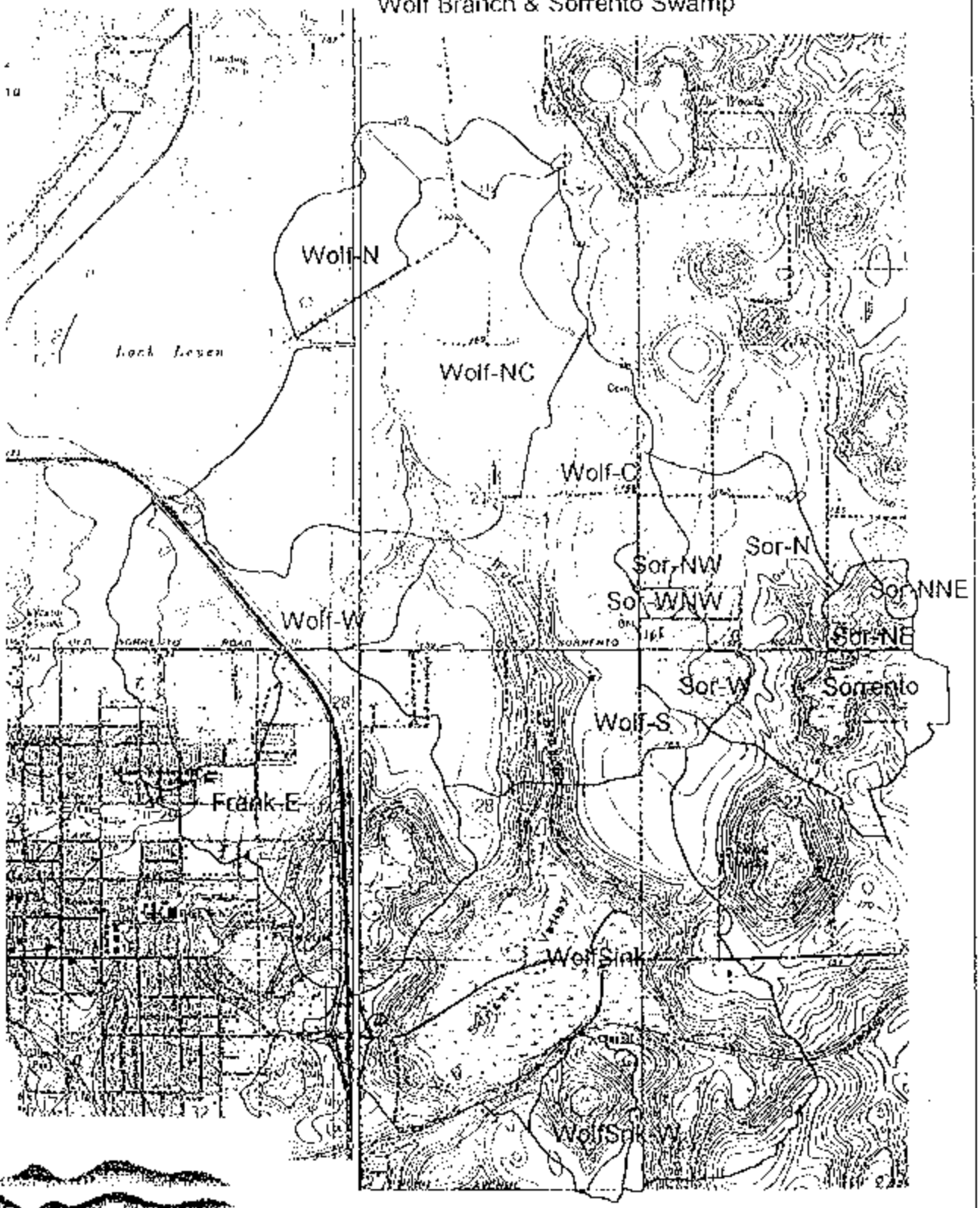
Wolf Branch & Sorrento Swamp



ENGINEERING
METHODS & APPLICATIONS

Eustis, FL & Sorrento, FL
QUAD

N
W E
S

KEY TO CROSS-SECTION (XS) LABELING

PREPARED BY:
SC: ENGINEERING METHODS & APPLICATIONS, INC.
TEC:

COMMUNITY NAME: Lake County
STATE: Florida
FEMA CID No. 120421

DATE PREPARED:
SC: 11/7/97
TEC:

STREAM NAME: Wolf Branch
RUN DATE: 11/7/97

STUDY CONTRACTOR			TECHNICAL EVALUATION CONTRACTOR	
FIELD SURVEY SECTION No.	XS LETTER DRAFT FIS	REACH 3 COMPUTER STATIONING	EPA REACH FILE No.	XS LETTER FINAL FIS
135	A	1		
134	B	2		
133	C	3		
132	D	4		
131	Bridge/Weir	6/7		
130	E	8		
129	Bridge	10		
128	Bridge	12		
127	Bridge	14		
126	F	15		
125	Bridge	17		

Wolf Branch Hydrograph

All time of concentration paths in the Wolf Branch basins were greater than .005 ft/ft, except for Wolf North. Therefore, the SCS dimensionless unit hydrograph was used in the HEC-1 model.

Lake County, FL

- Lake Elevations vs Area -

Lake	Elevation ('29 NGVD ft)	Elevation ('88 NAVD ft)	Area (Ac)
Franklin East	72	71	0.2
	76	75	0.5
	78	77	1.8
	80	79	4.0
	83	82	14.5
	84	83	19.9
	85	84	24.0
	90	89	42.9
	95	94	56.4
	100	99	66.3
	110	109	87.2
		Total Area	404.3

Note: ('88 NAVD) - ('29 NGVD) = (-1.0)

Lake County, FL

- Lake Elevations vs Area -

Lake	Elevation ('29 NGVD ft)	Elevation ('88 NAVD ft)	Area (Ac)
Sunset East	72.25	71.25	0.01
(Est. Area @ 72.25 & 73)	73	72	6.9
-See Wolf Sink- COMBINED with Sunset N, NE, W, & Wolf Sink	73.1	72.1	7.8
	74	73	12.9
	75	74	14.9
	76	75	16.0
	77	76	17.2
	78	77	18.7
	79	78	21.5
	80	79	24.0
	81	80	26.6
	85	84	26.8
	87	86	29.6
		Total Area	46.6

Note: ('88 NAVD) - ('29 NGVD) = (-1.0)

Lake County, FL

- Lake Elevations vs Area -

Lake	Elevation ('29 NGVD ft)	Elevation ('88 NAVD ft)	Area (Ac)
Sunset North	73.4	72.4	5.0
(Est. Area @ 73.4 & 74)	74	73	6.2
-See Wolf Sink- COMBINED with Sunset E, NE, W, & Wolf Sink	74.5	73.5	7.3
	75	74	11.6
	76	75	16.3
	77	76	20.2
	78	77	26.4
	79	78	35.3
	80	79	48.8
	81	80	67.6
	85	84	82.2
	87	86	86.8
		Total Area	263.8

Note: ('88 NAVD) - ('29 NGVD) = (-1.0)

Lake County, FL

- Lake Elevations vs Area -

Lake	Elevation ('29 NGVD ft)	Elevation ('88 NAVD ft)	Area (Ac)
Sunset NE	70	69	0.7
-See Wolf Sink- COMBINED with Sunset E, N, W, & Wolf Sink	71	70	1.5
	72	71	2.3
	73	72	4.8
	74	73	6.9
	75	74	8.7
	76	75	10.4
	77	76	12.7
	78	77	15.6
	79	78	20.1
	80	79	23.5
	81	80	24.5
	85	84	26.7
	87	86	28.6
		Total Area	106.9

Note: ('88 NAVD) - ('29 NGVD) = (-1.0)

Lake County, FL

- Lake Elevations vs Area -

Lake	Elevation ('29 NGVD ft)	Elevation ('88 NAVD ft)	Area (Ac)
Sunset West	73.4	72.4	45.0
(Est. Area @ 73.4 & 74)	74	73	52.7
-See Wolf Sink- COMBINED with Sunset E, N, NE, & Wolf Sink	74.2	73.2	55.3
	75	74	65.9
	76	75	70.1
	77	76	76.6
	78	77	82.1
	79	78	88.7
	80	79	97.6
	81	80	100.7
	85	84	109.3
	87	86	112.2
		Total Area	177.3

Note: ('88 NAVD) - ('29 NGVD) = (-1.0)

Lake County, FL

- Lake Elevations vs Area -

Lake	Elevation ('29 NGVD ft)	Elevation ('88 NAVD ft)	Area (Ac)
Wolf Central	115.6	114.6	2.2
	119	118	6.2
	120	119	12.6
	125	124	27.7
		Total Area	309.3

Note: ('88 NAVD) - ('29 NGVD) = (-1.0)

