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COMPACTED FILL REPORT

KAU HALE AUPUNI O'KULIOUOU #52

KULIOUOU, OAHU, HAWAII

TMK: 3-8-10: 5, 6, & 7

3-8-11: 1

for

KVA-HD&C JOINT VENTURE

W. O. 281-F

January 8, 1982



ERNEST K. HIRATA & ASSOCIATES, INC.

MUNICIPAL REFERENCE & RECORDS CENTER
City & County of Honolulu
City Hall Annex, 555 S. King Street
Honolulu, Hawaii 96813

WITHDRAWN



ERNEST K. HIRATA & ASSOCIATES, INC.

Soils and Foundation Engineering

905 Makahiki Way, Makai Suite • Honolulu, Hawaii 96826 • Phone 941-5055

January 8, 1982

W. O. 281-F

KVA-HD&C Joint Venture
c/o Hawaiian Dredging & Construction Company
P. O. Box 3468
Honolulu, Hawaii 96801

Attention: Mr. Bruce Kimura

Subject: Compacted Fill Report
Kau Hale Aupuni O'Kuliouou
Kuliouou, Oahu, Hawaii
TMK: 3-8-10: 5, 6, & 7 and
3-8-11: 1

Gentlemen:

Submitted herewith is a compacted fill report on the above referenced project. The purpose of the testing was to determine that all fill was compacted to a minimum of 90 percent relative compaction in accordance with our recommendations. The field density test results are presented in Table I. The approximate test locations are shown on the accompanying grading plan.

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 relatively level lifts, moistened or dried as required, and compacted with a sheeps foot or vibratory roller to 90% or better as indicated by the test results.

Respectfully submitted,

Ernest K. Hirata & Associates, Inc.


Ernest K. Hirata, P. E.

EKH:yk

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>
1-16-80	D1	61	93.5	82.3	23.3	105.5	78.0	Fail, See D3
	D2	54	90.0	87.6	20.4	"	83.0	Fail, See D4
1-23-80	D3	61	91.5	83.8	22.8	"	79.4	Retest D1 Fail, See D5
	D4	54	90.2	77.1	27.5	"	73.1	Retest D2 Fail, See D6
1-24-80	D5	61	90.9	94.9	16.1	"	90.0	Retest D3
	D6	54	88.0	95.8	20.2	"	90.8	Retest D4
2-15-80	D7	74	120.5	86.8	25.2	104.5	83.1	Fail, Section Removed
2-16-80	D8	72	110.0	95.1	19.8	"	91.0	
	D9	156	92.0	104.5	20.4	"	100.0	
2-19-80	D10	Road "C" Sta. 2+50	81.5	95.5	28.1	104.0	91.8	
2-20-80	D11	39	75.5	100.3	20.0	104.5	96.0	
	D12	41	86.5	83.4	24.2	"	79.8	Fail, Section Removed
	D13	Road "C" Sta. 6+00	63.0	100.5	15.4	"	96.2	
2-21-80	D14	42	81.5	97.4	18.7	101.5	95.9	
	D15	Road "C" Sta. 2+37	83.7	106.9	14.1	117.5	90.9	
	D16	49	86.5	95.5	18.8	104.5	91.4	
2-22-80	D17	Road "C" Sta. 1+75	83.5	92.7	20.9	102.5	90.5	
	D18	44	95.0	85.8	22.7	86.0	99.7	
	D19	45	95.0	84.0	28.6	"	97.7	
2-26-80	D20	43	90.0	89.4	25.8	103.0	86.2	Fail, See D22
	D21	49	88.0	108.7	23.3	104.5	100+	
	D22	43	90.0	105.7	23.6	103.0	100+	Retest D20
	D23	41	81.5	96.4	26.4	104.5	92.3	
	D24	41	80.5	96.4	22.5	"	92.3	
	D25	Road "C" Sta. 2+00	83.5	102.1	17.9	102.5	99.6	

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>
3-3-80	D26	42	84.0	105.9	25.2	104.5	100+	
3-4-80	D27	41	81.5	87.9	33.9	"	84.1	Fail, See D99
	D28	16	76.0	107.8	19.3	102.5	100+	
	D29	40	78.5	88.4	31.7	104.5	84.1	Fail, See D100
3-5-80	D30	18	70.2	98.3	23.2	102.5	95.9	
	D31	20	68.0	94.6	23.5	"	92.3	
3-11-80	D32	43	92.0	103.5	21.6	103.0	100+	
	D33	14	82.5	102.5	12.5	124.5	82.3	Fail, See D47
3-12-80	D34	14	82.5	113.8	14.6	124.5	91.4	
	D35	13	85.0	118.6	15.1	120.5	98.4	
	D36	43	85.2	115.8	15.1	120.5	96.1	
	D37	15	80.5	115.9	13.1	124.5	93.1	
	D38	16	77.5	115.1	10.8	"	92.4	
	D39	17	74.0	95.6	18.3	"	76.8	Fail, See D42
	D40	18	72.5	104.1	10.0	"	83.6	Fail, See D43
	D41	19	70.0	103.7	9.7	"	83.3	Fail, See D44
	D42	17	74.0	112.8	12.3	"	90.6	Retest D39
	D43	18	72.5	116.1	10.7	"	93.2	Retest D40
	D44	19	70.0	112.3	11.6	"	90.2	Retest D41
3-13-80	D45	55	90.5	80.2	30.5	103.0	77.8	Fail, Section Removed
	D46	12	86.0	105.9	14.1	124.5	85.0	Fail, See D50
	D47	14	81.5	115.3	10.0	"	92.6	Retest D33
	D48	15	79.5	112.2	12.2	"	90.1	
3-24-80	D49	20	68.0	112.9	11.5	"	90.7	
3-25-80	D50	12	86.2	119.3	14.9	"	95.8	Retest D46
3-26-80	D51	154	96.6	89.9	30.8	104.5	86.0	Fail, See D52
3-27-80	D52	154	96.6	98.9	24.4	"	94.7	Retest D51
	D53	62	95.3	96.4	27.9	"	92.3	
3-28-80	D54	53	92.2	95.3	16.9	"	91.2	
	D55	60	92.8	97.7	15.3	"	93.5	
	D56	Road "A" Sta. 14+00	94.4	94.1	24.4	"	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>
3-31-80	D57	152	101.0	109.4	11.6	104.5	100+	
	D58	63	95.0	98.1	16.1	"	93.9	
4-3-80	D59	12	88.5	113.3	15.2	124.5	91.0	
4-5-80	D60	60	94.5	106.3	19.3	117.5	90.5	
	D61	65	100.0	106.4	16.6	"	90.6	
	D62	62	96.6	108.2	17.7	"	92.1	
	D63	61	94.8	107.8	19.5	"	91.7	
4-8-80	D64	49	85.5	95.5	28.6	103.0	92.7	
	D65	48	87.0	104.9	26.8	"	100+	
	D66	55	92.0	107.7	21.1	124.5	86.5	Fail, See D74
	D67	60	86.5	118.5	17.3	"	95.2	
	D68	56	95.5	108.8	17.8	117.5	92.6	
4-9-80	D69	65	103.5	95.6	20.5	106.0	90.2	
	D70	70	106.5	96.2	20.1	"	90.8	
	D71	49	86.0	99.8	18.0	103.0	96.9	
	D72	48	87.5	92.7	20.4	"	90.0	
	D73	57	93.0	100.2	16.2	106.0	94.5	
	D74	55	92.5	106.9	17.5	117.5	90.9	Retest D66
	D75	50	90.5	97.3	24.4	104.0	93.5	
4-14-80	D76	Road "H" Sta. 1+70	106.0	95.9	29.5	"	92.2	
4-21-80	D77	55	94.2	105.7	15.4	117.5	90.0	
4-28-80	D78	49	88.2	99.0	19.0	103.0	96.1	
	D79	51	92.3	95.0	18.8	104.5	90.9	
	D80	55	95.0	92.4	23.3	102.5	90.1	
	D81	48	89.7	101.5	22.4	103.0	98.5	
	D82	50	93.0	94.1	25.2	104.5	90.0	
5-2-80	D83	70	108.0	94.4	24.7	"	90.3	
	D84	71	106.0	93.4	23.9	"	89.4	Fail, See D93
	D85	72	108.0	95.7	23.4	"	91.6	
	D86	74	113.0	92.2	26.6	102.5	90.0	
	D87	75	115.0	92.6	25.6	"	90.3	
	D88	156	95.0	102.3	19.8	117.5	87.1	Fail, See

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>
5-2-80	D89	157	92.5	99.3	15.3	117.5	84.5	Fail; See D1183
	D90	63	97.0	102.9	22.4	"	87.7	Fail; See D94
	D91	153	98.5	97.8	21.6	"	83.2	Fail; See D435
	D92	154	96.8	102.6	20.1	"	87.3	Fail; See D431
5-7-80	D93	71	106.0	84.5	38.8	106.0	79.7	Retest D84 Fail; See D96
	D94	63	98.5	93.6	23.1	102.5	91.3	Retest D90
	D95	53	93.4	93.1	19.3	"	90.9	
5-8-80	D96	71	106.0	93.7	24.0	104.0	90.1	Retest D93
	D97	48	89.6	95.2	19.8	103.0	92.4	
	D98	49	88.7	108.9	12.5	"	100+	
	D99	41	82.4	98.2	14.5	104.5	94.0	Retest D27
	D100	40	80.0	94.7	26.0	"	91.1	Retest D29
	D101	39	77.0	94.4	27.6	"	90.4	
5-9-80	D102	85	127.0	93.7	28.2	104.0	90.1	
	D103	82	121.5	93.6	24.0	"	90.0	
	D104	62	100.0	97.9	21.5	"	94.1	
	D105	54	95.0	101.5	22.4	"	97.6	
	D106	59	98.7	104.6	17.9	102.5	100+	
	D107	Road "C" Sta. 5+20	65.8	115.6	16.5	117.5	98.4	
	D108	Road "C" Sta. 3+50	74.0	116.2	13.5	"	98.9	
	D109	55	97.4	98.5	19.4	102.5	96.1	
5-10-80	D110	Road "C" Sta. 4+40	69.4	108.7	18.9	117.5	92.5	Fail; See D113
	D111	Road "C" Sta. 3+15	76.4	107.9	22.0	"	91.8	Fail; See D114
	D112	59	100.2	103.3	18.5	102.5	100+	
	D113	Road "C" Sta. 4+40	69.4	112.6	17.3	117.5	95.8	Retest D110
	D114	Road "C" Sta. 3+15	76.4	112.9	17.3	"	96.1	Retest D111
	D115	75	117.0	80.9	25.7	104.0	77.8	Fail; See D117
	D116	74	114.5	88.1	28.6	104.5	84.3	Fail; See D118
	D117	75	117.0	97.0	24.0	104.0	93.2	Retest D115
5-12-80	D118	74	114.5	93.6	25.6	104.5	90.0	Retest D116

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>
5-13-80	D119	Road "C" Sta. 5+50	66.4	104.6	16.8	117.5	89.0	Fail; See D122
	D120	Road "C" Sta. 4+10	71.7	119.7	17.6	"	100+	
	D121	Road "C" Sta. 1+80	84.0	111.5	17.0	"	94.9	Fail; See D123
	D122	Road "C" Sta. 5+50	66.4	115.4	14.4	"	98.2	
	D123	Road "C" Sta. 1+80	84.0	113.8	15.6	"	96.8	Retest D121
	D124	73	110.5	95.7	30.5	102.0	93.9	
	D125	80	119.5	98.2	20.1	104.5	94.0	
	D126	81	118.0	101.6	21.7	"	97.2	
	D127	83	121.5	103.1	17.0	"	98.6	
	5-14-80	D128	60	98.7	115.8	12.7	104.5	100+
D129		65	106.0	111.4	14.5	"	100+	
D130		70	110.0	107.4	19.0	"	100+	
D131		72	109.6	102.8	18.2	"	98.4	
5-15-80	D132	80	120.8	92.4	32.2	102.5	90.2	
5-19-80	D133	Road "C" Sta. 7+20	60.5	117.6	18.5	117.5	100+	
	D134	Road "C" Sta. 7+00	61.2	116.0	19.3	"	98.7	
5-20-80	D135	56	98.2	99.5	15.2	102.0	97.6	
	D136	57	105.5	100.9	18.2	102.0	98.9	
5-21-80	D137	40	79.3	114.7	16.1	117.5	97.6	
5-22-80	D138	37	86.0	112.7	16.2	"	95.9	
	D139	36	84.5	114.1	16.1	"	97.1	
	D140	38	81.0	113.0	16.7	"	96.2	
	D141	35	76.0	111.5	17.5	"	94.9	
6-18-80	D142	31	69.2	94.1	27.1	98.5	95.5	
	D143	32	70.0	90.8	25.3	"	92.2	
	D144	33	71.4	92.7	26.1	"	94.1	
	D145	34	73.5	95.2	26.1	"	96.6	
	D146	Road "E" Sta. 1+17	72.9	98.0	25.6	103.0	95.1	

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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>
6-18-80	D147	Road "D" Sta. 0+73	85.2	115.5	17.7	117.5	98.3	
	D148	Road "F" Sta. 1+05	66.9	111.7	16.8	"	95.1	
6-20-80	D149	116	157.4	85.1	26.5	104.0	81.8	Fail, See D166
	D150	120	140.8	93.7	28.1	"	90.1	
	D151	123	132.9	82.0	30.4	"	78.9	Fail; See D177
6-21-80	D152	25	69.0	95.6	26.6	98.5	97.0	
	D153	66	112.2	77.0	32.0	104.0	74.1	Fail; See D158
	D154	Road "F" Sta. 1+35	68.5	111.6	11.0	117.5	95.0	
	D155	Road "E" Sta. 0+30	72.1	112.6	11.1	"	95.8	
	D156	Road "D" Sta. 1+15	86.5	112.2	11.0	"	95.5	
	6-23-80	D157	76	122.8	82.6	30.1	104.0	79.4
D158		66	111.5	74.4	30.9	"	71.5	Retest D154 Fail; See D171
D159		145	120.7	93.8	23.3	"	90.2	
D160		147	113.3	94.6	25.3	"	91.0	
D161		150	105.6	94.2	22.3	"	90.6	
D162		127	144.9	95.5	28.8	"	91.8	
D163		25	71.3	89.0	27.1	98.5	90.4	
D164		85	128.2	79.9	36.8	104.0	76.8	Fail; See D175
D165		80	122.1	77.8	31.4	"	74.8	Fail; See D176
D166		116	157.4	95.8	22.6	"	92.1	Retest D149
D167		Road "E" Sta. 0+70	75.0	118.5	14.7	117.5	100+	
D168		Road "F" Sta. 1+80	71.3	112.7	14.6	"	95.9	
D169		75	119.2	93.9	25.3	104.0	90.3	
D170		76	122.7	75.0	27.3	"	72.1	Retest D157 Fail; See D186
D171		66	111.9	82.4	32.0	"	79.0	Retest D158 Fail; See D172
6-24-80	D172	66	111.3	93.8	26.3	"	90.2	Retest D171
	D173	Road "D" Sta. 1+25	88.5	112.9	14.9	117.5	96.1	
	D174	148-A	111.2	102.5	20.0	104.0	98.6	

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>
6-24-80	D175	85	128.2	94.9	23.5	104.0	91.2	Retest D164
	D176	80	122.1	94.3	25.4	"	90.7	Retest D165
	D177	123	132.8	93.6	23.1	"	90.0	Retest D151
	D178	75	121.7	94.0	27.1	"	90.4	
	D179	66	112.7	93.6	26.3	"	90.9	
	D180	75	120.0	95.1	27.4	"	91.4	
	D181	85	127.5	93.9	28.0	"	90.3	
	D182	24	64.5	91.1	23.1	98.5	92.4	
	D183	39	77.2	118.7	8.8	117.5	100+	
	D184	40	79.5	114.2	13.5	"	97.2	
	D185	41	81.7	115.4	13.1	"	98.2	
	D186	76	121.2	94.3	26.8	104.0	90.7	Retest D170
	D187	25	70.6	90.1	29.5	98.5	91.5	
	6-25-80	D188	65	110.5	95.8	22.6	104.0	92.1
D189		85	130.5	94.2	21.8	"	90.6	
D190		75	121.7	93.8	20.5	"	90.2	
D191		150	104.5	89.9	33.5	"	86.5	Fail; See D194
D192		148	110.0	87.7	26.9	"	84.4	Fail; See D195
D193		65	111.1	95.0	20.5	"	91.3	
D194		150	104.5	100.3	18.9	"	96.4	Retest D191
D195		148	110.0	102.1	17.3	"	98.2	Retest D192
D196		75	123.1	93.6	25.7	"	90.0	
D197		66	115.0	98.8	19.0	"	95.0	
6-26-80	D198	85	132.0	95.8	21.6	"	92.1	
	D199	149	108.5	98.9	20.1	"	95.1	
	D200	145-A	119.0	113.8	14.5	117.5	96.8	
	D201	149	108.0	98.2	18.6	104.0	94.4	
	D202	137	147.8	88.7	27.2	98.5	90.1	
	D203	150	104.8	88.6	28.9	"	90.0	
	D204	80	123.5	95.3	25.6	104.0	91.6	
	D205	76	126.2	93.4	24.3	102.5	91.1	
	D206	70	112.4	93.4	25.2	104.0	91.7	
	D207	141	130.9	90.7	24.3	98.5	92.1	
6-27-80	D208	56	99.7	93.7	23.9	104.0	90.3	
	D209	85	132.9	94.1	16.4	"	90.5	
	D210	129	145.5	98.2	19.3	"	94.5	
6-28-80	D211	148-A	110.5	88.8	28.8	98.5	90.1	
	D212	145-A	120.1	93.9	24.2	104.0	90.3	

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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>
6-28-80	D213	143	126.8	88.9	27.5	98.5	90.3	
	D214	61	98.0	93.8	22.0	104.0	90.2	
	D215	60	99.0	95.5	20.8	"	91.8	
6-30-80	D216	62	98.0	93.9	20.3	"	90.3	
	D217	151	103.5	94.3	20.0	"	90.7	
	D218	150	106.9	99.7	15.6	"	95.8	
	D219	149	108.7	89.7	28.6	98.5	91.1	
	D220	148-A	113.1	103.7	15.8	104.0	99.8	
7-1-80	D221	141	136.2	82.5	24.2	"	79.3	Fail; Section Removed
	D222	148	112.7	93.7	24.2	"	90.1	
	D223	147	116.2	91.0	22.3	98.5	92.4	
	D224	146	118.3	81.9	26.7	104.0	78.7	Fail; See D273
	D225	145-A	122.7	81.6	23.6	98.5	82.6	Fail; See D247
	D226	145	122.1	92.4	25.8	"	93.8	
	D227	126	141.6	93.6	21.7	104.0	90.0	
	D228	122	138.2	119.4	10.6	117.5	100+	
7-8-80	D229	85	124.9	95.9	20.4	104.0	92.2	
	D230	118	153.2	95.5	25.3	"	91.8	
	D231	84	127.0	84.7	28.5	"	81.4	Fail; See D232
7-9-80	D232	84	127.0	94.5	21.1	"	90.9	Retest D231
	D233	83	123.6	97.3	23.4	"	93.6	
	D234	127	148.2	94.1	22.5	"	90.5	
	D235	130	153.5	93.6	25.2	"	90.0	
	D236	Road "F" Sta. 0+65	66.7	119.0	10.6	117.5	100+	
	D237	Road "C" Sta. 6+30	63.9	113.9	13.1	"	96.9	
	D238	Road "C" Sta. 4+65	69.6	114.4	10.2	"	97.4	
	D239	Road "C" Sta. 2+70	79.7	116.2	14.0	"	98.9	
	D240	Road "C" Sta. 0+40	91.5	94.1	26.4	98.5	95.6	
	7-10-80	D241	Road "E" Sta. 1+00	74.1	111.7	11.0	117.5	95.1
D242		Road "A" Sta. 1+90	47.0	93.6	28.6	98.5	95.0	

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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>
7-11-80	D243	Road "D"						
		Sta. 1+00	87.2	112.0	10.7	117.5	95.3	
	D244	30	72.9	86.6	24.5	98.5	87.9	Fail; See D263
	D245	Road "C"						
		Sta. 0+20	92.1	93.8	30.2	"	95.2	
7-12-80	D246	Road "C"						
		Sta. 1+20	87.6	118.6	12.3	117.5	100+	
	D247	145-A	122.7	91.3	24.3	98.5	92.7	Retest D225
	D248	Road "A"						
		Sta. 0+10	42.9	100.0	16.1	103.0	97.1	
	D249	Road "A"						
		Sta. 2+40	49.2	98.8	18.5	104.0	95.0	
7-14-80	D250	Road "A"						
		Sta. 0+90	45.1	94.5	29.4	98.5	95.9	
	D251	Road "A"						
		Sta. -0+95	42.9	114.9	12.5	117.5	97.8	
	D252	131	155.6	87.2	29.6	94.5	92.3	
7-15-80	D253	130	158.1	85.3	28.3	"	90.3	
	D254	128	153.0	85.1	23.3	"	90.0	
	D255	125	143.5	87.1	31.3	104.0	83.7	Fail; See D256
7-16-80	D256	125	143.5	96.4	20.5	"	92.7	Retest D255
	D257	123	135.0	88.4	20.1	94.5	93.5	
	D258	Road "A"						
		Sta. 23+25	148.0	88.2	25.8	"	93.3	
	D259	Road "A"						
		Sta. 24+90	155.7	85.1	26.2	"	90.0	
	D260	85	134.6	97.3	20.0	104.0	93.6	
7-17-80	D261	129	157.2	93.6	20.2	"	90.0	
	D262	52	90.4	88.8	22.7	98.5	90.2	
	D263	30	72.9	92.5	24.4	"	93.9	Retest D244
	D264	126	148.1	97.9	16.7	104.0	94.2	
7-19-80	D265	130	160.6	100.6	16.8	"	96.7	
	D266	Road "A"						
		Sta. 25+50	161.5	93.9	22.4	"	90.3	
	D267	Road "A"						
		Sta. -0+80	43.6	116.0	12.2	117.5	98.4	
	D268	Road "A"						
		Sta. 0+45	44.5	93.6	22.9	98.5	95.0	
	D269	Road "A"						
		Sta. 1+60	46.8	93.8	26.0	98.5	95.2	

