

HENSHAW - FLETCHER.
LA JOLLA PIPE LINE.

TORREY PINES RESERVOIR.

EXCAVATION.

Office and Supt.	172.55	
Insurance	4.69	
Contract,		
Excavation 9,441 cu.yds. @ \$.67	6,325.47	
Stripping 185 " " @ .67	123.95	
	<u>6,626.66</u>	\$ 6,626.66

CONCRETE LINING.

Office and Supt.	284.81	
Insurance	6.58	
Contract,		
3" drain tile, 2100 @ \$.20	420.00	
Pedestals and dowels 144 @ .35	50.40	
8" cement pipe 200 @ .60	120.00	
18" " " 100 @ 1.84	184.00	
Re'f'd concrete 531 yds. @ 29.069	15,435.60	
Curbing 34.67 yds. @ 30.00	1,040.00	
Extras		
Re'f'd concrete 35.295 yds. @ 29.069	1,026.00	
Drain tile, 410 @ .20	82.00	
Crushed rock 12 cu.yds. @ 7.50	90.00	
Labor, tamping slopes	373.25	
Labor, removing excess dirt	125.50	
Sand 20 cu. yds. @ 5.16	103.20	
	<u>19,341.34</u>	19,341.34

CEMENT PIPE LINE.

Office and Supt.	564.65	
Insurance	14.10	
Valves	74.58	
15" steel pipe replacing cement,	115.10	
Contract,		
4650' 18" cement pipe installed @ 1.64	7,626.00	
429.4 cu. yds. blasted trench @ .75	322.05	
5535 " " trench @ .41	2,269.35	
1734 " " backfill @ .10	173.40	
	<u>11,159.23</u>	
		<u>37,127.23</u>

Notes:
Original contract cancelled, pipe not up to specification and condemned.

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LA JOLLA PIPE LINE.

Amount brought forward \$ 37,127.23

PIPELINE EXCAVATION.

Office and Supt.	570.40	
Insurance	281.88	
Equipment	304.47	
Machine excavation		
13,278.6 lin. ft. @ \$.10	1,327.86	
Freight on trench machine	98.79	
Estimated earth removed by trench machine 5,163.9 cu. yds. Cost per cu. yds. \$.276		
Hand excavation		
5,444 lin. ft. or 2,117.1 cu. yds. Cost per cu. yd. \$ 1.605	3,396.50	
Hand trimming,		
23,991 lin. ft. @ \$.16	3,878.19	
Material, tools, lbr., drills etc.	632.41	
	<u>10,490.58</u>	

BACKFILLING.

Office and Supt.	286.14	
Insurance	178.52	
Equipment	29.40	
Backfill		
29,535 lin. ft. @ \$.162		
11,485.8 cu. yds. @ .416	4,773.07	
	<u>5,267.13</u>	

Note: Backfilled on pipe between joints as laid. Backfill along Coast Blv'd. exceptionally difficult because of constant travel interfering with teams.

TIMBER CRADLES.

Office and Supt.	9.00	
Insurance	2.82	
Material, wood cradles,	48.53	
Labor	88.09	
Total cost of 84 wood saddles @ 1.767	<u>148.44</u>	

CONCRETE CRADLES.

Office and Supt.	112.17	
Insurance	106.45	
Equipment	5.73	
Material	649.67	
Labor	2,699.32	
Distributing material, labor & teams	639.28	
Trucking & Ry. Freight	352.63	
	<u>4,565.25</u>	

Approximately 138 cu. yds. concrete. Total cost \$ 33.08 per cu. yd. which includes anchors, wood saddles etc. 492 piers average size 3'x3'x10" set every 10 ft. across Los Penasquitos Flat. 71 yds. gravel shipped in, balance from local pits. Water from local well pumped and piped 3/4 mi. thru. 2" pipe.

57,598.63

HENSHAW - FLETCHER

LA JOLLA PIPE LINE.

Amount brought forward \$ 57,598.63

SANTA FE R.R. CROSSING.

Office and Supt.	97.22
Cast iron pipe	1036.00
Cement	112.00
Sand, form lumber etc.	52.00
Labor	78.00
Santa Fe Ry.	772.89
Trucking material, pipe etc.	<u>293.34</u>

Note: 124', 20" Cast Iron pipe thru fill of S.Fe. main line. Pipe placed on concrete base 129'x4'x8". Joints concreted in blocks 3'x3'x3'. Ry. Co. made cut thru fill, placed temporary bridge while pipe was being laid, and backfilled after job was completed. Their charge for time material & labor is listed above.

Concrete PIERS, WINGWALLS etc.

