Otar Case

[redacted]

1022

TRANSIT

398

H. S. CROCKER COMPANY

DRAWING MATERIALS AND
SURVEYING INSTRUMENTS
SAN FRANCISCO

TABLES FOR EXCAVATIONS AND EMBANKMENTS

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING

Roadway 18 Feet Wide. Side Slopes 1 to 1.
For Single Track Excavation.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	0
1	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	1
2	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	2
3	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	3
4	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	4
5	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	5
6	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	6
7	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	7
8	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	8
9	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	9
10	19.0	19.1	19.2	19.3	19.4	19 5	19.6	19.7	19.8	19.9	10
11	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	11
12	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	12
13	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	13
14	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	14
15	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	15
16	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	16
17	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	17
18	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	18
19	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	19
20	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	20
21	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	21
22	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	22
23	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	23
24	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	24
25	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	25
26	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	26
27	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	27
28	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	28
29	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	29
30	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	30
31	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	31
32	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	32
33	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	33
34	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	34
35	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	35
36	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	36

Calculated by Julien A. Hall, M. Am. Soc. C. E.

10/26/17

R.M. Gregory
C.S. Moore
F.D. Miller

CROSS SECTION OF
OTAY CREEK
NEAR OLD McHENRY RANCH

	+	HI	−	Elev.	
	1.48	101.48.		96.26 100.00	assumed elev on [illegible] stone above hole
Top of Stone wall.			+ 0.2	98.0 101.7	
Ground at hole = Sta 0+00.			4.0	93.8 97.5	
Halfway up Opening of hole			3.2	94.6 98.3	
Hole is 2.0 high " " 2.1 wide " " 4.5 deep.					
0+28			5.0	92.8 96.5	
+29			5.9	91.9 95.6	
+41			7.4	90.4 94.1	
+43			9.7	88.1 91.8	
+54			11.6	86.2 89.9	
+73			13.2	84.6 88.3	
1+00			12.4	85.4 89.1	
1+08 grd 7' to right			10.0	87.8 91.5	= Top of 2" plank bolted to old Tree stump. on South bank of deepest portion of So. Channel.
1+11			12.3	85.5 89.2	
T.P.	7.44	96.69	12.23	89.25	
1+16			9.4	83.6 87.3	
1+16 grd 27.4' to left.			4.6	88.4 92.1	= Top of old Tree stump. on South bank of South Channel.
1+22			9.9	83.1 86.8	= Center of present stream
1+24			9.5	83.5 87.2	= No. edge of " "
1+42			9.4	83.6 87.3	
1+54			6.4	86.6 90.3	
1+71			4.2	88.8 92.5	
1+89			3.9	89.1 92.8	
1+96			4.7	88.3 92.0	
2+00			6.6	86.4 90.1	= So. edge of No. channel

		H.I. 96.69			
2+14			7.0	86.0 89.7	= bottom of No. channel
2+20			6.1	86.9 90.6	
2+25			4.9	88.1 91.8	
2+50			2.8	90.2 93.9	
2+60			2.5	90.5 94.2	
2+65			0.9	92.1 95.8	
T.P.	9.51	104.81	1.39	95.30	
2+85			8.1	93.0 96.7	
3+00			5.9	95.2 98.91	

10/26/17

R.M. Gregory
C.S. Moore
F.D. Miller

TRAVERSE LINE
from Sta. 1+22 on
CROSS SECTION
LINE SHOWN ON
PAGE 2
READINGS ALL IN CREEK BOTTOM
Except as noted

