

DEPARTMENT: Public Works

By: Clifton Price

Phone: 966-5356

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

Resolution approving a County sponsored volunteer project in Yosemite West to build a new booster pump shed. Special Districts personnel would supervise volunteer construction of the engineered structure. The Yosemite West Advisory Committee has recommended funding the booster pump shed construction costs of \$6,000 from the Utility Capital Fund.

This structure is needed to protect the water system booster pump tank from freezing in the winter months. The tank is currently exposed to the elements and wrapped in insulation. Water supply to the subdivision has been interrupted several times as a result of freezing.

Utilization of an estimated 216 volunteer labor hours will substantially reduce the cost of construction. Most of the costs are for construction materials with some additional cost for Public Works labor and oversight.

BACKGROUND AND HISTORY OF BOARD ACTIONS:

There is a current balance of \$91,419.72 in the Utility Capital Fund.

LIST ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

1. No action. Structure would be delayed or not built.
2. Approve funding from another source.
3. Approve construction without use of volunteer labor at an increased cost to Yosemite West residents.

COSTS: ( ) Not Applicable

A. Budgeted current FY	\$0
B. Total anticipated costs	\$6,000
C. Required additional funding	\$0
D. Internal transfers (Utility Capital Fund)	\$6,000

SOURCE: (x) 4/5th Vote Required

A. Unanticipated revenues	\$
B. Reserve for contingencies	\$
C. Source description:	

Balance in Reserve Contingencies, if approved: \$

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

1. Budget Action Form
2. Design drawings
3. Materials list (from Ken Wall contractor and Y.W. resident)

CLERK'S USE ONLY

Res. No.: 95-170 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: MP

**COUNTY OF  
MARIPOSA**

**BUDGET ACTION FORM**

**DEPT/DIV:** Public Works

**CONTACT:** Michael D. Edwards

**DATE:** April 7, 1995

**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.

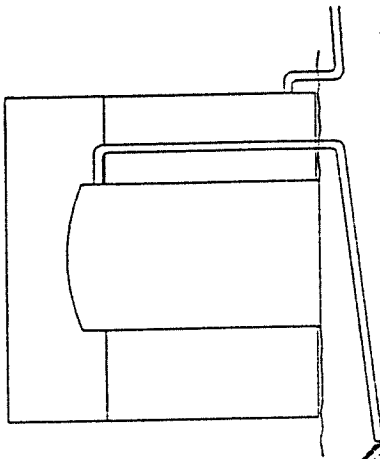
<u>FUND/DEPT/ACCT NO.</u>	<u>LINE ITEM DESCRIPTION</u>	<u>AMOUNT (FROM)/TO</u>
371-1400-825-0787	Transfer Out	\$6,000.00
071-0901-309-1600	Transfer In	\$6,000.00
071-0901-309-1600	Transfer In	\$6,000.00
071-0901-871-0680	Booster Pump Shed	\$6,000.00

**Justification:** See attached Board item.

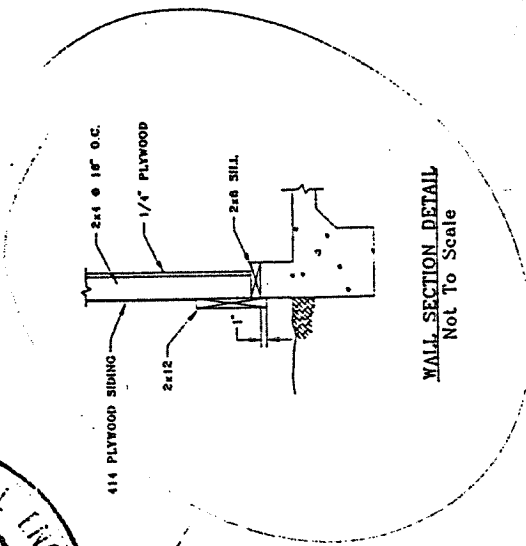
**Department Head Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Approved By: Res. No.** 95-170 **Clerk:** MMS **Date:** 4-25-95  
**Administrator:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Auditor:** [Signature] **Date:** 4-11-95

