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SUPERVISED COMPACTED FILL REPORT
KAILUA HEIGHTS SUBDIVISION UNIT 8B & 8C
KAILUA, OAHU, HAWAII

for

LONE STAR HAWAII, INC.

W. O. 215-A

January 22, 1982

EH

ERNEST K. HIRATA & ASSOCIATES, INC.

MUNICIPAL REFERENCE & RECORDS CENTER
City & County of Honolulu
City Hall Annex, 558 S. King Street
Honolulu, Hawaii 96813



ERNEST K. HIRATA & ASSOCIATES, INC.

Soils and Foundation Engineering

905 Makahiki Way, Makai Suite • Honolulu, Hawaii 96828 • Phone 941-5055

January 22, 1982

W. O. 215-A

Lone Star Hawaii, Inc.
Suite 1480
Pacific Trade Center
190 South King Street
Honolulu, Hawaii 96813

Attention: Mr. Paul Ankeny

Subject: Supervised Compacted Fill Report
Kailua Heights Subdivision Unit 8B & 8C
Kailua, Oahu, Hawaii

Gentlemen:

Submitted herewith is a compacted fill report on the above referenced project. The purpose of the testing was to determine that the specifications required by the revised ordinances of the City & County of Honolulu met compliance. The field density test results are presented in Table I. The approximate test locations are shown on the accompanying grading plans, Sheet 1, 2 and 2A.

The maximum density and optimum moisture content of each soil type utilized were determined in accordance with ASTM D 1557-78.

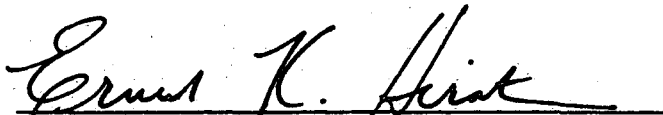
Field density tests were performed in accordance with the Sand-Cone Method (ASTM D 1556-64).

DISCUSSION

1. All deleterious materials such as brush, rubbish, etc. were disposed of offsite prior to placing fill.
2. The exposed ground surface was scarified to a depth of 6 inches, moistened or dried as required to achieve optimum moisture conditions, and recompactd to 90% of the laboratory standard.
3. Fill was placed in lifts restricted to 6 inches in thickness, moistened or dried as required, and compacted to 90% or better as indicated by the test results.

Respectfully submitted,

Ernest K. Hirata & Associates, Inc.


Ernest K. Hirata, P. E.

EKH:yk

Enc.

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
12-06-73	D1	35	191.5	115.5	13.0	103.0	100+	
12-07-73	D2	34	189.9	110.9	21.6	112.0	98.9	
	D3	32	190.0	109.2	18.7	"	97.5	
12-12-73	D4	33	193.1	109.2	16.3	119.5	91.4	
12-13-73	D5	32	193.2	110.5	18.0	112.0	98.7	
	D6	34	200.4	94.5	19.1	103.0	91.7	
	D7	33	192.7	109.7	14.3	119.5	91.8	
12-17-73	D8	34	194.7	119.8	7.3	137.5	87.1	See D14
	D9	33	201.8	104.4	17.7	110.0	94.9	
	D10	32	199.6	104.7	15.6	"	95.2	
12-18-73	D11	31	196.2	124.9	8.7	137.5	90.8	
	D12	33	196.5	105.1	19.4	111.0	94.6	
12-19-73	D13	31	198.1	117.7	10.5	137.5	85.6	See D17
	D14	34	194.7	126.0	11.6	"	91.6	Retest D8
	D15	33	203.6	95.3	22.3	96.5	98.8	
	D16	32	201.2	100.8	20.5	110.0	91.2	
12-20-73	D17	31	198.1	119.1	9.6	137.5	86.6	Retest D13 See D18
12-21-73	D18	31	198.1	119.7	13.0	"	87.0	Retest D17 See D19
12-26-73	D19	31	198.1	123.9	8.1	"	90.1	Retest D18
12-27-73	D20	34	205.6	109.2	18.0	112.0	97.5	
	D21	33	201.1	109.1	18.0	"	97.4	
	D22	31	203.0	113.8	17.7	"	100+	
12-28-73	D23	Aupupu St. (26)	166.0	105.8	19.1	110.0	96.2	
	D24	Aupupu St. (28)	173.9	96.2	20.8	"	87.5	See D26
	D25	Aupupu St. (30)	183.1	122.7	13.3	119.5	100+	

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
1-29-74	D26	Aupupu St. (28)	173.9	101.6	23.5	110.0	92.4	Retest D24
2-05-74	D27	35	203.2	120.9	17.0	133.0	90.9	
	D28	34	203.5	121.0	16.6	"	91.0	
2-06-74	D29	32	207.6	120.9	15.3	"	90.9	
	D30	31	206.1	118.1	16.3	"	88.8	See D33
2-07-74	D31	Aupupu St. (30)	184.7	115.8	15.6	123.0	94.2	
	D32	Aupupu St. (80)	176.0	120.0	11.4	"	97.6	
2-12-74	D33	31	206.1	107.3	17.7	133.0	80.7	Retest D30 See D41
	D34	32	209.2	113.9	16.3	123.0	92.6	
	D35	33	209.5	118.2	14.9	"	96.1	
	D36	34	208.7	116.8	14.9	"	95.0	
	D37	79	186.1	88.4	20.5	104.0	85.0	See D40
	D38	29	177.8	97.1	22.7	"	93.4	
	D39	Aulepe Ext.	176.1	108.2	18.4	111.0	97.5	
2-13-74	D40	79	186.1	95.7	22.0	104.0	92.0	Retest D36
	D41	31	206.1	115.7	12.4	133.0	87.0	Retest D33 See D42
	D42	31	206.1	119.9	10.2	"	90.2	Retest D41
	D43	35	211.1	105.7	17.7	107.5	98.3	
	D44	34	210.9	85.8	16.3	"	79.8	See D47
	D45	33	211.9	103.0	19.4	"	95.8	
	D46	32	210.5	102.3	20.1	"	95.2	
2-15-74	D47	34	210.9	100.5	18.1	"	93.5	Retest D44
	D48	77	199.8	115.7	15.6	123.0	94.1	
	D49	78	194.3	114.4	16.3	"	93.0	
	D50	79	188.2	115.6	14.3	"	94.0	
2-19-74	D51	80	179.4	117.7	10.2	"	95.7	
	D52	Aupupu St. & Aulepe St.	178.0	118.1	11.7	"	96.0	
	D53	Aupupu St (30)	180.0	116.0	10.5	"	94.3	

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
2-20-74	D54	77	202.1	112.9	16.3	123.0	91.8	
	D55	78	196.2	105.5	16.6	112.0	94.2	
	D56	79	191.1	114.4	15.6	123.5	92.6	
	D57	80	182.1	114.9	17.0	"	93.0	
	D58	Aulepe St. (80)	178.2	119.2	15.3	"	96.5	
2-21-74	D59	Aupupu St. (28)	179.7	117.7	12.2	"	95.3	
	D60	28	180.2	119.5	14.3	"	96.8	
	D61	Aupupu St. (76)	217.0	115.7	11.4	123.0	94.1	
2-25-74	D62	Aupupu St. (26)	177.5	81.0	28.6	92.0	88.1	See D67
	D63	29	175.0	97.9	20.5	111.0	88.2	See D68
	D64	30	185.0	97.3	17.3	123.5	78.8	See D69
	D65	99	196.0	105.2	16.3	"	85.2	See D78
	D66	80	185.5	98.5	22.0	104.0	94.7	
2-26-74	D67	Aupupu St. (26)	177.5	83.3	27.0	92.0	90.5	Retest D62
	D68	28	175.0	107.7	17.7	111.0	97.0	Retest D63
	D69	30	185.0	112.8	14.6	123.5	91.4	Retest D64
	D70	79	196.0	114.0	12.7	"	92.2	Retest D65
2-27-74	D71	35	212.7	115.9	14.3	"	93.8	
	D72	34	213.1	106.6	17.7	110.0	96.9	
	D73	33	213.4	110.1	18.0	123.5	89.2	See D76
	D74	32	214.1	112.7	16.8	"	91.3	
	D75	31	211.8	112.2	14.9	"	90.9	
2-28-74	D76	33	213.4	114.6	17.0	"	92.8	Retest D73
	D77	77	204.8	109.4	18.7	118.0	92.7	
	D78	78	198.1	115.3	17.0	123.5	93.3	
	D79	79	197.8	99.4	20.5	107.5	92.5	
	D80	Aupupu St. (30)	198.2	100.9	20.3	"	93.9	
	D81	29	184.2	90.2	17.3	"	83.9	See D82
3-01-74	D82	29	184.2	91.5	17.6	"	85.1	Retest D81
	D83	28	182.1	89.9	21.0	"	83.6	See D89 See D90

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
3-01-74	D84	77	207.1	98.9	20.4	107.5	92.0	
	D85	78	200.0	116.9	13.9	123.0	95.0	
3-04-74	D86	Aupupu St. (29)	183.7	111.0	16.3	"	90.2	
	D87	Aupupu St. (28)	171.5	96.7	19.1	107.5	90.0	
	D88	Aupupu St. (80)	196.7	97.0	18.7	"	90.2	
	D89	29	184.2	112.1	16.3	"	100+	Retest D82
	D90	28	182.1	101.7	19.8	"	94.6	Retest D83
	D91	Aupupu St. (80)	185.4	104.1	19.1	"	96.8	
	D92	Aupupu St. (79)	199.3	101.5	18.0	"	94.4	
	D93	78	201.9	98.3	15.6	"	91.4	
	D94	77	208.5	115.0	19.5	123.0	93.5	
	D95	78	201.6	101.7	19.1	107.5	94.6	
3-08-74	D96	Aulepe St. (80)	181.3	104.9	32.6	111.0	94.5	
3-11-74	D97	Aupupu St. (29)	191.0	118.2	11.7	123.0	96.1	
	D98	Aupupu St. (79)	198.4	120.6	11.0	"	98.0	
	D99	Aupupu St. (78)	209.9	115.4	12.0	"	93.8	
	D100	Aupupu ST. (77)	219.2	111.3	11.4	"	90.5	
	D101	Aupupu St. Aulepe Ext.	185.2	113.8	17.7	"	92.5	
	D102	Aupupu St. (29)	195.1	84.4	22.3	107.5	78.5	See D107
	D103	Aupupu St. (78)	214.0	110.8	18.7	123.0	90.1	
	D104	Aupupu St. (79)	209.3	113.2	16.6	"	92.0	
	D105	Aupupu St. (77)	223.1	94.6	22.0	107.5	88.0	See D108
	D106	Aupupu St. (39)	228.5	99.3	22.3	"	92.4	