Lake County, FL

- Lake Elevations vs Area -

Lake	Elevation ('29 NGVD ft)	Elevation ('88 NAVD ft)	Area (Ac)
Wolf Sink - Original	49.75	48.75	0.01
(Elev 49.75' from) (USGS Study) -See Wolf Sink- COMBINED with Sunset E, N, NE, & W	60	59	0.1
	64	63	0.4
	65	64	1.0
	70	69	8.1
	71	70	10.8
	72	71	16.5
	73	72	20.6
	74	73	24.3
	75	74	27.2
	76	75	29.7
	77	76	32.4
	78	77	34.8
	79	78	36.8
	80	79	39.0
	81	80	40.3
	85	84	50.7
	87	86	57.0
		Total Area	198.8

Note: ('88 NAVD) - ('29 NGVD) = (-1.0)

Lake County, FL

- Lake Elevations vs Area -

Lake	Elevation ('29 NGVD ft)	Elevation ('88 NAVD ft)	Area (Ac)
Wolf Sink	49.75	48.75	0.01
(Elev 49.75' from) (USGS Study)	60	59	0.1
	64	63	0.4
COMBINED Sunset E, N, NE, & W & Original Wolf Sink	65	64	1.0
	70	69	8.8
	71	70	12.3
	72	71	18.8
	73	72	32.3
	74	73	103.0
	75	74	128.3
	76	75	142.5
	77	76	159.1
	78	77	177.6
	79	78	202.4
	80	79	232.9
	81	80	259.7
	85	84	295.7
	87	86	314.2
		Total Area	793.4

Note: ('88 NAVD) - ('29 NGVD) = (-1.0)

Lake County, FL

- Lake Elevations vs Area -

Lake	Elevation ('29 NGVD ft)	Elevation ('88 NAVD ft)	Area (Ac)
Wolf Sink West	59	58	1.0
	60	59	2.3
	65	64	4.6
	70	69	6.9
	75	74	9.6
	80	79	12.1
	85	84	15.3
	90	89	18.9
	95	94	25.0
		Total Area	85.5

Note: ('88 NAVD) - ('29 NGVD) = (-1.0)

TIMES OF CONCENTRATION (Wolf Branch)

SUBBASIN Franklin East

	T-sheet	T-sc	T-chnl
length(ft)	200	1350	3050
y(ft)	0.7	4.8	80
slope	0.003500	0.003556	0.026230
w(ft)			10
b(ft)			0
h(ft)			2
R(ft)			0.928477
n	0.15		0.035
depth(ft)			
velocity(ft/s)		0.96	6.56
TC(hrs)	0.47	0.39	0.13

TCtot(hrs)	0.99
TPtot(hrs)	0.59

2 Yr - 24 Hr Rainfall for Tsheet calculation: 4.8

TIMES OF CONCENTRATION (Wolf Branch)

SUBBASIN Sunset East (Combined into Wolf Sink)

	T-sheet	T-sc
length(ft)	180	1000
y(ft)	0.5	79
slope	0.002778	0.079000
w(ft)		
b(ft)		
h(ft)		
R(ft)		
n	0.15	
depth(ft)		
velocity(ft/s)		4.53
TC(hrs)	0.47	0.06

TCtot(hrs)	0.53
TPtot(hrs)	0.32

2 Yr - 24 Hr Rainfall for Tsheet calculation: 4.8

TIMES OF CONCENTRATION (Wolf Branch)

SUBBASIN Sunset North (Combined into Wolf Sink)

	T-sheet	T-sc
length(ft)	170	3100
y(ft)	1.3	85
slope	0.007647	0.027419
w(ft)		
b(ft)		
h(ft)		
R(ft)		
n	0.15	
depth(ft)		
velocity(ft/s)		2.67
TC(hrs)	0.30	0.32

TCtot(hrs)	0.62
TPtot(hrs)	0.37

2 Yr - 24 Hr Rainfall for Tsheet calculation: 4.8

TIMES OF CONCENTRATION (Wolf Branch)

SUBBASIN Sunset NE (Combined into Wolf Sink)

	T-sheet	T-sc
length(ft)	200	1900
y(ft)	0.3	83.4
slope	0.001500	0.043895
w(ft)		
b(ft)		
h(ft)		
R(ft)		
n	0.15	
depth(ft)		
velocity(ft/s)		3.38
TC(hrs)	0.65	0.16

TCtot(hrs)	0.81
TPtot(hrs)	0.49

2 Yr - 24 Hr Rainfall for Tsheet calculation: 4.8

TIMES OF CONCENTRATION (Wolf Branch)

SUBBASIN Sunset West (Combined into Wolf Sink)

	T-sheet	T-chnl
length(ft)	70	1850
y(ft)	3.3	66
slope	0.047143	0.035676
w(ft)		10
b(ft)		0
h(ft)		3
R(ft)		1.286239
n	0.15	0.03
depth(ft)		
velocity(ft/s)		11.10
TC(hrs)	0.07	0.05

TCtot(hrs)	0.12
TPtot(hrs)	0.07

2 Yr - 24 Hr Rainfall for Tsheet calculation: 4.8

TIMES OF CONCENTRATION (Wolf Branch)

SUBBASIN Wolf Branch Central

	T-sheet	T-sc	T-chnl	T-lake
length(ft)	250	1250	4020	1250
y(ft)	1.8	6.3	51	
slope	0.007200	0.005040	0.012687	
w(ft)			10	
b(ft)			0	
h(ft)			2	
R(ft)			0.928477	
n	0.15		0.03	
depth(ft)				4
velocity(ft/s)		1.15	5.32	11.35
TC(hrs)	0.42	0.30	0.21	0.03

TCtot(hrs)	0.96
TPtot(hrs)	0.58

2 Yr - 24 Hr Rainfall for Tsheet calculation: 4.8

TIMES OF CONCENTRATION (Wolf Branch)

SUBBASIN Wolf Branch North

	T-sheet	T-sc	T-chnl1	T-lake	T-chnl2
length(ft)	200	1250	1700	1060	1220
y(ft)	2.3	4	4		4
slope	0.011500	0.003200	0.002353		0.003279
w(ft)			10		10
b(ft)			0		0
h(ft)			1.5		1.5
R(ft)			0.71837		0.71837
n	0.15		0.03		0.03
depth(ft)				2	
velocity(ft/s)		0.91	1.93	8.02	2.28
TC(hrs)	0.29	0.38	0.24	0.04	0.15

TCtot(hrs)	1.10
TPtot(hrs)	0.66

2 Yr - 24 Hr Rainfall for Tsheet calculation: 4.8

TIMES OF CONCENTRATION (Wolf Branch)

SUBBASIN Wolf Branch North-Central

	T-sheet	T-sc	T-chnl1	T-chnl2
length(ft)	210	1960	1210	5600
y(ft)	2.3	6	2	47.5
slope	0.010952	0.003061	0.001653	0.008482
w(ft)			10	20
b(ft)			0	5
h(ft)			1.5	3
R(ft)			0.71837	1.772589
n	0.15		0.03	0.035
depth(ft)				
velocity(ft/s)		0.89	1.62	5.74
TC(hrs)	0.31	0.61	0.21	0.27

TCtot(hrs)	1.40
TPtot(hrs)	0.84

2 Yr - 24 Hr Rainfall for Tsheet calculation: 4.8

TIMES OF CONCENTRATION (Wolf Branch)

SUBBASIN Wolf Branch South

	T-sheet	T-sc	T-chnl
length(ft)	300	3200	2000
y(ft)	0.7	52.1	16.5
slope	0.002333	0.016281	0.008250
w(ft)			10
b(ft)			8
h(ft)			3
R(ft)			1.884875
n	0.15		0.03
depth(ft)			
velocity(ft/s)		2.06	6.88
TC(hrs)	0.76	0.43	0.08

TCtot(hrs)	1.27
TPtot(hrs)	0.76

2 Yr - 24 Hr Rainfall for Tsheet calculation: 4.8

TIMES OF CONCENTRATION (Wolf Branch)

SUBBASIN Wolf Branch West

	T-sheet	T-sc	T-chnl1	T-chnl2
length(ft)	250	950	2200	3600
y(ft)	0.9	4	7	41
slope	0.003600	0.004211	0.003182	0.011389
w(ft)			10	15
b(ft)			0	5
h(ft)			2	3
R(ft)			0.928477	1.800515
n	0.15		0.03	0.035
depth(ft)				
velocity(ft/s)		1.05	2.67	6.72
TC(hrs)	0.55	0.25	0.23	0.15

TCtot(hrs)	1.18
TPtot(hrs)	0.71

2 Yr - 24 Hr Rainfall for Tsheet calculation: 4.8

TIMES OF CONCENTRATION (Wolf Branch)

SUBBASIN Wolf Sink (Original)

	T-sheet	T-sc	T-lake	T-chnl
length(ft)	100	1120	700	1750
y(ft)	0.3	78		11.8
slope	0.003000	0.069643		0.006743
w(ft)				15
b(ft)				5
h(ft)				3
R(ft)				1.800515
n	0.15			0.03
depth(ft)			2	
velocity(ft/s)		4.26	8.02	6.04
TC(hrs)	0.28	0.07	0.02	0.08