(Extra work not figured in original estimate)

Office and Supt.	97.22
Insurance	123.45
Material, cement, sand, lumber	984.95
Labor	3,168.57
Distributing material	21.24
Trucking	<u>175.58</u>
	4,576.01
Cr. by force acct. for City	<u>827.75</u>

3,748.26

Note: Above work distributed as follows, Quantities approximated:

6 yds. concrete piers foot of Biological grade.
4 " " trestle near City Farm.
4 " " under gates and meter.
4 " " around pipe at Co. road King.
2 " " gate pier at R.R. Crossing
2 " " dead men for guys at stand-pipes
6 " " under gates and for gate boxes.
55 " " Pipe anchors and wing walls on pump discharge line.
83 " " Cost, \$ 45.172 per cu. yd.

Concrete hand mixed and on pump discharge line the hillside was so steep it was necessary to lower all material with ropes. Other jobs were small and time was lost transporting men and material.

RESERVOIR REPAIRS.

Insurance	92.65
Labor	1,523.58
Material, sand and rock	285.43
Cement	230.10
Steel,	218.89
Lumber	148.62
Trucking	<u>458.82</u>
	2,958.09
Cr. by Henshaw-Fletcher and empty cement sacks,	<u>330.90</u>

2,627.19
66,363.85

Break in Res. thru bank following 18" cement pipe Spillway stand pipe then connected to a reinforced concrete inspection gallery. Detail print on file in Eng. Office.

HENSHAW - FLETCHER

LA JOLLA PIPE LINE.

Amount brought forward \$ 66,363.85

18" MACHINE BANDED WOOD STAVE PIPE.

Office and Supt.	669.82
Insurance	84.56
Unloading & distributing, Labor	1,616.23
" " " " , Trucking	307.72
Trucking, 264 ton, average haul 2 miles, .73 1/2 ¢ per ton mile.	
Valves	834.74
Special fittings,	331.21
Furnish and lay Contract,	
890', 18", 100' head pipe @ \$ 1.86	1,655.40
3315', 18", 150' " " @ 2.24	7,425.60
8268', 18", 200' " " @ 2.54	21,000.72
86', 18", 250' " " @ 3.06	263.16
82', 18", 300' " " @ 3.37	276.34
95', 18", 350' " " @ 3.84	364.80
98', 18", 400' " " @ 4.17	408.66
Installing 11280' " " @ .07	789.60
Cast iron collars, tapers, ells etc.	<u>732.40</u>

36,840.96

16" MACHINE BANDED WOOD STAVE PIPE.

Office and Supt.	785.39
Insurance	84.56
Unloading and distributing, labor	1,456.21
" " " " , Trucking	1,662.11
Trucking, 560 tons average haul 6 miles, at .498 ¢ per ton mile.	
Ry., demurrage charges	35.02
Special fittings	753.25
Valves	146.06
Furnish and lay contract;	
602' of 16", 100' head pipe @ 1.617	973.43
245' of 16" 150' " " @ 1.907	467.22
840' of 16" 200' " " @ 2.177	1,828.68
143' of 16" 250' " " @ 2.597	371.37
393' of 16" 300' " " @ 2.887	1,134.59
2909' of 16" 350' " " @ 3.097	9,009.17
3537' of 16" 400' " " @ 3.507	12,404.26
2976' of 16" 450' " " @ 3.887	11,567.71
10113' of 16" 100' " " @ 2.00	20,026.00
700' of 16" 100' " " @ 2.00	1,400.00
Installing 21,878 ft. of 16" @ .07	1,531.46
Increased fgt. cost on last shipment pipe	196.92
Cast collars, tapers, fittings etc.	<u>1,613.40</u>

67,446.81

Total Cost of line and Reservoir,

\$ 170,651.62

The high cost of trucking shown above .73 1/2 and .498 ¢ per ton mile is explained by the care necessary in loading bulky material making it impossible to get a full load on a truck and distributing from as it was unloaded.

STATEMENT OF THE COST OF CONSTRUCTION OF THE LA JOLLA PIPE
LINE AND TORREY PINES RESERVOIR SHOWING AMOUNTS AND DATE OF DIS-
BURSEMENT TOGETHER WITH SIMPLE INTEREST AT 7% PER ANNUM ON SUCH
AMOUNTS FROM EACH DATE OF PAYMENT. FEB. 1, 1921