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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>
7-21-80	D270	129	160.1	86.9	26.7	94.5	92.0	
	D271	50	93.5	100.8	13.2	102.5	98.4	
	D272	51	93.9	94.7	15.8	"	92.4	
	D273	146	118.3	93.0	27.0	98.5	94.4	Retest D224
7-23-80	D274	42	84.7	119.5	16.6	120.5	99.1	
	D275	Road "A" Sta. 25+25	163.4	81.2	26.5	94.5	85.9	Fail; See D278
	D276	52	92.9	88.1	24.8	104.0	84.7	Fail; See D290
	D277	Road "C" Sta. 2+80	79.4	115.3	9.9	126.0	91.5	Fail; See D354
	D278	Road "A" Sta. 25+25	163.4	90.1	20.8	94.5	95.4	Retest D275
	D279	Road "C" Sta. 4+30	71.8	115.7	9.2	126.0	91.8	Fail; See D301
7-24-80	D280	127	152.4	85.4	28.5	94.5	90.4	
	D281	125	143.6	86.2	23.3	"	91.2	
	D282	119	147.0	86.5	26.7	104.0	83.2	Fail; See D284
	D283	117	155.7	97.2	20.8	"	93.5	
	D284	119	147.0	94.3	22.8	"	90.7	Retest D282
	D285	153	97.1	114.4	10.4	117.5	97.3	
	D286	154	96.5	116.3	13.4	"	98.9	
	D287	152	100.1	115.1	12.0	"	98.0	
	D288	151	102.3	110.1	12.5	"	93.7	
7-26-80	D289	51	91.6	118.5	13.5	"	100+	
	D290	52	93.0	101.5	17.3	104.0	97.6	Retest D276
	D291	118	155.0	93.6	20.0	"	90.0	
	D292	120	146.6	94.2	21.4	102.5	91.9	
	D293	122	135.0	93.9	22.9	104.0	90.3	
	D294	54	95.3	102.3	19.0	"	98.4	
	D295	55	99.0	99.6	19.1	102.5	94.2	
7-28-80	D296	85	134.8	93.4	18.8	"	91.1	
	D297	86	137.5	93.1	19.9	"	90.8	
	D298	38	88.8	108.0	9.5	117.5	91.9	
	D299	36	76.4	110.8	9.4	"	94.3	
	D300	52	91.1	107.9	14.4	"	91.8	
	D301	Road "C" Sta. 4+30	71.8	120.3	7.3	126.0	95.5	Retest D279
	D302	Road "C" Sta. 5+75	66.0	111.5	8.6	126.0	88.5	Fail; See D353

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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>
7-29-80	D303	147	114.5	111.5	12.5	117.5	94.9	
	D304	148-A	111.8	105.7	12.7	108.5	97.4	
	D305	85	136.0	101.9	23.3	104.0	98.0	
	D306	44	98.8	110.3	10.5	117.5	93.9	
	D307	45	100.3	111.1	10.4	"	94.6	
	D308	46	101.8	98.6	17.3	98.5	100+	
	D309	47	105.3	90.4	18.6	"	91.8	
	D310	86	138.2	92.6	22.3	102.5	90.3	
	D311	145	121.3	99.0	17.2	103.0	96.1	
	D312	144	124.1	97.1	20.2	"	94.3	
7-30-80	D313	146	118.1	92.8	21.0	"	90.1	
	D314	63	100.5	93.7	21.1	104.0	90.1	
	D315	64	103.3	83.0	23.2	"	79.8	Fail; See D319
	D316	86	137.5	94.4	21.1	102.5	92.1	
	D317	85	135.3	93.7	22.8	"	91.4	
7-31-80	D318	84	126.5	94.3	18.5	"	92.0	
	D319	64	103.3	94.5	18.1	"	92.2	Retest D315
	D320	149	107.6	110.3	13.9	117.5	93.8	
	D321	27	81.8	89.0	19.0	98.5	90.4	
	D322	26	80.3	88.8	18.7	"	90.2	
	D323	84	128.0	96.4	19.4	102.5	94.1	
	D324	143	126.6	105.0	12.0	116.5	90.1	
8-4-80	D325	56	97.5	105.1	13.9	"	90.2	
	D326	64	101.6	111.5	14.5	"	95.7	
	D327	61	96.3	114.0	14.8	"	97.9	
	D328	55	96.3	117.6	13.0	117.5	100+	
	D329	62	97.0	108.9	11.9	116.5	93.4	
	D330	28	83.1	89.1	21.0	98.5	90.5	
	D331	29	85.6	88.7	21.6	"	90.1	
	D332	37	78.0	116.8	9.1	117.5	99.4	
	D333	Road "C" Sta. 7+15	62.0	123.4	9.7	126.0	97.9	
	8-6-80	D334	55	97.3	110.3	13.9	116.5	94.7
D335		Road "D" Sta. 0+35	84.1	121.3	9.6	126.0	96.3	
D336		Road "F" Sta. 1+60	70.8	123.6	10.5	"	98.1	

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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>
8-7-80	D337	115	161.3	91.6	26.9	104.0	88.1	Fail; See D339
	D338	50	94.3	104.8	18.1	117.5	89.1	Fail; See D341
	D339	115	161.3	96.1	22.7	104.0	92.4	Retest D337
	D340	54	95.0	107.5	12.4	116.5	92.3	
	D341	50	94.3	117.3	12.3	117.5	99.9	Retest D338
	D342	51	93.6	111.4	13.4	"	94.8	
	D343	52	93.1	115.0	14.5	"	97.9	
	D344	53	95.5	114.4	16.1	116.5	98.2	
	D345	116	163.1	94.1	23.2	102.5	91.8	
	D346	115	165.1	87.1	27.8	94.5	92.2	
	D347	114	168.2	86.2	27.8	"	91.2	
8-8-80	D348	73	111.2	106.8	16.9	117.5	90.9	
	D349	70	110.3	105.9	17.2	116.5	90.9	
	D350	71	106.5	105.0	18.4	"	90.1	
	D351	60	97.1	104.8	17.5	"	90.0	
	S352	155	95.5	110.9	13.5	117.5	94.4	
	D353	Road "C" Sta. 5+75	66.0	119.7	8.5	126.0	95.0	Retest D302
	D354	Road "C" Sta. 2+80	79.4	121.1	10.5	"	96.1	Retest D277
	D355	Road "C" Sta. 1+25	88.8	126.2	11.5	"	100+	
8-9-80	D356	74	113.8	113.0	13.8	116.5	97.0	
	D357	Road "E" Sta. 0+50	73.5	122.0	10.1	126.0	96.8	
	D358	115	166.6	94.5	22.2	104.0	90.9	
	D359	114	169.5	89.6	26.7	94.5	94.8	
	D360	113	178.7	84.9	27.3	"	90.5	
	D361	150	105.0	109.4	14.0	116.5	93.9	
	D362	67	112.5	105.8	11.0	"	90.8	
	D363	68	113.5	105.5	11.2	"	90.6	
	D364	69	117.0	113.9	10.1	"	97.7	
	D365	154	97.5	117.0	12.2	117.5	99.5	
	D366	58	98.3	111.6	10.5	"	95.0	
8-11-80	D367	115	168.5	96.7	19.3	104.0	92.9	
	D368	114	172.6	94.7	17.0	"	91.1	
	D369	113	181.6	85.5	22.4	94.5	90.5	
	D370	184	129.5	97.3	22.0	"	100+	
	D371	29	76.7	112.3	11.4	117.5	95.6	

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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>
8-11-80	D372	27	73.0	115.6	10.9	117.5	98.4	
	D373	28	74.0	116.3	10.5	"	98.9	
	D374	58	98.6	115.1	10.1	"	98.0	
	D375	59	102.5	107.4	8.7	"	91.4	
8-12-80	D376	66	114.5	108.6	12.4	116.5	93.2	
	D377	114	174.4	94.7	25.5	104.0	91.1	
	D378	113	183.4	94.0	22.0	"	90.4	
	D379	76	126.6	109.6	13.5	116.5	94.1	
	D380	75	122.6	112.1	13.8	"	96.2	
	D381	111	201.4	90.1	20.0	94.5	95.3	
	D382	80	123.3	108.8	12.2	116.5	93.4	
	D383	26	72.5	108.0	12.9	117.5	91.9	
	D384	44	90.8	110.8	14.4	"	94.3	
	D385	45	92.3	112.9	12.7	"	96.1	
	D386	46	93.8	103.3	12.2	"	87.9	Fail; See D411
	D387	47	97.2	103.6	7.9	"	88.2	Fail; See D412
	D388	117	157.8	94.8	15.5	102.5	92.5	
	D389	116	162.7	96.9	18.0	104.0	93.2	
	D390	115	169.4	88.9	20.5	94.5	94.1	
	D391	82	121.4	111.7	14.8	116.5	95.9	
D392	118	152.9	92.9	17.0	102.5	90.6		
D393	119	149.2	94.0	14.2	"	91.7		
8-13-80	D394	81	120.0	107.1	15.3	116.5	91.9	
	D395	114	177.0	97.4	18.7	104.0	93.6	
	D396	113	184.6	90.5	22.6	94.5	95.8	
	D397	112	190.5	98.9	20.0	104.0	95.1	
	D398	29	77.6	99.8	11.3	117.5	84.9	Fail; See D410
	D399	77	123.8	105.0	15.7	116.5	90.1	
	D400	78	125.4	114.0	8.9	117.5	97.1	
	D401	79	128.7	106.2	13.0	116.5	91.2	
8-14-80	D402	111	202.9	78.3	33.2	86.0	91.1	
	D403	56	99.5	107.2	11.0	117.5	91.2	
	D404	56	99.1	111.1	9.1	116.5	95.4	
	D405	55	98.0	104.9	8.4	"	90.0	
	D406	55	97.9	106.2	14.7	117.5	90.4	
	D407	28	75.1	106.1	14.8	"	90.3	
	D408	26	73.8	115.2	16.7	"	98.0	
	D409	27	73.7	113.2	11.7	"	96.4	
	D410	29	77.6	115.2	13.8	"	98.0	Retest D398

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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>
8-14-80	D411	46	93.8	113.5	13.1	117.5	96.6	Retest D386
	D412	47	97.2	112.7	17.3	"	96.0	Retest D387
	D413	53	96.0	108.8	11.4	"	92.6	
	D414	53	96.5	103.2	15.7	104.0	99.2	
	D415	54	96.9	109.0	16.0	117.5	92.8	
	D416	109	216.5	90.0	21.3	94.5	95.2	
	D417	110	209.2	78.5	30.7	86.0	91.3	
	D418	57	98.6	117.1	13.1	117.5	99.7	
8-15-80	D419	67	113.7	111.8	13.9	117.5	95.1	
	D420	68	114.8	112.5	15.2	"	95.8	
	D421	186	106.5	93.1	19.7	94.5	98.5	
	D422	185	116.5	92.2	19.3	"	97.6	
	D423	184	128.6	94.2	21.1	"	99.7	
	D424	58	99.5	115.4	10.8	117.5	98.2	
	D425	59	103.3	109.0	11.3	"	92.8	
	D426	69	118.3	117.5	12.3	"	100.0	
	D427	54	95.7	106.6	13.6	"	90.7	
	D428	155	95.0	107.0	11.2	"	91.1	
	D429	53	95.2	108.2	14.9	"	92.1	
	D430	155	95.5	116.8	10.4	"	99.4	
	D431	154	97.1	114.8	12.0	"	97.7	
	D432	154	96.8	107.8	11.3	"	91.7	
8-16-80	D433	110	209.9	92.6	25.3	104.0	89.1	Fail; See D447
	D434	109	217.8	90.0	24.3	"	86.5	Fail; See D446
	D435	153	98.8	107.3	13.4	117.5	91.3	
	D436	153	99.1	109.7	11.0	"	93.4	
	D437	153	98.4	113.2	11.7	"	96.3	
	D438	64	103.6	114.1	15.1	"	97.1	
	D439	64	103.0	109.8	12.3	"	93.5	
	D440	63	101.2	112.0	14.4	"	95.3	
	D441	63	100.1	109.9	13.1	"	93.6	
8-18-80	D442	108	223.4	97.7	21.1	104.0	93.9	
	D443	106	229.0	94.5	19.9	"	90.8	
	D444	106	220.8	97.8	21.4	"	94.0	
	D445	108	209.3	102.6	23.5	"	98.6	
	D446	109	217.8	99.6	17.4	"	95.8	Retest D434
	D447	110	209.9	100.2	20.0	"	96.3	Retest D433
	D448	Road "A"						
		Sta. 12+00	91.8	93.6	22.2	98.5	95.0	

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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>
8-18-80	D449	57	106.6	116.0	10.0	117.5	98.7	
	D450	57	106.5	99.2	21.9	104.0	95.4	
	D451	58	107.5	117.5	11.5	117.5	100.0	
	D452	58	108.5	97.9	17.9	104.0	94.2	
	D453	59	111.3	107.6	13.5	117.5	91.5	
	D454	59	112.0	98.0	21.1	104.0	94.2	
	D455	106	222.1	103.5	24.6	102.5	100+	
	D456	107	217.8	96.1	21.9	"	93.7	
	D457	108	210.0	98.4	20.0	"	96.0	
	D458	77	125.5	105.5	10.5	116.5	90.5	
	D459	78	127.0	105.7	13.3	"	90.7	
	D460	79	130.3	109.7	16.3	117.5	93.3	
8-19-80	D461	72	108.1	95.9	19.5	98.5	97.4	
	D462	Road "A" Sta. 13+50	94.1	98.1	19.0	103.0	95.2	
	D463	35	78.3	111.0	13.8	117.5	94.5	
	D464	108	214.3	88.3	30.4	94.5	93.4	
	D465	107	219.3	85.2	28.8	"	90.2	
	D466	Road "A" Sta. 14+80	101.6	98.8	17.8	104.0	95.0	
	D467	184	128.9	94.1	25.7	94.5	99.6	
	D468	185	118.5	92.5	22.8	"	97.8	
	D469	Road "G" Sta. 1+40	96.2	101.3	22.9	104.0	97.4	
8-20-80	D470	108	217.0	91.8	28.7	94.5	97.1	
	D471	65	109.5	107.0	14.9	116.5	91.8	
	D472	60	99.1	115.5	11.0	117.5	98.3	
	D473	67	121.7	120.8	10.7	"	100+	
	D474	Road "G" Sta. 0+60	95.4	110.6	13.7	116.5	95.0	
	D475	67	122.1	101.7	14.9	104.0	97.8	
	8-21-80	D476	60	98.0	113.9	10.8	117.5	96.9
D477		61	98.2	106.8	12.9	"	90.9	
D478		61	96.5	108.4	12.0	"	92.3	
D479		107	222.5	85.1	25.4	94.5	90.0	
D480		108	219.1	85.8	26.2	"	90.8	
D481		62	98.9	115.4	14.0	117.5	98.2	
D482		Road "A" Sta. 12+40	93.0	93.7	24.8	98.5	95.1	

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>	
8-21-80	D483	68	122.8	115.4	14.2	117.5	98.3		
	D484	68	123.5	85.1	25.7	94.5	90.0		
	D485	69	126.3	116.9	15.5	117.5	99.5		
	D486	69	127.1	93.7	23.2	104.0	90.1		
	D487	152	100.5	116.0	13.1	117.5	98.8		
	D488	152	101.0	116.1	12.6	"	98.8		
	D489	152	100.5	116.8	10.2	"	99.4		
	D490	62	97.8	110.0	9.0	116.5	94.4		
	D491	107	223.4	85.3	27.8	94.5	90.3		
	8-22-80	D492	108	224.0	85.6	28.5	"	90.5	
D493		107	226.7	86.8	30.1	"	91.8		
D494		106	227.3	90.2	26.7	"	95.4		
D495		Road "G" Sta. 1+85	97.4	107.1	15.0	108.5	98.7		
D496		151-A	103.5	113.5	12.1	117.5	96.6		
D497		151-A	104.3	114.9	10.2	"	97.8		
D498		151/151-A	103.6	112.8	10.7	"	96.0		
D499		151	103.6	117.5	13.3	"	100.0		
D500		77	133.5	116.5	9.3	"	99.2		
D501		77	134.2	98.8	22.6	104.0	95.0		
D502		78	135.0	90.4	23.7	98.5	91.8		
D503		78	135.8	89.0	24.9	"	90.4		
D504		79	138.3	118.7	16.2	117.5	100+		
D505		79	139.0	93.6	23.1	104.0	90.0		
D506		106	226.5	90.6	24.3	94.5	95.8		
8-23-80		D507	186	108.5	94.7	23.2	104.0	91.1	
		D508	187	96.6	95.3	20.6	"	91.6	
	D509	108	224.9	87.5	31.2	94.5	92.5		
	D510	107	228.3	85.8	24.6	"	90.8		
	D511	149	109.5	118.5	14.4	117.5	100+		
	D512	149	109.0	117.8	14.0	"	100+		
	D513	150	107.0	116.8	10.6	"	99.4		
	D514	150	106.5	111.3	11.4	"	94.8		
	D515	106	228.4	85.5	29.0	94.5	90.5		
	D516	Road "G" Sta. 1+20	96.1	99.0	18.3	98.5	100+		
	D517	Road "H" Sta. 1+10	106.5	101.4	19.6	104.0	97.5		

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>	
8-25-80	D518	107	229.4	91.9	26.2	94.5	97.3		
	D519	106	229.8	78.2	35.3	"	82.8	Fail; See D555	
	D520	Road "A" Sta. 16+25	108.6	99.7	16.4	104.0	95.9		
	D521	106	233.6	85.7	30.6	94.5	90.7		
8-26-80	D522	Road "A" Sta. 13+80	96.8	109.8	16.5	108.5	100+		
	D523	Road "I" Sta. 1+35	119.3	90.6	21.1	94.5	95.9		
	D524	Road "H" Sta. 0+90	106.9	94.6	20.2	98.5	96.0		
	D525	Road "A" Sta. 15+55	105.0	107.2	19.9	108.5	98.8		
	D526	Road "A" Sta. 17+70	115.0	100.0	15.5	104.0	96.1		
	D527	53	96.5	112.7	14.9	117.5	95.9		
	D528	106	235.0	86.6	29.3	94.5	91.6		
	D529	107	234.2	85.2	32.0	"	90.2		
	8-27-80	D530	Road "A" Sta. 11+55	92.6	104.0	17.3	108.5	95.9	
		D531	Road "A" Sta. 13+00	94.4	101.9	16.8	116.5	87.5	Fail; See D548
D532		121	140.5	86.5	29.6	94.5	91.5		
D533		122	134.0	90.7	22.6	"	95.9		
D534		108	229.9	85.7	26.5	"	90.6		
D535		111	206.9	77.4	25.4	"	81.9	Fail; See D550	
D536		110	214.8	85.8	20.3	"	90.7		
D537		109	222.0	80.7	18.2	"	85.4	Fail; See D549	
D538		Road "A" Sta. -0+65	44.1	113.1	10.7	117.5	96.3		
D539		55	98.3	89.9	19.8	98.5	91.3		
D540		Road "A" Sta. 17+20	112.1	96.3	26.6	"	97.7		
D541		Road "A" Sta. 14+50	100.0	107.2	15.0	108.5	98.8		
D542		Road "A" Sta. 16+05	108.0	95.4	23.7	98.5	96.8		
D543		Road "A" Sta. 18+95	121.0	96.0	19.7	108.5	88.5	Fail; See D551	
D544		Road "A" Sta. 0+90	45.2	117.7	14.4	117.5	100+		
D545	Road "H" Sta. 1+85	110.6	91.4	21.9	98.5	92.8	Fail; See D553		