on T.P.	2.55	91.80			89.25	T.P. on page 2
Sta 1+22 on Page 2 = 00			5.0	83.1	86.8	
1+00			5.8	82.3	86.0	
2+00			6.2	81.9	85.6	
3+00			7.0	81.1	84.8	
T.P.	3.60	90.44	4.96		86.84	
4+00			5.8	80.9	84.6	
5+00			5.7	81.0	84.7	
6+00			5.8	80.9	84.6	
7+00			6.0	80.7	84.4	
8+00			6.0	80.7	84.4	
9+00			6.3	80.4	84.1	
10+00			6.8	79.9	83.6	
T.P.	3.34	88.23	5.55		84.89	
11+00			4.5	80.0	83.7	
12+00			5.1	79.4	83.1	
13+00			6.0	78.5	82.2	
14+00			6.5	78.0	81.7	
15+00			7.0	77.5	81.2	
16+00			7.7	76.8	80.5	
17+00			8.3	76.2	79.9	
18+00			8.7	75.8	79.5	
19+00			9.2	75.3	79.0	
T.P.	2.15	82.09	8.29		79.94	
20+00			3.5	74.9	78.6	
21+00			4.3	74.1	77.8	
22+00			4.9	73.5	77.2	
		82.09				
23+00			5.6	72.8	76.5	
24+00			6.4	72.0	75.7	
25+00			7.0	71.4	75.1	
26+00			7.7	70.7	74.4	
T.P.	3.02	78.61	6.50		75.59	
27+00			4.7	70.2	73.9	
28+00			5.1	69.8	73.5	
29+00			5.7	69.2	72.9	
30+00			6.2	68.7	72.4	
31+00			6.6	68.3	72.0	
32+00			7.1	67.8	71.5	
33+00			7.7	67.2	70.9	
34+00			8.5	66.4	70.1	
35+00			8.8	66.1	69.8	
36+00			9.4	65.5	69.2	
T.P.	3.79	73.10	9.30		69.31	
37+00			6.3	63.1	66.8	
38+00			7.5	61.9	65.6	
39+00			8.0	61.4	65.1	
40+00			8.5	60.9	64.6	
41+00			8.8	60.6	64.3	
T.P.	4.91	69.31	8.70		64.40	
42+00			5.5	60.1	63.8	
43+00			6.2	59.4	63.1	
44+00			6.9	58.7	62.4	
+17 = Cross Section ~~[illegible]~~						
45+00			7.3	58.3	62.0	
46+00			7.9	57.7	61.4	
47+00			8.4	57.2	60.9	

		69.31.			
48+00			8.8	56.8 60.5	
49+00			9.3	56.3 60.0	
50+00			10.0	55.6 59.3	
51+00			10.6	55.0 58.7	

10/26/17
Gregory
Moore
Miller
Earle

CROSS SECTION AT STA. 44+17 ON TRAVERSE LINE

EAST SIDE OF TRAVERSE

Sta 44+17 on Traverse = 00		from page 4 69.31	6.4	59.2 62.9
00+13	East of TRAVERSE		6.8	58.8 62.5
+16	East – –		5.2	60.4 64.1
+30	East – –		4.1	61.5 65.2
+65	East – –		4.2	61.4 65.1
+71	East – –		3.7	61.9 65.6
T.P.	8.10	76.98	0.43	68.88
+72	East of TRAVERSE		8.1	65.2 68.9
+86	– – –		2.5	70.8 74.5
T.P.	12.40	88.30	1.08	75.90
+94	East of TRAVERSE		11.4	73.2 76.9
+96			1.5	83.1 86.8
T.P.	8.16	95.99	0.47	87.83
1+05			7.5	84.8 88.5
1+20			2.6	89.7 93.4
1+32			0.6	91.7 95.4

10/26/17
Gregory
Moore
Miller

CROSS SECTION AT STA 44+17 ON TRAVERSE LINE

WEST SIDE OF TRAVERSE

H.I. 69.31 from page 4

00+20	WEST OF TRAV.		6.8	58.8 62.5	
+21	– – –		6.1	59.5 63.2	
+39	– – –		6.6	59.0 62.7	
+46	– – –		5.1	60.5 64.2	
T.P.	12.31	81.19	0.43	68.88	← = 65.14 page 9
+48	WEST OF TRAVERSE		12.7	64.8 68.5	
+51	– – –		13.5	64.0 67.7	
+53	– – –		4.4	73.1 76.8	
+56	– – –		2.3	75.2 78.9	
+60	– – –		2.5	75.0 78.7	
+62	– – –		4.7	72.8 76.5	
+75	– – –		4.9	72.6 76.3	
+82	– – –		4.6	71.9 76.6	
T.P.	12.84	93.97	0.06	81.13	
1+20	WEST OF TRAVERSE		8.8	81.5 85.2	
1+43	– – –		4.3	86.0 89.7	
1+56	– – –		0.8	89.5 93.2	
T.P.			0.08	93.89	