TCtot(hrs)	0.46
TPtot(hrs)	0.28

2 Yr - 24 Hr Rainfall for Tsheet calculation: 4.8

TIMES OF CONCENTRATION (Wolf Branch)

SUBBASIN Wolf Sink

(New Tc = Max Tc of Original Basins)

	Tc	Tp
Sunset East	0.53	0.32
Sunset North	0.62	0.37
Sunset NE	0.81	0.49
Sunset West	0.12	0.07
Orig Wolf Sink	0.46	0.28

TCtot(hrs)	0.81
TPtot(hrs)	0.49

2 Yr - 24 Hr Rainfall for Tsheet calculation: 4.8

TIMES OF CONCENTRATION (Wolf Branch)

SUBBASIN Wolf Sink West

	T-sheet	T-sc
length(ft)	200	1580
y(ft)	2.4	85
slope	0.012000	0.053797
w(ft)		
b(ft)		
h(ft)		
R(ft)		
n	0.15	
depth(ft)		
velocity(ft/s)		3.74
TC(hrs)	0.28	0.12

TCtot(hrs)	0.40
TPtot(hrs)	0.24

2 Yr - 24 Hr Rainfall for Tsheet calculation: 4.8

Curve Number Worksheet
(Natural Resources Conservation Service)

Project: FIS
County: Lake
State: Florida
By: BVM
Date: 9/4/97

Location: Franklin E

Present Conditions

Soil Name and/or Hydrologic Group	Land Cover Description (cover type, treatment, and hydrologic condition)	Percent of Land Cover	CN (Table) (2-2)	Area (%) of Soil	Product of CN x Area x % Cover
A	1/4 Ac Residential	30	61	84.2	1541
	Open Space - Poor	20	68	84.2	1145
	Brush - Poor	20	48	84.2	808
	Forest - Fair	25	36	84.2	758
	Highway	5	83	84.2	349
					0
B/D	1/4 Ac Residential	25	75	13.5	253
	Open Space - Poor	10	79	13.5	107
	Brush - Fair	30	56	13.5	227
	Forest - Fair	25	60	13.5	203
	Highway	10	89	13.5	120
					0
C	Open Space - Good	75	74	1.2	67
	Highway	25	92	1.2	28
					0
D	Open Space - Good	100	80	1.1	88
				Totals	100.0	5694
				CN (Weighted) = (Product Total)/(Area Total)		56.94
				Use CN		57

Curve Number Worksheet
(Natural Resources Conservation Service)

Project: FIS
County: Lake
State: Florida
By: BVM
Date: 9/4/97

Location: Sunset E

Present Conditions

Soil Name and/or Hydrologic Group	Land Cover Description (cover type, treatment, and hydrologic condition)	Percent of Land Cover	CN (Table) (2-2)	Area (%) of Soil	Product of CN x Area x % Cover
A	Pasture - Poor	20	68	55.4	753
	Orchard - Poor	80	57	55.4	2526
					0
C	Pasture - Fair	80	79	8.8	556
	Brush - Fair	20	70	8.8	123
					0
D	Brush - Good	50	73	35.8	1307
	Forest - Good	50	77	35.8	1378
					0
					0
					0
					0
					0
					0
					0
Water					0
			Totals	100.0	6643
			CN (Weighted) = (Product Total)/(Area Total)		66.43
			Use CN		67

Curve Number Worksheet
(Natural Resources Conservation Service)

Project: FIS
County: Lake
State: Florida
By: BVM
Date: 9/4/97

Location: Sunset N

Present Conditions

Soil Name and/or Hydrologic Group	Land Cover Description (cover type, treatment, and hydrologic condition)	Percent of Land Cover	CN (Table) (2-2)	Area (%) of Soil	Product of CN x Area x % Cover
A	Pasture - Poor	50	68	72.7	2472
	Orchard - Poor	30	57	72.7	1243
	Forest - Fair	20	36	72.7	523
					0
B/D	Brush - Good	50	73	13.8	504
	Forest - Good	50	77	13.8	531
					0
C	Pasture - Fair	100	79	6.3	498
					0
D	Brush - Good	50	73	7.2	263
	Forest - Good	50	77	7.2	277
					0
					0
					0
					0
Water					0
			Totals	100.0	6311
			CN (Weighted) = (Product Total)/(Area Total)		63.11
			Use CN		63

Curve Number Worksheet
(Natural Resources Conservation Service)

Project: FIS
County: Lake
State: Florida
By: BVM
Date: 9/4/97

Location: Sunset NE

Present Conditions

Soil Name and/or Hydrologic Group	Land Cover Description (cover type, treatment, and hydrologic condition)	Percent of Land Cover	CN (Table) (2-2)	Area (%) of Soil	Product of CN x Area x % Cover
A	Pasture - Poor	30	68	82.3	1679
	Orchard - Poor	70	57	82.3	3284
					0
B/D	Pasture - Good	100	80	5.9	472
					0
C	Pasture - Fair	100	79	3.4	269
					0
D	Brush - Good	50	73	8.4	307
	Forest - Good	50	77	8.4	323
					0
					0
					0
					0
					0
					0
Water					0
			Totals	100.0	6334
			CN (Weighted) = (Product Total)/(Area Total)		63.34
			Use CN		63

Curve Number Worksheet
(Natural Resources Conservation Service)

Project: FIS
County: Lake
State: Florida
By: BVM
Date: 9/4/97

Location: Sunset W

Present Conditions

Soil Name and/or Hydrologic Group	Land Cover Description (cover type, treatment, and hydrologic condition)	Percent of Land Cover	CN (Table) (2-2)	Area (%) of Soil	Product of CN x Area x % Cover
A	Pasture - Poor	10	68	45.9	312
	Orchard - Poor	85	57	45.9	2224
	Forest - Fair	5	36	45.9	83
					0
B/D	Pasture - Good	100	80	4.7	376
					0
C	Brush - Good	100	65	5.9	384
					0
D	Brush - Good	50	73	42.4	1548
	Forest - Good	50	77	42.4	1632
					0
					0
					0
					0
					0
Water		100	100	1.1	110
			Totals	100.0	6669
			CN (Weighted) = (Product Total)/(Area Total)		66.69
			Use CN		67

Curve Number Worksheet
(Natural Resources Conservation Service)

Project: FIS
County: Lake
State: Florida
By: BVM
Date: 9/4/97

Location: Wolf C

Present Conditions

Soil Name and/or Hydrologic Group	Land Cover Description (cover type, treatment, and hydrologic condition)	Percent of Land Cover	CN (Table) (2-2)	Area (%) of Soil	Product of CN x Area x % Cover
A	Pasture/Open Space - Poor	80	68	61.1	3324
	Forest - Fair	20	36	61.1	440
					0
B/D	Pasture/Open Space - Fair	20	84	32.7	549
	Forest - Good	80	77	32.7	2014
					0
C	Pasture - Fair	100	79	3.8	300
					0
D	Forest - Good	100	77	1.2	92
					0
					0
					0
					0
					0
					0
Water		100	100	1.2	120
			Totals	100.0	6839
			CN (Weighted) = (Product Total)/(Area Total)		68.39
			Use CN		68

Curve Number Worksheet
(Natural Resources Conservation Service)

Project: FIS
County: Lake
State: Florida
By: BVM
Date: 9/4/97

Location: Wolf N

Present Conditions

Soil Name and/or Hydrologic Group	Land Cover Description (cover type, treatment, and hydrologic condition)	Percent of Land Cover	CN (Table) (2-2)	Area (%) of Soil	Product of CN x Area x % Cover
A	Pasture - Poor	60	68	12.8	522
	Forest - Fair	40	36	12.8	184
					0
B/D	Pasture - Good	90	80	75.9	5465
	Forest - Good	10	77	75.9	584
					0
C	Pasture - Fair	100	79	4	316
					0
D	Pasture - Good	60	80	7.3	350
	Brush - Good	40	73	7.3	213
					0
					0
					0
					0
					0
Water					0
			Totals	100.0	7634
			CN (Weighted) = (Product Total)/(Area Total)		76.34
			Use CN		76

Curve Number Worksheet
(Natural Resources Conservation Service)

Project: FIS
County: Lake
State: Florida
By: BVM
Date: 9/4/97

Location: Wolf NC

Present Conditions

Soil Name and/or Hydrologic Group	Land Cover Description (cover type, treatment, and hydrologic condition)	Percent of Land Cover	CN (Table) (2-2)	Area (%) of Soil	Product of CN x Area x % Cover
A	Pasture - Poor	20	68	29.6	403
	Forest - Fair	60	36	29.6	639
	Orchard - Poor	20	57	29.6	337
					0
B/D	Pasture - Poor	40	79	64.8	2048
B/D	Pasture - Fair	30	84	64.8	1633
	Forest - Good	30	77	64.8	1497
					0
C	Pasture - Poor	100	86	1.7	146
					0
D	Pasture - Good	75	80	1.9	114
	Forest - Good	25	77	1.9	37
					0
					0
					0
Water		100	100	2	200
			Totals	100.0	7054
			CN (Weighted) = (Product Total)/(Area Total)		70.54
			Use CN		71