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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>
8-28-80	D546	117	164.5	102.2	21.5	104.0	98.2	
	D547	115	169.3	97.9	23.4	"	94.2	
	D548	Road "A" Sta. 13+00	94.4	112.8	13.6	116.5	96.8	Retest D531
8-29-80	D549	109	222.0	102.0	17.2	104.0	98.1	Retest D537
	D550	111	206.9	91.0	21.8	94.5	96.3	Retest D535
	D551	Road "A" Sta. 18+95	121.0	103.5	19.9	108.5	95.4	Retest D543
	D552	Road "H" Sta. 1+85	110.6	98.8	19.0	98.5	100+	Retest D545
	D553	Road "I" Sta. 0+50	117.0	97.3	17.6	"	98.8	
	D554	Road "A" Sta. 5+55	71.3	116.4	13.2	117.5	99.1	
9-15-80	D555	106	229.8	93.3	23.1	94.5	98.7	Retest D519
	D556	101	231.7	88.1	28.0	"	94.4	
	D557	100	223.3	96.4	23.3	104.0	92.7	
9-17-80	D558	99	215.5	92.3	30.8	94.5	97.7	
	D559	Road "I" Sta. 1+85	122.7	100.0	17.0	98.5	100+	
	D560	66	115.5	103.5	12.5	117.5	88.1	Fail; See D617
	D561	71	108.5	111.0	11.5	116.5	95.3	
	D562	146	119.0	110.7	11.1	117.5	94.2	
9-18-80	D563	146	118.5	110.1	17.2	"	93.7	
	D564	Road "A" Sta. 18+20	117.4	105.4	17.5	108.5	97.1	
	D565	98	107.6	87.0	28.0	94.5	92.1	
	D566	76	127.6	108.8	13.2	117.5	92.6	
	D567	76	127.3	107.5	12.6	"	91.5	
	D568	75	123.6	110.1	24.3	117.5	93.7	
	D569	75	122.5	108.0	14.5	"	91.9	
	D570	70	112.3	101.2	12.4	"	86.1	Fail; See D622
	D571	71	107.3	106.0	12.0	"	90.2	
	D572	156	93.1	110.8	17.2	116.5	95.1	
	9-19-80	D573	157	93.0	106.5	14.5	"	91.4
D574		Road "A" Sta. 25+15	157.6	86.9	27.7	94.5	92.0	

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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>
9-19-80	D575	Road "A"						
		Sta. 24+00	152.5	79.3	31.7	94.5	84.0	Fail; See D577
	D576	Road "A"						
		Sta. 19+40	122.8	103.2	18.9	104.0	99.2	
	D577	Road "A"						
		Sta. 24+00	152.2	94.2	25.9	94.5	99.7	Retest D575
	D578	Road "A"						
		Sta. 22+70	142.7	86.9	29.6	"	91.9	
9-20-80	D579	9	73.7	97.1	16.6	104.0	93.3	
	D580	5	62.9	100.4	19.0	102.5	98.0	
	D581	Road "A"						
		Sta. 20+50	129.3	103.6	18.1	108.5	95.5	
	D582	Road "A"						
		Sta. 21+00	124.2	99.6	21.2	104.0	95.8	
	D583	5	64.8	92.7	25.2	101.5	91.3	
	D584	7	68.8	99.5	21.8	"	98.0	
9-22-80	D585	24	64.0	103.5	12.5	126.0	82.3	Fail; See D599
	D586	21	66.5	113.4	13.4	"	90.0	
	D587	33	69.0	97.7	12.3	"	77.5	Fail; See D604
	D588	Road "A"						
		Sta. 19+80	126.5	100.6	20.0	108.5	92.7	Fail; See D929
	D589	18	73.5	114.8	14.4	126.0	91.1	
	D590	71	108.3	95.3	20.7	104.0	91.6	
	D591	72	110.5	96.9	21.2	"	93.2	
9-23-80	D592	147	116.5	112.0	10.6	117.5	95.3	
	D593	147	116.0	116.0	11.9	"	98.8	
	D594	148-A	113.7	113.7	11.3	"	96.8	
	D595	148	113.8	114.0	11.5	"	97.0	
	D596	148/148-A	113.0	117.2	13.7	"	99.7	
	D597	5	64.8	101.2	18.7	108.5	93.3	
	D598	6	69.3	102.4	21.1	"	94.4	
	D599	24	64.0	115.4	11.0	126.0	91.6	Retest D585
9-23-80	D600	7	73.2	100.6	19.7	101.5	99.1	
	D601	6	71.0	90.4	27.9	"	89.1	Fail; See D603
	D602	5	65.8	97.1	22.4	"	95.7	
	D603	6	71.0	100.3	21.0	"	98.8	Retest D601
	D604	33	69.0	113.9	10.7	126.0	90.4	Retest D587
	D605	185	119.0	96.5	22.1	104.5	92.3	

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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>	
9-24-80	D606	72	110.1	109.2	11.8	117.5	92.9		
	D607	72	109.0	115.4	9.4	"	98.2		
	D608	8	78.5	102.3	21.0	104.0	98.4		
	D609	10	84.5	104.4	18.2	"	100+		
	D610	107	228.7	99.0	15.9	108.5	91.2		
	D611	106	228.8	93.2	21.7	"	85.9	Fail; See D623	
	D612	73	113.2	119.3	12.1	117.5	100+		
	D613	73	113.2	117.4	11.2	"	99.9		
	D614	73	112.0	116.7	9.6	"	99.4		
	9-25-80	D615	103	235.6	99.1	20.4	108.5	91.3	
		D616	6	70.8	104.7	17.6	104.0	100+	
		D617	66	115.5	103.3	10.0	117.5	87.9	Retest D560 Fail; See D658
		D618	66	115.1	116.1	10.9	"	99.2	
		D619	65	111.5	96.4	16.1	"	82.0	Fail; See D659
D620		65	110.3	108.1	10.8	"	92.0		
D621		70	111.1	110.9	10.8	"	94.3		
D622		70	112.2	111.2	12.4	"	94.6	Retest D570	
9-26-80		D623	106	228.8	100.2	22.2	108.5	92.3	Retest D611
		D624	108	223.5	116.2	17.4	116.5	99.7	
	D625	109	216.1	118.1	17.4	"	100+		
	D626	110	208.5	103.2	20.3	108.5	95.1		
	D627	111	201.0	106.9	20.0	"	98.5		
	D628	112	190.8	117.2	15.7	116.5	100+		
	D629	113	183.1	108.3	17.4	"	93.0		
	D630	114	175.6	111.9	15.8	"	96.1		
	D631	115	168.1	93.4	15.5	108.5	86.1	Fail; See D632	
	9-27-80	D632	115	168.1	104.6	17.2	"	96.4	Retest D631
D633		116	161.6	119.3	18.0	116.5	100+		
D634		117	156.7	108.1	13.8	108.5	99.6		
9-30-80	D635	183	146.2	89.4	24.8	94.5	94.6		
	D636	183	141.5	91.4	29.5	"	96.7		
10-01-80	D637	125	141.6	98.3	23.0	104.0	94.5		
	D638	124	135.5	94.3	21.1	"	90.7		
	D639	84	126.0	101.9	19.3	108.5	93.9		
	D640	86	138.1	105.3	19.4	"	97.1		
	D641	125	142.8	100.0	22.1	104.0	96.2		

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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>
10-02-80	D642	184	129.7	95.9	21.5	94.5	100+	
	D643	168	143.8	97.9	24.7	104.0	94.1	
	D644	186	108.5	90.5	24.7	94.5	95.7	
	D645	185	119.1	89.2	24.9	"	94.4	
	D646	85	134.3	106.6	16.2	116.5	91.5	
	D647	118	152.1	98.3	18.5	108.5	90.6	
10-03-80	D648	123	131.8	100.7	17.7	104.0	96.8	
	D649	122	135.0	94.8	20.9	"	91.2	
	D650	124	136.5	98.5	18.9	"	94.7	
	D651	123	133.0	92.6	25.9	"	89.0	Fail; See D652
	D652	123	133.0	99.1	16.4	"	95.2	Retest D651
	D653	83	123.4	113.0	13.7	116.5	97.0	
	D654	122	137.0	102.5	20.6	104.0	98.6	
	D655	123	134.5	99.9	21.6	"	96.1	
	D656	187	102.5	95.6	21.2	104.5	91.5	
	D657	196	87.8	91.0	22.5	94.5	96.3	
10-06-80	D658	66	115.5	110.0	9.7	117.5	93.6	Retest D617
	D659	65	111.5	96.9	14.3	98.5	98.4	Retest D619
	D660	87	139.1	102.6	14.5	108.5	94.6	
	D661	71	108.5	115.5	14.3	117.5	98.3	
	D662	74	116.2	103.4	14.9	104.0	99.4	
	D663	124	137.7	98.5	18.3	"	94.7	
	D664	125	144.1	101.7	19.5	"	97.8	
	D665	74	115.8	113.3	8.5	117.5	96.4	
	D666	142	131.7	87.8	29.0	94.5	92.9	
	D667	140	137.6	91.7	25.3	"	97.0	
10-07-80	D668	129	159.5	94.0	21.6	104.0	90.4	
	D669	142	132.4	92.8	24.1	94.5	98.2	
	D670	140	136.8	93.6	24.7	"	99.0	
	D671	74	115.3	102.8	10.0	117.5	87.5	Fail; See D690
	D672	187	104.7	87.7	27.8	94.5	92.8	
	D673	196	89.5	93.4	23.6	103.5	90.2	
	D674	126	148.3	101.2	14.5	104.0	97.3	
	D675	138	144.8	88.8	24.4	98.0	90.6	
	D676	136	150.5	95.5	18.6	"	97.4	
	D677	123	132.8	94.4	22.2	98.5	95.8	
10-08-80	D678	135	153.9	92.1	21.3	98.0	94.0	
	D679	137	147.3	94.2	23.8	"	96.1	

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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>
10-08-80	D680	139	143.2	89.5	20.3	98.0	91.3	
	D681	137	148.2	94.1	24.0	"	96.0	
	D682	135	153.5	90.1	26.4	"	91.9	
10-09-80	D683	136	151.0	85.1	27.2	94.5	90.0	
	D684	136	153.3	93.1	26.4	98.0	95.0	
	D685	134	155.7	90.7	26.0	"	92.6	
	D686	136	153.9	98.7	19.7	108.5	91.0	
	D687	139	142.4	100.7	19.4	98.5	100+	
	D688	141	136.0	87.0	25.8	98.0	90.1	
	D689	134	157.2	88.8	26.2	"	90.6	
10-10-80	D690	74	115.3	116.0	10.3	117.5	98.7	Retest D671
	D691	135	159.6	89.1	26.3	98.0	90.9	
	D692	134	158.0	92.9	25.0	"	94.8	
	D693	130	164.0	99.1	20.3	104.0	95.3	
	D694	126	147.0	99.3	15.4	108.5	91.5	
	D695	127	151.0	98.3	17.1	"	90.6	
	D696	129	159.5	104.9	13.2	"	96.7	
	D697	141	134.2	102.4	20.7	104.0	98.5	
	D698	139	143.1	89.9	23.2	98.0	91.7	
	D699	124	137.3	113.3	12.9	117.5	96.4	
	D700	128	155.8	106.7	15.1	"	90.8	
	D701	140	138.8	88.7	25.3	98.0	90.5	
	D702	138	148.0	91.6	21.7	"	93.5	
10-11-80	D703	186	111.8	94.9	19.1	103.5	91.7	
	D704	187	105.9	93.3	21.7	"	90.1	
	D705	124	138.5	112.0	16.8	117.5	95.3	
	D706	196	90.0	93.2	21.0	103.5	90.0	
	D707	195	92.0	97.2	19.3	"	93.9	
	D708	137	149.9	93.4	20.0	98.0	95.3	
	D709	139	142.5	97.7	20.2	"	99.7	
	10-14-80	D710	186	112.5	88.6	25.4	94.5	93.8
D711		Road "J" Sta. 1+20	130.3	102.8	21.1	104.0	98.9	
D712		Road "J" Sta. 2+60	142.4	91.5	25.0	94.5	96.8	
10-15-80	D713	122	134.8	114.4	14.6	117.5	97.3	
	D714	119	147.5	111.2	14.6	"	94.6	

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>
10-16-80	D715	116	163.6	113.3	14.4	117.5	96.4	
	D716	115	170.1	110.2	14.5	"	93.8	
10-17-80	D717	141	130.6	85.1	27.3	94.5	90.0	
	D718	142	130.8	85.7	28.0	"	90.7	
	D719	141	132.8	88.5	25.5	98.0	90.3	
	D720	143	128.5	117.4	14.8	117.5	99.9	
	D721	143	128.0	113.1	12.3	"	96.3	
	D722	143	127.8	113.6	12.4	"	96.7	
	D723	144	125.4	113.8	10.9	"	96.9	
	D724	144	126.0	117.5	13.7	"	100.0	
	D725	80	124.5	104.9	16.8	104.0	100+	
	D726	80	124.3	115.4	12.4	117.5	98.2	
	D727	80	123.1	107.3	10.8	108.5	98.9	
	D728	81	121.0	95.4	20.5	104.0	91.7	
	D729	81	121.0	102.8	12.9	108.5	94.7	
	D730	81	119.8	103.8	15.9	"	95.7	
	D731	144	125.5	105.9	10.9	117.5	90.1	
	D732	82	122.5	93.7	28.1	98.5	95.1	
	D733	82	122.4	91.6	24.8	"	93.0	
D734	82	121.2	99.4	12.2	"	100+		
10-18-80	D735	142	132.6	85.2	28.0	94.5	90.2	
	D736	141	136.5	99.9	22.0	104.0	96.1	
10-20-80	D737	137	150.3	93.6	24.1	98.0	95.5	
	D738	135	156.9	100.2	22.5	104.0	96.3	
	D739	139	141.1	95.9	22.4	98.0	97.9	
	D740	141	135.8	89.8	26.5	"	91.6	
10-21-80	D741	140	138.5	88.5	22.6	"	90.4	
	D742	139	143.5	90.3	25.6	"	92.1	
	D743	140	141.4	88.2	21.5	"	90.0	
10-22-80	D744	Road "G" Sta. 1+60	97.6	109.2	15.0	108.5	100+	
	D745	Road "A" Sta. 12+80	94.3	103.1	14.4	"	95.0	
	D746	Road "A" Sta. 13+80	96.4	107.7	15.7	"	99.3	
	D747	Road "A" Sta. 11+25	92.7	114.6	13.7	117.5	97.5	

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>
10-22-80	D748	20	67.5	96.4	10.9	117.5	82.0	Fail; See D752 Retest D748
	D749	141	136.5	95.7	16.1	98.0	97.7	
	D750	196	92.2	99.1	20.4	104.0	95.3	
	D751	187	105.5	100.0	19.4	"	96.2	
	D752	20	67.5	111.7	11.7	117.5	95.1	
	D753	19	69.7	111.3	11.7	"	94.7	
	D754	18	72.0	107.5	10.7	"	91.5	
	D755	16	77.7	108.2	11.0	"	92.1	
10-23-80	D756	32	68.8	112.5	12.1	"	95.7	
	D757	33	71.0	107.0	14.1	"	91.1	
	D758	187	108.5	91.6	25.0	98.5	93.0	
	D759	31	67.3	108.8	10.5	117.5	92.6	
	D760	15	79.8	111.4	17.5	"	94.8	
	D761	34	72.4	112.7	17.3	"	95.9	
	D762	138	152.3	89.3	23.6	98.0	91.1	
	D763	136	158.3	85.2	22.9	94.5	90.2	
D764	141	137.5	89.5	25.5	98.0	91.3		
10-24-80	D765	14	82.0	111.0	11.6	117.5	94.4	
	D766	40	79.7	115.0	11.4	"	97.9	
	D767	190	98.2	94.4	24.2	102.5	92.1	
10-25-80	D768	Road "H" Sta. 1+55	109.6	99.5	18.0	98.5	100+	
10-27-80	D769	Road "A" Sta. 3+85	58.4	102.2	17.9	104.0	98.3	
	D770	Road "A" Sta. 5+40	70.8	114.2	12.6	117.5	97.2	
	D771	142-A	132.0	102.0	18.0	104.0	98.1	
	D772	142	133.2	91.1	19.6	98.0	93.0	
	D773	141	138.0	93.6	20.5	"	95.5	
	D774	Road "A" Sta. 6+90	79.4	95.4	16.9	"	97.3	
	D775	114	177.6	95.1	17.7	98.5	96.5	
	D776	139	144.9	92.9	22.3	98.0	94.8	
	D777	117	158.7	97.2	24.1	98.5	98.7	
D778	116	163.6	98.0	27.0	"	99.4		
D779	138	149.2	89.3	22.6	98.0	91.1		
10-28-80	D780	121	140.6	100.7	21.3	104.0	96.8	
	D781	Road "I" Sta. 1+05	119.3	103.4	16.7	108.5	95.3	

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>	
10-28-80	D782	137	153.0	92.1	28.6	98.0	94.0		
	D783	136	156.2	86.4	27.5	94.5	91.5		
	D784	Road "A" Sta. 3+45	55.8	108.5	15.2	117.5	92.4	Fail; See D799	
	D785	Road "A" Sta. 6+40	78.0	108.1	15.8	"	92.0	Fail; See D801	
	D786	140	141.4	96.2	25.3	98.0	98.2		
	D787	118	154.1	109.4	12.8	117.5	93.1		
	D788	Road "A" Sta. 15+45	105.1	106.5	14.0	"	90.7	Fail; See D791	
	D789	Road "A" Sta. 17+00	113.2	105.9	13.6	108.5	97.6		
	10-29-80	D790	136	156.2	89.6	26.0	98.0	91.4	
		D791	Road "A" Sta. 15+45	105.1	116.1	15.0	117.5	98.8	Retest D788
D792		139	145.5	98.5	21.0	104.0	94.6		
D793		138	149.6	99.4	19.0	"	95.6		
D794		82	122.3	108.6	17.5	117.5	92.4		
D795		119	149.4	117.6	16.4	"	100+		
D796		135	159.0	88.8	28.6	98.0	90.6		
D797		137	153.6	100.4	21.5	104.0	96.6		
D798		136	157.5	88.2	21.2	98.0	90.0		
10-30-80		D799	Road "A" Sta. 3+45	55.8	111.6	15.8	117.5	95.0	Retest D784
	D800	Road "A" Sta. 4+90	68.1	112.2	15.7	"	95.5		
	D801	Road "A" Sta. 6+40	78.0	111.7	16.5	"	95.1	Retest D785	
	D802	135	160.5	89.7	26.0	94.5	94.9		
	D803	115	170.1	98.2	23.8	98.5	99.7		
	D804	113	185.1	98.9	19.7	"	100+		
	D805	142-A	131.5	107.0	15.2	117.5	91.0		
	D806	141	136.0	107.4	15.2	"	91.4		
	D807	121	139.0	107.0	15.8	"	91.1		
	D808	112	192.8	98.2	24.4	98.5	99.7		
	D809	111	203.0	96.6	18.6	"	98.1		
	D810	186	110.5	100.6	13.2	104.0	96.8		
10-31-80	D811	Road "A" Sta. 3+15	54.0	112.1	14.1	117.5	95.4		

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>
10-31-80	D812	Road "A" Sta. 4+40	64.4	111.7	15.4	117.5	95.1	
	D813	Road "A" Sta. 5+95	75.9	113.6	13.9	"	96.7	
11-01-80	D814	Road "A" Sta. 2+70	50.4	93.6	20.0	98.5	95.0	
11-03-80	D815	139	146.8	106.0	13.1	117.5	90.2	
	D816	140	139.6	107.2	17.9	"	91.2	
	D817	Road "A" Sta. 8+50	88.4	99.0	24.9	104.0	95.2	
	D818	187	110.2	92.2	26.2	98.0	94.1	
11-04-80	D819	187	94.6	94.4	23.3	"	96.3	
	D820	187	95.7	85.2	31.4	94.5	90.2	
	D821	Road "A" Sta. 10+00	89.7	102.3	19.2	104.0	98.3	
	D822	138	148.5	115.4	14.2	117.5	98.2	
11-05-80	D823	Road "A" Sta. 8+00	86.5	118.2	14.0	"	100+	
	D824	Road "A" Sta. 9+65	90.5	112.0	13.5	"	95.3	
	D825	Road "A" Sta. 10+75	90.7	93.7	19.5	98.5	95.1	
11-06-80	D826	Road "A" Sta. 7+75	86.2	111.6	14.6	117.5	95.0	
	D827	187	96.2	90.2	23.7	98.0	92.1	
	D828	Road "A" Sta. 10+55	91.2	108.4	16.1	114.0	95.1	
	D829	Road "A" Sta. 9+15	90.5	113.2	13.5	117.5	96.4	
	D830	187	98.0	92.7	21.7	98.0	94.6	
	D831	138	149.5	106.6	16.4	114.0	93.5	
11-07-80	D832	187	99.5	95.7	23.9	99.0	96.7	
	D833	Road "G" Sta. 1+00	97.0	113.8	9.2	126.0	90.3	Fail; See D834
	D834	Road "G" Sta. 1+00	97.0	123.2	11.8	"	97.8	Retest D833
	D835	39	77.3	115.5	14.4	117.5	98.3	