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<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
3-20-74	D107	Aupupu St. (29)	195.1	117.8	14.9	107.5	100+	Retest D102
	D108	Aupupu St. (77)	223.1	108.6	19.4	"	"	Retest D105
	D109	Aupupu St. (77)	236.3	108.4	19.8	"	"	
	D110	Aupupu St. (41)	243.6	93.2	20.5	"	86.7	See D112
	D111	Aupupu St. (76)	249.0	95.6	26.2	"	88.9	See D113
3-21-74	D112	Aupupu St. (41)	243.6	100.3	18.7	"	93.3	Retest D110
	D113	Aupupu St. (76)	249.0	92.8	25.8	"	86.3	Retest D111 See D119
	D114	Aupupu St. (43)	255.2	88.0	16.3	"	81.9	See D120
	D115	Aupupu St. (68)	264.0	87.4	14.3	"	81.3	See D121
3-22-74	D116	35	214.5	104.5	18.7	111.0	94.2	
	D117	33	215.6	101.8	18.4	"	91.7	
	D118	32	214.5	103.1	20.5	"	92.9	
	D119	Aupupu St. (76)	249.0	90.3	20.5	107.5	84.0	Retest D113 See D122
3-25-74	D120	Aupupu St. (43)	255.2	89.0	17.3	"	82.8	Retest D120 See D123
	D121	Aupupu St. (68)	264.0	87.4	16.6	"	81.3	Retest D115 See D124
3-26-74	D122	Aupupu St. (76)	249.0	89.3	21.6	"	83.1	Retest D119 See D125
	D123	Aupupu St. (43)	255.2	90.3	17.0	"	84.0	Retest D120 See D126
	D124	Aupupu St. (68)	264.0	81.5	14.9	"	75.8	Retest D121 See D127

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
3-28-74	D125	Aupupu St. (76)	249.0	97.9	18.0	107.5	91.1	Retest D122
	D126	Aupupu St. (43)	255.2	95.1	14.3	"	88.5	Retest D123 See D137
	D127	Aupupu St. (68)	264.0	94.1	12.4	"	87.5	Retest D127 See D138
3-29-74	D128	77	215.2	111.1	14.8	123.0	90.3	
	D129	78	204.1	114.1	14.6	"	92.8	
	D130	79	201.7	107.0	17.7	"	87.0	See D134
	D131	73	201.5	118.1	13.0	"	96.0	
	D132	75	205.3	116.7	13.3	"	94.9	
	D133	32	218.3	117.1	13.6	"	95.2	
	D134	79	201.7	114.5	13.6	"	93.1	Retest D130
	D135	33	217.5	115.1	13.0	"	93.6	
	D136	34	218.1	114.7	13.0	"	93.3	
	D137	Aupupu St. (43)	255.2	97.1	11.7	107.5	90.3	Retest D126
	D138	Aupupu St. (68)	264.0	97.6	12.7	"	90.8	Retest D127
4-02-74	D139	76	216.7	128.0	12.4	123.0	100+	
	D140	77	217.1	113.7	12.2	"	92.4	
	D141	78	206.2	105.6	14.3	"	85.9	See D146
	D142	79	202.5	117.9	14.1	"	95.9	
	D143	80	201.3	105.2	12.4	"	85.5	See D144
4-03-74	D144	80	201.3	109.4	12.4	"	88.9	Retest D143 See D145
4-08-74	D145	80	201.3	119.9	13.3	"	97.5	Retest D144
	D146	78	206.2	122.4	12.7	"	99.5	Retest D141
4-10-74	D147	31	216.3	114.7	14.3	"	93.3	
	D148	32	220.3	113.0	15.6	"	91.9	
	D149	33	220.1	125.5	11.4	"	100+	
4-11-74	D150	34	221.4	115.6	13.3	"	94.0	
	D151	35	222.3	117.6	14.3	"	95.6	
4-17-74	D152	77	220.1	112.6	18.0	"	91.5	
	D153	78	208.3	118.5	12.7	"	96.3	

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
4-25-74	D154	34	223.2	105.7	16.1	107.5	98.3	
	D155	32	222.1	116.3	14.6	123.5	94.2	
4-26-74	D156	33	222.3	109.9	16.3	123.0	89.3	See D158
	D157	31	219.2	117.8	10.8	"	95.7	
4-29-74	D158	33	222.3	113.7	14.3	"	92.4	Retest D156
5-01-74	D159	24	164.3	90.2	15.3	107.5	83.9	See D162
	D160	21	163.1	103.0	16.8	"	95.8	
	D161	19	161.7	102.1	14.9	"	94.9	
5-02-74	D162	24	164.3	98.9	16.6	"	92.0	Retest D159
5-08-74	D163	77	222.5	115.9	6.7	123.0	94.3	
	D164	76	223.2	116.8	9.0	"	95.0	
5-09-74	D165	74	214.3	121.0	15.6	"	98.3	
	D166	78	211.0	123.7	13.3	"	100+	
5-13-74	D167	75	225.2	132.7	9.3	133.0	99.8	
	D168	77	224.3	133.3	7.8	"	100+	
6-03-74	D169	75	227.0	123.5	11.7	123.0	"	See D173
	D170	35	223.9	75.6	18.7	107.5	70.4	
	D171	33	224.5	108.8	16.8	"	100+	
	D172	31	222.0	112.1	12.9	123.0	91.1	
6-04-74	D173	35	223.9	102.3	18.0	107.5	95.1	Retest D170
6-12-74	D174	35	225.8	93.5	23.0	103.0	90.8	
	D175	34	226.4	112.8	15.3	123.0	91.7	
	D176	32	226.5	114.7	13.6	"	93.3	
6-17-74	D177	31	225.1	99.6	24.0	99.5	100+	
	D178	33	228.7	107.4	17.7	110.5	97.2	
	D179	34	228.9	110.6	15.3	"	100+	
	D180	32	229.0	106.1	14.6	"	96.0	
6-20-74	D181	29	188.6	100.1	17.3	92.0	100+	
	D182	30	197.0	96.9	18.0	"	"	
6-25-74	D183	77	228.3	96.6	22.7	97.5	96.0	
	D184	73	224.4	108.1	19.1	"	97.4	

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DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
6-26-74	D185	76	228.5	92.8	17.4	97.5	95.2	
	D186	78	222.3	112.9	15.3	123.0	91.8	
	D187	74	225.2	92.5	17.0	97.5	94.9	
	D188	75	227.4	98.0	19.5	"	100+	
6-27-74	D189	27	172.8	86.4	25.4	"	88.6	See D191
	D190	26	177.3	83.9	27.0	"	86.0	See D192
6-28-74	D191	27	172.8	84.9	22.7	"	87.1	Retest D189 See D193
	D192	26	177.3	81.6	25.4	"	83.7	Retest D190 See D194
7-01-74	D193	27	172.8	90.6	20.8	"	92.9	Retest D191
	D194	26	177.3	81.7	20.8	97.2	83.8	Retest D192 See D196
7-02-74	D195	8	101.3	110.2	13.6	128.0	86.1	See D197
	D196	26	177.3	87.9	27.8	97.5	90.1	Retest D194
7-03-74	D197	8	101.3	115.5	12.4	128.0	90.2	Retest D195
	D198	7	101.5	120.8	12.7	"	94.4	
	D199	6	103.2	121.8	12.0	"	95.2	
7-08-74	D200	76	230.7	99.3	18.8	110.0	90.3	
	D201	75	230.2	106.2	15.5	"	96.5	
	D202	74	227.7	88.7	19.1	97.5	91.0	
7-10-74	D203	6	104.9	96.9	18.8	99.5	97.0	
	D204	7	103.4	92.3	18.8	"	92.8	
	D205	8	103.4	113.2	14.8	120.0	94.3	
	D206	7	87.4	102.9	18.7	110.5	93.2	
7-15-74	D207	8	94.2	77.0	22.3	99.5	77.4	See D221
	D208	75	232.3	101.8	15.3	97.5	100+	
	D209	74	230.1	91.6	18.7	"	94.0	
	D210	76	233.1	96.9	16.6	"	99.4	
7-17-74	D211	31	227.3	104.6	16.3	110.0	95.1	
	D212	33	230.6	104.2	14.6	"	94.7	
7-18-74	D213	32	231.2	108.0	18.7	"	98.2	
	D214	34	230.8	92.9	22.3	97.5	95.3	
7-23-74	D215	31	230.1	112.5	11.7	123.0	91.5	
	D216	32	232.9	112.2	16.3	"	91.2	

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
7-23-74	D217	34	233.0	111.4	13.3	123.0	90.6	
	D218	35	232.7	95.2	19.8	106.0	90.0	
7-24-74	D219	7	108.2	91.7	12.0	120.0	76.4	See D222
	D220	5	115.4	106.7	12.4	"	88.9	See D223
7-26-74	D221	8	94.2	101.0	8.7	99.5	100+	Retest D207
	D222	7	108.2	110.0	10.5	120.0	91.7	Retest D219
	D223	5	115.4	114.0	11.1	"	95.0	Retest D220
7-31-74	D224	31	232.3	122.2	10.8	123.0	99.3	
	D225	33	234.7	126.6	11.1	"	100+	
	D226	35	235.0	108.6	14.6	"	88.3	See D227
8-01-74	D227	35	235.0	120.8	9.9	"	98.3	Retest D226
	D228	Road D (34)	234.8	109.7	15.6	"	89.2	See D229
8-05-74	D229	Road D (34)	234.8	111.5	13.3	"	90.6	Retest D228
8-06-74	D230	Road D (32)	238.2	119.6	15.6	"	97.2	
	D231	Road D (35)	237.9	109.1	15.9	"	88.7	See D235
	D232	34	238.0	119.2	16.1	"	96.9	
	D233	31	239.3	112.6	14.6	"	91.5	
	D234	33	237.7	119.0	14.3	"	96.7	
8-07-74	D235	Road D (35)	237.9	122.3	15.9	"	99.4	Retest D231
8-08-74	D236	32	241.2	115.0	15.6	"	93.5	
	D237	33	240.3	120.6	14.3	"	98.0	
	D238	34	240.5	120.3	13.5	"	97.8	
8-13-74	D239	31	243.6	98.2	20.5	106.0	92.6	
	D240	33	243.5	106.9	17.7	123.0	86.9	See D243
	D241	35	242.8	107.1	16.6	"	87.1	See D244
	D242	Road D (37)	241.0	107.5	15.3	"	87.4	See D245
8-14-74	D243	33	243.5	112.7	14.3	"	91.6	Retest D240
	D244	35	242.8	121.2	12.7	"	98.5	Retest D241
	D245	Road D (53)	241.0	116.2	13.6	"	94.5	Retest D242
8-15-74	D246	Road D (31)	241.3	127.7	12.7	"	100+	
	D247	Road D (38)	243.3	121.0	13.4	"	98.4	
	D248	Road D (33)	245.4	110.3	18.0	"	90.0	