10/31/–

R.M. Gregory
C.S. Moore
F.D. Miller

TRAVERSE LINE
UP OTAY CREEK
From site of Lower Otay Dam
to a point 1200' above old
McHenry Ranch
Elevations taken in bed of stream

	+	H.I.	–	Elev.	
B.M.	3.49	151.20		147.71	B.M. on top of concrete old eastern west end of OTAY DAM. BM is marked 494.89 equation = 347.18 working datum = 147.71
T.P.	1.27	139.49	12.98	138.22	
T.P.	0.79	127.58	12.70	126.79	
T.P.	0.22	114.85	12.95	114.63	
T.P.	0.46	102.44	12.87	101.98	
T.P.	0.56	90.09	12.91	89.53	
T.P.	0.25	77.54	12.80	77.29	
T.P.	0.74	65.77	12.51	65.03	
T.P.	0.30	53.11	12.96	52.81	
T.P.	2.18	42.52	12.77	40.34	
T.P.	0.04	29.64	12.92	29.60	
0.0 = center of old concrete core			12.0	17.6	= bed of stream
1			11.6	18.0	
2			10.9	18.7	
3			11.4	18.2	
4			11.2	18.4	
5			11.0	18.6	
6			10.4	19.2	
7			10.3	19.3	
8			10.2	19.4	
9			9.6	20.0	
10			7.2	22.4	
T.P.	4.81	32.87	1.58	28.06	
11			10.0	22.9	
12			9.5	23.4	
13			9.3	23.6	
14			8.8	24.1	
15			8.5	24.4	
16			8.2	24.7	
17			7.9	25.0	
18			7.7	25.2	
19			7.3	25.6	
20			7.0	25.9	
21			6.6	26.3	
T.P.	6.45	33.05	6.27	26.60	
22			6.5	26.6	
23			6.1	27.0	
24			5.8	27.3	
25			5.0	28.1	
26			4.7	28.4	
27			4.3	28.8	
28			3.7	29.4	
29			3.4	29.7	
30			2.9	30.2	
31			2.5	30.5	
32			1.9	31.2	
33			1.7	31.4	
TP	12.59	44.07	1.57	31.48	
34			12.0	32.1	
35			11.7	32.4	
36			11.1	33.0	
37			10.7	33.4	
38			10.4	33.7	
39			9.8	34.3	

		44.07		
40			9.4	34.7
41			9.1	35.0
42			8.4	35.7
43			8.0	36.1
T.P.	9.08	45.37	7.78	36.29
44			8.6	36.8
45			8.2	37.2
46			7.8	37.6
47			7.4	38.0
48			7.1	38.3
49			6.3	39.1
50			5.1	40.3
51			5.1	40.3
52			4.6	40.8
53			4.1	41.3
T.P.	9.49	51.26	3.60	41.77
54			9.6	41.7
55			9.3	42.0
56			8.7	42.6
57			8.3	43.0
58			7.7	43.6
59			7.3	44.0
60			6.8	44.5
61			6.4	45.0
62			5.9	45.4
T.P.	9.18	55.92	4.52	46.74
63			10.1	45.8

64		55.92	9.6	46.3
65			9.2	46.7
66			8.8	47.1
67			7.9	48.0
68			7.0	48.9
69			6.4	49.5
70			5.7	50.2
71			5.3	50.6
72			4.9	51.0
73			4.2	51.7
T.P.	10.39	62.55	3.76	52.16
74			10.1	52.5
75			9.5	53.1
76			9.2	53.4
77			8.5	54.1
78			7.9	54.7
79			7.5	55.1
80			7.0	55.6
81			6.4	56.2
82			5.9	56.7
83			5.4	57.2
84			5.0	57.6
85			4.5	58.1
482 = Sta 44+17 page.(4)			3.3	59 3
Cross Sect. at Pt. of Rocks				
T.P.	12.97	72.22	3.30	59.25
T.P. check			7.08	65.14 = 68.88 T.P. p.6
T.P.	12.30	83.64 ✓	0.88	71.34
T.P.	11.27	88.63	6.28	77.36