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>
11-10-80	D836	131	167.0	92.8	22.1	98.0	94.7	
	D837	132	170.2	87.5	24.5	94.5	92.6	
	D838	187	100.7	107.7	14.7	99.0	93.8	
	D839	86	140.0	76.0	25.5	94.5	80.4	Fail; See D872
	D840	86	140.1	87.1	18.7	98.5	88.4	Fail; See D852
11-12-80	D841	Road "A" Sta. 2+05	47.4	117.6	12.7	117.5	100+	
	D842	86	139.8	92.6	13.5	108.5	85.3	Fail; See D874
11-13-80	D843	187	101.2	101.5	23.4	99.0	100+	
	D844	41	83.5	118.1	13.8	117.5	100+	
11-14-80	D845	Pump Sta. Pad	46.8	111.1	19.5	116.5	95.4	
	D846	Pump Sta. Road	47.5	108.7	17.1	"	93.3	Fail; See D871
	D847	196	74.3	97.9	19.5	104.0	94.1	
	D848	83	124.0	98.5	23.7	98.5	100.0	
	D849	83	125.4	92.5	20.3	"	93.9	
	D850	84	128.0	100.4	11.2	108.5	92.6	
	D851	87	140.0	89.3	22.8	98.0	91.1	
	D852	86	140.1	91.7	19.1	98.5	93.1	Retest D840
	11-15-80	D853	196	76.0	93.7	24.8	98.0	95.6
D854		Pump Sta. Pad	47.4	111.0	15.3	116.5	95.3	
D855		196	79.2	90.0	26.5	98.0	91.8	
11-17-80	D856	Pump Sta. Pad	48.0	113.8	17.4	117.5	96.9	
	D857	196	81.0	89.6	25.3	98.0	91.4	
	D858	137	152.0	113.6	10.6	117.5	96.7	
	D859	136	155.8	108.1	13.1	"	92.0	
	D860	196	80.7	96.5	24.5	99.0	97.5	
	D861	87	140.1	99.9	19.3	108.5	92.1	
	D862	85	136.2	94.2	22.2	98.5	95.6	
	11-18-80	D863	Road "A" Sta. 3+20	55.0	114.9	13.2	117.5	97.8
D864		Road "A" Sta. 5+15	69.7	109.5	13.0	115.0	95.2	
D865		Pump Sta. Pad	48.3	108.8	14.1	117.5	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>
11-18-80	D866	130	162.1	113.0	11.4	117.5	96.2	
	D867	131	164.6	119.7	17.5	"	100+	
	D868	Tank Rd. Sta. 7+00	330.2	97.6	27.0	98.0	99.6	
	D869	Tank Rd. Sta. 5+75	309.3	91.5	26.1	94.5	96.8	
	D870	Pump Sta. Pad	48.3	104.2	12.6	117.5	88.6	Fail; See D888
	D871	Pump Sta. Road	47.4	111.6	11.8	"	95.0	Retest D846
	D872	86	140.0	85.7	24.9	94.5	90.7	Retest D839
	D873	85	136.3	107.6	21.7	104.0	100+	
	D874	86	139.8	105.3	11.7	108.5	97.0	Retest D842
	11-19-80	D875	Road "A" Sta. 6+15	68.6	115.3	15.1	117.5	98.1
D876		Road "A" Sta. 7+90	85.4	118.7	12.7	"	100+	
11-20-80	D877	Road "A" Sta. 8+90	90.7	117.9	14.6	"	100+	
	D878	Road "A" Sta. 10+30	91.3	116.0	12.1	"	98.7	
	D879	35	77.9	113.4	9.7	"	96.5	
	D880	145-A	123.1	112.7	8.5	"	95.9	
	D881	145	123.1	116.9	9.0	"	99.5	
	11-21-80	D882	Road "A" Sta. 12+90	94.9	124.6	11.0	126.0	98.9
D883		Road "A" Sta. 14+25	98.7	121.4	11.6	"	96.3	
D884		Road "A" Sta. 15+85	107.1	121.5	10.2	"	96.4	
D885		Road "A" Sta. 11+05	91.7	124.2	11.2	"	98.6	
D886		Road "A" Sta. 1+20	44.2	121.2	13.2	"	96.2	
11-22-80		D887	Road "A" Sta. -0+46	51.7	120.8	12.2	"	95.9
	D888	Pump Sta. Pad	48.5	114.2	14.9	117.5	97.2	Retest D870
	D889	Pump Sta. Road	49.3	111.9	15.3	"	95.2	

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>
11-22-80	D890	Road "A" Sta. 2+59	49.5	119.8	14.8	126.0	95.1	
	D891	123	134.6	111.5	13.8	117.5	94.9	
11-24-80	D892	Road "H" Sta. 1+75	109.5	119.7	12.8	126.0	95.0	
	D893	Road "H" Sta. 0+35	104.5	127.3	11.2	"	100+	
	D894	Road "I" Sta. 0+75	119.6	120.0	11.7	"	95.2	
	D895	184	126.7	105.9	14.5	117.5	90.1	
	D896	123	134.6	83.9	19.1	98.5	85.2	Fail; See D912
	D897	123	134.1	96.9	17.3	"	98.4	
	D898	121	140.8	122.4	9.8	117.5	100+	
	D899	121	140.5	112.3	11.0	"	95.6	
	11-25-80	D900	Road "A" Sta. 17+40	113.6	120.2	12.8	126.0	95.4
D901		Road "A" Sta. 4+25	70.7	120.8	11.4	"	95.9	
D902		Pump Sta. Pad	48.8	120.1	13.3	117.5	100+	
D903		183	141.3	88.5	20.1	98.0	90.3	
D904		131	166.5	116.1	13.3	117.5	98.8	
D905		131	166.5	112.4	13.7	"	95.7	
D906		130	164.0	117.4	12.5	"	99.9	
D907		130	164.0	116.6	14.0	"	99.2	
D908		Pump Sta. Pad	50.3	115.3	16.3	"	98.2	
D909		Road "A" Sta. 22+50	154.9	103.3	20.4	104.0	99.3	
D910		184	130.0	119.2	14.6	117.5	100+	
D911		184	130.0	116.4	16.3	"	99.1	
D912		123	134.6	96.8	21.4	98.5	98.3	Retest D896
11-26-80	D913	Road "A" Sta. 23+95	154.9	99.6	14.1	104.0	95.8	
	D914	Road "A" Sta. 5+75	73.2	122.7	13.3	126.0	97.4	
	D915	Road "J" Sta. 0+45	126.9	116.2	13.6	117.5	98.9	
	D916	Road "J" Sta. 1+90	143.1	120.0	13.4	"	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>
11-26-80	D917	Road "J" Sta. 3+55	153.0	114.8	15.5	117.5	97.7	
11-28-80	D918	Road "A" Sta. 20+95	131.2	112.6	12.5	"	95.8	
	D919	Road "A" Sta. 23+10	150.9	113.4	12.6	"	96.5	
	D920	142	133.3	112.7	11.1	"	95.9	
	D921	141	137.8	104.2	11.4	104.0	100+	
	D922	140	141.4	115.3	16.0	117.5	98.1	
	D923	Road "J" Sta. 1+60	135.4	114.2	12.3	"	97.2	
	D924	Road "J" Sta. 3+00	147.0	117.5	12.8	"	100.0	
	D925	139	145.6	117.3	11.9	"	99.8	
	D926	138	150.3	113.2	9.3	"	96.3	
	D927	137	153.4	111.4	8.7	"	94.8	
	D928	136	157.6	114.4	11.2	"	97.4	
	D929	Road "A" Sta. 19+80	127.2	108.5	17.3	108.5	100.0	Retest D588
	D930	Road "A" Sta. 7+40	82.4	122.8	10.6	126.0	97.4	
	D931	Road "A" Sta. 9+00	91.2	126.5	10.9	"	100+	
11-29-80	D932	122	136.6	106.0	9.2	117.5	90.3	
	D933	Tank Road Sta. 6+50	305.3	117.6	10.4	"	100+	
	D934	Tank Road Sta. 4+50	284.3	99.5	19.7	104.5	95.2	
	D935	Tank Road Sta. 2+40	269.5	101.2	24.0	"	96.8	
	D936	Tank Road Sta. 1+00	246.5	88.2	18.6	87.0	100+	
	D937	Road "J" Sta. 13+00	232.5	102.0	20.8	104.5	97.6	
	D938	Road "A" Sta. 20+15	127.7	116.6	13.4	117.5	99.2	
12-01-80	D939	Tank Road Sta. 3+35	277.7	116.6	11.6	"	99.2	
	D940	196	84.3	92.2	19.4	99.0	93.2	

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>
12-01-80	D941	Tank Road Sta. 7+45	323.3	115.6	14.8	117.5	98.3	
	D942	Tank Road Sta. 6+00	313.9	117.1	11.0	"	99.7	
	D943	Tank Road Sta. 4+55	290.3	114.9	15.0	"	97.8	
	D944	Tank Road Sta. 1+90	262.3	117.0	15.6	"	99.6	
	D945	Road "J" Sta. 5+00	166.9	99.4	21.4	104.5	95.1	
12-02-80	D946	Road "J" Sta. 6+65	180.2	96.3	19.9	98.0	98.3	
	D947	Road "A" Sta. 21+55	136.8	118.9	13.7	117.5	100+	
	D948	30	70.6	110.3	13.1	115.0	95.9	
	D949	31	67.2	106.5	9.5	"	92.6	
	D950	34	74.6	103.6	12.0	"	90.1	
	D951	39	75.2	106.6	11.2	"	92.7	
	D952	42	87.7	108.8	9.1	"	94.6	
	D953	Road "A" Sta. 22+90	147.1	116.4	13.7	117.5	99.1	
	D954	12	88.5	115.7	9.1	126.0	91.8	
	D955	51	90.0	112.0	8.2	"	97.4	
	D956	196	82.4	87.1	20.4	94.5	92.2	
	D957	103	236.0	104.1	12.2	114.0	91.3	
	D958	104	237.3	103.3	16.1	"	90.6	
	D959	109	217.4	106.3	16.5	"	93.3	
12-3-80	D960	186	114.2	100.9	18.0	104.0	97.0	
	D961	105	237.0	97.7	9.5	"	94.0	
	D962	102	230.6	97.2	17.0	"	93.5	
	D963	Road "A" Sta. 25+23	157.9	98.8	19.4	"	95.0	
	D964	142-A	131.5	108.1	11.4	117.5	92.0	
	D965	Road "J" Sta. 3+30	142.5	112.3	14.1	"	95.6	
	D966	Road "J" Sta. 4+83	168.4	116.1	14.1	"	98.8	
	D967	Road "J" Sta. 6+45	171.2	113.3	14.2	"	96.4	
	D968	101	222.2	110.4	15.7	"	93.9	
	D969	Road "A" Sta. 24+35	157.2	109.7	15.3	"	93.4	Fail; See D976

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>
12-03-80	D970	100	214.4	115.2	13.5	117.5	98.0	
12-04-80	D971	186	116.5	95.2	17.1	99.0	96.1	
	D972	Road "J" Sta. 8+30	199.9	93.6	20.3	94.5	99.0	
	D973	Road "J" Sta. 9+75	216.0	99.5	20.5	98.0	100+	
	D974	Road "J" Sta. 10+95	230.5	92.6	20.4	94.5	98.0	
	D975	103	236.6	110.5	16.5	117.5	94.0	
	D976	Road "A" Sta. 24+35	157.2	114.8	14.2	"	97.7	Retest D976
	D977	Road "A" Sta. 25+40	159.7	112.0	14.7	"	95.3	
	D978	102	231.3	118.3	13.5	"	100+	
	D979	98	199.3	116.1	10.2	"	98.8	
	D980	99	206.6	117.6	14.7	"	100+	
	D981	105	236.6	114.8	12.4	"	97.7	
	D982	104	236.9	118.1	16.0	"	100+	
	D983	166	111.0	83.1	26.9	86.0	96.7	
	D984	165	110.5	90.6	22.7	94.5	95.8	
	D985	164	110.0	91.8	30.3	"	97.1	
	D986	Road "J" Sta. 12+40	233.0	89.9	22.9	"	95.1	
	D987	163	109.0	103.7	16.4	104.0	99.7	
	D988	21	65.0	104.8	15.5	"	100+	
	D989	Tank Road Sta. 6+50	319.2	108.5	15.3	117.5	92.3	Fail; Section removed
12-05-80	D990	Road "J" Sta. 7+95	193.4	113.5	15.2	114.0	99.6	
	D991	110	210.8	110.9	11.4	"	97.3	
	D992	Road "A" Sta. 25+25	158.7	108.5	15.1	"	95.2	
	D993	Road "A" Sta. 24+15	156.0	109.2	15.4	"	95.8	
	D994	97	191.5	117.6	12.5	117.5	100+	
12-09-80	D995	42	84.2	118.7	9.8	126.0	94.2	
12-10-80	D996	Road "J" Sta. 8+80	203.3	99.0	18.3	104.0	95.2	

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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>
12-10-80	D997	Road "J" Sta. 10+20	222.1	103.9	14.4	104.0	99.9	
12-11-80	D998	21	64.3	92.7	24.8	"	89.1	Fail; See D1035
	D999	22	62.5	92.0	24.2	"	88.5	Fail; See D1036
12-12-80	D1000	125	141.4	116.8	12.9	117.5	99.4	
	D1001	Road "J" Sta. 13+00	232.0	108.5	14.8	114.0	95.2	
	D1002	99	209.5	113.1	13.5	117.5	96.3	
12-13-80	D1003	6	65.5	93.8	27.3	104.0	90.2	
	D1004	195	78.6	96.7	22.3	"	93.0	
12-17-80	D1005	Road "J" Sta. 11+60	233.9	117.7	13.6	117.5	100+	
	D1006	Road "J" Sta. 10+45	219.4	115.6	14.1	"	98.4	
	D1007	Road "J" Sta. 9+05	208.1	115.0	13.8	"	97.9	
	D1008	Road "J" Sta. 7+45	188.7	116.8	13.0	"	99.4	
	D1009	Road "J" Sta. 5+50	167.7	115.3	14.6	"	98.1	
	D1010	Road "J" Sta. 4+20	158.0	117.9	11.8	"	100+	
	D1011	Road "J" Sta. 2+40	141.2	116.6	13.5	"	99.2	
12-18-80	D1012	111	203.1	98.7	22.9	98.5	100+	
	D1013	108	216.5	95.4	25.9	"	96.9	
	D1014	Road "A" Sta. 0+80	45.4	121.8	12.7	126.0	96.7	
	D1015	Road "A" Sta. 2+20	51.6	126.2	11.8	"	100+	
	D1016	197	58.6	117.8	12.1	"	93.5	
	D1017	11	88.2	120.8	13.5	"	95.9	
12-29-80	D1018	Road "J" Sta. 12+30	233.5	114.1	15.8	117.5	97.1	
	D1019	12	87.3	103.4	16.0	104.5	98.9	
	D1020	12	87.1	99.4	17.6	"	95.1	

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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>	
1-05-81	D1021	11	80.1	103.8	12.5	105.0	98.9		
	D1022	10	78.0	103.5	16.3	"	98.6		
	D1023	9	75.0	104.2	17.3	"	99.2		
	D1024	8	71.4	105.3	19.8	"	100+		
	D1025	7	68.6	103.1	20.2	"	98.2		
	D1026	6	67.0	96.7	23.0	"	92.1		
	D1027	22	60.2	117.9	16.5	117.5	100+		
1-06-81	D1028	21	61.9	115.6	13.9	"	98.4		
	D1029	11	84.6	99.8	21.9	105.0	95.0		
	D1030	107	230.7	116.1	15.6	116.5	99.7		
	D1031	107	230.7	112.8	14.6	"	96.8		
	D1032	106	230.6	107.0	18.5	"	91.9		
	D1033	106	230.6	109.8	13.7	"	94.3		
	D1034	5	60.4	95.1	23.9	105.0	90.6		
	D1035	21	64.3	104.3	22.3	104.0	100+	Retest D998	
	D1036	22	62.5	100.8	20.2	"	97.0	Retest D999	
1-07-81	D1037	21	65.0	117.9	16.1	117.5	100+		
	D1038	22	63.0	116.6	17.7	"	99.2		
	D1039	133	161.2	104.2	21.1	104.5	99.7		
	D1040	129	161.2	97.2	22.6	98.5	98.6		
	D1041	129	161.0	96.5	22.4	"	98.0		
	D1042	128	157.0	93.5	22.0	"	95.0		
	D1043	128	157.0	96.8	19.2	"	98.3		
	D1044	Tank Road Sta. 7+00	324.7	125.9	11.0	126.0	99.9		
	D1045	Tank Road Sta. 5+50	304.7	128.4	11.3	"	100+		
	D1046	Tank Road Sta. 4+00	284.7	123.7	8.5	"	98.2		
	D1047	Tank Road Sta. 2+50	267.2	114.6	8.6	"	91.0	Fail; Section removed	
	1-21-81	D1048	Road "A" Sta. 24+75	157.5	116.6	14.2	117.5	99.2	
		D1049	Road "A" Sta. 23+20	150.0	117.2	13.2	"	99.8	
1-13-81	D1050	Road "A" Sta. 18+90	121.0	118.0	15.0	"	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>
1-13-81	D1051	196	87.0	95.1	24.5	104.0	91.5	
	D1052	193	88.0	100.1	25.5	"	96.3	
	D1053	195	81.0	88.8	29.3	94.5	94.0	
1-14-81	D1054	196	89.0	92.9	30.4	"	98.3	
	D1055	193	89.0	91.4	30.5	"	96.7	
	D1056	195	83.5	91.7	27.8	"	97.0	
	D1057	193	90.0	89.3	26.4	"	94.5	
	D1058	Road "A" Sta. 22+00	142.7	117.8	12.7	117.5	100+	
	D1059	Road "A" Sta. 20+55	130.9	116.0	13.4	"	98.7	
	D1060	196	91.0	89.2	28.5	94.5	94.4	
1-15-81	D1061	193	92.0	86.7	28.6	"	91.8	
	D1062	5	50.1	86.5	35.1	86.0	100+	
	D1063	193	93.5	97.9	26.8	104.0	94.2	
	D1064	6	57.3	81.4	31.0	86.0	94.6	
	D1065	5	51.3	77.8	27.1	"	90.5	
	D1066	132	169.0	117.7	16.6	117.5	100+	
	D1067	193	93.4	94.4	25.7	104.0	90.8	
	D1068	8	70.3	86.8	27.2	94.5	91.9	
	D1069	9	73.0	95.5	24.0	104.0	91.9	
1-16-81	D1070	6	58.1	82.7	35.1	86.0	96.2	
	D1071	Tank Road Sta. 0+20	234.0	124.5	12.3	126.0	98.8	
	D1072	Tank Road Sta. 1+70	258.2	121.3	11.7	"	96.3	
	D1073	5	54.0	82.3	30.8	86.0	95.7	
1-19-81	D1074	6	70.7	92.9	25.9	94.5	98.3	
	D1075	Tank Road Sta. 7+70	331.1	115.0	14.1	117.5	97.9	
	D1076	Tank Road Sta. 6+20	216.4	123.7	10.4	126.0	98.2	
	D1077	Tank Road Sta. 4+70	292.7	124.4	12.9	"	98.7	
	D1078	Tank Road Sta. 3+40	277.9	120.4	13.9	"	95.5	
	D1079	120	141.2	117.0	15.7	117.5	99.6	
	D1080	Tank Road Sta. 1+90	263.9	120.8	13.5	126.0	95.9	
	D1081	Tank Road Sta. 0+55	238.7	126.3	11.1	"	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>
1-19-81	D1082	126	147.3	95.1	19.6	103.0	92.7	
	D1083	126	147.3	97.7	22.2	"	94.9	
	D1084	125	145.6	116.0	16.6	117.5	98.7	
	D1085	125	145.6	113.7	16.1	"	96.8	
1-20-81	D1086	5	68.2	81.9	35.6	86.0	95.2	
	D1087	6	71.2	79.7	37.6	"	92.7	
	D1088	127	154.4	88.6	22.8	98.5	90.0	
	D1089	127	154.4	99.5	17.6	"	100+	
	D1090	134	162.4	107.4	15.8	117.5	91.4	
	D1091	120	144.2	112.5	15.4	"	95.7	
	D1092	120	144.2	112.5	17.3	"	95.7	
	D1093	5	67.7	84.8	33.5	88.5	95.8	
	D1094	6	71.2	95.1	35.6	104.0	91.4	
	D1095	7	75.2	94.3	31.1	"	90.7	
	D1096	8	79.7	100.3	21.0	"	96.4	
	D1097	192	87.3	93.9	24.0	"	90.3	
	D1098	191	86.9	95.7	23.8	"	92.0	
1-21-81	D1099	Road "A" Sta. 1+00	129.5	114.8	13.0	117.5	97.7	
	D1100	Road "J" Sta. 2+55	142.7	115.7	12.0	"	98.5	
	D1101	5	66.4	85.2	34.2	94.5	90.2	
	D1102	6	72.3	89.4	29.8	"	94.6	
	D1103	7	76.4	94.2	28.3	"	99.7	
1-22-81	D1104	Road "J" Sta. 4+15	153.5	112.6	10.2	117.5	95.8	
	D1105	Road "J" Sta. 5+35	164.7	113.2	12.3	"	96.3	
1-24-81	D1106	Road "J" Sta. 13+00	233.0	112.6	12.0	"	95.8	
	D1107	Road "J" Sta. 11+70	235.4	113.7	11.9	"	96.8	
	D1108	Road "J" Sta. 10+60	222.0	116.8	11.5	"	99.4	
	D1109	Road "J" Sta. 9+10	205.5	112.3	12.3	"	95.6	
	D1110	Road "J" Sta. 7+90	191.4	115.5	13.3	"	98.3	
	D1111	Road "J" Sta. 6+50	174.9	112.5	11.6	"	95.7	