**AUDITOR'S USE ONLY:**

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



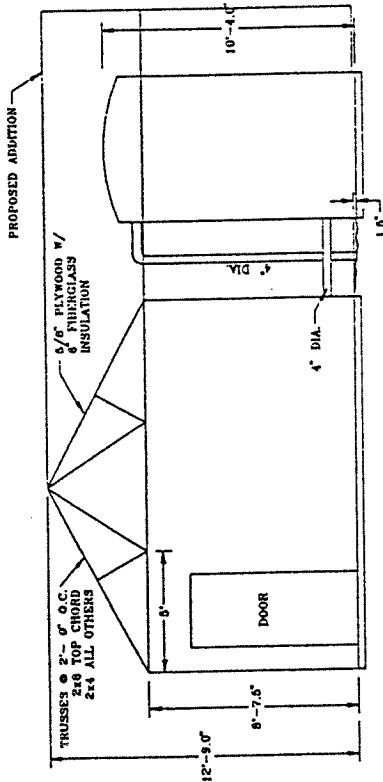
SECTION A-A



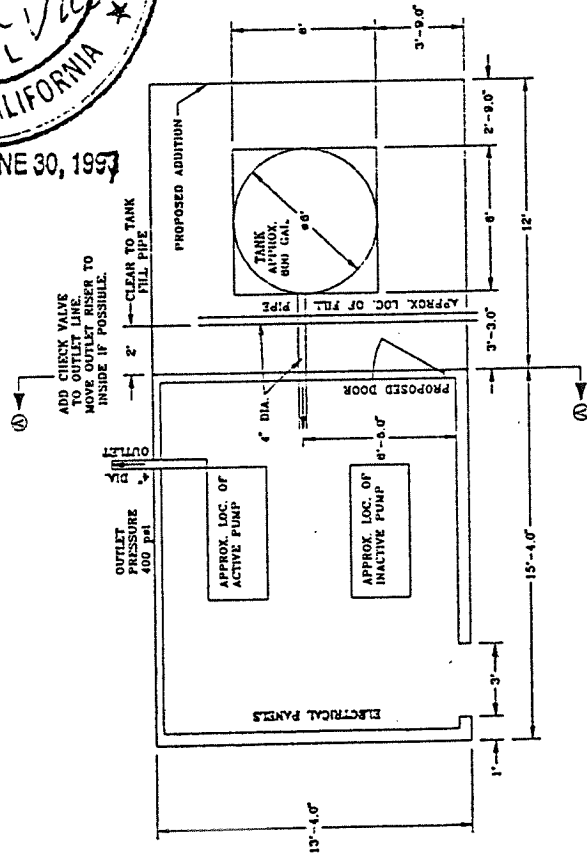
WALL SECTION DETAIL  
Not To Scale



EXPIRES JUNE 30, 1997



FRONT ELEVATION



PLAN VIEW

MARIPOSA COUNTY ENGINEERING DEPARTMENT

Yosemite West Pump Station  
Tank Enclosure

Drawn BG

Sheet 1 of 2

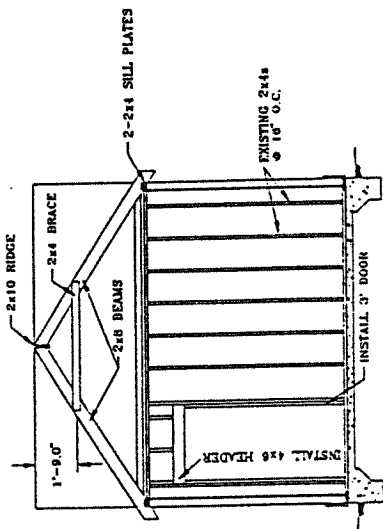
Checked \_\_\_\_\_

Date: 7/29/94

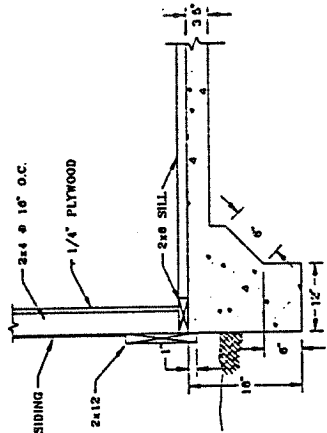
Scale: 1/8" = 1'