	+	H I 88.63	−	Elev	
T.P.	11.93	93.98	6.58	82.05	
T.P.	11.37	103.68	1.67	92.31	
T.P.	4.48	105.46	2.70	100.98	
T.P.	1.50	97.67	9.29	96.17	= Assumed elev of 100^{00} @ McHenry Cross Section
T.P.	3.27	88.68	12.26	85.41	

TRAVERSE UP OTAY CREEK

from Sta 1+22 on McHenry X section

	+	H I	−	Elev
00 = Sta 1+22 on McH. Xsection.			5.8	79.2 82.9 80.9
1			5.1	83.6
2			4.7	84.0
T.P.	9.28	94.01	3.95	84.73
3			9.5	84.5
4			7.9	86.1
5			5.9	88.1
T.P.	6.60	96.41	4.20	89.81
6			7.1	89.3
7			5.5	90.9
8			4.2	92.2
T.P.	6.27	99.70	2.98	93.43
9			6.0	93.7
10			5.7	94.0
11			4.7	95.0
12			4.3	95.4

12/12/17

W.C. Earle,
R.M. Gregory
C.S. Moore
F.D. Miller
R.A. Schwartz

Cross Section of
Otay Creek.
at a point 1400 feet
upstream from Section
taken at Pt. of Rocks

on B.M.	4.08	69.22		65.14	B.M. on Rock W. Side of Stream at Pt. of Rocks see page 6+9
T.P.	8.48	74.81	2.89	66.33	
T.P.	5.63	78.77	1.67	73.14	
Sta 0+00 = Ctr of present stream			10.1	68.7	
10' No. of 0+00			9.5	69.3	
15' " " "			8.5	70.3	
40' " " "			8.0	70.8	
48' " " "			8.9	69.9	
58' " " "			8.9	69.9	
80' " " "			7.8	71.0	
85' " " "			8.3	70.5	
91' " " "			8.3	70.5	
100' " " "			7.3	71.5	
150' " " "			6.0	72.8	
165' " " "			5.6	73.2	
200' " " "			6.1	72.7	
230' " " "			6.5	72.3	
250' " " "			5.2	73.6	
262' " " "			4.3	74.5	= Location of Heron weeds
266' " " "			6.0	72.8	
270' " " "			4.6	74.2	
300' " " "			5.5	73.3	
307 " " "			6.3	72.5	
318 " " "			5.8	73.0	
333 " " "			3.7	75.1	= Top of Bank

78.77

43' So. of 0+00		9.8	69.0	
49' " " "		8.4	70.4	
60' " " "		4.6	74.2	= Top of Bank
BM.		6.41	72.36	on Rock 20' upstream from x section

Apr 21, 1919

Tom Smallcomb
T.B. Cosgrove
H.N. Savage
Geo Cromwell
W.C. Earle

Ditch about 3' from Stone wall
Back of house 6' " "
Depth of house back to front 30'
Back of house on ground level or 8" elev
Front " 2 steps = 1½ ft.
House to bridge all cultivated, oranges fig
orchard w. of house & to river & cottonwood trees
Water ½ way up in hole in wall
would flood floor of house – floor
of house about same level as
base of hole in wall – ½ way up
in hole = 10" to 12" higher than
floor
Sills at back of house rotted & house
sat on ground
From house to creek not a rock
in sight roadway down slope to
creek – unbroken straight gentle slope
from house to 1 to 1½ ft below floor of br.
Erosion at front of house = at least 6 ft
Present channel about same width
& depth as in 1895
Dig torn 25 to 30'
Stone wall on w side channel = approach
to bridge put in by himself

No. channel not in existence in 1895
Had barn, shop & peach orchard where
present no channel
Slope from stonewall gradual to
north to present ground

44417

18.00

18.79
4.56
13.63
65.14
78.77

868

74.5
58.8
15.7

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

FOR SINGLE TRACK EMBANKMENT.

