

**RE: Sludge Disposal Proposal for Coulterville WWTP**

Dear Mr. Beatty:

Enclosed please find the referenced sludge disposal plan for your review and concurrence.

The 40 CFR, Part 503, allows sewage sludge to be stored for up to two years without any restrictions or controls. It is not our intention, however, to store the sludge at the Coulterville Wastewater Treatment Plant for that length of time.

In this report, we have shown that there will be no violation of the 503 regulation by using the irrigation fields at the Coulterville WWTP as the site for the final disposal of the sludge which was removed from the onsite facultative pond.

The report addresses all aspects of 40 CFR, Part 503, that apply to our site-specific sludge disposal plan. It is important to keep in mind that this will be a once-in-20-year application of a relatively small volume of quality sludge within a contained site. This has already been approved for use as a reclaimed wastewater disposal site, from a facultative pond, and is limited from public access.

Your prompt review would be appreciated as we hope to implement this plan as soon as possible.

Your continued cooperation is requested. Please call if you have any questions.

Sincerely,

Clifton W. Price  
Facilities Maintenance Manager

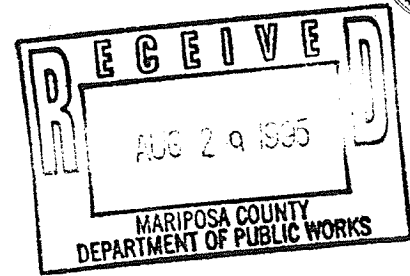
cp


cc: W. Dale Harvey, Water Resource Control Engineer (CRWQCB)  
Mariposa County Board of Supervisors  
Mike Edwards, Director of Public Works  
Dr. Mosher, Health Officer  
Coulterville CSA Advisory Board

2 I

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION3614 East Ashlan Ave.  
Fresno, CA 93726  
PHONE: (209) 445-5116  
FAX: (209) 445-5910

28 August 1995



Mr. Michael D. Edwards, Director   
Mariposa County Public Works Department  
4639 Ben Hur Road  
Mariposa CA, 95338

**SLUDGE DISPOSAL PLAN, COULTERVILLE WASTEWATER TREATMENT FACILITY  
(WWTF), MARIPOSA COUNTY**

We have reviewed the 14 November 1995 report entitled, *Coulterville Wastewater Treatment Plant Sludge Disposal Plan*, prepared by Clifton Price of your staff. Please see the enclosed staff memorandum for the details of our review. The proposal to spread the sludge currently stockpiled at the Coulterville WWTF onto the WWTF spray fields is acceptable provided you adjust your fertilizer/nitrogen application rates to account for nitrogen applied during wastewater application to the spray fields.

The Plan suggests that you will be submitting information to our office to meet the monitoring and reporting requirements contained in 40 CFR 503. Please note that reporting this information to our office is unnecessary at this time. The State Water Resources Control Board and the Regional Boards have not accepted primacy for implementing the regulations contained in 40 CFR 503, and only use the subject regulations as guidelines in evaluating sludge projects. If you think that the 40 CFR 503 regulations require you to report monitoring results or other information regarding your sludge application project, said results should be submitted to the U.S. Environmental Protection Agency.

If you have any questions regarding this matter, please contact W. Dale Harvey at (209) 445-5569.



LARRY W. BEATTY  
Senior Engineer  
RCE No. 15205

WDH:wdh/rac

Enclosure