Approved By  
Engineer \_\_\_\_\_

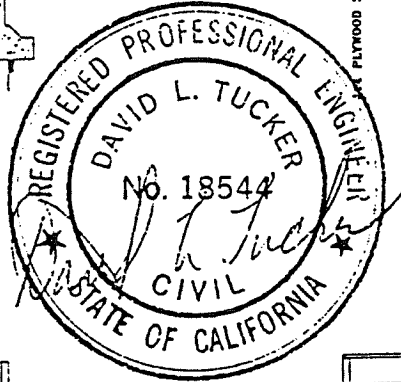
Dwg. No. 94-01-1



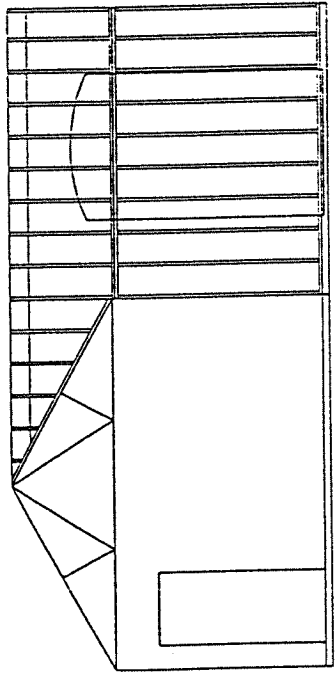
SECTION D-D



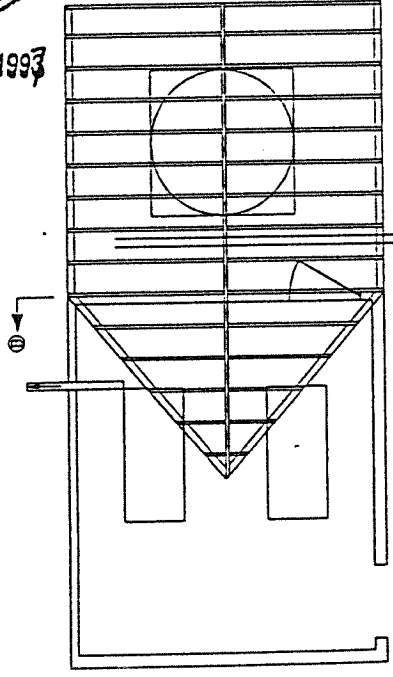
WALL DETAIL  
Not To Scale



EXPIRES JUNE 30, 1993



FRONT ELEVATION



PLAN VIEW

MARIPOSA COUNTY ENGINEERING DEPARTMENT

Yosemite West Pump Station  
Tank Enclosure

Drawn BG  
Checked \_\_\_\_\_  
Date: 7/29/94

Sheet 2 of 2

Scale: 1/8" = 1'

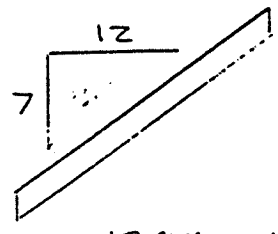
Approved By  
Engineer \_\_\_\_\_

Dwg. No. 94-01-2

SNOW LOAD REDUCTION

24.

2x6 → I = 5.359 in.<sup>4</sup>  
S = 3.063 in.<sup>3</sup>  
A = 8.25 in.<sup>2</sup>  
2x4 → I = 20.797 in.<sup>4</sup>  
S = 7.563 in.<sup>3</sup>



SNOW LOAD @ Y.W. = 120 PSF

193# UBC Sec 2305(d)\*

\*  $R_s = \frac{120}{40} - \frac{1}{2} = 2.5 \text{ PSF} / \text{foot}$

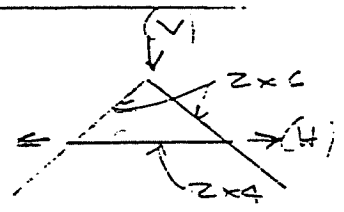
$\theta_{\text{pitch}} = \tan^{-1}\left(\frac{7}{12}\right) = 30.3^\circ$

\*  $30.3 - 20 = 10.3^\circ$

Reduction =  $(10.3 / 2.5) = 25.75 \text{ PSF} \approx 26 \text{ PSF}$

$S_L = 120 - 26 = 94 \text{ PSF}$

SECTION



TRUSS SPACING @ 2' o.c.

TRUSS AREA =  $2' \times 16' = 32 \text{ ft}^2$

TRUSS LOAD =  $32 (94) = 3,008 \text{ # } (V)$

$(H) = (3,008) \frac{12}{13.9} = 2,596 \text{ # } \leftarrow T \text{ (CHORD)}$

Doyle Fir #2 →  $F_t = 825 \text{ PSI}$  (FCM p. 2-46)

$A_{\text{req}} = \frac{2596}{825} = 3.15 \text{ ft}^2$  ✓ 2x4 o.k.