Curve Number Worksheet
(Natural Resources Conservation Service)

Project: FIS
County: Lake
State: Florida
By: BVM
Date: 9/4/97

Location: Wolf S

Present Conditions

Soil Name and/or Hydrologic Group	Land Cover Description (cover type, treatment, and hydrologic condition)	Percent of Land Cover	CN (Table) (2-2)	Area (%) of Soil	Product of CN x Area x % Cover
A	Pasture - Poor	15	68	72.3	737
	Orchard - Poor	70	57	72.3	2885
	Forest - Fair	15	36	72.3	390
					0
B/D	Brush - Good	20	73	24.4	356
	Forest - Good	80	77	24.4	1503
					0
					0
C	Forest - Good	100	70	3.3	231
					0
					0
					0
					0
					0
					0
Water					0
			Totals	100.0	6102
			CN (Weighted) = (Product Total)/(Area Total)		61.02
			Use CN		61

Curve Number Worksheet
(Natural Resources Conservation Service)

Project: FIS
County: Lake
State: Florida
By: BVM
Date: 9/4/97

Location: Wolf W

Present Conditions

Soil Name and/or Hydrologic Group	Land Cover Description (cover type, treatment, and hydrologic condition)	Percent of Land Cover	CN (Table) (2-2)	Area (%) of Soil	Product of CN x Area x % Cover
A	Pasture - Poor	30	68	35.1	716
	Orchard - Poor	30	57	35.1	600
	1/4 Ac Residential	40	61	35.1	856
					0
B/D	Open Space - Poor	10	79	57.9	457
	1/4 Ac Residential	30	75	57.9	1303
	Forest - Fair	20	60	57.9	695
B/D	Forest - Good	40	77	57.9	1783
					0
C	Open Space - Fair	60	79	4.1	194
	Forest - Good	40	70	4.1	115
					0
D	Brush - Good	30	73	2.9	64
	Forest - Good	70	77	2.9	156
					0
Water					0
				Totals	100.0	6939
				CN (Weighted) = (Product Total)/(Area Total)		69.39
				Use CN		69

Curve Number Worksheet
(Natural Resources Conservation Service)

Project: FIS
County: Lake
State: Florida
By: BVM
Date: 9/4/97

Location: Wolf Sink

Present Conditions

Soil Name and/or Hydrologic Group	Land Cover Description (cover type, treatment, and hydrologic condition)	Percent of Land Cover	CN (Table) (2-2)	Area (%) of Soil	Product of CN x Area x % Cover
A	Pasture - Poor	40	68	91.3	2483
	Orchard - Poor	40	57	91.3	2082
	Forest - Fair	20	36	91.3	657
					0
C	Forest - Good	100	70	8	560
					0
					0
					0
					0
					0
					0
					0
					0
					0
					0
Water		100	100	0.7	70
			Totals	100.0	5852
			CN (Weighted) = (Product Total)/(Area Total)		58.52
			Use CN		59

Curve Number Worksheet
(Natural Resources Conservation Service)

Project: FIS
County: Lake
State: Florida
By: BVM
Date: 9/4/97

Location: Wolf Sink W

Present Conditions

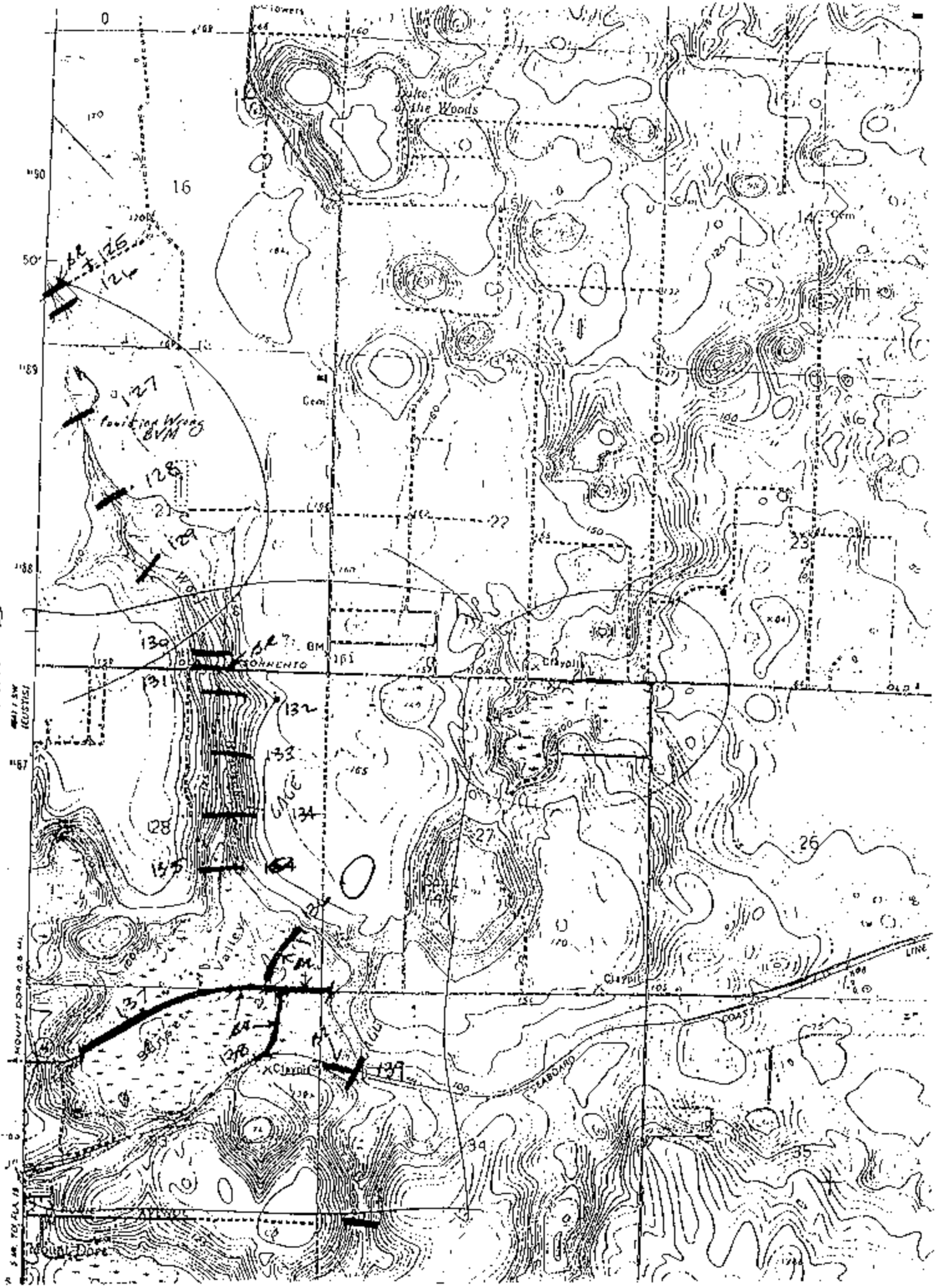
Soil Name and/or Hydrologic Group	Land Cover Description (cover type, treatment, and hydrologic condition)	Percent of Land Cover	CN (Table) (2-2)	Area (%) of Soil	Product of CN x Area x % Cover
A	Pasture - Poor	60	68	93.7	3823
	Orchard - Poor	40	57	93.7	2136
					0
D	Pasture - Good	100	80	6.3	504
					0
					0
					0
					0
					0
					0
					0
					0
					0
					0
					0
Water					0
				Totals	100.0	6463
				CN (Weighted) = (Product Total)/(Area Total)		64.63
				Use CN		65

Wolf Branch Gages

The gages for Wolf Branch consist of two USGS daily flow gages. Since the gages are daily flow they would be of little use in the calibration of peak timing. Therefore, the use of the gages would be restricted to calibration of the peak flow.

The first, USGS 02237734, is located within the delineated Wolf Sink subbasin 50 feet downstream from the railroad. Since this area was modelled as a lake, the gage is of no use in the modelling process.