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
8-16-74	D249	Road F (76)	234.2	96.1	18.4	107.5	89.4	See D255
	D250	Road F (74)	233.6	124.0	12.7	123.0	100+	
	D251	69	234.5	100.1	15.9	107.5	93.1	
8-19-74	D252	Road D (32)	248.1	114.1	12.4	123.0	92.8	
	D253	Road D (37)	247.9	118.1	10.2	"	96.0	
	D254	Road D (34)	248.5	118.5	10.8	"	96.3	
8-20-74	D255	Road F (76)	234.2	93.9	19.1	107.5	87.3	Retest D249
								See D263
	D256	75	236.4	95.2	15.4	"	88.6	See D264
	D257	Road F (70)	236.8	86.1	17.7	"	80.1	See D265
	D258	73	236.6	98.6	15.9	"	91.7	
8-21-74	D259	32	248.3	105.9	16.1	"	98.5	
	D260	33	248.5	116.7	13.6	123.0	94.9	
	D261	34	249.5	105.6	23.8	"	85.9	See D262
8-23-74	D262	34	249.5	118.4	12.4	"	96.3	Retest D261
	D263	Road F (76)	234.2	95.7	16.3	107.5	89.0	Retest D255
								See D268
	D264	75	236.4	91.1	14.9	"	84.7	Retest D256
								See D269
	D265	Road F (70)	236.7	89.3	13.6	"	83.1	Retest D257
	D266	73	236.6	104.8	15.6	"	97.5	See 270
8-26-74	D267	76	238.3	132.2	8.7	123.0	100+	Retest D263
	D268	Road F (76)	234.2	98.6	11.7	107.5	91.7	
	D269	75	236.4	104.5	14.6	"	97.2	
	D270	Road F (70)	236.7	102.8	15.3	"	95.6	
8-27-74	D271	Road F (75)	240.4	129.4	12.0	123.0	100+	
	D272	74	241.2	117.9	13.6	"	95.9	
	D273	Road F (71)	243.5	116.8	15.3	"	95.0	
8-29-74	D274	68	244.8	108.5	14.1	119.5	90.8	
	D275	Road F (74)	244.7	109.8	16.6	"	91.9	
	D276	Road F (73)	245.2	110.1	11.4	"	92.1	
9-04-74	D277	68	247.5	128.4	9.9	123.0	100+	
	D278	70	247.7	119.6	14.0	"	97.2	
	D279	Road F (73)	248.2	120.8	13.6	"	98.2	

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DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
9-09-74	D280	76	251.2	120.7	9.9	123.0	98.1	See D283
	D281	74	251.3	117.3	13.0	"	95.4	
	D282	71	252.3	106.5	13.0	"	86.6	
9-10-74	D283	71	"	118.3	16.3	"	96.2	Retest D282
9-11-74	D284	Road F (68)	253.4	117.4	13.3	"	95.4	
9-13-74	D285	8	110.4	124.1	8.1	120.0	100+	
	D286	7	122.6	120.2	7.8	"	"	
	D287	6	123.2	116.5	9.3	"	97.1	
9-16-74	D288	70	254.2	121.9	10.2	123.0	99.1	
	D289	73	254.3	119.6	9.6	"	97.2	
	D290	Aupapaohe St. (10)	113.3	126.1	9.3	120.0	100+	
	D291	Aupapaohe St. (7)	124.5	119.9	8.7	"	99.9	
9-17-74	D292	5	126.1	132.6	7.2	123.0	100+	
	D293	Aupapaohe St. (12)	126.7	109.6	7.5	120.0	91.3	
9-18-74	D294	Road D (31)	245.6	118.8	13.0	123.0	96.6	
9-20-74	D295	8	116.5	106.6	10.9	120.0	88.8	See D298
	D296	6	126.4	109.2	11.7	"	91.0	
	D297	Aupapaohe St. (5)	140.2	106.8	11.3	"	89.0	
9-23-74	D298	8	116.5	111.8	9.5	"	93.2	Retest D295
	D299	Aupapaohe St. (5)	140.2	108.0	8.5	"	90.0	
9-30-74	D300	72	254.3	123.6	10.0	123.0	100+	
	D301	70	256.1	126.0	9.8	"	"	
	D302	68	255.4	111.0	12.1	"	90.2	
	D303	Road D (33)	249.8	114.6	8.1	"	93.2	
	D304	73	255.8	108.5	12.3	"	90.4	
	D305	71	255.6	109.7	14.2	"	91.4	
	D306	69	255.5	115.0	11.7	"	95.8	
10-07-74	D307	70	257.7	107.0	14.5	110.5	96.8	

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DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
10-07-74	D308	69	257.3	105.4	14.7	110.5	95.4	
	D309	68	258.2	101.4	16.6	"	91.8	
10-08-74	D310	68	260.3	102.8	14.5	"	93.0	
	D311	69	261.5	101.7	19.5	"	92.0	
10-10-74	D312	71	258.2	114.6	12.6	123.0	93.2	
	D313	70	263.4	103.1	13.4	"	83.8	See D315
	D314	68	262.5	118.0	13.0	"	95.9	
10-14-74	D315	70	263.4	119.2	9.1	"	96.9	Retest D313
	D316	Aupapaohe St. (10)	111.4	103.8	9.0	"	84.4	See D317
10-17-74	D317	Aupapaohe St. (10)	111.4	129.8	10.0	"	100+	Retest D317
	D318	Aupupu St. (79)	199.3	111.3	14.5	112.5	98.9	
4-06-78	D319	74	245.3	124.9	12.0	136.0	91.8	
	D320	75	246.3	124.2	11.9	"	91.3	
	D321	76	245.5	122.3	10.1	"	90.0	
	D322	73	243.3	134.4	9.0	"	98.8	
4-14-78	D323	76	246.1	123.7	7.7	"	90.9	
	D324	74	243.2	125.1	7.5	"	92.0	
4-24-78	D325	76	246.3	133.0	8.3	"	97.8	
	D326	74	247.1	134.5	6.7	"	98.9	
4-28-78	D327	36	260.9	99.1	20.8	109.0	90.9	
	D328	75	240.7	126.4	9.4	136.0	93.0	
5-02-78	D329	37	255.2	133.6	10.8	"	98.2	
	D330	36	258.3	87.1	24.8	109.0	79.9	See D332
5-03-78	D331	37	256.1	109.7	16.3	118.0	93.0	
	D332	36	258.1	99.1	18.0	109.0	90.0	Retest D330
5-09-78	D333	38	256.8	111.1	13.5	118.0	94.2	
5-18-78	D334	Aupupu St. (41)	243.2	115.9	15.9	116.5	99.5	
	D335	Road D (36)	253.7	120.3	13.7	124.5	96.6	

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DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
5-30-78	D336	Aupupu St. (45)	269.1	119.0	11.5	116.5	100+	
6-13-78	D337	Aupupu St. (77)	232.6	109.0	10.4	"	93.6	
6-14-78	D338	75	246.1	131.3	9.2	136.0	96.7	
6-15-78	D339	Aupupu St. (39)	226.3	135.5	7.2	"	99.7	
	D340	37	258.5	107.7	14.2	118.0	91.3	
6-19-78	D341	Aupupu St. (45)	269.8	123.3	9.9	116.5	100+	
6-23-78	D342	Aupupu St. (44)	266.0	122.4	8.7	"	"	
	D343	Aupupu St. (77)	230.5	142.1	5.7	136.0	"	
7-14-78	D344	73	233.6	125.6	8.0	"	92.3	
8-04-78	D345	Road D (33)	250.3	135.6	8.8	124.5	100+	
	D346	Road D (38)	247.0	126.8	11.4	115.5	"	
	D347	Road D Sta. 2+35	239.0	124.4	6.1	"	"	
8-07-78	D348	Road D Sta. 1+38	228.9	122.6	10.8	"	"	
8-17-78	D349	Aupupu St. (50)	271.2	118.4	10.3	116.5	100+	
	D350	Aupupu St. (46)	271.1	134.6	5.2	133.0	"	
	D351	Aupupu St. (44)	266.4	132.7	5.9	"	99.8	
	D352	Aupupu St. (43)	256.3	131.0	6.3	"	98.5	
8-18-78	D353	Aupupu St. (77)	238.0	132.1	5.3	"	99.3	
	D354	Aupupu St. (77)	224.5	135.4	4.6	"	100+	

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DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
8-24-78	D355	Road D (39)	221.7	131.4	7.5	133.0	98.8	
	D356	Road D						
		Sta. 1+15	226.8	133.7	7.7	"	100+	
	D357	Road D						
		Sta. 2+00	234.4	136.0	7.7	"	"	
	D358	Road D (38)	246.5	131.9	7.2	"	99.2	
	D359	Road D (33)	249.3	134.6	5.9	"	100+	
	D360	Road D (34)	253.8	132.7	6.7	"	99.8	
9-20-78	D361	37	264.9	100.0	16.8	118.0	84.7	See D364
	D362	38	259.1	84.7	21.9	103.5	81.8	See D369
9-22-78	D363	36	266.0	78.1	25.9	"	78.1	See D365
9-25-78	D364	37	265.4	106.1	14.7	118.0	87.3	Retest D361
								See D386
	D365	36	265.3	93.7	21.9	103.5	90.5	Retest D363
9-28-78	D366	36	268.7	94.0	23.8	"	90.8	
	D367	36	271.6	95.3	21.3	"	92.1	
9-29-78	D368	37	265.3	107.8	12.7	118.0	91.4	Retest D364
	D369	38	259.7	97.3	15.7	103.5	94.0	Retest D362
10-05-78	D370	36	266.0	86.4	21.7	92.5	93.5	
	D371	36	273.5	87.3	24.7	"	94.4	
3-09-79	D372	40	239.3	106.2	27.7	118.0	90.0	
3-12-79	D373	40	244.5	107.4	23.8	"	91.0	
3-14-79	D374	40	246.0	114.3	22.0	"	96.8	
	D375	41	252.4	112.0	24.5	"	94.9	
	D376	42	252.0	98.2	24.4	103.5	94.9	
3-15-79	D377	42	253.0	119.9	13.6	120.5	99.5	
	D378	44	268.2	94.1	21.8	103.0	91.3	
3-16-79	D379	43	263.0	117.6	14.0	120.5	97.6	
3-20-79	D380	45	273.4	113.9	12.5	"	94.5	
	D381	47	274.2	112.5	12.2	"	93.3	
3-23-79	D382	44	270.3	108.6	13.6	"	90.1	
	D383	46	274.7	113.9	10.7	"	94.5	