PART 2

$T.W. = 2'$

$L = 7' 9" = 7.75'$

$W = 2' (94) = 188 \text{ lb/ft}$

$S_{reqd} = \frac{1.5 (188) (7.75)^2}{1350} = 12.5 \text{ in.}^3$

$R = 723.5 \text{ lb}$       $A_{reqd} = \frac{1.5 (723.5)}{9.0} = 12.1 \text{ in.}^2 > \frac{NO}{8.25 \text{ in.}^2}$

Try  $2 \times 8 @ 2' \text{ o.c.}$

$A = 12.1 \text{ in.}^2 > 10.93 \text{ in.}^2 \text{ NO}$

Try  $2 \times 8 @ 16" \text{ o.c.}$

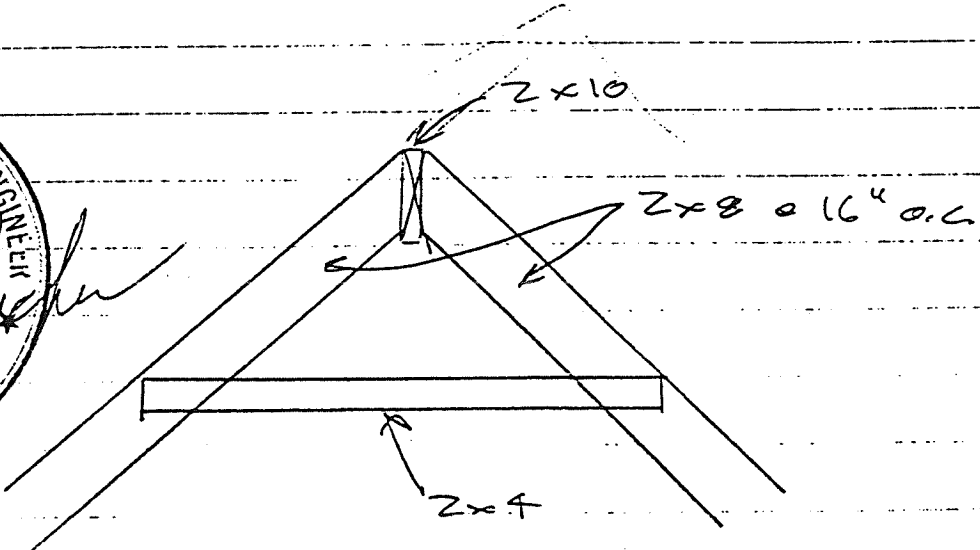
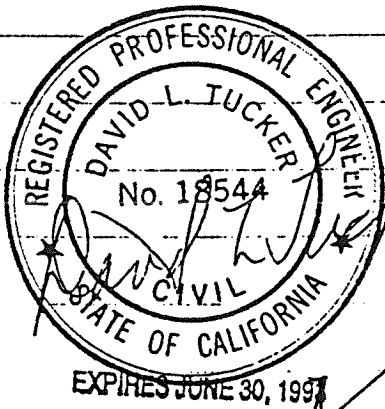
$W = 1.33 (94) = 125 \text{ lb/ft}$

$S_{reqd} = \frac{1.5 (125) (7.75)^2}{1350} = 8.34 \text{ in.}^3$

$R = 484.4 \text{ lb}$       $A_{reqd} = 8.07 \text{ in.}^2 \checkmark$

$\Delta_{LL} = \frac{7.75' (12)}{240} = .39$

$I_{reqd} = \frac{5 (125) (7.75)^4 (1728)}{384 (1.5 \times 10^6) (.39)} = 17.3 \checkmark$   
o.k.



12' TOTAL = 9 TRUSSES

WIND

Roof Load = 9.4 PSF

Wind S.C. = 1.0 PSF

2x4 @ 16" o.c.