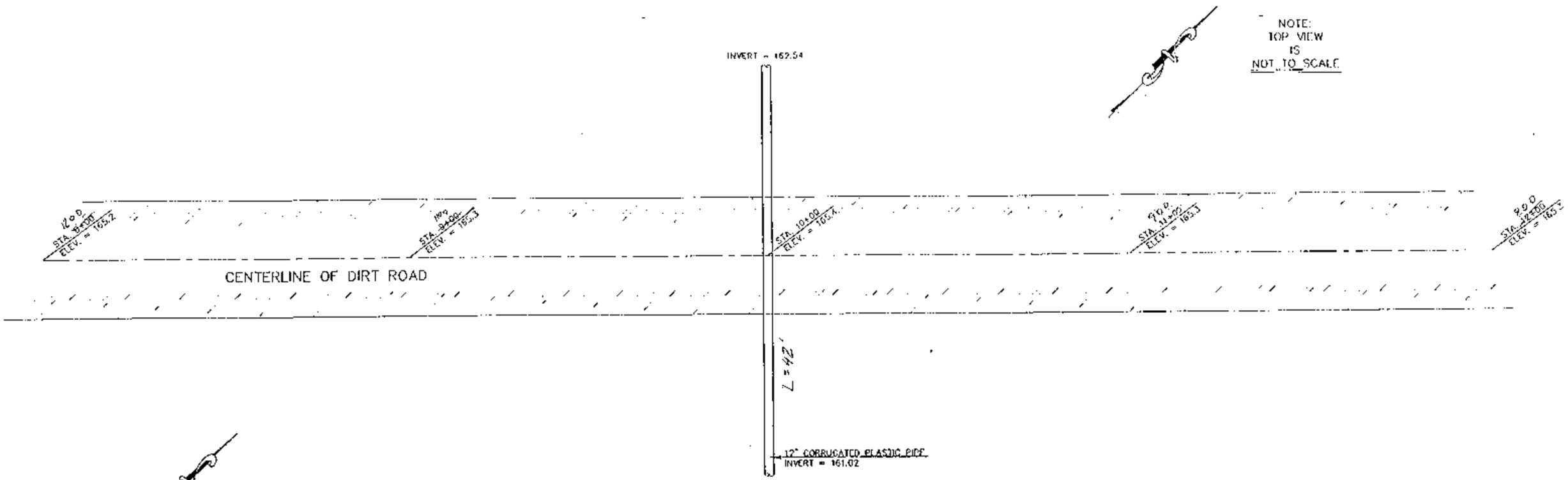
The second gage, USGS 02237733, was located approximately 0.45 miles upstream of State Road 46. The gage was in service from July 1991 to October 1992 and December 1992 to September 1994 at which time the gage was discontinued. During its period of service, the maximum recorded flow was 51 cfs with an instantaneous height of 82.00' NGVD. The 10 year event, as modelled, for the location of the gage is 2,507 cfs with an elevation of approximately 89.87' NGVD. Given the disparity in flows and elevations between the gage record and the model, it was deemed imprudent to try to use the gage for peak flow calibration purposes.

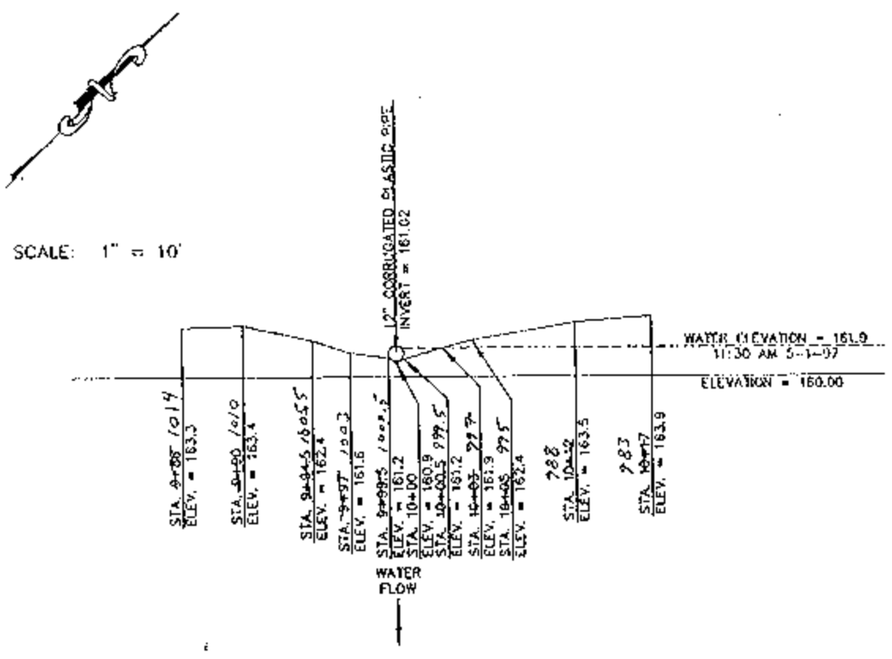


WOLF BRANCH 6 BRIDGES (1 CONC)
11 NAT. 15
QUAD = SORRENTO
Lake of the Woods
Cem
Position Wrong BVM
SORRENTO
ROAD
Claypit
Valley
Mount Dore
SEABOARD
COAST
LINE
16
14
21
22
23
26
27
28
34
35
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139

STRUCTURE # 125 – WOLF BRANCH

900±' NORTH OF THE SOUTH LINE OF SECTION 16,
4700±' WEST OF THE EAST LINE OF
SECTION 16, TOWNSHIP 19 SOUTH, RANGE 27 EAST





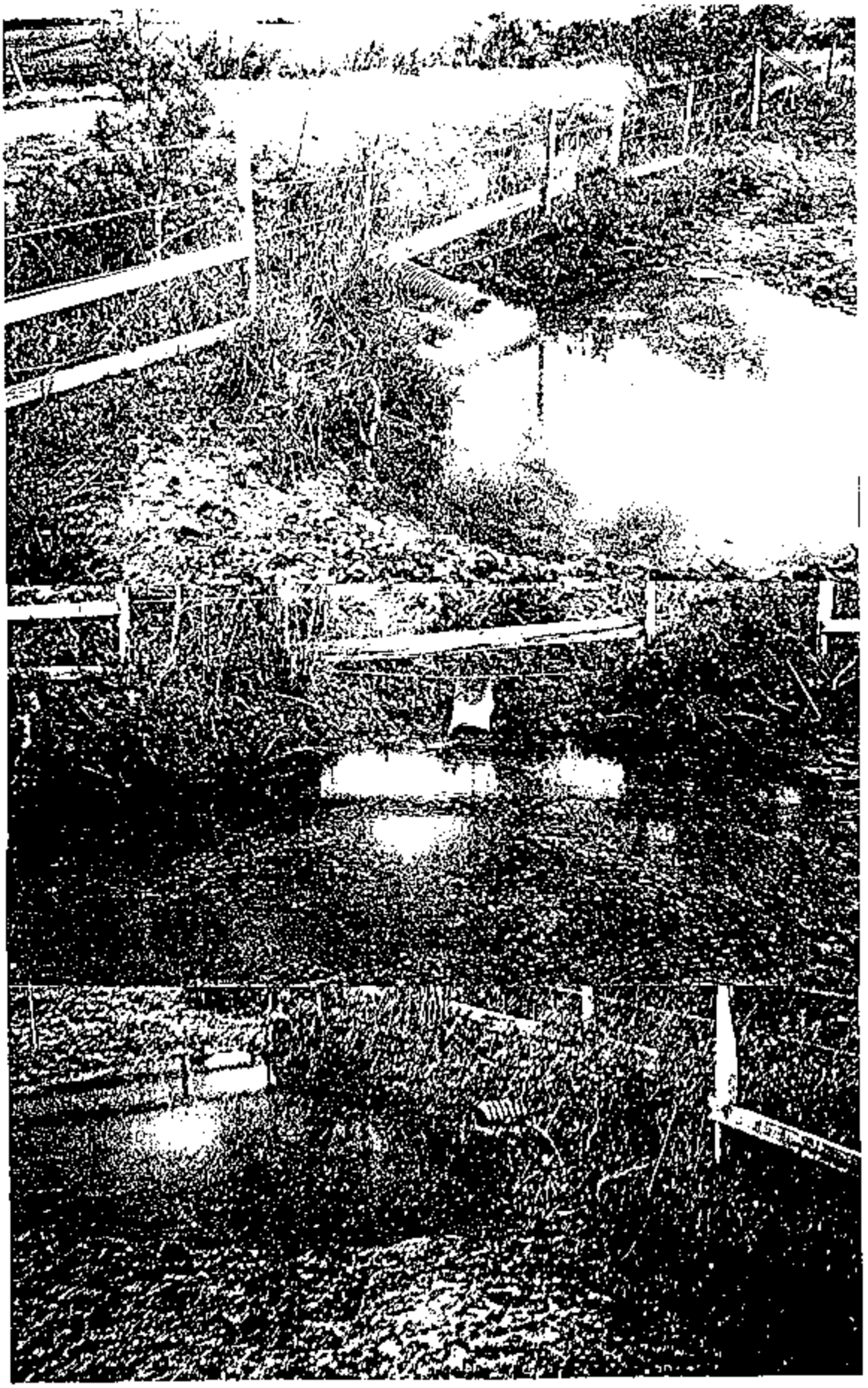
(15.00) DENOTES ELEVATIONS BASED ON N.A.V.D. 1988

FIELD BOOK LAKE "H" PAGES 66-67

QUAD: SORRENTO, FLA.