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>
1-26-81	D1112	96	183.5	117.2	17.1	117.5	99.7	
	D1113	95	181.4	116.1	16.4	"	98.8	
	D1114	94	175.7	118.4	15.3	"	100+	
	D1115	93	169.6	115.5	14.4	"	98.3	
	D1116	133	163.5	119.3	14.2	"	100+	
	D1117	5	68.5	84.7	28.4	86.0	98.5	
	D1118	6	69.5	98.9	20.5	104.0	95.1	
	D1119	7	70.8	97.7	21.2	"	93.9	
	D1120	88	141.7	113.3	16.9	117.5	96.4	
	D1121	90	149.6	114.6	10.6	"	97.5	
	D1122	91	154.4	119.0	16.3	"	100+	
	D1123	92	159.0	116.1	15.3	"	98.8	
	D1124	100	215.2	118.5	13.6	"	100+	
	D1125	101	223.0	118.1	12.0	"	100+	
	1-28-81	D1126	89	145.4	112.7	15.7	"	95.9
D1127		135	159.0	106.0	12.1	"	90.2	
D1128		134	164.5	106.7	12.6	"	90.8	
D1129		134	164.0	107.2	12.8	"	91.2	
1-29-81	D1130	11	84.3	104.2	21.6	103.5	100+	
	D1131	10	76.7	95.8	29.3	"	92.5	
	D1132	9	74.0	97.2	14.6	"	93.9	
	D1133	8	71.2	98.8	16.3	"	95.5	
	D1134	7	68.5	97.9	15.6	"	94.6	
	D1135	6	61.1	96.8	22.8	"	93.5	
	D1136	7	77.3	101.2	18.9	"	97.8	
	D1137	6	72.5	102.4	19.8	"	98.9	
2-2-81	D1138	5	70.3	101.4	21.4	"	98.8	
	D1139	190	79.2	109.9	13.2	117.5	93.5	
	D1140	191	76.5	111.2	12.7	"	94.6	
	D1141	190	85.1	96.5	23.3	103.5	93.2	
	D1142	191	82.8	96.7	23.3	"	93.4	
	D1143	96	183.0	118.2	15.5	117.5	100+	
	D1144	95	176.0	119.4	13.6	"	100+	
	D1145	94	169.1	118.4	12.5	"	100+	
	D1146	164	100.8	111.1	13.3	"	94.5	
	D1147	163	101.1	112.0	15.0	"	95.3	
	D1148	162	98.8	110.7	13.4	"	94.2	
	D1149	42	85.0	110.8	15.7	"	94.3	
	D1150	158	88.2	115.7	12.9	"	98.5	
	D1151	159	88.8	111.5	13.4	"	94.9	
	D1152	188	86.0	95.8	26.0	94.5	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>
2-2-81	D1153	189	83.4	85.2	32.0	94.5	90.2	
	D1154	133	164.7	114.4	12.8	117.5	97.4	
	D1155	133	165.3	117.5	13.1	"	100.0	
	D1156	193	82.0	95.0	18.0	104.0	91.3	
	D1157	192	73.5	94.5	18.1	"	90.9	
2-4-81	D1158	23	59.4	117.2	14.1	117.5	99.7	
	D1159	24	63.5	96.1	20.9	104.0	92.4	
	D1160	175	152.5	119.1	14.5	117.5	100+	
	D1161	176	150.0	118.3	13.9	"	100+	
	D1162	177	149.7	116.1	16.7	"	98.8	
	D1163	178	149.5	114.7	17.4	"	97.6	
	D1164	179	148.4	117.6	13.0	"	100+	
	D1165	180	145.9	116.6	14.5	"	99.2	
2-6-81	D1166	100	206.5	111.0	15.6	"	94.5	
	D1167	Road "A" Sta. 19+20	124.0	123.0	10.4	126.0	97.6	
	D1168	181	144.2	115.8	13.1	117.5	98.6	
	D1169	98	199.1	117.7	16.2	"	100+	
	D1170	97	191.2	115.4	15.6	"	98.2	
	D1171	182	139.7	118.7	17.4	"	100+	
2-7-81	D1172	196	67.0	117.8	16.4	"	100+	
	D1173	195	67.6	115.2	16.9	"	98.1	
	D1174	195	68.6	102.1	20.2	104.0	98.2	
	D1175	196	68.5	95.0	26.0	"	91.3	
2-9-81	D1176	23	60.4	118.9	16.6	117.5	100+	
	D1177	23	60.9	116.9	14.7	"	99.4	
	D1178	155	95.0	107.2	13.9	"	91.2	
	D1179	155	94.6	114.1	12.7	"	97.1	
	D1180	156	95.5	107.6	19.4	"	91.6	Retest D88
	D1181	156	95.5	111.6	13.0	"	95.0	
	D1182	157	95.1	115.7	15.2	"	98.4	
	D1183	157	93.0	114.9	14.3	"	97.8	Retest D89
2-10-81	D1184	Road "A" Sta. 21+70	152.1	124.0	10.1	126.0	98.4	
	D1185	Road "A" Sta. 23+20	157.5	123.6	10.5	"	98.3	
	D1186	Road "A" Sta. 24+65	160.2	123.6	10.6	"	98.1	

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>
2-10-81	D1187	93	164.4	117.7	15.5	117.5	100+	
	D1188	92	159.8	113.5	13.6	"	96.6	
	D1189	91	155.2	117.7	14.2	"	100+	
	D1190	90	149.6	113.4	12.4	"	96.5	
	D1191	89	146.7	115.9	12.7	"	98.7	
	D1192	88	144.1	110.4	13.7	"	93.9	
	D1193	177	141.0	116.4	14.6	"	99.1	
	D1194	178	150.3	114.3	13.9	"	97.3	
	D1195	179	149.8	114.3	13.9	"	97.3	
	D1196	180	147.2	113.7	13.3	"	96.8	
	D1197	181	144.8	114.3	15.2	"	97.3	
	D1198	189	81.0	117.3	16.2	"	99.9	
	D1199	193	76.8	90.9	20.5	94.5	96.2	
	D1200	165	102.2	110.8	12.4	117.5	94.3	
D1201	166	102.8	107.4	12.7	"	91.4		
2-11-81	D1202	193	75.0	116.5	15.9	"	99.2	
	D1203	188	84.0	117.6	16.5	"	100+	
2-13-81	D1204	Road "J" Sta. 0+60	131.4	120.6	13.0	126.0	95.7	
	D1205	8	73.2	91.3	20.1	94.5	96.6	
	D1206	8	71.2	110.8	15.5	117.5	94.3	
	D1207	7	66.9	114.7	15.6	"	97.6	
	D1208	7	69.5	92.5	15.4	94.5	97.9	
	D1209	9	72.9	116.8	16.3	117.5	99.4	
	2-18-81	D1210	197	55.3	111.2	17.0	"	94.6
D1211		6	65.0	116.6	14.2	"	99.2	
D1212		6	66.4	99.5	18.6	104.0	95.7	
D1213		9	74.0	95.1	21.3	"	91.4	
D1214		105	246.0	110.0	10.1	117.5	93.6	
D1215		105	246.5	90.4	16.1	94.5	95.6	
D1216		104	246.2	114.0	11.4	117.5	97.0	
D1217		104	246.4	89.6	20.9	94.5	94.9	
D1218		103	244.9	113.6	11.1	117.5	96.7	
D1219		103	245.4	89.7	23.4	94.5	94.9	
D1220		102	239.4	119.0	10.8	117.5	100+	
D1221		102	239.4	93.1	25.2	94.5	98.5	
D1222		101	231.2	118.6	10.5	117.5	100+	
D1223		100	223.5	118.0	8.9	"	100+	
D1224		99	215.6	110.8	10.3	"	94.3	
D1225		98	208.5	117.6	12.0	"	100+	
D1226	97	200.4	117.5	14.2	"	100.0		

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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>	
2-18-81	D1227	97	200.6	93.5	27.4	94.5	99.0		
	D1228	96	192.6	112.7	15.7	117.5	95.9		
	D1229	96	192.6	92.4	22.1	94.5	97.8		
2-23-81	D1230	194	62.0	117.6	16.5	117.5	100+		
	D1231	161	96.1	116.9	15.0	"	99.5		
	D1232	160	92.9	114.3	13.4	"	97.3		
	D1233	11	85.0	113.9	12.6	"	96.9		
2-25-81	D1234	192	70.7	114.9	15.6	"	97.8		
	D1235	95	184.8	115.0	13.2	"	97.9		
	D1236	95	184.8	85.7	30.0	94.5	90.7		
	D1237	94	177.9	114.6	13.1	117.5	97.5		
	D1238	94	177.9	85.2	30.4	94.5	90.2		
	D1239	93	173.5	107.6	12.4	117.5	91.6		
	D1240	93	173.5	87.3	26.5	94.5	92.4		
2-26-81	D1241	92	168.7	116.4	11.9	117.5	99.1		
	D1242	92	168.7	85.2	33.4	94.5	90.2		
	D1243	91	164.0	114.4	10.8	117.5	97.4		
	D1244	91	164.0	94.7	26.1	94.5	100+		
	D1245	90	159.7	116.0	15.3	117.5	98.8		
	D1246	90	159.5	95.1	26.0	94.5	100+		
	D1247	89	154.6	115.0	10.9	117.5	97.9		
2-27-81	D1248	89	154.8	85.2	25.1	94.5	90.1		
	D1249	88	151.8	106.8	12.9	117.5	90.9		
	D1250	88	150.4	86.6	32.3	94.5	91.6		
	D1251	Road "J" Sta. 6+20	175.4	116.9	14.3	126.0	92.8	Fail; See D1263	
	D1252	Road "J" Sta. 7+80	193.6	118.4	12.7	"	94.0	Fail; See D1264	
	D1253	Road "J" Sta. 9+30	212.4	112.9	11.8	"	89.6	Fail; See D1265	
	D1254	Road "J" Sta. 10+80	235.1	119.8	10.9	"	95.1		
	D1255	Road "J" Sta. 11+30	235.8	119.7	10.5	"	95.0		
	3-2-81	D1256	Road "J" Sta. 13+25	235.4	126.5	11.2	"	100+	
		D1257	158	81.9	108.4	15.0	117.5	92.2	
D1258		159	85.1	106.1	15.3	"	90.3		
D1259		160	88.8	106.7	15.9	"	90.8		

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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>
3-3-81	D1260	Road "J"						
		Sta. 2+15	141.2	120.5	12.2	126.0	95.7	
	D1261	Road "J"						
		Sta. 3+65	153.1	121.4	12.0	"	96.4	
	D1262	Road "J"						
		Sta. 5+15	167.7	124.0	12.5	"	98.4	
	D1263	Road "J"						
	Sta. 6+20	175.4	121.6	12.7	"	96.5	Retest D1251	
D1264	Road "J"							
	Sta. 7+80	193.6	124.0	11.9	"	98.4	Retest D1252	
D1265	Road "J"							
	Sta. 9+30	212.4	123.2	11.7	"	97.8	Retest D1253	
3-4-81	D1266	175	153.5	115.7	13.6	117.5	98.5	
	D1267	176	151.3	116.3	13.0	"	99.0	
	D1268	166	104.0	119.5	15.5	"	100+	
	D1269	165	102.5	110.0	13.6	"	93.6	
	D1270	164	101.9	115.4	12.1	"	98.2	
	D1271	163	101.4	115.9	12.7	"	98.6	
	D1272	162	100.2	115.6	13.3	"	98.4	
	D1273	161	97.4	114.1	13.2	"	97.1	
3-5-81	D1274	132	170.5	110.8	14.4	"	94.3	
	D1275	48	89.5	117.9	10.5	126.0	93.5	
3-6-81	D1276	Road "B"						
		Sta. 11+65	151.2	111.8	17.2	115.0	97.2	
	D1277	Road "B"						
		Sta. 9+15	148.9	114.3	16.4	"	99.4	
D1278	Road "B"							
	Sta. 8+05	146.6	110.2	14.2	"	95.8		
3-9-81	D1279	24	63.8	125.6	8.1	125.5	100+	
	D1280	21	65.5	111.7	14.9	117.5	95.1	
	D1281	22	63.8	126.0	9.6	125.5	100+	
	D1282	50	93.9	124.3	8.9	"	99.0	
	D1283	Road "B"						
		Sta. 11+50	153.5	111.9	17.7	117.5	95.2	
	D1284	Road "B"						
		Sta. 10+00	150.1	115.9	15.5	"	98.6	
D1285	Road "B"							
	Sta. 8+50	147.0	115.5	14.1	"	98.3		

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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>
3-10-81	D1286	13	84.5	123.3	11.7	124.5	99.0	
	D1287	13	84.0	114.2	10.3	117.5	97.2	
	D1288	49	88.0	108.8	13.1	120.5	90.3	
	D1289	48	89.5	119.5	11.7	"	99.1	
	D1290	25	70.5	95.7	25.6	98.5	97.2	
3-11-81	D1291	10	77.9	109.2	10.4	117.5	92.9	
	D1292	51	93.5	104.3	15.6	104.5	99.7	
	D1293	51	93.2	119.6	11.6	125.5	95.3	
3-13-81	D1294	5	64.1	118.6	18.1	117.5	100+	
	D1295	26	82.7	88.9	18.3	98.5	90.2	
	D1296	27	82.7	90.0	28.7	"	91.4	
	D1297	28	83.7	93.8	24.1	"	95.2	
	D1298	29	78.2	104.4	20.7	104.0	100+	
	D1299	35	80.4	100.6	16.8	"	96.7	
	D1300	36	84.9	96.0	16.0	"	92.3	
	D1301	37	86.4	102.3	18.0	"	98.4	
	D1302	38	89.4	113.1	11.2	117.5	96.6	
	D1303	30	72.0	99.9	15.5	104.0	96.1	
	D1304	31	68.8	97.9	19.9	"	94.1	
	D1305	32	69.8	93.7	25.3	"	90.1	
	D1306	33	71.8	96.4	23.3	"	92.7	
	D1307	34	73.0	96.9	18.1	"	93.2	
	D1308	19	70.3	102.0	16.1	"	98.1	
D1309	17	74.0	123.2	9.3	125.5	98.2		
3-16-81	D1310	124	138.0	118.3	14.1	117.5	100+	
	D1311	23	62.7	119.4	6.3	125.5	95.2	
	D1312	40	79.7	119.0	10.3	117.5	100+	
	D1313	41	82.0	102.0	18.0	104.0	98.1	
	D1314	42	85.5	96.5	16.1	"	92.8	
3-17-81	D1315	44	98.8	101.7	15.1	"	97.8	
	D1316	45	100.8	102.0	14.0	"	98.1	
	D1317	46	102.3	98.0	17.9	"	94.2	
	D1318	47	105.8	95.2	19.7	"	91.5	
	D1319	43	91.5	115.8	6.5	126.0	91.9	
	D1320	113	192.8	112.4	15.4	117.5	95.7	
	D1321	113	193.4	116.1	11.5	"	98.8	
	D1322	114	184.8	111.0	15.2	"	94.5	
	D1323	120	152.1	101.5	19.1	104.0	97.6	
	D1324	119	156.7	104.6	13.4	"	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>	
3-17-81	D1325	118	161.3	91.9	14.4	98.5	93.3		
	D1326	117	166.7	89.4	13.4	"	90.8		
	D1327	116	170.8	104.8	12.6	104.0	100+		
	D1328	115	177.2	118.3	11.4	124.5	95.0		
	D1329	112	201.0	114.5	14.0	"	92.0		
	D1330	112	199.4	119.4	12.7	"	95.9		
	D1331	Pump Stn Road		48.0	117.7	11.0	117.5	100+	
	D1332	Pump Stn Parking		48.8	112.0	10.6	"	95.3	
	D1333	Tank Road Sta. 0+20		236.3	121.8	8.8	126.0	96.7	
	D1334	Tank Road Sta. 1+40		264.5	120.2	6.6	"	95.4	
	D1335	Tank Road Sta. 2+90		275.5	120.9	12.2	"	96.0	
	D1336	Tank Road Sta. 4+35		286.4	121.2	9.8	"	96.2	
	3-19-81	D1337	5	66.3	95.1	20.8	98.5	96.6	
D1338		5	66.0	115.0	15.4	117.5	97.9		
3-26-81	D1339	52	93.0	123.2	8.3	126.0	97.8		
	D1340	12	88.0	126.0	8.2	"	100.0		
3-27-81	D1341	Tank Slope	358.2	112.6	14.6	117.5	95.9		
	D1342	" "	359.5	112.1	15.5	"	95.4		
	D1343	Tank Road	331.5	123.4	13.4	126.0	97.9		
3-28-81	D1344	" "	332.1	122.6	13.9	"	97.3		
	D1345	Tank Slope	360.1	116.5	14.8	117.5	99.2		
	D1346	" "	361.6	118.2	13.3	"	100+		
3-30-81	D1347	" "	363.2	112.9	13.7	"	96.1		
	D1348	" "	364.5	114.4	14.6	"	97.3		
	D1349	Pump Stn Road		48.7	121.2	11.9	126.0	96.2	
	D1350	Pump Stn Parking		48.0	126.9	14.7	"	100+	
	D1351	Pump Stn Road		44.8	127.3	11.7	"	100+	
	D1352	Pump Stn Road		43.8	121.9	8.0	"	96.7	

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>	
3-31-81	D1353	Tank Slope	365.1	119.1	13.6	117.5	100+		
	D1354	" "	366.2	117.9	15.9	"	100+		
	D1355	Tank Road	332.7	121.0	13.9	126.0	96.1		
	D1356	" "	332.6	126.3	12.9	"	100+		
	D1357	Pump Sta. Parking	44.4	115.8	16.2	117.5	98.5		
	D1358	Pump Sta. Road	49.3	117.3	15.7	"	99.8		
	D1359	Tank Slope	367.1	115.4	15.1	"	98.2		
	D1360	" "	368.3	115.3	15.7	"	98.1		
	4-1-81	D1361	Road "B" Sta. 11+30	154.1	113.5	18.6	"	96.6	
		D1362	Road "B" Sta. 9+80	150.1	111.7	17.8	"	95.1	
4-3-81	D1363	Tank Slope	370.0	118.2	14.1	"	100+		
	D1364	" "	371.0	117.8	13.4	"	100+		
4-6-81	D1365	196	69.7	118.5	10.8	"	100+		
	D1366	195	71.0	116.9	12.1	"	99.5		
	D1367	195	70.0	116.4	12.0	"	99.1		
4-7-81	D1368	165	110.7	118.5	15.6	"	100+		
	D1369	164	110.2	118.5	14.4	"	100+		
	D1370	163	109.5	111.7	15.9	"	95.1		
	D1371	162	108.2	117.9	13.9	"	100+		
	D1372	162	108.4	113.4	15.6	116.5	97.4		
	D1373	161	106.0	112.4	16.1	"	96.5		
	D1374	160	102.5	93.7	21.1	103.5	90.5		
	D1375	159	98.2	98.0	20.9	"	94.6		
	D1376	159	98.2	118.1	17.3	117.5	100+		
	D1377	158	97.5	119.2	15.5	"	100+		
	D1378	158	97.5	96.9	18.9	98.5	98.4		
	D1379	Road "B" Sta. 5+05	99.2	116.0	16.1	117.5	98.7		
	D1380	Road "B" Sta. 6+55	104.0	117.7	14.1	"	100+		
	4-8-81	D1381	Road "B" Sta. 3+55	96.6	113.3	15.4	"	96.4	
D1382		Road "B" Sta. 2+05	88.8	115.1	15.2	"	98.0		