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DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
3-23-79	D384	Aulepe St. (18)	195.0	109.6	14.2	120.5	91.0	
3-28-79	D385	44	272.8	100.6	13.4	"	83.5	See D386
4-02-79	D386	44	272.8	112.2	10.6	"	93.1	Retest D385
	D387	46	275.5	111.3	8.7	"	92.4	
4-06-79	D388	49	272.7	111.4	20.7	118.5	94.0	
	D389	40	247.0	113.8	10.9	120.5	94.4	
	D390	41	251.7	126.4	8.2	"	100+	
	D391	42	259.5	127.6	9.6	"	"	
	D392	43	270.4	117.2	12.9	"	97.2	
4-09-79	D393	44	273.7	117.8	11.5	"	97.7	
	D394	45	275.6	120.4	11.7	"	99.9	
	D395	46	275.7	109.9	12.0	"	91.2	
4-13-79	D396	Aulepe St. (81)	184.0	125.9	10.8	126.0	99.9	
4-17-79	D397	47	275.8	119.1	14.8	119.5	100+	
	D398	48	275.5	117.9	16.2	"	98.7	
	D399	49	274.0	120.8	14.8	"	100+	
	D400	50	273.5	125.3	13.2	126.0	99.4	
	D401	51	272.2	122.6	14.1	"	97.3	
4-18-79	D402	76	248.5	120.5	14.1	130.0	92.6	
4-19-79	D403	78	226.4	115.2	11.4	120.5	95.6	
	D404	77	234.5	116.1	10.0	"	96.3	
4-20-79	D405	79	207.6	118.1	8.8	"	98.0	
4-23-79	D406	79	204.1	107.8	18.5	119.5	90.2	
	D407	80	203.1	121.8	6.8	134.0	90.9	
4-24-79	D408	77	229.1	119.3	11.5	126.0	94.7	
	D409	78	214.2	114.1	12.5	"	90.6	
4-25-79	D410	79	201.3	120.8	12.6	120.5	100+	
5-09-79	D411	Aupapache St. (13)	137.4	120.2	8.7	130.0	92.5	

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DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
5-09-79	D412	Aupapaohe St. (7)	131.1	117.0	9.7	130.0	90.0	See D494
5-11-79	D413	79	205.4	105.4	11.8	117.0	90.1	
	D414	Aupapaohe St. (4)	145.5	106.0	14.5	130.0	81.6	See D495
6-28-79	D415	36	274.7	88.2	23.4	92.5	95.3	
	D416	36	274.8	86.2	27.6	"	93.2	
7-18-79	D417	79	207.4	125.0	7.8	136.0	91.9	
7-19-79	D418	77	218.2	135.9	10.0	"	99.9	
	D419	78	217.1	123.7	10.7	"	91.0	
	D420	79	210.4	129.9	7.0	"	95.5	
7-20-79	D421	75	232.5	136.4	6.1	"	100+	
	D422	78	223.5	134.0	6.4	"	98.5	
7-23-79	D423	73	216.4	122.6	10.9	"	90.1	
	D424	74	230.9	129.9	10.5	"	95.5	
	D425	77	233.3	132.0	6.8	"	97.0	
7-26-79	D426	78	230.6	127.7	7.4	"	93.9	
	D427	73	217.9	129.0	7.9	"	94.9	
7-30-79	D428	73	223.0	126.5	6.7	134.0	94.4	
8-01-79	D429	76	239.8	120.1	9.6	"	90.0	
	D430	74	238.6	122.0	10.6	"	91.0	
	D431	73	231.6	80.8	10.1	"	60.3	See D432
8-02-79	D432	73	231.6	134.9	9.2	"	100+	Retest D431
8-03-79	D433	79	212.4	123.8	6.0	"	92.4	
	D434	77	222.4	123.0	9.0	"	91.8	
	D435	Road F (76)	252.3	127.5	7.6	"	95.2	
	D436	Road F (74)	252.1	119.1	11.8	118.0	100+	
8-07-79	D437	75	240.5	126.8	7.4	134.0	94.6	
	D438	74	238.8	133.9	7.6	"	99.9	
	D439	Road F (75)	252.7	122.7	8.6	"	91.6	
	D440	Road F (73)	253.7	126.9	8.6	"	94.7	

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
8-08-79	D441	73	227.3	139.7	8.0	134.0	100+	
	D442	79	215.3	133.7	7.2	"	99.8	
8-10-79	D443	Road F (68)	253.0	128.7	11.7	"	96.1	
	D444	Road F (71)	254.8	129.4	10.9	"	96.5	
	D445	77	234.0	128.0	9.1	"	95.5	
	D446	76	241.1	129.7	8.4	"	96.8	
	D447	Road F (69)	254.1	132.9	11.7	"	99.2	
8-15-79	D448	75	250.2	127.4	10.6	"	95.1	
	D449	74	248.3	126.9	10.9	"	94.7	
	D450	73	241.0	127.9	7.8	"	95.4	
	D451	76	245.1	125.3	9.1	"	93.5	
8-16-79	D452	75	250.9	113.1	7.9	118.0	95.8	
	D453	76	251.4	116.0	8.7	"	98.3	
	D454	70	257.5	123.8	9.3	134.0	92.4	
	D455	69	261.2	121.7	9.5	"	90.8	
	D456	68	260.8	132.1	10.5	"	98.6	
8-17-79	D457	73	251.6	119.7	11.2	118.0	100+	
	D458	75	252.5	160.3	7.5	134.0	90.0	
8-20-79	D459	73	238.2	122.8	11.7	"	91.7	
	D460	79	219.4	120.4	7.6	"	90.0	
8-21-79	D461	68	269.4	122.9	10.0	"	91.7	
	D462	70	268.3	139.4	6.1	"	100+	
	D463	75	246.4	113.1	10.8	118.0	95.8	
	D464	74	254.7	112.7	14.7	"	95.5	
	D465	76	255.4	109.3	13.2	"	92.6	
8-22-79	D466	74	245.1	106.7	13.8	"	90.4	
	D467	69	265.1	120.0	12.4	"	100+	
8-23-79	D468	75	256.1	107.9	18.7	"	91.4	
8-27-79	D469	Road F (69)	255.4	136.1	5.7	138.0	98.6	
	D470	Road F (72)	256.3	136.0	5.5	"	98.6	
	D471	Road F (69)	255.0	140.6	6.6	"	100+	
8-28-79	D472	71	254.6	125.9	11.6	124.5	"	
	D473	75	248.1	122.5	8.8	134.0	91.4	
	D474	73	244.4	117.2	8.8	120.5	97.3	

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
8-30-79	D475	71	259.1	115.2	11.0	124.5	92.5	
	D476	76	249.0	124.5	10.1	"	94.8	
9-04-79	D477	71	254.0	131.9	8.2	136.0	97.0	
	D478	70	264.1	128.0	7.4	"	93.9	
	D479	68	261.5	130.9	10.4	"	96.3	
9-05-79	D480	75	253.8	130.2	11.5	"	95.8	
9-11-79	D481	76	255.3	113.2	10.6	122.5	92.4	
	D482	75	255.6	109.4	9.6	"	89.3	See D488
	D483	74	256.0	108.5	10.0	"	88.5	See D489
	D484	68	260.0	123.9	9.8	"	100+	
	D485	69	259.4	121.4	10.3	"	99.1	
	D486	70	259.8	117.5	12.4	"	95.9	
	D487	71	260.6	117.7	11.5	"	96.1	
9-12-79	D488	75	255.6	112.0	15.5	"	91.5	Retest D482
	D489	74	256.0	110.1	13.9	"	90.0	Retest D483
9-17-79	D490	77	235.2	129.4	7.9	136.0	95.1	
	D491	78	227.5	123.0	8.9	"	90.4	
	D492	79	215.5	130.0	10.8	"	95.6	
9-26-79	D493	36	272.1	138.5	8.9	135.0	94.2	
10-02-79	D494	Arapahoe St. (11)	131.1	124.3	11.4	130.0	95.6	Retest D412
	D495	Arapahoe St. (4)	145.5	123.9	10.5	"	95.3	Retest D414
10-22-79	D496	Arapahoe St. (9)	114.7	130.4	11.7	125.5	100+	
10-23-79	D497	Arapahoe St. (7)	124.3	119.2	11.6	"	91.6	
	D498	Arapahoe St. (6)	134.9	131.8	10.4	"	100+	
10-25-79	D499	36	278.4	117.3	11.5	119.5	98.2	
10-26-79	D500	36	265.5	124.9	11.4	131.6	94.9	
	D501	Arapahoe St. (4)	145.8	126.4	10.2	125.5	100+	

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
10-31-79	D502	36	270.3	127.5	9.3	131.6	96.8	
11-07-79	D503	10	122.1	116.1	10.6	127.5	91.1	
11-09-79	D504	13	145.6	118.8	11.5	"	93.2	
11-16-79	D505	11	133.1	112.6	15.7	"	88.3	See D511
	D506	12	136.8	107.5	12.3	"	84.3	See D510
11-29-79	D507	Aupapaohe St. (10)	114.5	147.6	5.6	133.0	100+	
	D508	Aupapaohe St. (14)	147.5	147.4	6.9	"	"	
	D509	13	144.3	137.6	10.3	127.5	97.8	
	D510	12	136.8	127.0	8.7	"	91.6	Retest D506
	D511	11	133.1	106.2	9.2	"	76.0	Retest D511 See D513
	D512	10	125.5	125.9	9.7	"	90.0	
11-30-79	D513	11	133.1	120.2	8.9	127.5	94.0	Retest D511
12-03-79	D514	Aupapaohe St. (95)	152.0	143.0	6.7	139.0	100+	
12-05-79	D515	1	134.6	117.3	10.5	125.5	93.4	
	D516	2	142.5	117.7	10.1	"	93.9	
	D517	3	148.6	120.1	11.6	"	95.7	
	D518	Aulepe St. (96)	143.5	131.9	9.1	"	100+	
	D519	115	165.5	116.2	14.3	118.5	98.1	
1-24-80	D520	115	166.4	109.7	17.1	"	92.5	
	D521	118	183	113.5	16.1	"	95.7	
1-28-80	D522	72	255.0	113.0	9.4	"	96.0	
1-29-80	D523	65	261.1	128.0	9.5	128.0	100	
2-01-80	D524	113	161.3	106.0	19.0	118.5	89.5	See D525
2-11-80	D525	113	"	109.5	16.3	"	92.4	Retest D524
2-19-80	D526	96	138.3	114.2	9.1	125.5	91.0	
	D527	97	136.5	111.0	9.6	"	88.4	See D529