DEGROVE SURVEYORS, INC.
2155 ART MUSEUM DRIVE
JACKSONVILLE, FLORIDA, 32207
(904) 396-8606

WOLF BRANCH · CROSS SECTION 125



(NAVD 88)

170.16

165.42

163.65

169.79

166.0

165.5

163.2

160.0

160.1

161.0

164.3

163.8

165.7

165.5

163.6

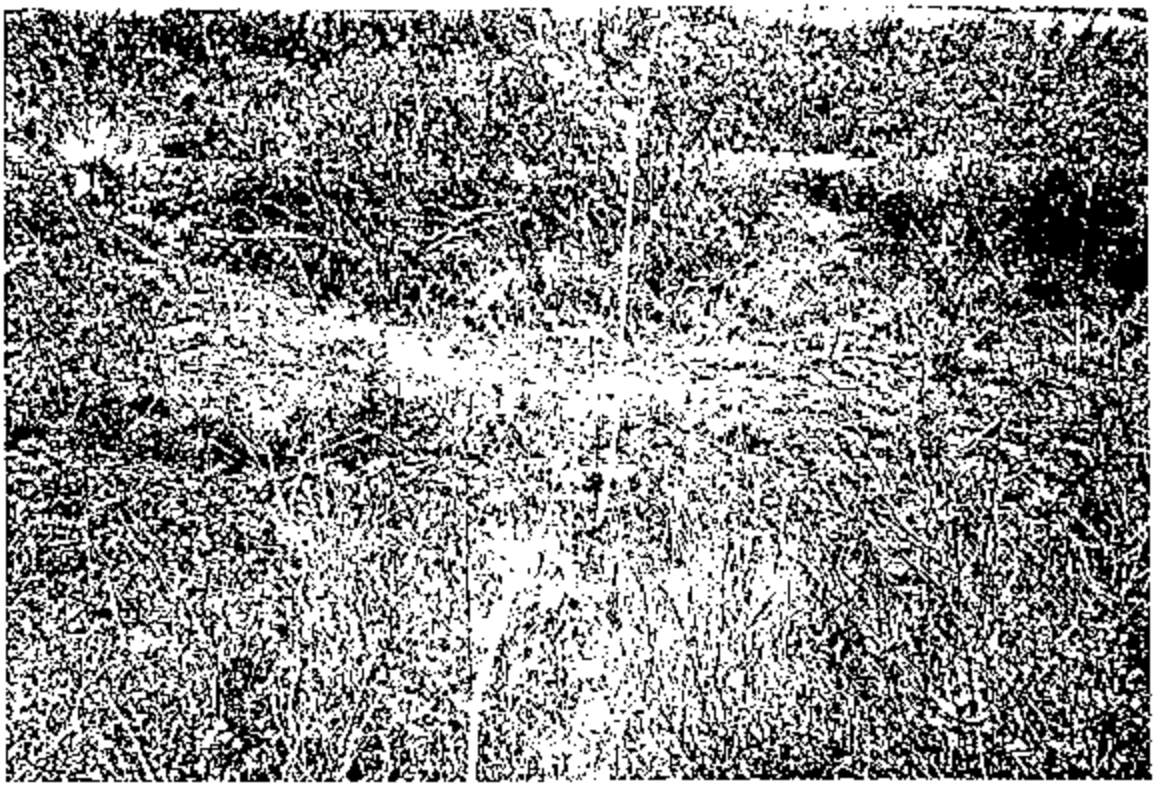
+100	1900	6.9	162.9	
+200	1800	5.6	164.20	
+240	1760	5.7	164.1	
TOP OF WATER		5.41	160.38	12:00 a.m.
+100.5	200/5	5.5	160.3	
+100	2100	5.7	164.1	
+200	2200	5.5	164.3	
		6.4	163.65	
TP#2	6.42	170.07		
[illegible]		4.62	165.45 (0.00)	