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>
4-8-81	D1383	Road "B" Sta. 0+10	86.4	125.5	8.2	126.0	99.6	
	D1384	Road "B" Sta. 6+45	104.7	117.7	15.6	117.5	100+	
	D1385	Road "B" Sta. 4+95	100.9	113.9	15.6	"	96.9	
4-9-81	D1386	Road "B" Sta. 3+40	98.4	112.9	16.1	"	96.1	
	D1387	Road "B" Sta. 1+85	93.6	118.5	16.0	"	100+	
	D1388	Road "B" Sta. 0+40	85.2	114.6	16.6	"	97.5	
4-10-81	D1389	Pump Sta. Parking	49.3	119.7	16.7	126.0	95.0	
	D1390	Pump Sta. Road	45.6	124.7	16.3	"	99.0	
4-21-81	D1391	194	66.0	95.9	26.0	104.0	92.2	
	D1392	194	66.0	113.9	16.2	117.5	96.9	
	D1393	197	57.6	117.2	12.0	"	99.8	
	D1394	197	57.3	100.7	24.4	104.0	96.8	
	D1395	84	126.8	114.9	13.2	126.0	91.2	
	D1396	83	124.0	123.5	9.9	"	98.0	
	D1397	192	73.2	101.6	13.0	104.0	97.7	
	D1398	192	73.0	111.6	14.7	117.5	95.0	
4-22-81	D1399	DD1 Slide Area	183.3	113.4	15.6	"	96.5	
	D1400	" "	183.6	116.8	15.0	"	99.4	
	D1401	" "	184.0	118.3	14.5	"	100+	
	D1402	" "	184.6	115.9	14.8	"	98.7	
	D1403	Road "B" Sta. 0+85	87.2	112.5	11.6	"	95.7	
	D1404	Road "B" Sta. 1+80	94.4	112.7	11.6	"	95.9	
4-24-81	D1405	Road "B" Sta. 3+25	98.8	113.1	13.9	"	96.2	
	D1406	Road "B" Sta. 5+30	101.1	113.5	14.0	"	96.6	
	D1407	DD1 Slide Area	185.0	116.3	16.6	"	99.0	
	D1408	" "	185.6	117.8	16.1	"	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>
4-24-81	D1409	161	105.0	114.6	14.3	117.5	97.5	
	D1410	DD1						
		Slide Area	186.1	116.3	14.9	"	99.0	
	D1411	160	102.0	110.7	11.9	"	94.2	
	D1412	DD1						
		Slide Area	186.3	111.9	12.4	"	95.3	
	D1413	" "	187.0	114.1	12.6	"	97.1	
	D1414	" "	187.5	111.9	12.8	"	95.2	
	D1415	" "	188.2	112.1	14.6	"	95.4	
	D1416	" "	188.8	112.4	14.0	"	95.7	
D1417	" "	189.0	112.8	13.9	"	96.0		
4-28-81	D1418	Road "B"						
		Sta. 1+70	93.1	113.8	15.7	"	96.8	
	D1419	Road "B"						
		Sta. 3+15	98.7	112.2	16.4	"	95.5	
	D1420	Road "B"						
		Sta. 4+60	100.4	114.7	16.4	"	97.6	
4-29-81	D1421	DD1						
		Slide Area	189.6	115.3	15.0	"	98.2	
	D1422	" "	190.1	112.0	16.6	"	95.4	
	D1423	157	94.5	123.1	6.1	126.0	97.7	
4-29-81	D1424	DD1						
		Slide Area	190.6	112.3	17.3	117.5	95.6	
	D1425	" "	191.1	116.0	17.7	"	98.7	
	D1426	" "	191.7	112.1	17.1	"	95.4	
5-4-81	D1427	" "	192.3	111.7	12.9	"	95.0	
	D1428	" "	192.8	116.9	11.7	"	99.5	
	D1429	175	162.0	108.1	13.0	"	92.0	
	D1430	175	162.0	103.2	13.9	114.0	90.6	
	D1431	177	160.0	111.9	13.5	117.5	95.3	
	D1432	177	160.0	83.3	23.0	86.0	96.9	
	D1433	176	160.0	79.6	35.4	"	92.5	
	D1434	176	159.8	115.4	12.8	117.5	98.2	
	D1435	11	87.5	109.8	11.9	"	93.5	
	D1436	11	87.5	115.6	11.7	"	98.4	
	D1437	10	79.7	112.8	11.3	"	96.0	
	D1438	9	75.5	111.2	13.2	"	94.6	
	D1439	8	73.0	108.7	13.0	"	92.5	

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>
5-5-81	D1440	178	159.3	114.7	13.3	117.5	97.5	
	D1441	178	159.5	85.3	27.1	94.5	90.3	
	D1442	179	158.0	109.9	13.2	117.5	93.5	
	D1443	179	158.3	101.7	13.0	101.0	100+	
	D1444	180	156.3	92.4	24.3	"	91.5	
	D1445	181	154.3	87.0	25.2	94.5	92.1	
	D1446	182	150.0	85.3	21.0	"	90.3	
5-6-81	D1447	DD1 Slide Area	193.1	117.4	17.1	117.5	99.9	
	D1448	" "	193.6	116.1	16.4	"	98.8	
	D1449	" "	194.2	113.7	17.3	"	96.8	
	D1450	" "	195.1	118.5	15.9	"	100+	
5-14-81	D1451	" "	195.8	114.9	14.9	"	97.7	
	D1452	156	94.5	117.6	9.7	126.0	93.4	
	D1453	85	135.0	120.2	7.2	"	95.4	
	D1454	87	139.6	118.0	10.3	"	93.6	
	D1455	166	112.1	113.7	11.9	117.5	96.7	
	D1456	DD1 Slide Area	196.1	116.5	13.6	"	99.2	
	D1457	" "	196.7	113.0	14.2	"	96.2	
D1458	" "	197.2	115.0	14.6	"	97.9		
5-15-81	D1459	185	117.0	114.5	13.8	"	97.4	
5-18-81	D1460	Road "B" Sta. 7+50	130.3	114.7	13.3	"	97.6	
	D1461	Road "B" Sta. 6+40	119.6	115.9	11.7	"	98.6	
	D1462	Road "B" Sta. 5+55	117.3	112.9	12.3	"	96.1	
	D1463	6	69.1	109.4	12.6	"	93.1	
	D1464	7	70.1	109.1	11.9	"	92.8	
5-19-81	D1465	182	149.0	114.3	13.0	126.0	90.7	
	D1466	181	153.3	116.6	9.6	"	92.5	
	D1467	180	155.3	113.8	10.4	"	90.3	
	D1468	185	119.8	110.5	12.0	117.5	94.1	
	D1469	184	130.0	110.4	12.7	"	93.9	
	D1470	183	142.5	106.2	12.3	"	90.4	
5-21-81	D1471	182	141.0	116.1	12.4	"	98.8	
	D1472	Road "B" Sta. 11+50	151.6	111.9	14.7	"	95.3	

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>
5-21-81	D1473	Road "B"						
		Sta. 10+35	149.5	115.0	15.2	117.5	97.9	
	D1474	Road "B"						
		Sta. 8+80	146.5	114.6	16.5	"	97.6	
5-22-81	D1475	DDL						
		Slide Area	198.3	116.3	11.2	"	98.9	
	D1476	" "	198.8	113.7	12.7	"	96.8	
	D1477	" "	199.4	115.9	12.5	"	98.6	
	D1478	Road "B"						
		Sta. 6+60	127.8	114.4	14.4	"	97.4	
5-27-81	D1479	141	137.4	117.6	4.1	126.0	93.3	
	D1480	134	162.6	116.4	5.2	"	92.4	
	D1481	131	166.2	116.7	6.3	"	92.6	
	D1482	130	164.4	118.0	5.4	"	93.7	
	D1483	142	132.7	118.4	6.6	"	94.0	
	D1484	142A	132.7	118.5	6.9	"	94.1	
	D1485	140	141.2	118.0	5.8	"	93.7	
	D1486	139	145.4	118.1	5.7	"	93.7	
5-28-81	D1487	138	149.8	126.4	6.5	"	100+	
	D1488	137	153.5	125.8	6.1	"	99.9	
	D1489	136	157.5	124.1	5.6	"	98.5	
	D1490	135	159.2	117.9	7.9	"	93.6	
	D1491	191	77.0	117.3	9.7	"	93.1	
	D1492	190	80.1	117.1	12.2	"	92.9	
	D1493	Road "B"						
		Sta. 5+50	107.9	120.3	10.9	"	95.5	
	D1494	Road "B"						
		Sta. 7+10	131.2	122.6	7.9	"	97.3	
	D1495	Road "B"						
	Sta. 3+50	101.2	120.0	9.6	"	95.2		
D1496	Road "B"							
	Sta. 2+00	96.5	120.0	11.2	"	95.2		
D1497	Road "B"							
	Sta. 0+60	88.5	121.7	7.8	"	96.6		
6-1-81	D1498	Road "B"						
		Sta. 8+35	146.5	119.9	11.1	"	95.2	
	D1499	Road "B"						
	Sta. 10+00	149.4	122.0	10.9	"	96.9		
D1500	Road "B"							
	Sta. 11+50	152.5	122.7	12.7	"	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>
6-2-81	D1501	189	82.5	106.0	12.4	117.5	90.2	
6-3-81	D1502	Tank Service Rd.	332.8	120.6	11.5	126.0	95.7	
	D1503	" "	332.8	122.1	9.5	"	96.9	
	D1504	133	169.5	117.5	7.9	"	93.3	
	D1505	132	166.0	118.3	7.1	"	93.9	
	D1506	129	160.9	119.9	6.1	"	95.2	
	D1507	106	234.7	98.6	12.6	"	78.2	Fail; See D1535
	D1508	107	234.7	105.8	10.7	"	84.0	Fail; See D1536
	D1509	108	229.5	97.1	10.6	"	77.1	Fail; See D1537
	D1510	109	222.0	99.5	13.3	"	79.0	Fail; See D1538
	D1511	128	157.2	117.3	6.3	"	93.1	
	D1512	127	151.7	113.7	9.6	"	90.2	
	D1513	126	147.4	115.2	6.8	"	91.4	
6-8-81	D1514	188	86.1	111.4	7.3	117.5	94.8	
	D1515	123	134.2	123.9	6.4	126.0	98.3	
	D1516	Tank Service Rd.	333.4	125.4	8.2	"	99.5	
	D1517	Tank Rd. Sta. 5+70	310.2	120.1	9.2	"	95.3	
	D1518	Tank Rd. Sta. 3+90	283.9	124.3	9.7	"	98.7	
	D1519	Tank Rd. Sta. 7+25	328.7	120.6	9.4	"	95.7	
	D1520	Tank Rd. Sta. 2+20	268.1	123.1	10.7	"	97.7	
6-9-81	D1521	124	139.2	123.5	7.2	125.5	98.4	
	D1522	125	144.5	121.9	6.3	"	97.1	
	D1523	Tank Service Rd.	333.4	122.3	7.0	"	97.5	
	D1524	117	166.6	119.0	8.4	"	94.8	
	D1525	Tank Rd. Sta. 0+35	236.8	124.1	10.4	"	98.9	
6-10-81	D1526	114	185.5	122.6	13.0	126.0	97.3	
	D1527	115	178.0	123.1	7.7	125.5	98.1	
	D1528	116	172.1	123.5	7.9	"	98.4	
	D1529	120	152.9	118.7	6.2	"	94.6	
	D1530	119	157.4	112.9	6.3	"	90.0	
	D1531	118	167.0	123.3	9.9	"	98.2	

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>
6-15-81	D1532	113	173.0	110.1	6.9	126.0	87.4	Fail; See D1540
	D1533	112	200.7	116.1	7.9	"	92.2	
	D1534	111	206.9	113.6	4.5	"	90.2	
6-25-81	D1535	106	234.7	125.8	13.5	"	99.8	Retest D1507
	D1536	107	234.7	118.9	13.5	"	94.3	Retest D1508
	D1537	108	229.5	122.6	13.4	"	97.3	Retest D1509
	D1538	109	222.0	114.6	14.7	"	91.0	Retest D1510
	D1539	110	214.4	114.0	13.6	"	90.5	
	D1540	113	173.0	125.5	6.1	"	99.6	Retest D1532
	D1541	121	140.6	115.7	14.6	"	91.8	
	D1542	122	136.4	126.2	6.9	"	100+	
6-29-81	D1543	197	56.7	125.8	8.6	"	99.8	
7-7-81	D1544	164	78.3	121.0	10.8	"	96.0	
7-13-81	D1545	194	64.5	114.9	8.6	"	91.2	
	D1546	196	69.3	118.6	11.2	"	94.1	
	D1547	7	78.3	123.4	5.4	"	97.9	
	D1548	193	70.2	118.1	11.9	"	93.7	
	D1549	192	72.5	117.5	6.1	"	93.2	
7-20-81	D1550	5	71.3	120.7	6.1	"	95.8	
	D1551	6	75.3	121.5	6.5	"	96.4	
	D1552	8	81.3	113.6	4.9	"	90.2	
	D1553	9	84.3	123.2	8.1	"	97.8	
	D1554	10	86.8	123.6	8.3	"	98.1	
7-23-81	D1555	11	87.8	121.2	8.7	"	96.2	
	D1556	188	84.6	120.6	8.4	"	95.7	
	D1557	189	82.0	124.5	8.2	"	98.8	
	D1558	190	79.3	120.0	8.7	"	95.2	
	D1559	191	76.5	121.7	8.4	"	96.6	
8-21-81	D1560	183	144.1	117.0	16.0	117.5	99.6	
	D1561	184	131.6	110.2	13.9	"	93.8	
8-24-81	D1562	184	132.3	97.1	16.4	101.0	96.1	
	D1563	185	121.4	96.4	17.0	"	95.5	
8-25-81	D1564	185	122.1	108.5	12.2	109.5	99.1	
	D1565	183	144.8	103.8	14.2	"	94.8	
	D1566	184	133.0	107.7	16.7	"	98.4	

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>
8-25-81	D1567	169	143.4	102.7	16.7	109.5	93.8	
	D1568	183	145.3	91.7	20.2	99.0	92.6	
	D1569	185	122.8	101.0	15.0	109.5	92.3	
8-26-81	D1570	169	144.1	96.2	18.3	99.0	97.2	
	D1571	184	133.7	103.4	15.3	109.5	94.4	
	D1572	183	146.2	98.8	13.9	99.0	99.8	
	D1573	169	144.8	97.2	14.9	"	98.2	
8-28-81	D1574	185	123.6	107.3	15.1	109.5	98.0	
	D1575	169	145.6	92.1	16.8	99.0	93.0	
	D1576	170	143.9	111.6	13.4	115.0	97.0	
	D1577	171	144.4	104.4	15.3	"	90.8	
8-31-81	D1578	170	144.6	104.5	19.8	"	90.9	
	D1579	171	145.1	105.1	17.1	"	91.4	
	D1580	170	145.3	108.3	15.7	"	94.2	
	D1581	171	145.8	112.5	15.6	"	97.8	
9-1-81	D1582	169	146.3	100.2	13.4	110.0	91.1	
	D1583	170	146.1	100.0	14.8	"	90.9	
	D1584	171	146.6	103.5	18.5	"	94.1	
	D1585	170	146.8	101.3	16.6	"	92.1	
	D1586	169	147.0	99.8	17.7	"	90.7	
	D1587	171	147.3	108.9	16.2	"	99.0	
9-2-81	D1588	170	147.5	108.9	15.5	"	99.0	
	D1589	173	146.5	106.6	14.9	"	96.9	
9-4-81	D1590	173	147.1	105.7	12.5	"	96.1	
	D1591	171	148.0	104.9	12.3	"	95.4	
9-8-81	D1592	174	148.7	109.8	12.1	"	99.8	
	D1593	173	147.8	103.8	14.2	"	94.4	
	D1594	174	149.5	110.4	11.6	"	100+	
	D1595	173	148.5	102.6	15.2	"	93.3	
9-9-81	D1596	168	142.7	95.4	15.6	103.5	92.2	
	D1597	174	150.4	95.3	14.1	"	92.0	
	D1598	173	149.3	100.3	10.6	110.0	91.2	
	D1599	168	143.4	95.1	15.0	103.5	91.9	
	D1600	174	151.1	97.2	12.8	"	93.9	
	D1601	173	150.1	104.0	12.2	110.0	94.6	

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>
9-10-81	D1602	167	140.5	100.8	15.0	110.0	91.6	
	D1603	172	145.1	100.8	14.6	"	91.6	
	D1604	174	151.7	102.8	13.5	"	93.5	
9-11-81	D1605	168	144.1	100.7	15.1	"	91.5	
	D1606	172	145.8	110.6	15.4	"	100+	
	D1607	174	152.4	106.9	14.8	"	97.2	
	D1608	183	145.5	124.9	7.6	125.5	99.5	
9-14-81	D1609	168	144.9	101.5	15.4	110.0	92.3	
	D1610	167	141.2	104.3	14.7	"	94.8	
	D1611	172	146.5	101.0	13.9	"	91.9	
	D1612	167	141.8	109.5	13.7	"	99.6	
	D1613	172	147.3	100.7	14.4	"	91.5	
	D1614	167	142.4	104.4	14.9	"	94.9	
9-16-81	D1615	172	148.0	104.6	15.7	"	95.1	
	D1616	172	148.7	107.2	14.7	"	97.5	
9-17-81	D1617	168	145.4	105.9	13.0	"	96.3	
	D1618	167	142.9	104.9	15.4	"	95.4	
	D1619	186	111.9	103.0	17.2	"	93.6	
9-18-81	D1620	187	103.7	116.5	12.0	117.5	99.2	
	D1621	186	113.0	117.2	13.1	"	99.7	
9-21-81	D1622	187	105.2	106.7	16.6	110.0	97.0	
9-22-81	D1623	187	105.8	106.9	13.3	"	97.2	
9-23-81	D1624	187	106.5	102.6	13.3	"	93.2	
	D1625	170	148.5	118.7	7.6	125.5	94.6	
	D1626	169	148.0	117.4	7.2	"	93.6	
9-24-8	D1627	171	148.8	120.9	7.4	"	96.3	
	D1628	172	149.7	122.4	9.5	"	97.5	
	D1629	173	151.0	124.4	7.9	"	99.1	
	D1630	187	107.2	99.6	16.2	110.0	90.5	
10-1-81	D1631	183	146.7	125.2	8.8	125.5	99.8	
	D1632	174	153.2	124.6	5.2	"	99.3	
	D1633	185	123.9	125.6	6.2	"	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>
10-5-81	D1634	184	134.2	120.5	6.5	125.5	96.0	
	D1635	186	114.1	120.6	8.0	"	96.1	
	D1636	187	108.0	122.2	7.1	"	97.4	
	D1637	167	143.1	118.7	11.5	"	94.6	
	D1638	168	146.2	121.6	9.1	"	96.9	

GRADING NOTES

- ALL GRADING WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, MAY 1975, UNLESS OTHERWISE NOTED.
- ALL GRADING WORK SHALL BE DONE IN ACCORDANCE WITH CHAPTER 23, REVISED ORDINANCES OF HONOLULU 1969, AS AMENDED, ORDINANCE NOS. 3968, 4294 & 4538 AND SOILS REPORT BY ERNEST K. HIRATA & ASSOCIATES, INC. DATED OCTOBER 17, 1978, AND AS AMENDED IN JANUARY 21, 1980.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGES TO AND ALL EXISTING UNDERGROUND UTILITIES INCLUDING BUT NOT LIMITED TO SEWER, WATER, DRAINAGE, ELECTRIC, TELEPHONE, GAS, FUEL, ETC., WHETHER OR NOT SHOWN ON THE DRAWINGS AND SHALL INDEMNIFY AND HOLD THE ARCHITECT/ENGINEER HARMLESS FROM ANY CLAIMS THEREON.
- ALL EXISTING PAVEMENTS, CONCRETE WALKS, UTILITY LINES AND OTHER IMPROVEMENTS, WHETHER SHOWN OR NOT, DAMAGED OR UNDERMINED BY THE CONTRACTOR AS A RESULT OF HIS OPERATION SHALL BE RECONSTRUCTED OR REPLACED BY THE CONTRACTOR TO MATCH EXISTING CONDITIONS.
- THE LIMITS OF THE GRADED AREA SHALL BE FLAGGED BEFORE THE COMMENCEMENT OF THE GRADING WORK. GRADING SHALL BE DONE IN INCREMENTS OF NO MORE THAN 15 ACRES AT ONE TIME.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, CITY & COUNTY OF HONOLULU, AT LEAST 24 HOURS BEFORE COMMENCING WORK, TO ARRANGE FOR NECESSARY INSPECTION SERVICES AT PHONE 523-4881.
- THE CONTRACTOR SHALL SUBMIT TEMPORARY EROSION CONTROL PROCEDURES FOR APPROVAL BY THE DIVISION OF ENGINEERING PRIOR TO THE APPLICATION FOR A GRADING PERMIT.
- NO GRADING WORK SHALL BE DONE ON SATURDAYS, SUNDAYS, AND HOLIDAYS AT ANY TIME WITHOUT PRIOR NOTICE TO THE CHIEF ENGINEER.
- ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE 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.
- THE CONTRACTOR AT HIS EXPENSE SHALL KEEP THE PROJECT AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE DONE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH.
- ALL SLOTS AND PITS SHALL BE SLOTTED OR PLANTED IMMEDIATELY AFTER COMPLETION OF GRADING WORK.
- EXCESS MATERIAL FROM THIS PROJECT WILL BE DISPOSED AT A SITE PROVIDED BY THE CONTRACTOR AND THE CITY SHALL BE INFORMED OF THE LOCATION OF THE DISPOSAL SITE WHEN THE APPLICATION FOR A GRADING PERMIT IS MADE. THE DISPOSAL SITE MUST ALSO FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.
- BORROW MATERIAL REQUIRED FOR THIS PROJECT SHALL BE PROVIDED BY THE CONTRACTOR, AND THE CITY SHALL BE INFORMED OF THE LOCATION OF THE BORROW SITE WHEN THE APPLICATION FOR A GRADING PERMIT IS MADE. THE BORROW SITE MUST ALSO FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCES.
- THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS. THE COST INCURRED FOR ANY NECESSARY REMEDIAL ACTION BY THE CHIEF ENGINEER SHALL BE PAYABLE BY THE CONTRACTOR.
- FILLS ON SLOPES STEEPER THAN 3:1 SHALL BE KEYED. THE KEY FOR SIDE HILL FILLS SHALL BE A MINIMUM OF 15 FEET WITHIN BEDROCK OR FIRM MATERIALS.
- IF SCARIFIED ZONE IS GREATER THAN TWELVE INCHES IN DEPTH, THE EXCESS SHALL BE REMOVED AND PLACED IN LIFTS RESTRICTED TO SIX INCHES.
- ANY MATERIAL INCORPORATED AS A PART OF A COMPACTED FILL MUST BE APPROVED BY THE SOILS ENGINEER.
- ON-SITE SOILS MAY BE REUSED IN THE FILL, PROVIDED EACH MATERIAL HAS BEEN DETERMINED SUITABLE BY THE SOILS ENGINEER AND ALL COBBLES AND BOULDERS ARE REMOVED.
- IN AREAS WHERE EXISTING FILL IS GREATER THAN FIVE FEET IN DEPTH BELOW FINISH GRADES, THE CONTRACTOR SHALL REMOVE THE UPPER FIVE FEET BELOW THE FINISH FLOOR SLABS OF HOUSES TO BE BUILT IN THESE AREAS. AREAS CONTAINING EXISTING FILL, AS INDICATED IN THE SOILS REPORT, ARE LOCATED IN AND AROUND LOTS 6, 7, 14, 24, 49, AND 56 AND THE BOOSTER PUMPING STATION.
- IN GENERAL, MAXIMUM CUT AND FILL SLOPES SHALL BE 2:1. FOR AREAS LOCATED ABOVE DIVERSION DITCHES, CUT SLOPES MAY BE 1-1/2:1, PROVIDED THE THIN LAYER OF SURFACE SILTY CLAY IS STRIPPED. CUT SLOPE AT THE RESERVOIR SITE MAY BE 1-1/2:1.
- A BOULDER SWEEP FOR AREAS ABOVE THE PROPOSED GRADING AREAS SHALL BE DONE BY THE CONTRACTOR PRIOR TO THE START OF HOUSE CONSTRUCTION.