2x4

$F_c = 900 \text{ PSI}$

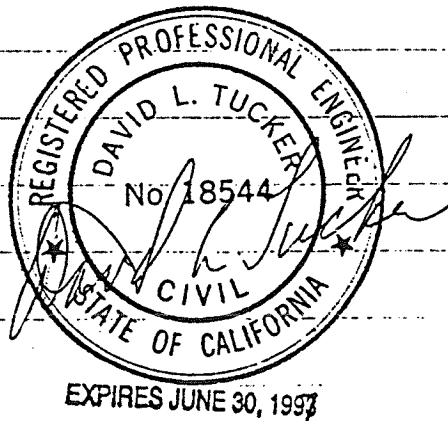
$F_{c\perp} = 335 \text{ PSI}$

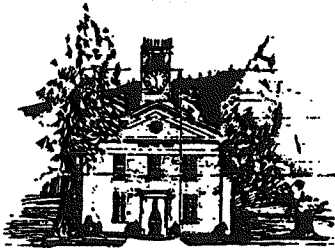


$$P = 9.4 (13) + 10 (0) = 1,302 \text{ \#/lin (ft)} = \underline{1,302 \text{ \#}} \text{ c.l.}$$

$$\frac{f_c}{F_c} = \frac{f_{c\perp}}{F_{c\perp}} = \frac{P}{A} = \frac{1302}{5.25} = \underline{248 \text{ PSI}} < F_{c\perp} = 335 \text{ PSI}$$

OK.





# COUNTY of MARIPOSA

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

## DEPARTMENT OF PUBLIC WORKS

Divisions of:

- Design & Construction
- Administration
- Operations

Michael D. Edwards  
Director

## MEMORANDUM

**To:** Mike Edwards, Director *ME*  
**From:** Clifton W. Price, Facilities Manager *CWP*  
**Date:** April 7, 1995  
**Subject:** Ken Wall's Material Estimates for Yosemite West Water Tank Shed

Attached are Ken Wall's estimates for volunteer construction of the water tank shed in Yosemite West. All material costs were derived by informal competitive bids from at least three vendors. The total costs are \$4,978.65. We are adding approximately \$1,000 to the overall cost of the job to account for County staff involvement in the project. The total estimated cost would then be approximately \$6,000. I believe this approach to be the most cost effective way to complete this project.

Ken Wall procured this information on his own time for the benefit of the residents in the Yosemite West special district.



KEN WALL  
671 W. OLSON AVE 2/25/95  
REEDLEY, CAL 93654

Dear Cliff,

209-638-4746

Enclosed is a report of an estimate for the water tank shed at the lower well site. at this time I have only acquired the estimates from individual vendors. I have not yet done comparison estimating with other vendors. I will wait to do that until May.

the following cost breakdown is for materials only.

1. concrete - outback Co. from outblunt	
4 1/2 cu yds @ \$98.50 ea	\$ 443.25
\$15 per cu yd for load under 6 cu yds 1/2	22.50
	<hr/>
	465.75
	tax
	40.75
	<hr/>
	506.50
pump setup fee	145.00
	<hr/>
	\$ 651.50

\$ 651.50

K. Wall

water tank shed

pg 2

2. Lumber - Hardware Holt Lumber Co.  
includes the following Fresno, Ca.

- a) form lumber
- b) framing
- c) R-13 wall insulation
- d) R-30 ceiling-roof insulation
- e) exterior plywood siding
- f)  $\frac{1}{4}$ " interior wall plywood
- g)  $\frac{5}{8}$ " ply roof sheathing
- h) nails, anchor bolts, felt, vents, etc

\$2,361.07

3. Roof covering Borja Co. Fowler  
Cal

zinc coated metal  
enough to cover both  
the existing and new addition

\$651.08

4. transport roofing materials from  
fowler to Yosemite West

\$125.00

K. Wall

water tank shed

pg 3

5. Exterior entry door 3' x 6'<sup>8</sup>  
metal clad, dead bolt,  
keyed passage lock,

Pacific Door Co  
Fresno, Cal

\$190.00

6. paint or stain allowance

\$350.00

7. portable elec generator allowance  
rental fee

\$150.00

8. contingency allowance

\$500.00

K. Wall

# water tank shed

4.

## summary

1. concrete	\$ 651.50
2. lumber	\$ 2,361.07
3. Roof covering	\$ 651.08
4. transport	\$ 125.00
5. entry door	\$ 190.00
6. paint allow	\$ 350.00
7. generator	\$ 150.00
8. contingency allow	\$ 500.00

\$ 4,978.65

I did not consider in this estimate on any materials or construction methods to allow for the removal of the water tank.

approximate total of volunteer labor in hours

216 hours

Sincerely  
Ken Wall