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
2-21-80	D528	71	160.0	108.0	18.3	118.5	91.1	
	D529	97	136.5	105.1	13.3	"	88.7	Retest D527 See D531
	D530	96	144.4	97.0	15.0	"	84.0	See D532
2-26-80	D531	97	136.5	113.5	11.8	125.5	90.5	Retest D529
	D532	96	144.4	112.9	10.3	"	90.0	Retest D530
	D533	80	194.1	124.9	11.4	124.5	100+	
	D534	97	125.0	119.5	12.0	119.5	100	
	D535	81	195.3	108.0	11.8	124.5	86.7	See D536
2-27-80	D536	81	195.3	126.1	12.2	"	100+	Retest D535
2-29-80	D537	81	200.2	123.7	12.7	"	98.6	
	D538	81	202.2	120.2	13.7	"	95.8	
3-03-80	D539	81	196.8	125.8	9.4	"	100+	
	D540	81	203.0	109.8	11.2	125.5	87.5	See D542
	D541	81	197.2	121.2	12.2	"	96.7	
	D542	81	203.0	112.6	11.5	"	90.0	Retest D540
3-04-80	D543	80	198.0	127.7	11.5	"	100+	
	D544	80	201.1	120.5	12.7	"	96.0	
	D545	80	202.7	120.2	14.0	"	95.8	
3-05-80	D546	127	206.0	109.8	17.5	118.5	92.7	
	D547	126	201.8	108.8	14.1	"	95.4	
	D548	124	198.5	98.0	10.9	"	82.7	See D552
	D549	122	192.9	106.6	15.0	"	90.0	
	D550	121/20	188.9	117.6	13.9	"	99.2	
	D551	96	145.8	118.7	8.5	125.5	94.6	
3-06-80	D552	124	198.5	111.6	12.5	118.5	94.2	Retest D548
3-07-80	D553	97	138.3	127.4	7.8	125.5	100+	
3-10-80	D554	80	192.7	119.0	9.6	"	95.0	
3-11-80	D555	81	193.6	117.1	11.0	"	93.3	
	D556	80	202.8	101.1	7.5	"	80.5	See D559
	D557	81	206.8	129.2	10.5	"	100+	
3-12-80	D558	128	209.0	106.7	17.4	118.5	90.0	
	D559	80	202.8	120.6	7.6	125.5	96.1	Retest D556

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
3-12-80	D560	80	196.9	120.2	11.9	125.5	95.8	
	D561	81-A	198.0	116.5	13.9	"	92.8	
3-14-80	D562	97	132.8	129.2	10.1	"	100+	
4-18-80	D563	116/117	183.2	118.0	13.4	115.5	"	
	D564	118	188.2	116.6	16.0	"	"	
5-12-80	D565	113	170.0	121.0	10.5	"	"	
5-16-80	D566	116	179.3	116.3	15.0	"	"	
	D567	118	190.9	120.1	10.6	"	"	
5-19-80	D568	119	187.9	117.8	9.3	118.5	99.4	
	D569	117	181.1	121.8	9.4	"	100+	
	D570	114	169.2	119.9	8.9	"	"	
5-21-80	D571	127	203.7	104.9	13.2	"	88.5	See D573
	D572	126	202.7	101.6	11.0	"	85.7	See D574
	D573	127	203.7	116.8	13.0	"	98.6	Retest D571
	D574	126	202.7	113.8	8.9	"	96.0	Retest D572
	D575	125	201.6	108.7	10.7	"	91.7	
	D576	123	194.4	118.7	10.1	"	100+	
	D577	121	193.0	103.6	9.4	"	87.4	See D578
5-22-80	D578	121	193.0	112.8	9.0	"	95.2	Retest D577
5-28-80	D579	117	186.8	134.0	17.3	"	96.4	
6-04-80	D580	117	182.5	119.3	13.7	"	100+	
	D581	117	179.5	115.5	13.9	"	97.5	
6-09-80	D582	118	185.1	120.4	7.6	121.0	99.5	
	D583	116	176.3	116.5	8.7	"	96.3	
6-12-80	D584	125	207.1	125.0	8.2	"	100+	
	D585	123	202.9	114.9	9.0	"	95.0	
	D586	121	198.2	120.0	9.4	"	99.2	
6-21-80	D587	120	190.2	121.0	10.1	"	100+	
	D588	118	182.4	118.9	11.5	"	98.3	
	D589	116	171.9	119.4	10.5	"	98.7	
6-24-80	D590	120	197.1	118.4	10.6	"	97.8	

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
6-24-80	D591	116	184.7	117.1	11.4	121.0	96.8	
	D592	119	190.5	115.1	11.2	"	95.1	
	D593	119	191.8	121.8	10.1	"	100+	
6-26-80	D594	118	197.1	106.3	11.0	"	87.9	See D597
	D595	116	186.7	112.9	13.2	"	93.3	
	D596	114	174.9	98.2	12.6	"	81.1	See D598
6-27-80	D597	118	197.1	126.6	12.5	"	100+	Retest D594
	D598	114	174.9	123.5	10.8	"	"	Retest D596
	D599	128	214.9	120.6	12.0	"	99.7	
	D600	125	203.8	122.8	12.5	"	100+	
	D601	122/123	195.1	130.0	10.0	"	"	
6-30-80	D602	117	188.5	123.9	9.6	"	"	
7-01-80	D603	126	207.6	118.6	14.5	"	98.0	
	D604	123	198.0	111.8	14.2	"	92.4	
7-02-80	D605	122	198.4	117.4	13.0	"	97.1	
	D606	119	192.4	116.0	12.9	"	95.9	
	D607	124	201.7	121.4	14.2	"	100+	
7-15-80	D608	119	203.3	123.8	13.6	"	"	
	D609	117	192.2	124.5	13.6	"	"	
	D610	115	170.9	114.6	13.3	"	94.7	
	D611	116	195.3	118.7	12.2	"	98.1	
	D612	120	199.5	116.2	13.1	"	96.0	
	D613	126	215.5	111.9	14.2	"	92.5	
	D614	124	206.5	121.3	13.3	"	100+	
7-16-80	D615	118	195.0	122.2	12.0	"	"	
	D616	116	193.0	115.0	10.0	"	95.8	
7-17-80	D617	127	214.6	132.9	10.3	"	99.6	
	D618	114	174.8	130.6	11.4	"	96.9	
	D619	121	201.4	129.3	9.8	"	97.3	
7-21-80	D620	115	183.3	120.8	12.0	"	99.8	
7-22-80	D621	126	214.3	116.7	12.4	"	96.5	
	D622	112	160.8	117.7	11.0	"	97.3	

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
7-23-80	D623	113	168.3	116.2	12.1	121.0	96.0	
	D624	117	198.3	119.0	11.4	"	98.7	
8-04-80	D625	64	263.4	111.5	20.0	"	92.1	
8-19-80	D626	Road E (56)	267.7	98.3	16.6	118.5	82.9	See D628
	D627	Road E (65)	258.8	112.7	12.2	"	95.1	
8-20-80	D628	Road E (66)	267.7	112.6	16.0	"	95.0	Retest D626
8-21-80	D629	Road E (54)	257.5	118.0	11.6	121.0	97.9	
8-22-80	D630	Road E (58)	244.7	120.3	13.7	"	99.4	
8-26-80	D631	Road E (66)	265.0	119.7	12.3	"	98.9	
8-27-80	D632	Road E (64)	257.4	120.5	12.0	"	99.7	
	D633	Road E (56)	251.3	125.2	11.5	"	100+	
8-28-80	D634	Road E (60)	246.0	122.4	12.4	"	"	
9-04-80	D635	Road E (66)	267.3	144.4	4.5	135.0	"	
	D636	Road E (53)	263.6	149.7	5.1	"	"	
	D637	Road E (55)	253.5	136.9	6.2	"	"	
	D638	Road E (57)	248.7	146.1	5.7	"	"	
	D639	Road E (61)	247.5	150.7	4.3	"	"	
9-09-80	D640	51	270.0	129.0	10.7	121.0	100+	
	D641	52	264.1	111.7	9.0	"	92.3	
	D642	53	258.7	110.1	15.1	"	91.0	
	D643	54	246.1	122.4	12.8	"	100+	
	D644	55	245.2	124.7	9.6	"	"	
	D645	56	244.3	126.0	9.0	"	"	
	D646	57	241.5	122.6	9.2	"	"	
	D647	67	270.7	116.8	12.4	"	96.5	
	D648	66	268.7	105.0	15.0	"	86.8	See D649
	D649	66	268.7	110.0	14.0	"	91.2	Retest D648
	D650	65	265.3	120.2	12.1	"	99.3	
	D651	62	249.5	112.2	12.5	"	92.7	
	D652	63	256.1	109.5	12.2	"	90.5	
9-30-80	D653	64	260.0	109.1	11.4	"	90.2	
	D654	48	276.0	131.0	7.5	"	100+	
	D655	49	272.2	117.6	10.0	"	97.2	

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
10-01-80	D656	47	277.0	122.8	10.0	121.0	100+	
	D657	46	278.2	114.0	10.5	"	94.0	
10-02-80	D658	50	272.8	128.0	11.6	"	100+	
	D659	126	219.3	110.8	7.9	"	91.6	
10-07-80	D660	127	219.3	116.3	14.2	"	96.0	
10-08-80	D661	127	220.7	112.4	12.9	"	92.3	
10-09-80	D662	119	202.3	121.3	11.5	"	100+	
	D663	117	194.0	120.4	12.8	"	99.5	
10-10-80	D664	127	221.9	113.1	11.5	"	93.5	
10-14-80	D665	128	225.6	120.0	13.2	"	99.1	
	D666	125	220.5	118.9	12.4	"	98.2	
	D667	116	190.0	117.9	12.5	"	97.4	
	D668	118	199.0	118.4	11.2	"	97.9	
10-15-80	D669	127	222.5	120.6	15.4	"	99.7	
	D670	120	200.0	118.7	12.1	"	98.1	
10-16-80	D671	117	194.8	122.9	14.2	118.5	100+	
	D672	119	204.8	113.8	12.7	"	96.1	
	D673	119	212.5	120.5	13.9	"	100+	
10-17-80	D674	128	228.8	126.5	13.2	"	100+	
	D675	117	203.8	112.3	14.0	"	94.7	
	D676	126	222.5	117.7	14.1	"	99.3	
10-20-80	D677	120	204.5	119.6	11.9	"	100+	
10-22-80	D678	118	201.5	112.0	11.9	"	94.5	
	D679	119	205.0	114.0	13.1	"	96.2	
	D680	125	216.5	110.1	12.7	121.0	91.0	
	D681	127	220.0	116.9	12.6	"	97.0	
10-23-80	D682	127	221.5	115.9	17.2	"	95.4	
	D683	119	204.6	112.6	10.9	"	93.1	
	D684	121	206.6	118.6	11.5	"	98.0	
	D685	122	208.0	133.4	11.9	"	100+	