WOLF BRANCH - CROSS SECTION 126

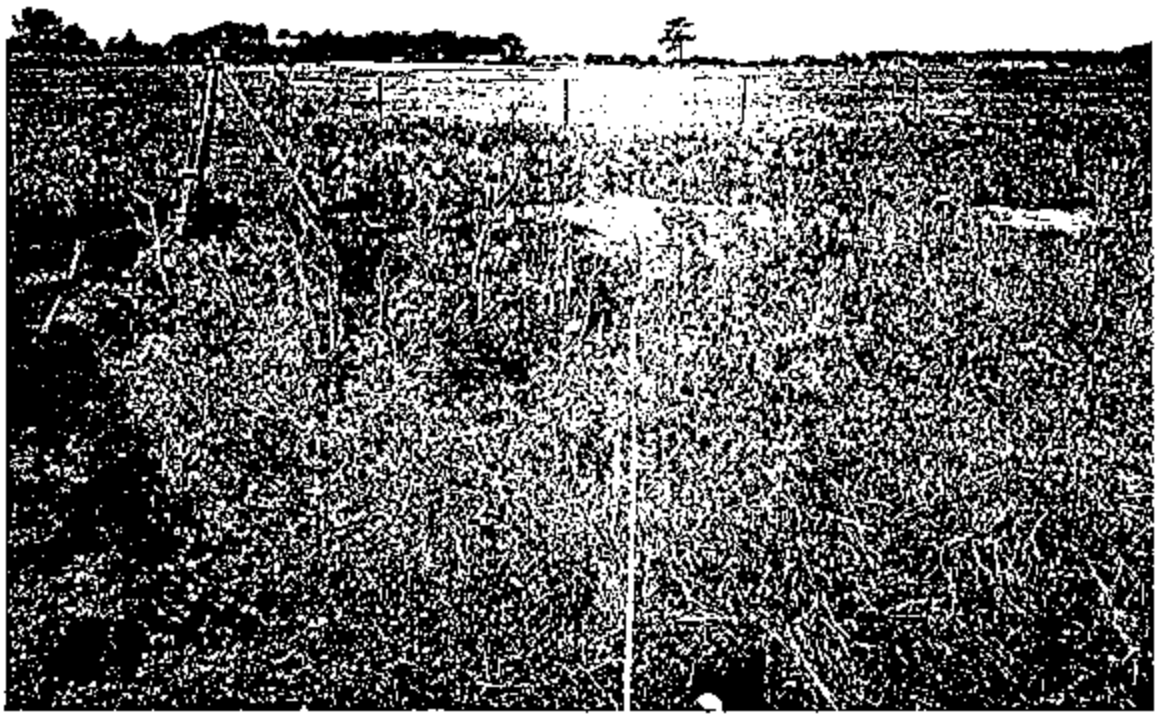
Upstream

Downstream

WOLF BRANCH - CROSS SECTION 126



Easterly

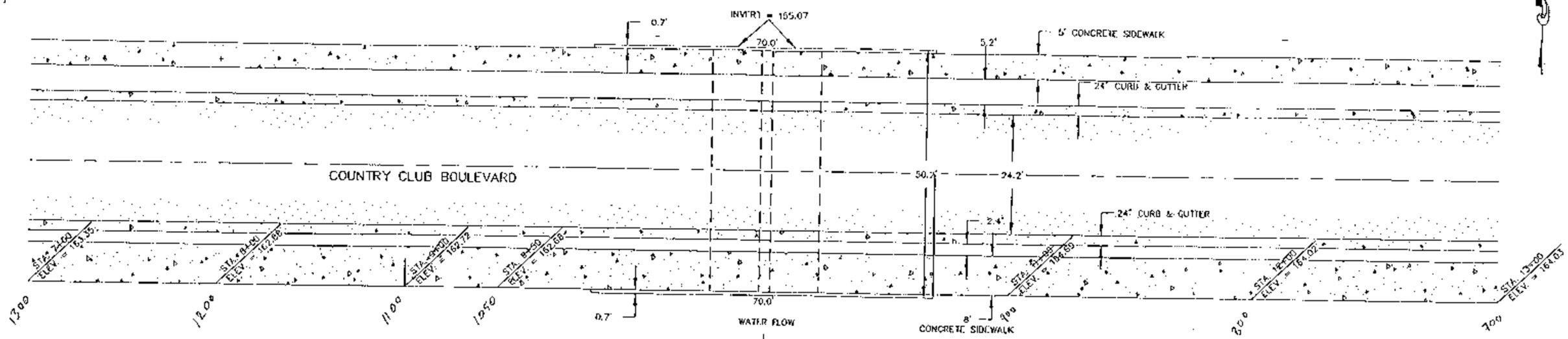


Westerly

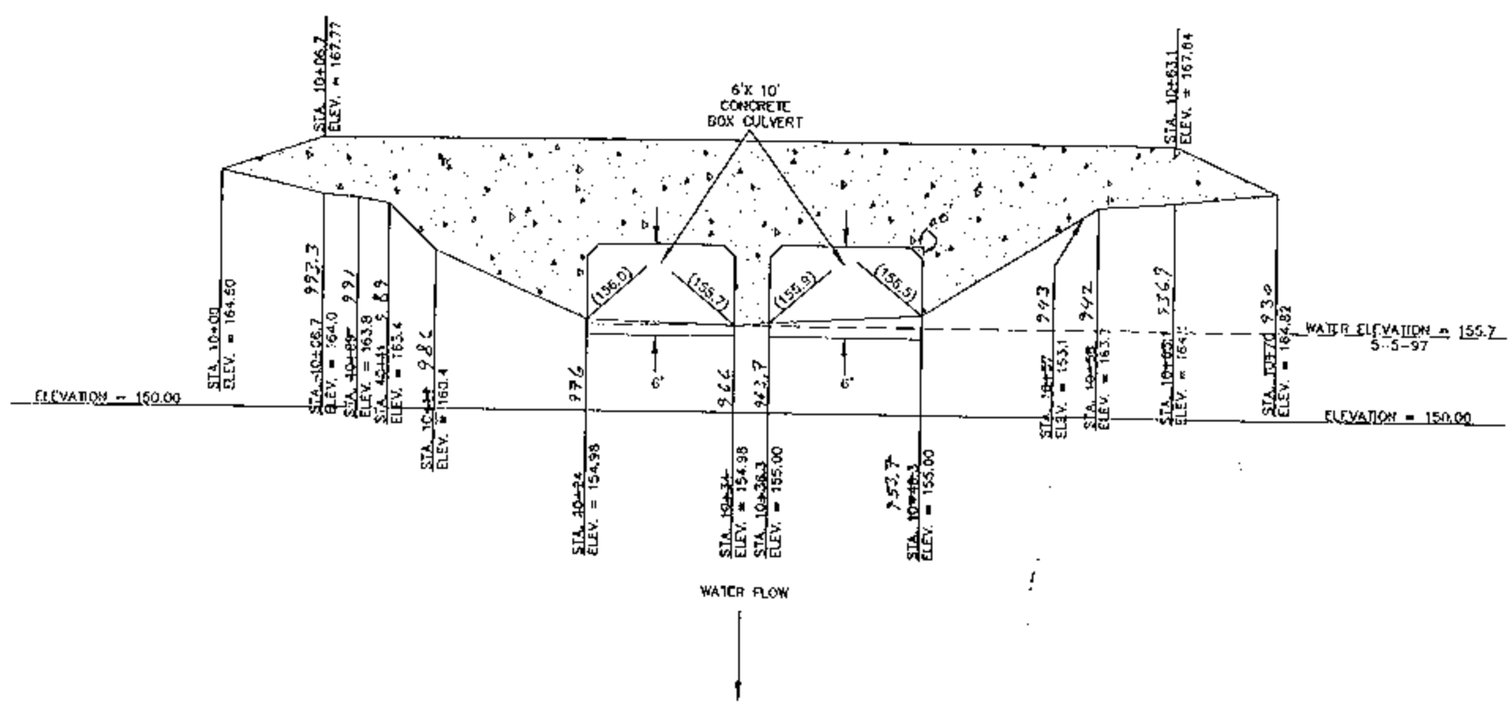
STRUCTURE # 127 – WOLF BRANCH

200±' SOUTH OF THE NORTH LINE OF SECTION 21,
900±' EAST OF THE WEST LINE OF
SECTION 21, TOWNSHIP 19 SOUTH, RANGE 27 EAST

NOTE:
TOP VIEW
IS
NOT TO SCALE



SCALE: 1" = 10'



(15.00) DENOTES ELEVATIONS BASED ON N.A.V.D. 1988

FIELD BOOK LAKE "K" PAGES 5-6

QUAD: SORRENTO, FLA.

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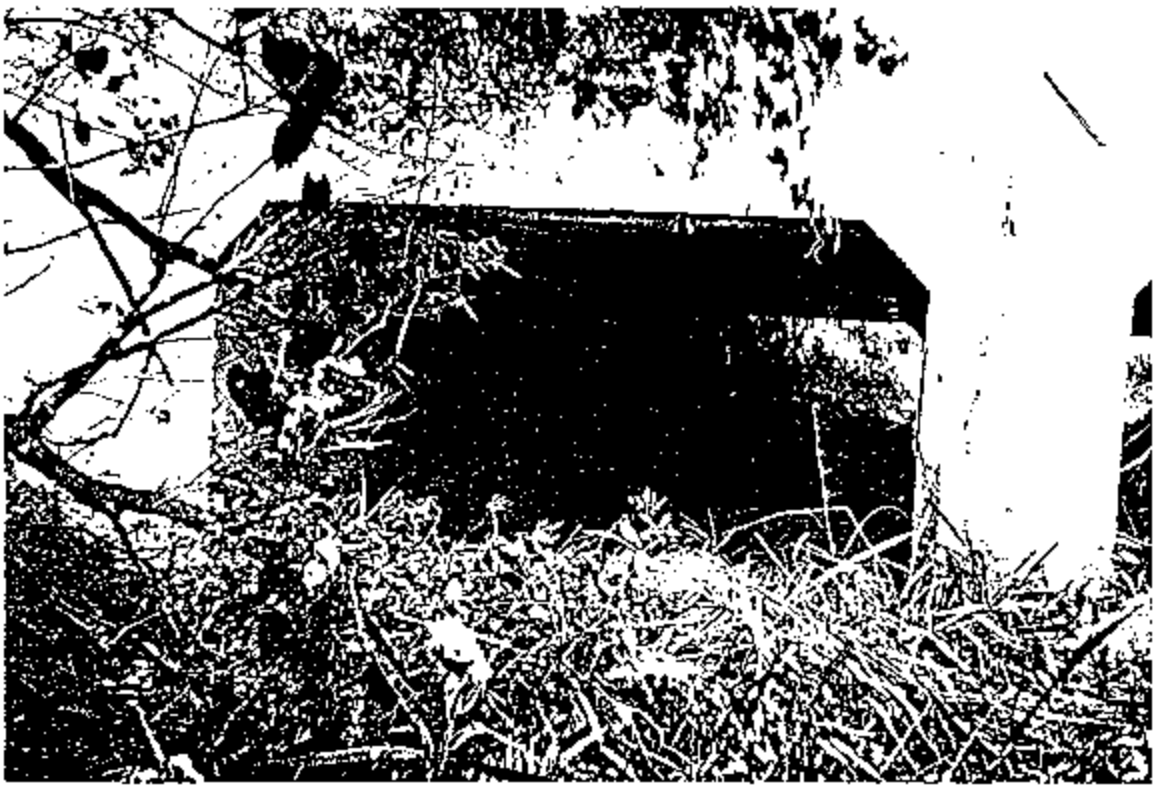
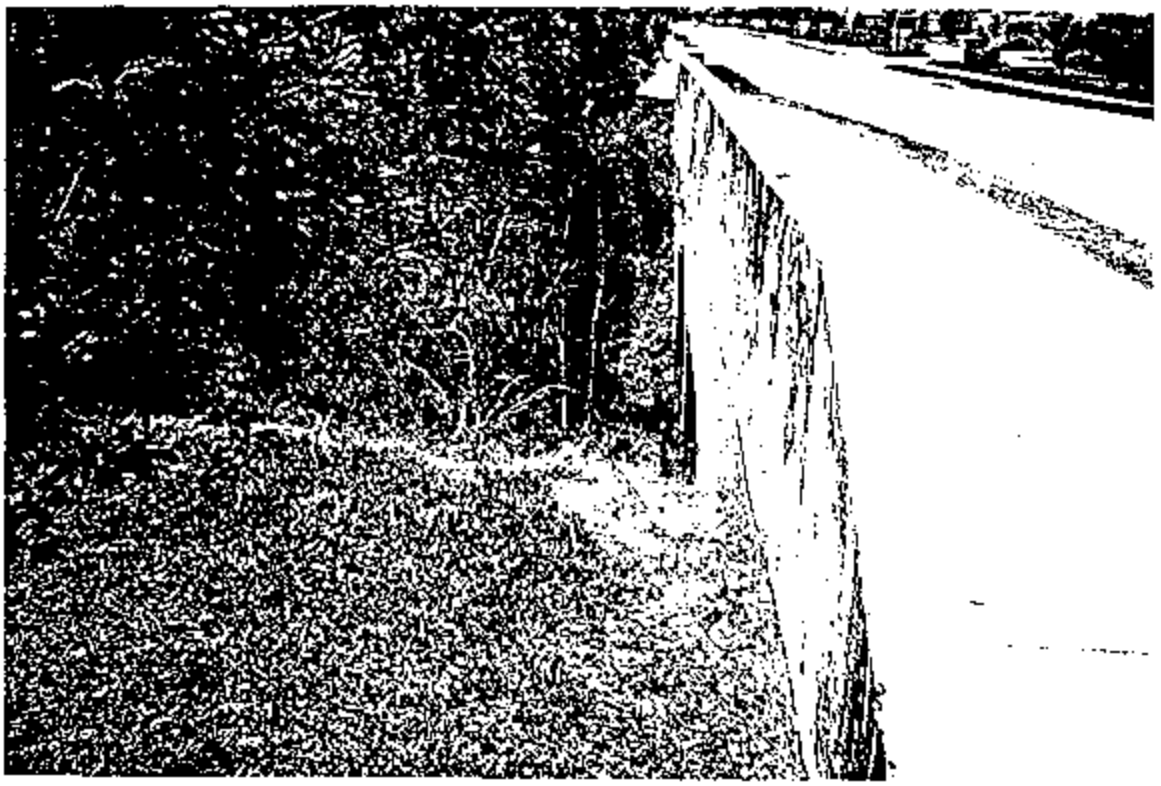
(904) 396-8606