ROADWAY 14 FEET WIDE. SIDE SLOPES 1½ TO 1.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	7.0	7.2	7.3	7.5	7.6	7.8	7.9	8.1	8.2	8.4	0
1	8.5	8.7	8.8	9.0	9.1	9.3	9.4	9.6	9.7	9.9	1
2	10.0	10.2	10.3	10.5	10.6	10.8	10.9	11.1	11.2	11.4	2
3	11.5	11.7	11.8	12.0	12.1	12.3	12.4	12.6	12.7	12.9	3
4	13.0	13.2	13.3	13.5	13.6	13.8	13.9	14.1	14.2	14.4	4
5	14.5	14.7	14.8	15.0	15.1	15.3	15.4	15.6	15.7	15.9	5
6	16.0	16.2	16.3	16.5	16.6	16.8	16.9	17.1	17.2	17.4	6
7	17.5	17.7	17.8	18.0	18.1	18.3	18.4	18.6	18.7	18.9	7
8	19.0	19.2	19.3	19.5	19.6	19.8	19.9	20.1	20.2	20.4	8
9	20.5	20.7	20.8	21.0	21.1	21.3	21.4	21.6	21.7	21.9	9
10	22.0	22.2	22.3	22.5	22.6	22.8	22.9	23.1	23.2	23.4	10
11	23.5	23.7	23.8	24.0	24.1	24.3	24.4	24.6	24.7	24.9	11
12	25.0	25.2	25.3	25.5	25.6	25.8	25.9	26.1	26.2	26.4	12
13	26.5	26.7	26.8	27.0	27.1	27.3	27.4	27.6	27.7	27.9	13
14	28.0	28.2	28.3	28.5	28.6	28.8	28.9	29.1	29.2	29.4	14
15	29.5	29.7	29.8	30.0	30.1	30.3	30.4	30.6	30.7	30.9	15
16	31.0	31.2	31.3	31.5	31.6	31.8	31.9	32.1	32.2	32.4	16
17	32.5	32.7	32.8	33.0	33.1	33.3	33.4	33.6	33.7	33.9	17
18	34.0	34.2	34.3	34.5	34.6	34.8	34.9	35.1	35.2	35.4	18
19	35.5	35.7	35.8	36.0	36.1	36.3	36.4	36.6	36.7	36.9	19
20	37.0	37.2	37.3	37.5	37.6	37.8	37.9	38.1	38.2	38.4	20
21	38.5	38.7	38.8	39.0	39.1	39.3	39.4	39.6	39.7	39.9	21
22	40.0	40.2	40.3	40.5	40.6	40.8	40.9	41.1	41.2	41.4	22
23	41.5	41.7	41.8	42.0	42.1	42.3	42.4	42.6	42.7	42.9	23
24	43.0	43.2	43.3	43.5	43.6	43.8	43.9	44.1	44.2	44.4	24
25	44.5	44.7	44.8	45.0	45.1	45.3	45.4	45.6	45.7	45.9	25
26	46.0	46.2	46.3	46.5	46.6	46.8	46.9	47.1	47.2	47.4	27
27	47.5	47.7	47.8	48.0	48.1	48.3	48.4	48.6	48.7	48.9	27
28	49.0	49.2	49.3	49.5	49.6	49.8	49.9	50.1	50.2	50.4	28
29	50.5	50.7	50.8	51.0	51.1	51.3	51.4	51.6	51.7	51.9	29
30	52.0	52.2	52.3	52.5	52.6	52.8	52.9	53.1	53.2	53.4	30
31	53.5	53.7	53.8	54.0	54.1	54.3	54.4	54.6	54.7	54.9	31
32	55.0	55.2	55.3	55.5	55.6	55.8	55.9	56.1	56.2	56.4	32
33	56.5	56.7	56.8	57.0	57.1	57.3	57.4	57.6	57.7	57.9	33
34	58.0	58.2	58.3	58.5	58.6	58.8	58.9	59.1	59.2	59.4	34
35	59.5	59.7	59.8	60.0	60.1	60.3	60.4	60.6	60.7	60.9	35
36	61.0	61.2	61.3	61.5	61.6	61.8	61.9	62.1	62.2	62.4	36

Calculated by Julien A. Hall, M. Am. Soc. C. E.