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
10-29-80	D686	120	203.0	115.0	12.4	118.5	97.0	
10-30-80	D687	61	246.2	116.3	12.0	121.0	96.1	
10-31-80	D688	60	239.0	119.7	13.0	"	99.0	
11-04-80	D689	125	217.0	118.2	13.2	118.5	100	
	D690	127	226.9	128.8	11.7	"	100+	
	D691	128	226.9	118.1	13.5	"	100	
11-05-80	D692	127	227.4	116.1	12.0	"	98.0	
11-06-80	D693	118	202.0	117.0	14.0	"	99.0	
11-07-80	D694	128	226.3	117.3	15.0	"	99.0	
	D695	125	221.0	121.5	13.0	"	100+	
	D696	117	194.0	118.4	14.0	"	100	
11-10-80	D697	127	227.0	112.5	12.9	"	95.0	
	D698	124	208.0	113.4	14.8	"	96.0	
11-12-80	D699	124	209.0	111.4	12.1	"	94.0	
11-14-80	D700	116	189.0	116.7	13.0	"	98.0	
11-17-80	D701	123	216.0	115.0	11.3	"	97.0	
11-18-80	D702	122	211.0	119.1	13.4	"	100+	
	D703	128	228.0	112.4	11.7	"	94.8	
11-19-80	D704	122	211.0	113.4	12.7	"	96.0	
	D705	125	225.0	125.1	12.6	"	100+	
	D706	127	226.0	124.5	12.8	118.5	100+	
11-20-80	D707	121	213.0	121.0	13.0	"	"	
	D708	123	215.0	121.6	14.4	"	"	
	D709	117	202.0	125.0	12.9	"	96.3	
11-24-80	D710	126	229.3	114.1	11.6	"	96.3	
	D711	123	218.0	115.1	12.5	"	97.4	
	D712	120	210.0	118.9	11.0	"	100+	
11-25-80	D713	124	224.0	109.8	13.2	"	92.6	

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
11-26-80	D714	119	209.0	119.3	14.7	118.5	100.0	
	D715	124	225.0	117.7	11.7	"	99.0	
	D716	122	221.0	108.4	13.6	"	91.4	
12-01-80	D717	127	227.0	126.4	12.1	"	100+	
12-02-80	D718	126	228.0	119.3	13.6	"	"	
12-03-80	D719	120	221.0	118.1	13.6	"	99.6	
12-09-80	D720	127	229.0	122.9	15.1	"	100+	
	D721	124	226.0	114.1	18.1	"	96.3	
	D722	121	222.0	117.6	15.0	"	99.0	
12-11-80	D723	125	230.0	121.6	15.9	"	100+	
	D724	128	233.0	123.1	12.1	"	"	
12-18-80	D725	123	227.0	118.3	16.8	"	100	
	D726	126	228.0	118.1	15.3	"	"	
1-14-81	D727	121	223.0	118.5	15.7	"	94.0	
	D728	123	231.0	116.0	15.2	"	98.0	
1-16-81	D729	121	224.0	110.4	14.8	"	93.2	
	D730	124	235.0	119.3	15.4	"	100	
	D731	125	237.2	121.0	14.7	"	"	
1-21-81	D732	126	237.0	117.1	14.4	"	99.0	
	D733	123	233.0	109.5	12.5	"	92.4	
	D734	121	225.0	119.4	16.4	"	100+	
2-03-81	D735	119	211.2	124.5	14.1	"	100+	
	D736	120	219.3	114.3	13.9	"	96.4	
	D737	121	226.5	119.1	11.2	"	100+	
	D738	122	231.9	114.5	12.7	"	96.7	
	D739	123	234.6	116.3	13.7	"	98.1	
2-04-81	D740	124	236.0	120.0	14.3	"	100+	
	D741	125	238.0	112.0	14.5	"	94.0	
	D742	126	237.3	123.0	12.0	"	100+	
2-10-81	D743	127	235.9	116.4	13.4	"	98.3	
	D744	128	234.2	122.0	13.3	"	100+	

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
2-19-81	D745	Auwaiku St. (124)	237.2	129.8	12.8	118.5	100+	
	D746	Auwaiku St. (123)	234.2	109.7	14.9	"	97.6	
2-20-81	D747	Auwaiku St. (120)	220.0	122.6	10.3	"	100+	
	D748	Auwaiku St. (48)	234.2	124.3	15.7	"	"	
	D749	Auwaiku St. (107)	230.5	121.5	10.8	"	"	
2-27-81	D750	Auwaiku St. (116)	188.0	115.9	13.3	"	98.0	
3-02-81	D751	Auwaiku St. (113)	170.0	120.2	13.7	"	100+	
3-16-81	D752	Auwaiku St. (48)	236.0	117.6	10.8	"	99.0	
	D753	Auwaiku St. (122)	232.0	131.6	11.7	"	100+	
3-17-81	D754	Auwaiku St. (120)	223.0	118.4	11.7	"	100	
	D755	Auwaiku St. (118)	209.0	125.2	10.8	"	100+	
	D756	Auwaiku St. (118)	209.0	123.9	9.5	"	100+	
	D757	Auwaiku St. (117)	196.0	123.0	11.0	"	100+	
	D758	Auwaiku St. (115)	183.0	118.0	10.8	"	100	
	D759	Auwaiku St. (113)	173.0	115.4	9.5	"	97.4	
3-20-81	D760	Auwaiku St. (102)	161.3	115.7	12.1	"	97.6	
	D761	Auwaiku St. (111)	145.9	127.8	11.6	"	100+	
	D762	Auwaiku St. (98)	135.3	129.0	11.4	"	"	
	D763	Auwaiku St. (125)	237.3	118.2	11.6	"	"	

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
3-20-81	D764	Auwaiku St. (127)	235.4	114.8	13.3	118.5	96.9	
	D765	Auwaiku St. (127)	237.4	105.0	14.4	"	88.6	See D766
3-25-81	D766	Auwaiku St. (127)	237.4	118.1	16.6	"	100	Retest D765
4-03-81	D767	111	149.0	120.7	12.1	"	"	
	D768	110	144.0	120.5	13.5	"	"	
	D769	109	139.0	121.3	13.5	"	"	
	D770	108	135.0	128.0	12.5	"	"	
4-08-81	D771	112	159.4	126.3	11.2	"	"	
	D772	113	166.4	127.0	10.6	"	"	
	D773	114	176.9	122.1	10.9	"	"	
	D774	115	184.4	121.0	10.3	"	"	
	D775	116	193.7	123.6	10.7	"	"	
	D776	117	200.1	121.0	9.6	"	"	
6-18-81	D777	Aulepe St. (92)	174.5	131.5	10.0	134.0	98.1	
6-25-81	D778	Aulepe St. (96)	137.5	134.7	7.6	"	100	
6-30-81	D779	Aulepe St. (88)	195.3	129.2	8.7	"	96.4	
	D780	Aulepe St. (17)	186.3	128.4	8.8	"	95.8	
	D781	Aulepe St. (16)	175.3	133.6	9.9	"	99.7	
	D782	Aulepe St. (93)	164.3	144.9	5.9	"	100+	
	D783	Aulepe St. (95)	154.3	141.2	7.2	"	"	
8-20-81	D784	107	209.3	117.2	9.0	125.5	93.4	
	D785	106	201.8	107.9	10.4	118.7	90.9	
	D786	105	192.9	112.9	10.5	"	95.1	
	D787	104	185.9	120.7	11.4	"	100+	
	D788	103	178.6	119.6	10.0	"	"	
	D789	102	172.1	123.4	9.9	"	"	
	D790	101	165.0	119.8	9.9	"	"	

TABLE I
DENSITY TEST RESULTS

<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
8-20-81	D791	100	152.0	120.8	11.0	118.7	100+	
	D792	99	147.6	114.6	10.9	"	96.7	
	D793	98	142.2	139.1	5.2	125.5	100+	
9-15-81	D794	17	182.3	113.8	17.7	"	"	
	D795	17	184.8	127.1	10.9	"	"	
	D796	17	183.1	127.3	10.1	"	"	
9-16-81	D797	17	185.5	127.8	11.6	"	"	
	D798	17	184.5	130.7	15.2	"	"	
	D799	17	187.6	128.7	11.0	"	"	
9-17-81	D800	17	185.0	122.5	12.4	"	"	
	D801	17	186.6	126.1	10.4	118.5	"	
10-08-81	D802	97	138.8	113.7	6.4	125.5	90.6	
	D803	96	151.7	114.3	8.2	"	91.1	
	D804	95	154.7	107.3	11.5	116.5	92.1	
	D805	94	161.7	116.5	12.5	"	100+	
	D806	93	173.2	107.2	11.0	"	92.0	
	D807	92	181.5	105.1	12.2	"	90.2	
	D808	91	189.2	112.9	11.7	"	96.9	
	D809	90	194.7	113.6	12.6	"	97.5	
	D810	89	202.6	106.5	7.3	"	91.4	
10-16-81	D811	18	191.7	126.5	10.7	125.5	100+	
	D812	19	188.7	126.2	10.3	"	"	
	D813	18	191.0	125.0	13.7	"	99.6	
	D814	19	188.0	123.2	13.5	"	98.2	
	D815	59	211.5	128.1	6.0	"	100+	
10-19-81	D816	18	192.4	116.5	14.6	"	92.8	
	D817	19	189.4	114.6	12.8	"	91.3	
10-20-81	D818	14	162.6	116.9	6.8	"	93.1	
	D819	15	170.8	126.7	7.8	"	100+	
	D820	18	191.8	119.9	13.0	"	95.5	
	D821	19	189.5	120.2	13.1	"	95.7	
	D822	20	185.0	120.3	13.3	"	95.9	
10-21-81	D823	16	181.2	124.3	11.7	"	99.0	
	D824	18	194.7	119.5	13.2	"	95.2	
	D825	19	193.3	119.3	13.3	"	95.0	