DATE 1920	No. DAYS	PRINCIPLE	INTEREST	TOTAL PRIN. & INT.
May 8	269	561.56	28.97	590.53
" 10	267	1,412.53	72.33	1,484.86
" 12	265	1,449.68	73.68	1,523.36
" 13	264	21.20	1.07	22.27
" 15	262	17.54	.88	18.42
" 19	258	296.59	14.68	311.27
" 20	257	18.60	.92	19.52
" 25	252	14.62	.71	15.33
" 26	251	573.73	27.62	601.35
" 28	249	62.75	3.00	65.75
June 8	238	999.37	45.52	1,044.99
" 9	237	289.22	13.15	302.37
" 11	235	24.74	1.11	25.85
" 14	232	488.80	21.75	510.55
" 15	231	35.00	1.55	36.55
" 16	230	33.14	1.46	34.60
" 17	229	663.61	29.14	692.75
" 19	227	70.80	3.08	73.88
" 21	225	8.60	.37	8.97
" 22	224	8.60	.37	8.97
" 23	223	13,722.85	586.89	14,309.74
" 24	222	7.25	.31	7.56
" 28	218	6.25	.26	6.51
" 29	217	85.00	3.54	88.54
" 30	216	2,388.38	98.94	2,487.32
July 1	215	468.25	19.31	487.56
" 2	214	69.90	2.87	72.77
" 3	213	843.10	34.44	877.54
" 7	209	20.55	.82	21.37

DATE	NO. DAYS	PRINCIPLE	INTEREST	TOTAL PRIN. & INT.
July 9	207	1,267.50	50.32	1,317.82
" 10	206	160.75	6.35	167.10
" 12	204	40.50	1.58	42.08
" 14	202	26.65	1.03	27.68
" 15	201	68.00	2.62	70.62
" 17	199	30.50	1.16	31.66
" 19	197	10,993.97	415.36	11,409.33
" 20	196	53.00	1.99	54.99
" 22	194	8.50	.32	8.82
" 23	193	257.48	9.53	267.01
" 24	192	8.50	.31	8.81
" 26	190	93.75	3.42	97.17
" 28	188	1,287.65	46.43	1,334.09
" 29	187	8.50	.30	8.80
" 30	186	408.00	14.55	422.55
Aug. 2	183	92.23	3.24	95.47
" 3	182	17.00	.59	17.59
" 4	181	450.35	15.63	465.98
" 5	180	3,655.83	126.20	3,782.03
" 6	179	214.54	7.36	221.90
" 7	178	274.00	9.35	283.35
" 9	176	1,287.99	43.47	1,331.46
" 10	175	40.60	1.36	41.96
" 11	174	423.72	14.14	437.86
" 13	172	1,965.17	64.82	2,029.99
" 14	171	394.53	12.94	407.47
" 16	169	4,182.61	135.56	4,318.17
" 18	167	1,613.29	51.67	1,664.96
" 20	165	336.71	10.65	347.36
" 23	162	269.14	8.36	277.50
" 24	161	27,176.43	839.12	28,015.55

DATE	NO. DAYS	PRINCIPLE	INTEREST	TOTAL PRIN. & INT.
Aug. 25	160	16.63	.51	17.14
" 27	158	196.02	5.94	201.96
" 28	157	88.25	2.66	90.91
" 30	155	182.64	5.43	188.07
Sep. 2	152	93.50	2.73	96.23
" 3	151	1,515.92	43.90	1,559.82
" 9	145	286.82	7.98	294.80
" 13	141	65.56	1.77	67.33
" 14	140	80.87	2.17	83.04
" 15	139	539.12	14.37	553.49
" 17	137	254.81	6.69	261.50
" 20	134	788.49	20.26	808.75
" 22	132	745.65	18.88	764.53
" 23	131	11.25	.28	11.53
" 24	130	223.88	5.58	229.46
" 27	127	45.00	1.10	46.10
" 28	126	778.67	18.82	797.49
" 29	125	10.94	.26	11.20
" 30	124	23,475.35	558.26	24,033.61
Oct. 4	120	234.39	5.39	239.78
" 5	119	43.50	.99	44.49
" 6	118	53.55	1.21	54.76
" 7	117	779.76	17.50	797.26
" 9	115	18.50	.41	18.91
" 11	113	32.00	.69	32.69
" 12	112	1,398.91	30.05	1,428.96
" 15	109	37.13	.78	37.91
" 16	108	363.94	7.54	371.48
" 19	105	67.08	1.35	68.43
" 21	103	302.69	5.98	308.67
" 22	102	357.76	7.00	364.76
" 23	101	25.50	.49	25.99