Approximate Location of Density Tests

EARTHWORK QUANTITIES (TOTAL PROJECT)

TOTAL EXC. 220,590 C.Y. } EARTHWORK QUANTITIES
 TOTAL EMB. 220,080 C.Y. } FOR PERMIT PURPOSES ONLY
 TOTAL AREA TO BE GRADED = 47.60 ACS.

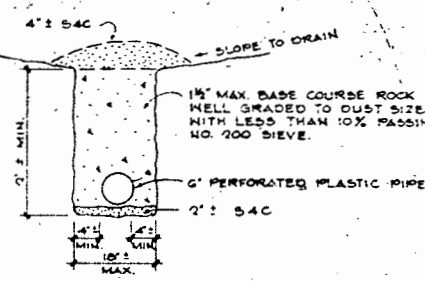
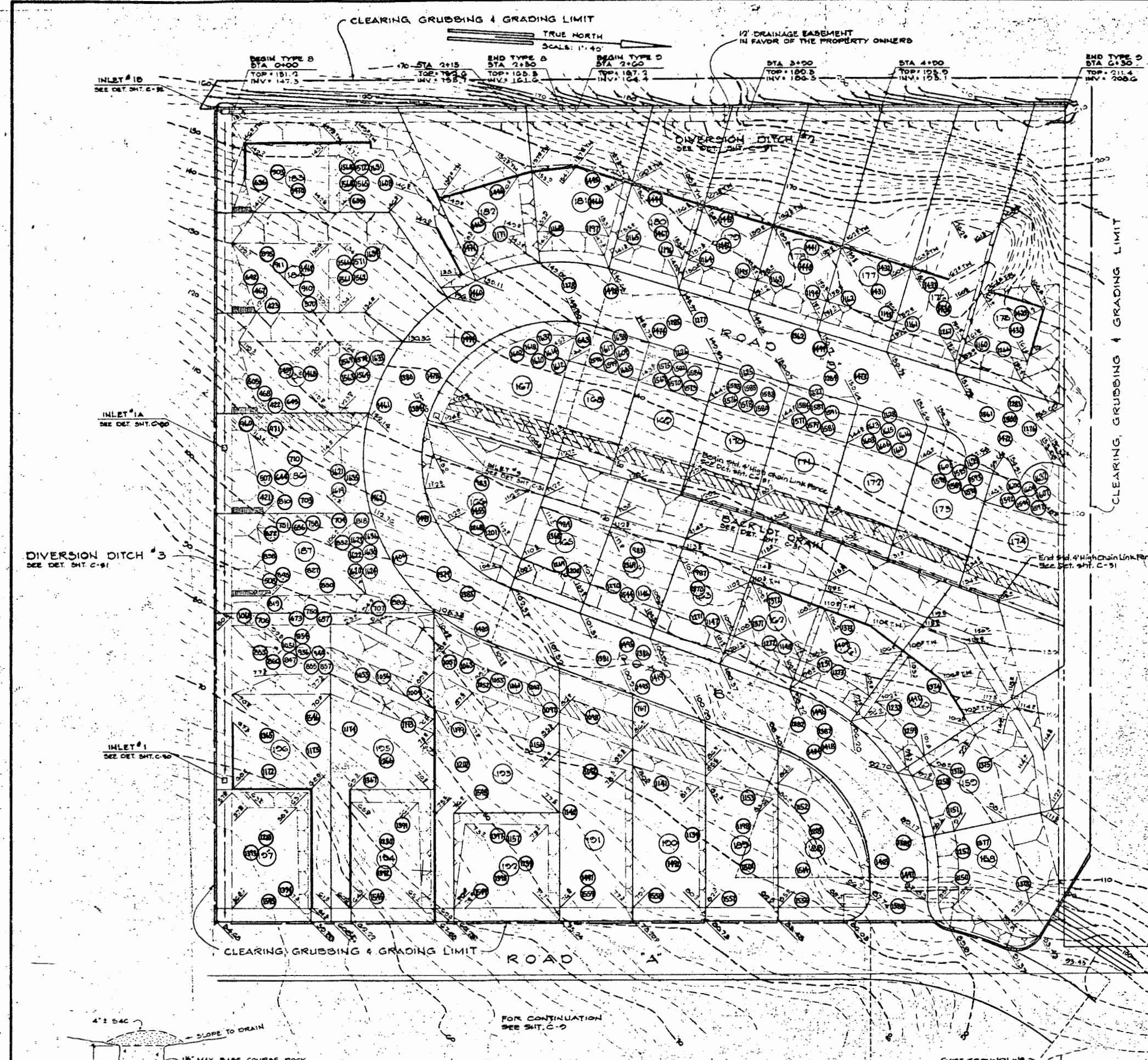
EARTHWORK QUANTITIES (INCREMENT V)

TOTAL EXC. 78,010 C.Y. } EARTHWORK QUANTITIES
 TOTAL EMB. 13,330 C.Y. } FOR PERMIT PURPOSES ONLY
 TOTAL AREA TO BE GRADED = 0 ACS.

ERNEST K. HIRATA & ASSOCIATES, INC.

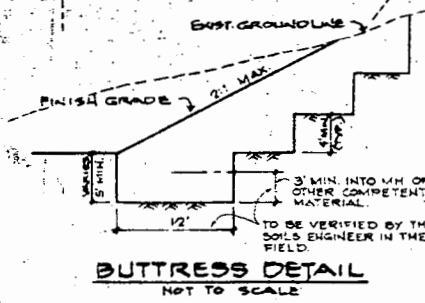
W.O. 281-F

REV.	DATE	DESCRIPTION	BY	APPROVED
	10/22/77	Added CMU Retaining Wall to Legend & Revised Earthwork Quantities & Grading Notes.	A.Y.T.	<i>[Signature]</i>
		KAU HALE AUPUNI O KULIOUOU KULIOUOU, OAHU, HAWAII		
		GRADING PLAN (INCREMENT V)		
		MURODA & ASSOCIATES, INC. HONOLULU, HAWAII		



TYPICAL SUBDRAIN LATERAL
(WITH OR WITHOUT PERFORATED PIPE)

- LEGEND:
- NEW CMU RETAINING WALL (SEE DET. SH. C-14) Δ
 - - - EXISTING CONTOURS
 - FINISH SPOT GRADES
 - ⊙ LOT NUMBER
 - TOP OR TOE OF SLOPE
 - SUBDRAIN WITH PERFORATED PIPE
 - SUBDRAIN (WITHOUT PIPE)
 - 2:1 SLOPE BANK UNLESS OTHERWISE NOTED
 - BUTTRESS
 - SOLOPED GRASS SWALE, SEE DET. SH. C-12



BUTTRESS DETAIL
NOT TO SCALE

NOTES:

- CONSTRUCTION OF BUTTRESSES SHALL BE UNDER THE SUPERVISION OF THE SOILS ENGINEER.
- DURING GRADING FOR CUT & FILL SLOPES, THE AREAS SHALL BE INSPECTED BY THE SOILS ENGINEER TO DETERMINE WHETHER BUTTRESSES WILL BE REQUIRED.
- THE DESIGN OF EACH BUTTRESS MAY BE REVISED IN THE FIELD BY THE SOILS ENGINEER TO ACCOUNT FOR DIFFERENT SOILS CONDITIONS.

APPROVED: (FOR GRADING ONLY)
[Signature] 10/24/79
 Director & Chief Engineer, D.P.W.
[Signature] 10/24/79
 Chief, Division of Engineering, D.P.W.

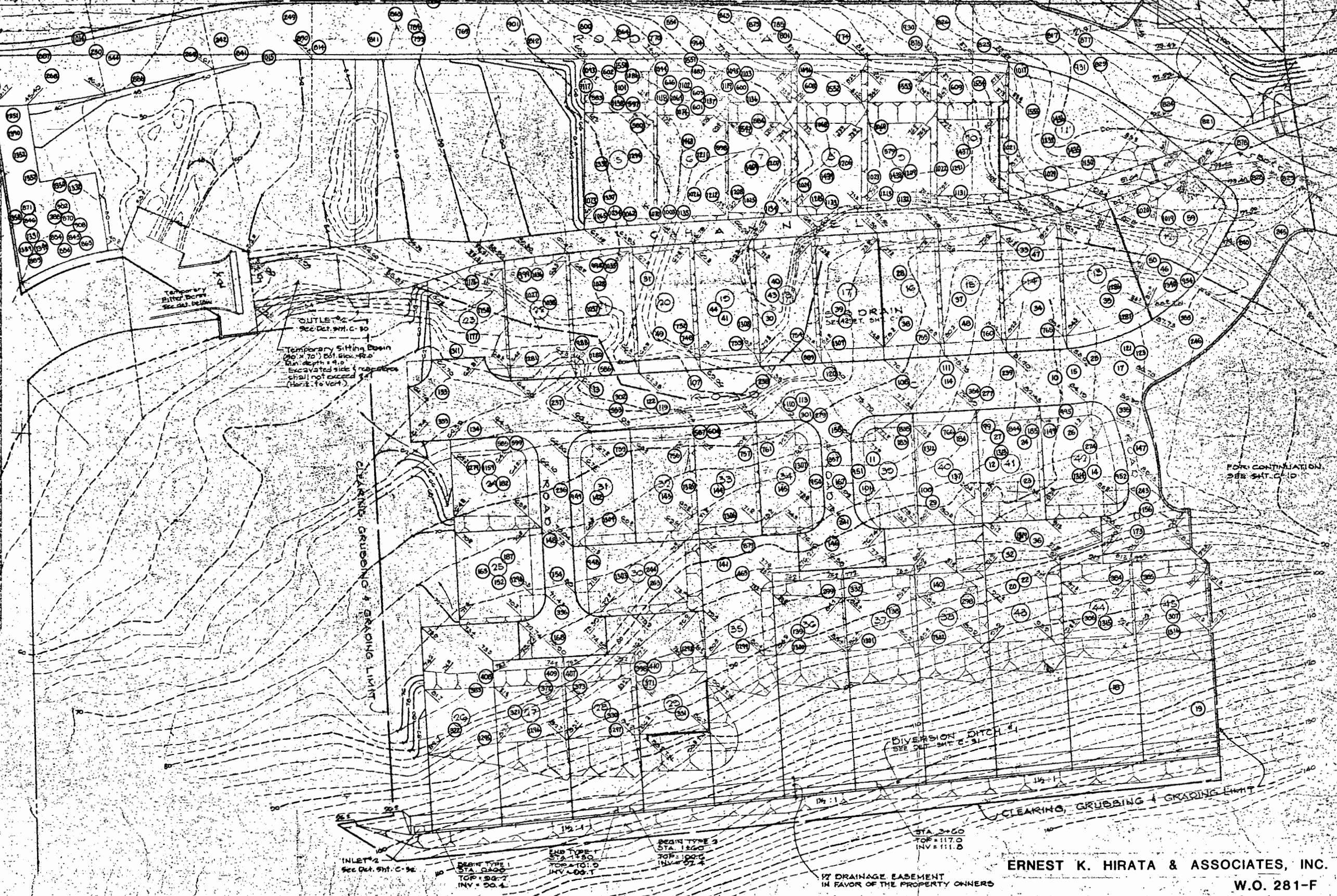
TRUE NORTH
SCALE 1" = 40'

CLEARING, GRUBBING & GRADING UNIT

FOR CONTINUATION
SEE SHEET C-3

FOR CONTINUATION
SEE SHEET C-10

- INSTALL SILLING BASIN AT OPENING OF
COMPLETE GRADING AND GRASSING (OCTOBER 8 TO
15, 1979).
- INCREMENT II: CLEAR AND GRUB AREA. COMPLETE GRADING AND GRASSING
(MAY 16 TO DECEMBER 31, 1979).
- INCREMENT III: CLEAR AND GRUB AREA. COMPLETE GRADING AND GRASSING
(FEBRUARY 1 TO FEBRUARY 7, 1980).
- INCREMENT IV: CLEAR AND GRUB AREA. COMPLETE GRADING AND GRASSING
(FEBRUARY 8 TO MARCH 15, 1980).
- INCREMENT V: CLEAR AND GRUB AREA. COMPLETE GRADING AND GRASSING
(MAY 16 TO APRIL 15, 1980).
- INSTALL DRAINAGE SYSTEM AND DIVERSION DITCHES USING FILTERING MATERIAL
AND NEW TRAPETS. (DECEMBER 1, 1979, TO MAY 15, 1980).
- PLANT PERMANENT VEGETATIVE COVER IN OPEN SPACE AREAS IMMEDIATELY AFTER
GRADING IS COMPLETED. (MAY 16 TO JUNE 7, 1980).
- PROCEED WITH CONSTRUCTION OF IMPROVEMENTS AND BUILDINGS, MAINTAINING
FILTER INLETS AND VEGETATION AS NECESSARY (JUNE 8, 1980 TO JUNE 7, 1981).
- PERMANENT EROSION CONTROL MEASURES**
- PERMANENT DRAINAGE SYSTEM (SEE PLANS)
 - GRASSING OF SLOPE BANKS AND AREAS TO BE LEFT EXPOSED TO BE DONE
IMMEDIATELY AFTER ALL GRADING WORK HAS BEEN COMPLETED.
- TEMPORARY EROSION CONTROL MEASURES**
- GRADING IN INCREMENTS OF NO MORE THAN 15 ACRES AT ONE TIME.
 - INSTALLATION OF SILTING BASIN AT LOWER PORTION OF SITE ADJUTING THE
INLET OF THE EXISTING CONCRETE CHANNEL PRIOR TO START OF GRADING WORK.
 - INSTALLATION AND MAINTENANCE OF FILTERING MATERIAL AROUND EXISTING AND
NEW INLETS.
 - COMPLETION OF ALL GRADING WORK USING WATERING AND MULCHING TO PREVENT
DUST, EROSION AND SEDIMENTATION.
 - OTHER MEASURES TO BE INCORPORATED IF REQUIRED.



OUTLET #2
See Det. Sht. C-9

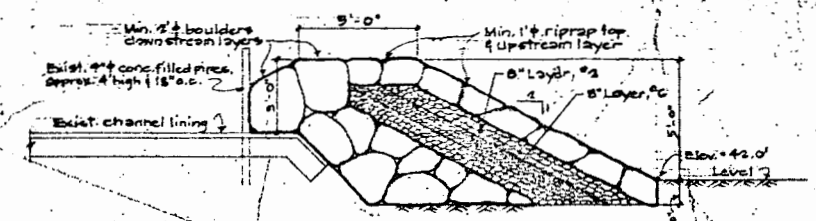
Temporary Silting Basin
Top of 20" dia. pipe = 110.0
Excavated side (no slope)
shall not exceed 4:1
(Horizontal to Vertical)

CLEARING, GRUBBING & GRADING LIMIT

DIVERSION DITCH #1
SEE DET. SHT. C-3

17' DRAINAGE EASEMENT
IN FAVOR OF THE PROPERTY OWNERS

ERNEST K. HIRATA & ASSOCIATES, INC.
W.O. 281-F



SECTION "X-X"
Scale: 1/4" = 1'-0"


EARTHWORK QUANTITIES (INCREMENT I)

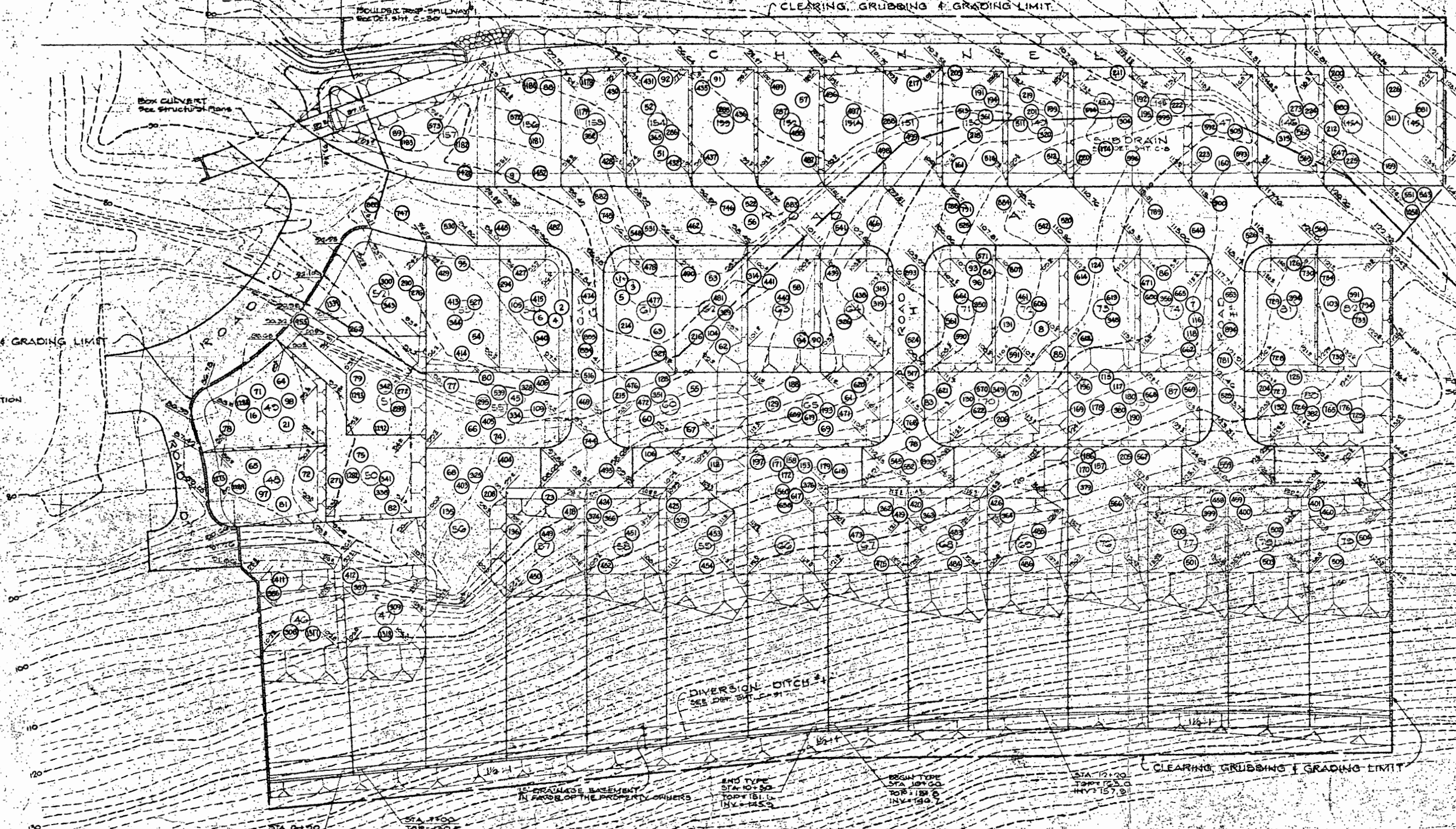
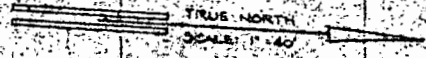
TOTAL EXC. 45,000 C.Y. } EARTHWORK QUANTITIES
TOTAL EMB. 30,000 C.Y. } FOR PERMIT PURPOSES ONLY

TOTAL AREA TO BE GRADED = 10.89 ACS.