TABLE I
DENSITY TEST RESULTS

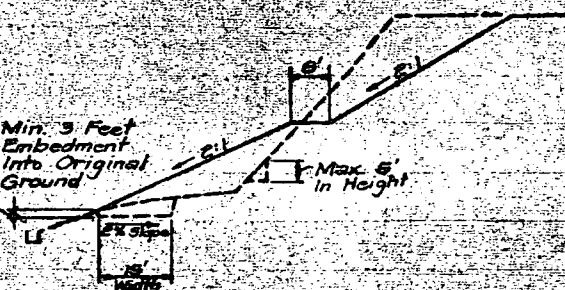
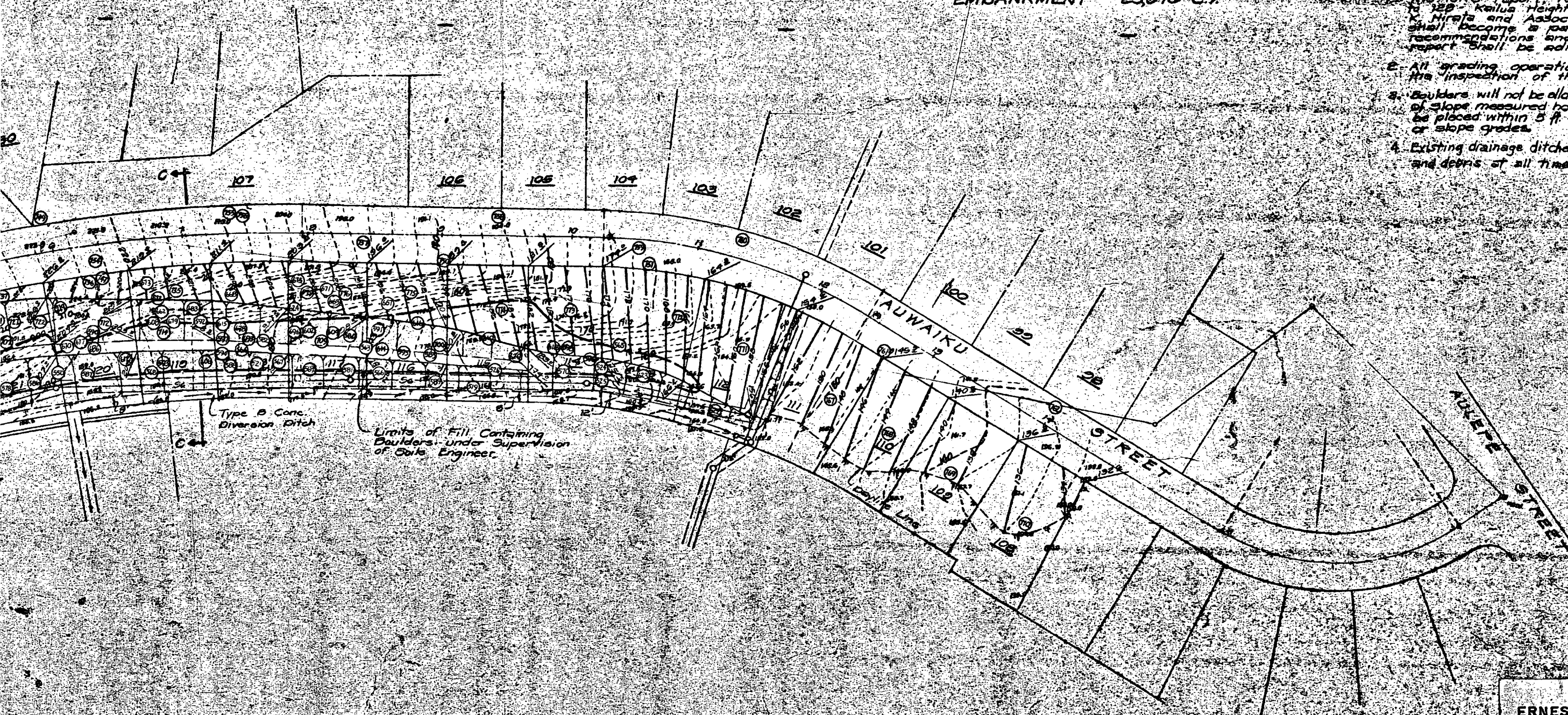
<u>DATE</u>	<u>TEST NO.</u>	<u>LOT NO.</u>	<u>ELEV.</u>	<u>DENSITY (PCF)</u>	<u>MOISTURE CONTENT</u>	<u>MAXIMUM DENSITY</u>	<u>% COMPACTION</u>	<u>COMMENTS</u>
10-22-81	D826	18	196.5	118.5	12.4	125.5	94.4	
	D827	19	195.2	123.0	11.0	"	98.0	
	D828	20	188.4	117.8	11.3	"	93.9	
	D829	21	186.9	115.8	14.0	"	92.2	
10-23-81	D830	22	187.8	119.2	12.8	"	95.0	
	D831	21	188.6	132.5	9.8	"	100	
	D832	20	190.8	125.1	11.7	"	99.7	

EARTHWORK SUMMARY

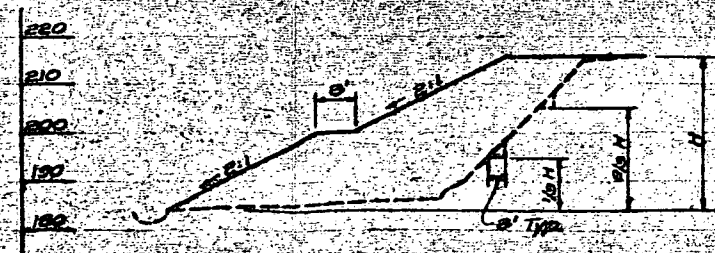
EXCAVATION 2485 CY
EMBANKMENT 23,075 CY

ADDITIONAL GRADING NOTES

- These notes shall apply to this Revised Grading Plan together with the original Grading Notes on Sht. 102.
- The letter report, "Review of Grading Plan" lots 108 to 120 - Kailua Heights Unit 8C, prepared by Ernest K. Hirata and Assoc., Inc. dated March 3, 1980, shall become a part of this project and all recommendations and instructions denoted in this report shall be adhered to during construction.
- All grading operations will be accomplished under the inspection of the Soils Engineer.
- Boulders will not be allowed within 15 ft. from the toe of slope measured horizontally nor may boulders be placed within 5 ft. from the bench or finish pad or slope grade.
- Existing drainage ditches shall be kept clear of silt and debris at all times.



SECTION 'B-B'
(STATION 5+15)
Scale: 1"=20'



SECTION 'C-C'
(STATION 7+05)
Scale: 1"=20'

○ Approximate Location of Density Tests



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Ernest K. Hirata

ERNEST K. HIRATA & ASSOCIATES, INC.
Soils and Foundation Engineering
905 Makahiki Way, Makai Suite Honolulu, Hawaii
W.O. 215-A

REVISION	DATE	DESCRIPTION	BY	APPROVED
1	3/1/80	ADDED NEW SHT. 108 TO 120	VTN	
VTN PACIFIC ENGINEERS, PLANNERS, SURVEYORS				
KAILUA HEIGHTS SUBDIVISION UNIT 8-B & 8-C KAILUA, KONA, HAWAII				
REVISED GRADING PLAN APPROVED FOR GRADING ONLY:				
3/1/80				

GRADING NOTES:

1. All grading work shall conform to Chapter 21, Revised Ordinances of Honolulu, 1960, as amended (Ordinance No. 1978, 1962 and 1956).
2. The Contractor shall remove all soil and debris resulting from his work and deposited in drainage facilities, roadways and other areas. The costs incurred for any necessary remedial action by the City & County Engineer shall be payable by the Contractor.
3. The Contractor shall keep the project area and surrounding area free from dust nuisance. The work shall be in accordance with the Air Pollution Control Standards and Regulations of the State Department of Health.
4. All grading operations shall be performed in accordance with the available provisions of the Water Pollution Control and Water Quality Standards contained in the Public Health Regulations, State Department of Health on Water Pollution Control and Water Quality Standards.
5. All slopes and exposed areas shall be seeded or planted immediately after the grading work has been completed.
6. Fills on slopes steeper than 5:1 shall be keyed.
7. Prior to the issuance of a grading permit, the permittee shall obtain a certification by the State Department of Health on the acceptability of proposed erosion control.
8. No grading shall be done on Saturdays, Sundays and Holidays at any time without prior notice to the Chief Engineer, City and County of Honolulu.
9. The limits of the graded area shall be flagged before the commencement of the grading work.
10. Soils Report prepared by Ernest K. Hirata & Associates Inc. dated April 23, 1976 shall be made a part of this project. All recommendations contained within the Soils Report shall be used during construction.
11. The City shall be informed of the location of the disposal site for the excess material from the project when the application for a grading permit is made. The disposal site must also fulfill the requirements of the Grading Ordinance.
12. Temporary erosion control procedures shall be submitted for approval prior to application for a grading permit.

EARTHWORK SUMMARY

(COMPLETE IN PLACE QUANTITIES)

INCREMENT 1

CLEAR & GRUB AREA...10.9 ACS.
EXCAVATION...106,600 CY.
EMBANKMENT...19,100 CY.

INCREMENT 2

CLEAR & GRUB AREA...11.0 ACS.
EXCAVATION...259,500 CY.
EMBANKMENT...8,000 CY.

TOTAL

CLEAR & GRUB AREA...21.9 ACS.
EXCAVATION...366,100 CY.
EMBANKMENT...27,100 CY.

STATE OWN LAND & NAT. RES. URBAN DISTRICT BOUNDARY

NOTE:
ALL UTILITIES SHOWN ON PLANS ARE EXISTING UNLESS INDICATED OTHERWISE.