DATE	NO. DAYS	PRINCIPLE	INTEREST	TOTAL PRIN. & INT.
Oct. 27	97	9.95	.19	10.14
" 29	95	258.81	4.72	263.53
Nov. 1	92	34.12	.60	34.72
" 2	91	4.50	.08	4.58
" 3	90	36.00	.62	36.62
" 4	89	636.61	10.87	647.48
" 5	88	14,814.11	250.01	15,064.12
" 9	84	54.00	.87	54.87
" 10	83	27.00	.43	27.43
" 13	80	22.50	.35	22.85
" 15	78	96.19	1.44	97.63
" 16	77	61.31	.91	62.22
" 17	76	1.00	.01	1.01
" 19	74	242.37	3.44	245.81
" 20	73	343.56	4.81	348.37
" 24	69	655.97	8.68	664.65
" 26	67	36.00	.46	36.46
Dec. 1	62	42.75	.51	43.26
" 2	61	153.00	1.79	154.79
" 3	60	566.30	6.52	572.82
" 7	56	1,600.20	17.19	1,617.39
" 9	54	286.95	2.97	289.92
" 15	48	1,525.12	14.04	1,539.16
" 18	45	18.00	.16	18.16
" 22	41	557.50	4.38	561.88
" 28	35	76.50	.51	77.01
" 30	33	40.50	.26	40.76
" 31	32	299.80	1.84	301.64
Jan. 6	26	821.43	4.10	825.53
" 10	22	24.14	.10	24.24

DATE	NO. DAYS	PRINCIPLE	INTEREST	TOTAL PRIN. & INT.
Jan. 15	17	924.20	3.01	927.21
" 17	15	89.41	.26	89.67
" 18	14	575.00	1.54	576.54
" 24	8	37.50	.06	37.56
" 28	4	16.00	.01	16.01
" 29	3	42.00	.02	42.02
" 31	1	<u>291.37</u>	<u>.06</u>	<u>291.43</u>
		140,205.36	4,133.36	144,338.72
Interest credited			<u>5.90</u>	
Interest during construction			4,127.46	

INTEREST CREDITS

Dec. 4	59	499.75	5.65
Jan. 27	4	330.75	<u>.25</u>
			5.90

SUMMARY OF COST OF HENSHAW = FLETCHER LA JOLLA PIPE LINE

Total paid out during construction to Feb. 1, 1921	140,205.36
Total since Feb. 1, 1921	30,339.63
Interest during construction	<u>4,127.46</u>
Total cost of line	\$174,672.45

SUMMARY OF HENSHAW - FLETCHER LA JOLLA PIPE LINE ACCT.

AMOUNTS PAID OUT.

INCIDENTAL EXPENSE REPORTS			
Itemized list attached			\$39,408.59
VALVES			
Report No. 1	165.14		
" " 2	498.90		664.04
16" & 18" M.B.W.S. PIPE			
Report No. 1	28,993.07		
" " 2	24,819.55		
" " 3	16,033.12		
" " 4	1,587.23		
" " 5	24,007.92		95,440.89
TRENCH EXCAVATION			
Report No. 1	488.80		
" " 2	839.06		1,327.86
TORREY PINES RES. EXCAVATION			
Report No. 1	2,449.69		
" " 2	2,387.38		
" " 3	1,612.35		6,449.42
TORREY PINES RES. LINING			
Report No. 1	4,768.05		
" " 2	3,988.41		
" " 3	5,980.99		
" " 4	4,312.50		19,049.95
18" CEMENT PIPE			
Report No. 1	4,000.00		
" " 2	9,704.85		
" " 3	4,441.55	18,146.40	
Less overpay per #3		7,755.60	10,390.80
			\$172,731.55

CREDITS

Amount chg. back to S.F.L.I.Co.	.48		
City San Diego Force Account	499.75		
" " " " "	123.18		
" " " " "	330.75		
" " " " "	472.25		
" " " " "	56.50		
" " " " "	63.50		
" " " " "	25.50		
" " " " "	90.25		
" " " " "	22.50		
S.D. Gldz.Cem.Pipe Co.Force Acct.	24.75		
" " " " " " "	146.25		
Henshaw - Fletcher	300.00		
W. J. Bailey	30.90		2,186.56
			\$170,544.99

SUMMARY OF INCIDENTAL EXPENSE, PROGRESS REPORTS.

No.	1	385.91
"	2	475.19
"	3	1,455.47
"	4	756.49
"	5	3,123.01
"	6	6,983.16
"	7	5,344.62
"	8	1,659.39
"	9	1,331.53
"	10	1,434.37
"	11	1,167.64
"	12	1,221.80
"	13	676.97
"	14	808.68
"	15	1,016.30
"	16	1,197.65
"	17	1,135.92
"	18	1,163.58
"	19	678.97
"	20	565.00
"	21	728.43
"	22	863.83
"	23	753.14
"	24	2,240.35
"	25	- - -
"	26	351.99
"	27	96.87
"	28	- - -
"	29	196.50
"	30	925.27
"	31	670.76
		<u>39,408.59</u>

Ed Fletcher Papers

1870-1955

MSS.81

Box: 48 Folder: 11

**Business Records - Water Companies - Volcan
Land and Water Company - San Dieguito System
- Santa Fe Land Improvement Company/Santa
Fe Irrigation District - Costs: Henshaw-Fletcher
Pipeline with Santa Fe Improvement Company**



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