○ Approximate Location of Density Tests

APPROVED: (FOR GRADING ONLY)
Chief of Engineering, O.R.W.

REV.	DATE	DESCRIPTION	BY	APPROVED
				
KAU HALE AUPUNI O KULIQUOULU KULIQUOULU OAHU, HAWAII				
GRADING PLAN (INCREMENT I)				
MURODA & ASSOCIATES, INC. HONOLULU, HAWAII				



CLEARING, GRUBBING & GRADING LIMIT

FOR CONTINUATION
SEE SH. C-7

FOR CONTINUATION
SEE SH. C-11

DIVERSION DITCH
SEE DET. SH. C-11

CLEARING, GRUBBING & GRADING LIMIT

STA 0+50
TOP = 120.5
INV = 124.3

STA 7+00
TOP = 120.7
INV = 124.3

END TYPE
STA 10+50
TOP = 121.1
INV = 125.0

BEGIN TYPE
STA 10+00
TOP = 121.0
INV = 124.7

STA 12+00
TOP = 123.0
INV = 127.9

15' PROPOSED EASEMENT
IN FRONT OF THE PROPERTY OWNERS

EARTHWORK QUANTITIES (INCREMENT II)
 TOTAL EXC. 36,540 C.Y. } EARTHWORK QUANTITIES
 TOTAL EMB. 54,700 C.Y. } FOR PERMIT PURPOSES ONLY
 TOTAL AREA TO BE GRADED = 10.70 AC.

○ Approximate Location of Density Tests

APPROVED (FOR GRADING ONLY)
 Chief Engineer
 Division of Engineering, D.H.M.
 DATE 10/27/77

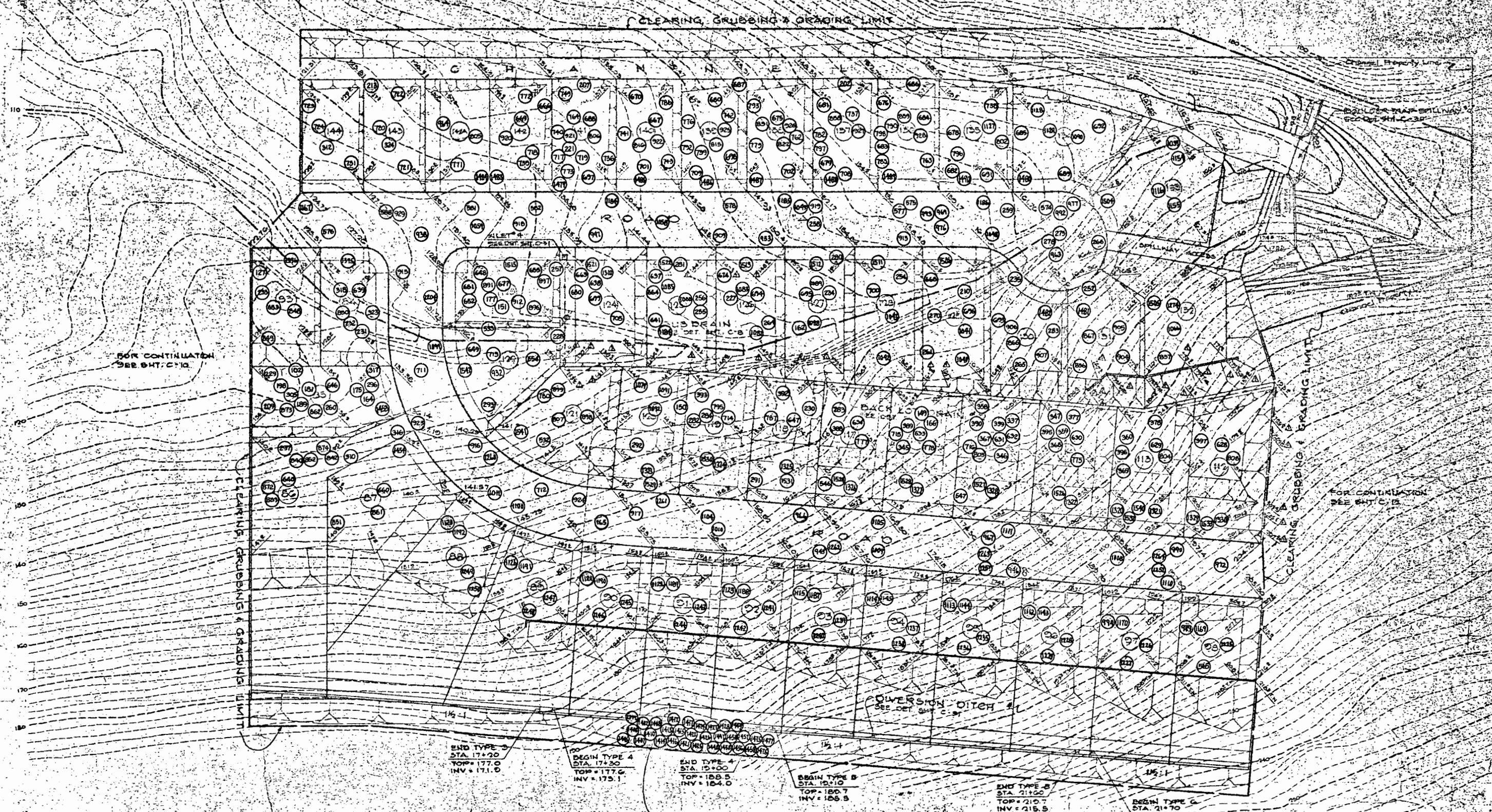
ERNEST K. HIRATA & ASSOCIATES, INC.
 W.O. 281-F

REV.	DATE	DESCRIPTION	BY	APPROVED
		KAU HALE AUPUNI O KULIOUOU KULIOUOU, OAHU, HAWAII		
GRADING PLAN (INCREMENT II)				
		MURODA & ASSOCIATES, INC. HONOLULU, HAWAII		



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
 K.Y.M.
 DATE

TRUE NORTH
SCALE: 1" = 40'



FOR CONTINUATION
SEE SHEET C-10

FOR CONTINUATION
SEE SHEET C-12

END TYPE 3
STA. 17+20
TOP = 177.0
INV. = 171.0

BEGIN TYPE 4
STA. 17+30
TOP = 177.6
INV. = 173.1

END TYPE 4
STA. 18+00
TOP = 188.5
INV. = 184.0

BEGIN TYPE 5
STA. 18+10
TOP = 188.7
INV. = 183.5

END TYPE 5
STA. 21+00
TOP = 210.0
INV. = 215.5

BEGIN TYPE 6
STA. 21+70
TOP = 220.5
INV. = 217.5

15' DRAINAGE EASEMENT
IN FAVOR OF THE PROPERTY OWNERS

ERNEST K. HIRATA & ASSOCIATES, INC.
W.O. 281-F

EARTHWORK QUANTITIES (INCREMENT III)
TOTAL EXC. 52,350 C.Y. } EARTHWORK QUANTITIES FOR PERMIT PURPOSES ONLY
TOTAL EMB. 59,070 C.Y. }
TOTAL AREA TO BE GRADED = 10.665

○ Approximate Location of Density Tests

APPROVED: (FOR GRADING ONLY)
DATE: 10/27/77
DIVISION OF ENGINEERING, DPH

REV.	DATE	DESCRIPTION	BY	APPROVED
1	10/27/77	Revised Grading for Lots 112, 121 & 124 to 192, and Earthwork Quantities. Added CWM Wall	A.Y.T.	

ERNEST K. HIRATA
REGISTERED PROFESSIONAL ENGINEER
NO. 1141
HAWAII, U.S.A.

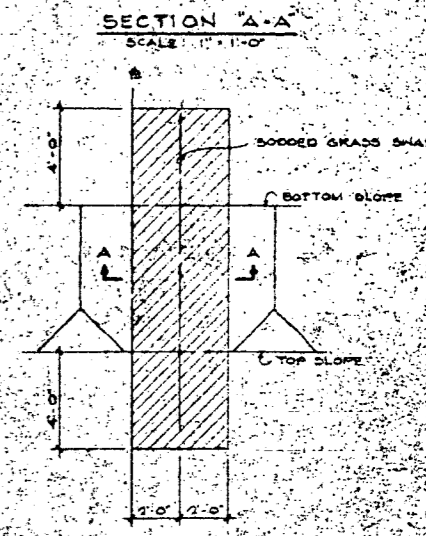
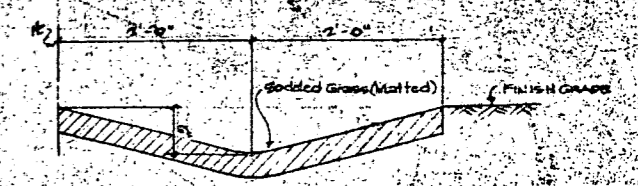
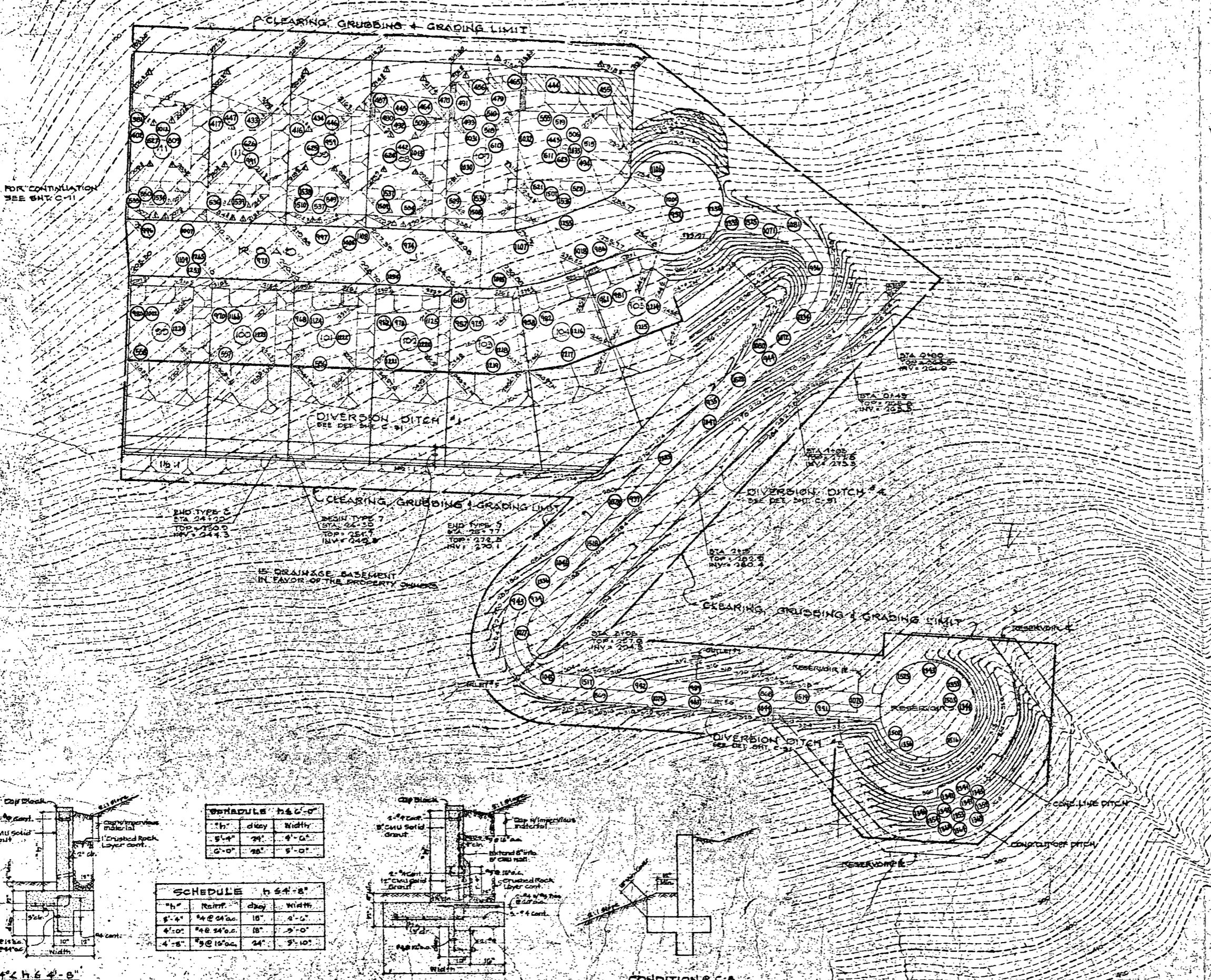
KAU HALE AUPUNI O KULIQUOU
KULIQUOU, OAHU, HAWAII

GRADING PLAN
(INCREMENT III)

MURODA & ASSOCIATES, INC.
HONOLULU, HAWAII

SHEET
C-11
OF
11

TRUE NORTH
SCALE: 1" = 40'

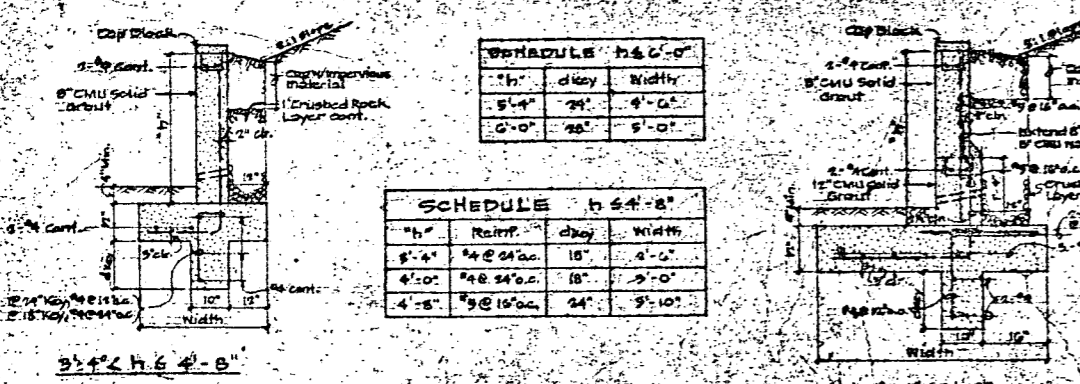


SODDED GRASS SWALE
SCALE AS SHOWN

○ Approximate Location of Density Tests

EARTHWORK QUANTITIES (INCREMENT IV)
 TOTAL EXC. 37,010 CY } EARTHWORK QUANTITIES FOR PERMIT PURPOSES ONLY
 TOTAL EMB. 6,490 CY }
 TOTAL AREA TO BE GRADED - 5.4 AC.


ERNEST K. HIRATA & ASSOCIATES, INC.
W.O. 281-F



SCHEDULE h 6'-0"			
"h"	Reinf.	Depth	Width
5'-4"	#4 @ 24" o.c.	18"	4'-0"
4'-0"	#4 @ 24" o.c.	18"	3'-0"
4'-8"	#4 @ 16" o.c.	24"	3'-10"

CONDITION C-C-6
DATE 12.16.1977

APPROVED: (FOR GRADING ONLY)
 Ernest K. Hirata
 Division of Engineering, D.P.M.

REV.	DATE	DESCRIPTION	BY	APPROVED
1	10/28/77	Revised Grading Plan for Lot 10 to Title Earthwork Quantities Added CMU Retaining Wall Details.	A.Y.T.	[Signature]
				
KAU HALE AUPUNI O KULIOUOU KULIOUOU, OAHU, HAWAII				
GRADING PLAN (INCREMENT IV)				
MURODA & ASSOCIATES, INC. HONOLULU, HAWAII				SHEET 12 OF 12

CITY AND COUNTY OF HONOLULU
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING

DATE DEC 21 1981 19

FROM: H. J. YOUNG, CHIEF

TO:

- | | | | |
|------|---|-------------------|---|
| Date | <input type="checkbox"/> Chief | Date <u>12/22</u> | <input checked="" type="checkbox"/> Chief Construction Engineer |
| | <input type="checkbox"/> Assistant Chief | <u>12/22</u> | <input checked="" type="checkbox"/> District Constr. Engr. - East <i>JK</i> |
| | <input type="checkbox"/> Chief Administrative Engr. | | <input type="checkbox"/> District Constr. Engr. - West |
| | <input type="checkbox"/> Chief Control Engineer | | <input type="checkbox"/> Service Engineer |
| | <input type="checkbox"/> Chief Drainage Engineer | | <input type="checkbox"/> Field Survey |
| | <input type="checkbox"/> Chief Highway Engineer | | <input type="checkbox"/> Testing Lab |
| | <input type="checkbox"/> Chief Structural Engineer | | <input checked="" type="checkbox"/> Secretary |
| | <input type="checkbox"/> | | <input type="checkbox"/> |

FOR:

- | | |
|---|---|
| <input type="checkbox"/> Appropriate Attention and Action | <input type="checkbox"/> Arrange Meeting |
| <input type="checkbox"/> Draft Reply | <input type="checkbox"/> Signature |
| <input type="checkbox"/> Comments & Recommendations | <input checked="" type="checkbox"/> Information |
| <input type="checkbox"/> See Me | <input checked="" type="checkbox"/> File |
| <input type="checkbox"/> Work Order | <input type="checkbox"/> |

GP# 9408

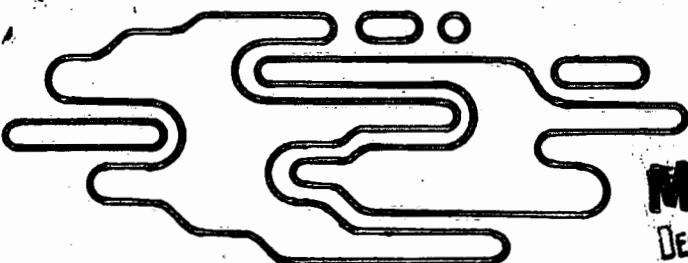
SR-52

LOG. NO. _____ SUSPENSE _____

JK

applies to 9339 and 9408.

GPH# 9408 8108404



RECEIVED
DEPT. OF PUBLIC WORKS
Muroda and Associates, Inc.
DEC 21 8 54 AM

Engage

1259 S. BERETANIA ST./HONOLULU, HAWAII 96814/TELEPHONE (808) 531-5959

TRANSMITTAL LETTER

TO : Mr. Michael J. Chun
Director & Chief Engineer
Department of Public Works
City & County of Honolulu
650 S. King Street
Honolulu, HI 96813

DATE : December 18, 1981

RECEIVED
DIV. OF ENGINEERING
DEC 21 1 23 PM '81

SUBJECT : Kau Hale Aupuni O'Kuliouou

Gentlemen :

Enclosed :

- | | | |
|-----------------------------------|--|---------------------------------------|
| <input type="checkbox"/> Tracings | <input checked="" type="checkbox"/> Copy of Letter | <input type="checkbox"/> Change Order |
| <input type="checkbox"/> Prints | <input type="checkbox"/> Specifications | <input type="checkbox"/> Check Prints |
| <input type="checkbox"/> Plans | <input type="checkbox"/> Cost Estimates | <input type="checkbox"/> Xerox Copy |

Other _____

Description:

- Civil Landscape Electrical _____ Other

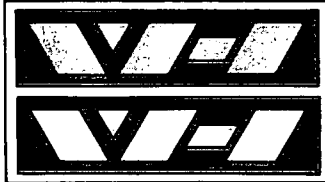
Transmitted For:

- | | |
|--|---|
| <input type="checkbox"/> Approval | <input type="checkbox"/> Your information |
| <input type="checkbox"/> Your files | <input type="checkbox"/> Approved as submitted |
| <input checked="" type="checkbox"/> As requested | <input type="checkbox"/> Approved as noted |
| <input type="checkbox"/> Review and Comments | <input type="checkbox"/> Return for corrections |
| <input type="checkbox"/> Signature | <input type="checkbox"/> Resubmit copies for approval |

Remarks: The final soils report and documents to close grading permit Nos. 9339 and 9408, shall be submitted on a later date.

Signed Kenneth Kinoshita
Kenneth K. Kinoshita

**WILLIAM HEE
& ASSOCIATES, INC.**



ENGINEERS • SURVEYORS • PLANNERS

SUITE NO. 1, BUILDING NO. 1
1020 AUAHI STREET
HONOLULU, HAWAII 96814

WILLIAM, B. C. HEE, P.E.
PRESIDENT

JERRY S. NAKAGAWA, L.S.
EXECUTIVE VICE PRESIDENT

December 16, 1981

Carl Muroda & Associates, Inc.
1259 South Beretania Street
Honolulu, Hawaii 96813

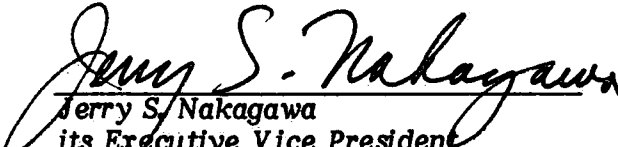
SUBJECT: KAU HALE AUPUNI O'KULIOUOU

Gentlemen:

We certify that the grades and elevations of the subject project are in general conformance with the lines and grades as shown on the Engineer's approved Grading Plan.

Very truly yours,

WILLIAM HEE & ASSOCIATES, INC.


Jerry S. Nakagawa
its Executive Vice President
Registered Professional Surveyor
Certificate Number 1698



DEC 17 1981