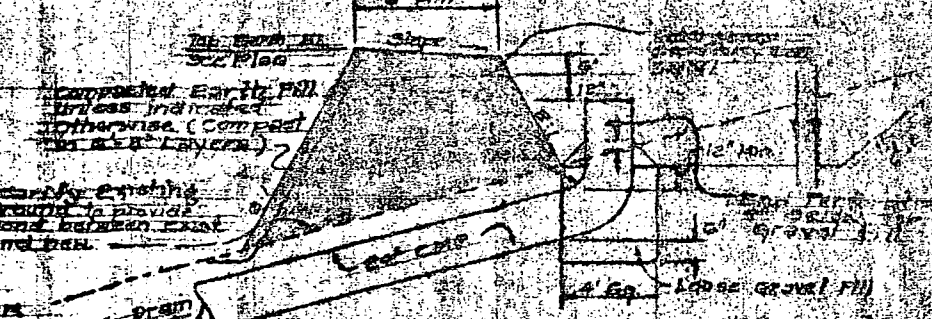
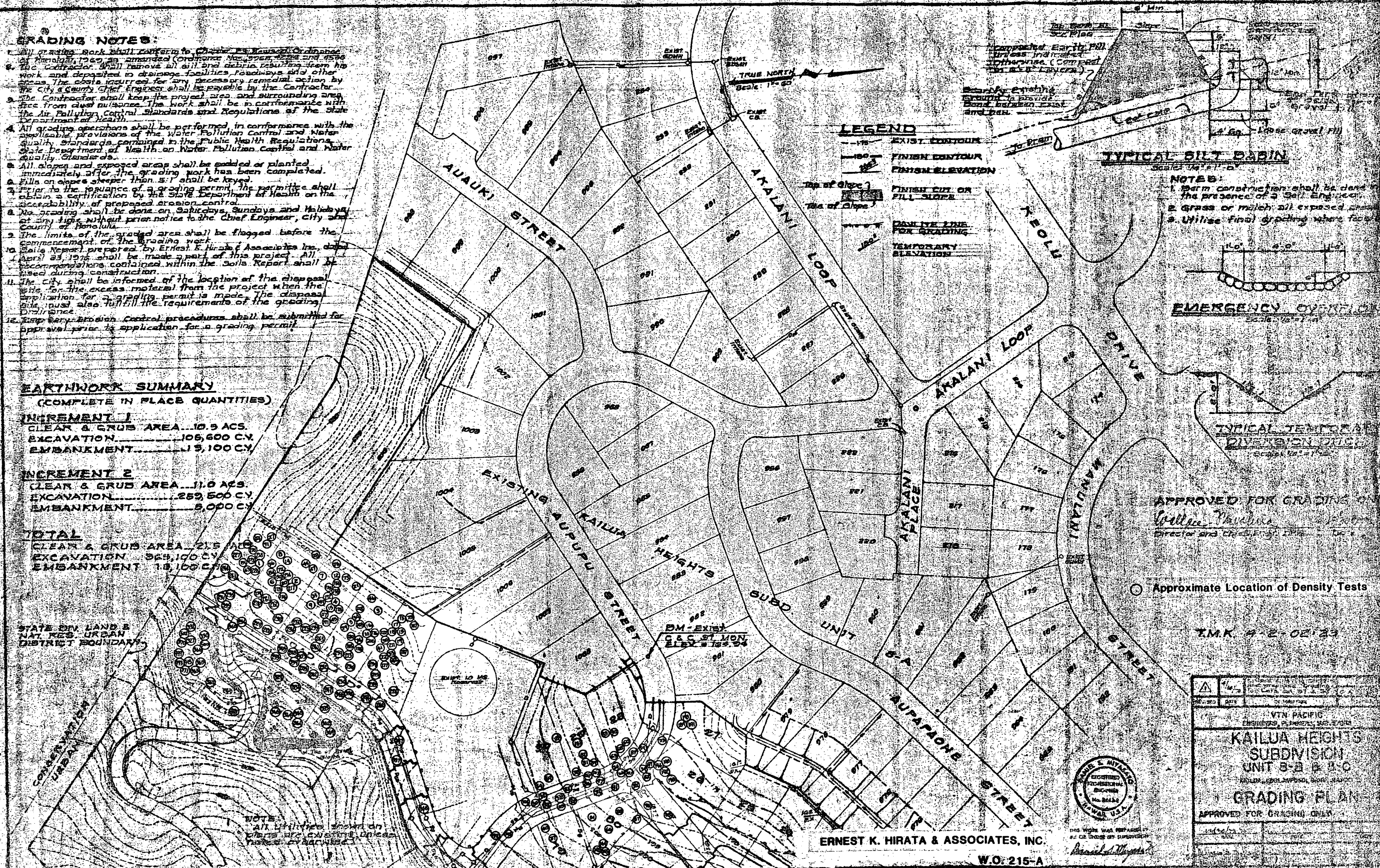
ERNEST K. HIRATA & ASSOCIATES, INC.

W.O. 215-A

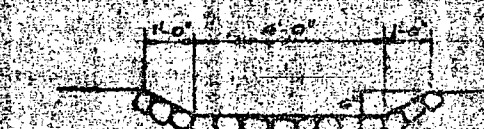


THIS PLAN WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Ernest K. Hirata

KAILUA HEIGHTS SUBDIVISION UNIT 5-A & 5-B GRADING PLAN	
APPROVED FOR GRADING ONLY	
DATE: 11/26/76	BY: [Signature]
PROJECT NO. 10000	
VTN PACIFIC ENGINEERS, PLANNERS, ARCHITECTS	



NOTES:
1. Silt construction shall be done in the presence of a Soil Engineer.
2. Grass or mulch all exposed areas.
3. Utilize final grading where feasible.



APPROVED FOR GRADING ONLY
William P. Phillips
Director and Chief Engineer

Approximate Location of Density Tests

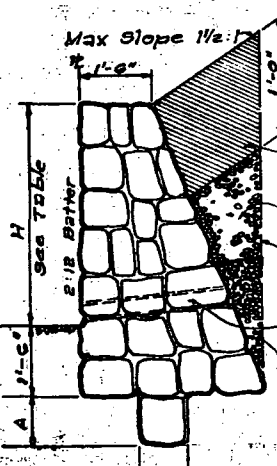
T.M.K. 4-2-02-23

ADDED LOT 81-A

SILT BASIN
Graded Runoff
Area = 6.4 Acs.
Vol. = 11,000 CF
For Detail, See Sht. 1

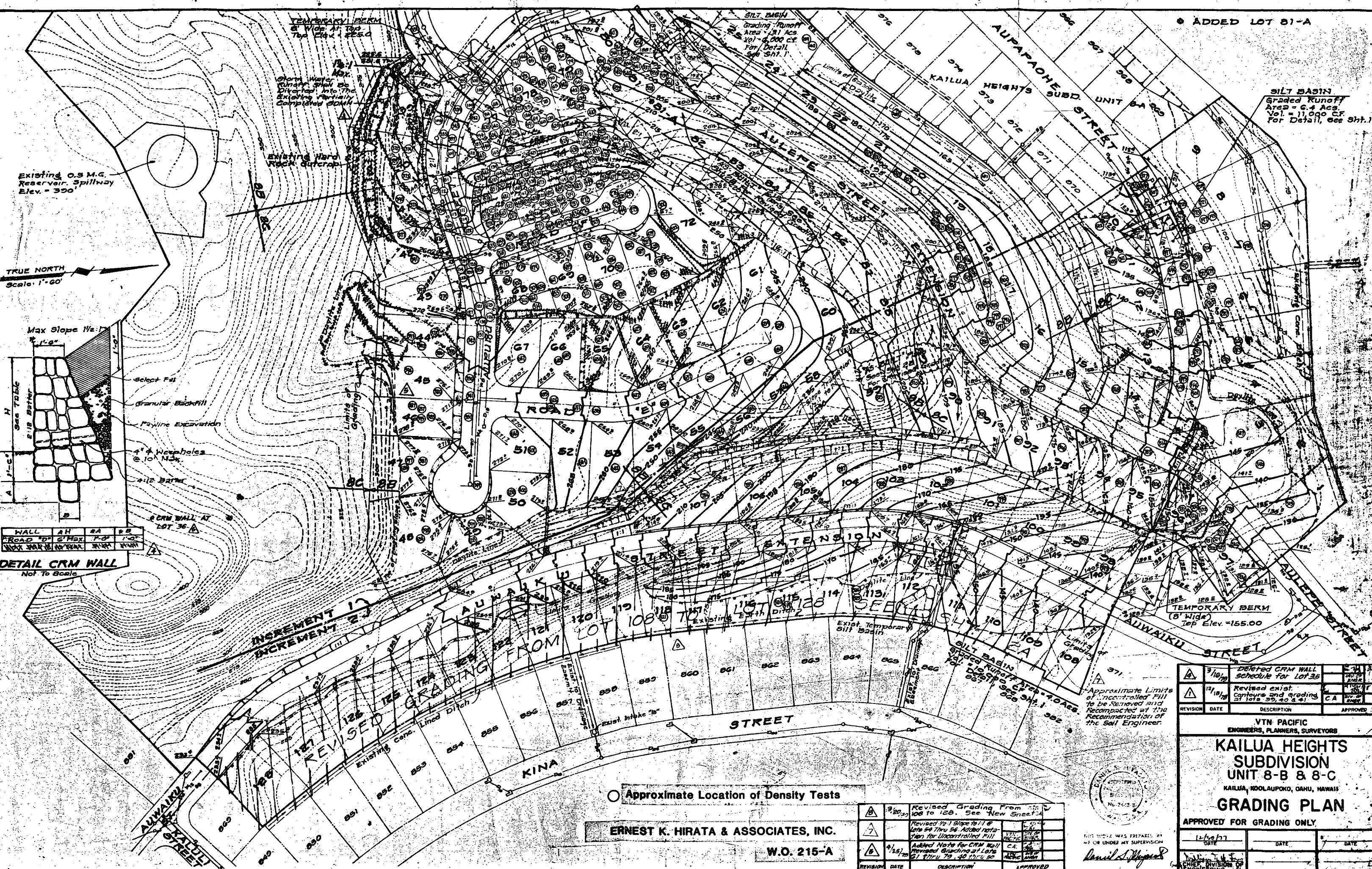
Existing O.S.M.G.
Reservoir Spillway
Elev. = 390'

TRUE NORTH
Scale: 1"=60'



WALL	4H	4A	4B
ROAD 10' x 12' Max	1'-0"	1'-0"	1'-0"
WALL 10' x 12' Max	1'-0"	1'-0"	1'-0"

DETAIL CRM WALL
Not To Scale



Approximate Location of Density Tests

ERNEST K. HIRATA & ASSOCIATES, INC.

W.O. 215-A

REVISION	DATE	DESCRIPTION	APPROVED
1	3/20/77	Revised Grading From 108 to 128. See New Sheet 1.	
2	4/15/77	Added Note for CRM Wall. Revised Grading at Lots 108 thru 128.	

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Ernest K. Hirata
ENGINEER

3/10/77	Deleted CRM WALL schedule for LOT 35	CA	3/10/77
3/10/77	Revised exist. Contours and grading at lots 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128	CA	3/10/77
REVISION	DATE	DESCRIPTION	APPROVED
VTN PACIFIC ENGINEERS, PLANNERS, SURVEYORS			
KAILUA HEIGHTS SUBDIVISION UNIT 8-B & 8-C KAILUA, KOOLAUPOKO, OAHU, HAWAII			
GRADING PLAN			
APPROVED FOR GRADING ONLY			
12/10/77	DATE	DATE	DATE
SHEET 2 OF 2 SHEETS			