Wolf Branch - Structure 127



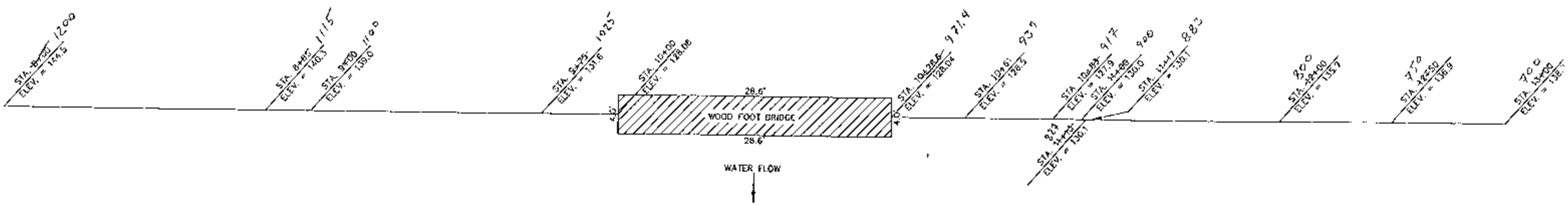
Wolf Branch - Structure 127

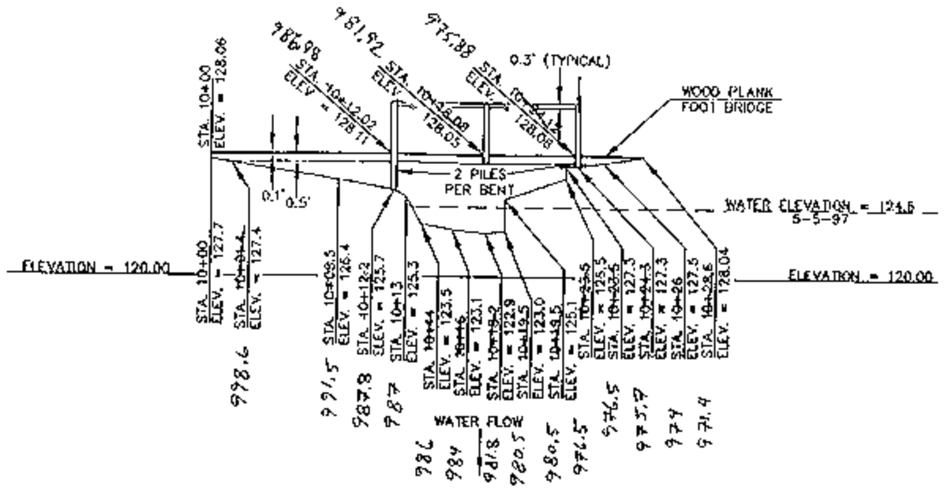


STRUCTURE # 128 – WOLF BRANCH

1100±' NORTH OF THE SOUTH LINE OF SECTION 21,
2300±' WEST OF THE EAST LINE OF
SECTION 21, TOWNSHIP 19 SOUTH, RANGE 27 EAST

NOTE:
TOP VIEW
IS
NOT TO SCALE





SCALE: 1" = 10'

(15.00) DENOTES ELEVATIONS BASED ON N.A.V.D. 1988

FIELD BOOK LAKE "J" PAGES 7-8

QUAD: SORRENTO, FLA.

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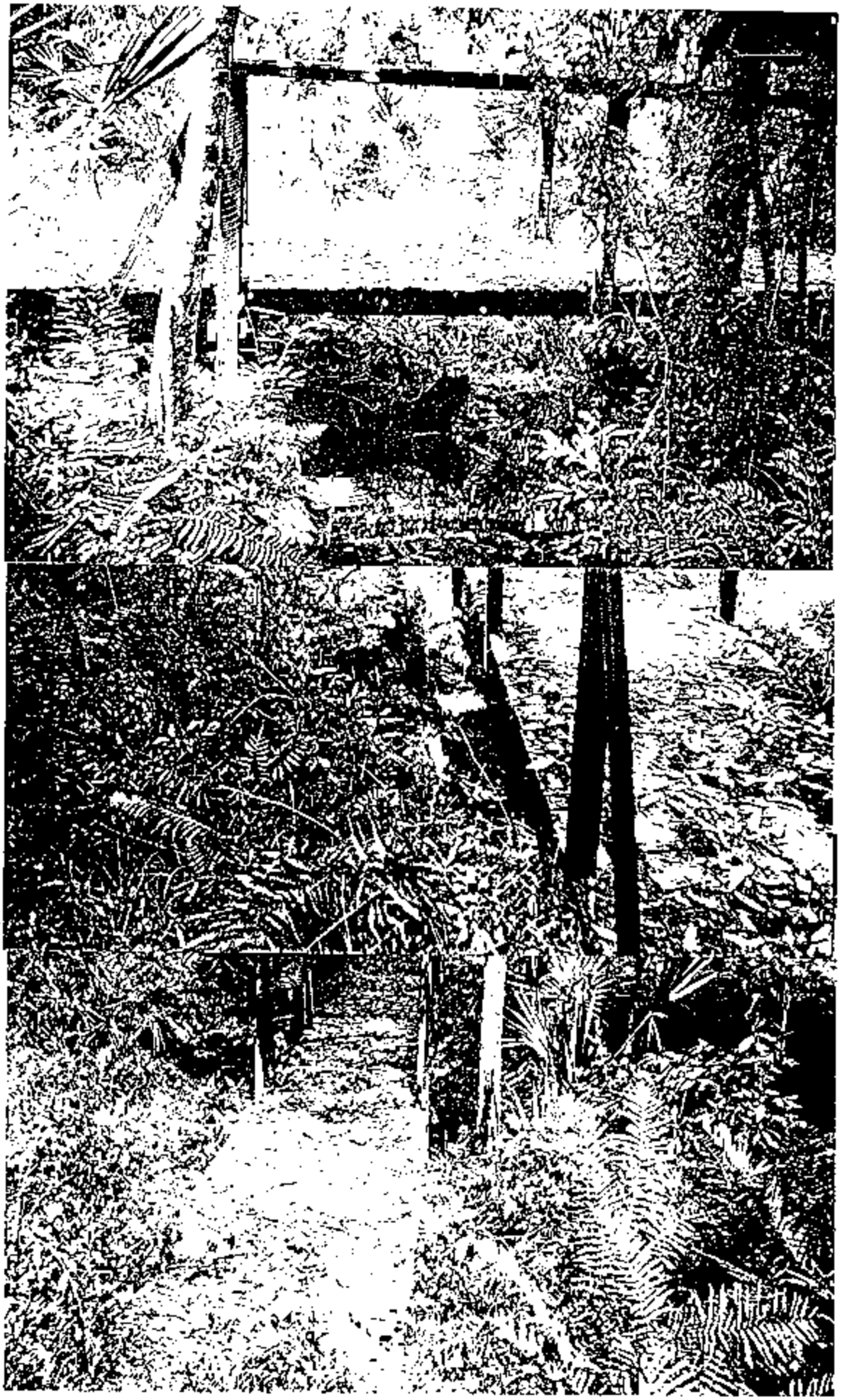
2155 ART MUSEUM DRIVE
JACKSONVILLE, FLORIDA, 32207
(904) 396-8606

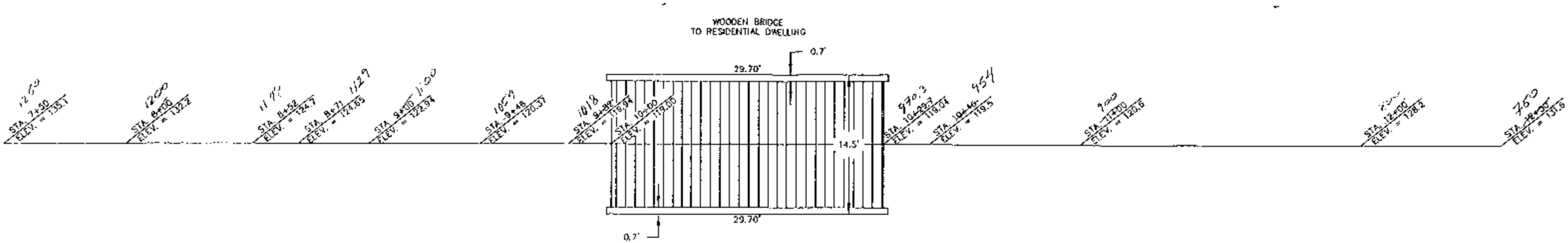
Wolf Branch - Structure 128



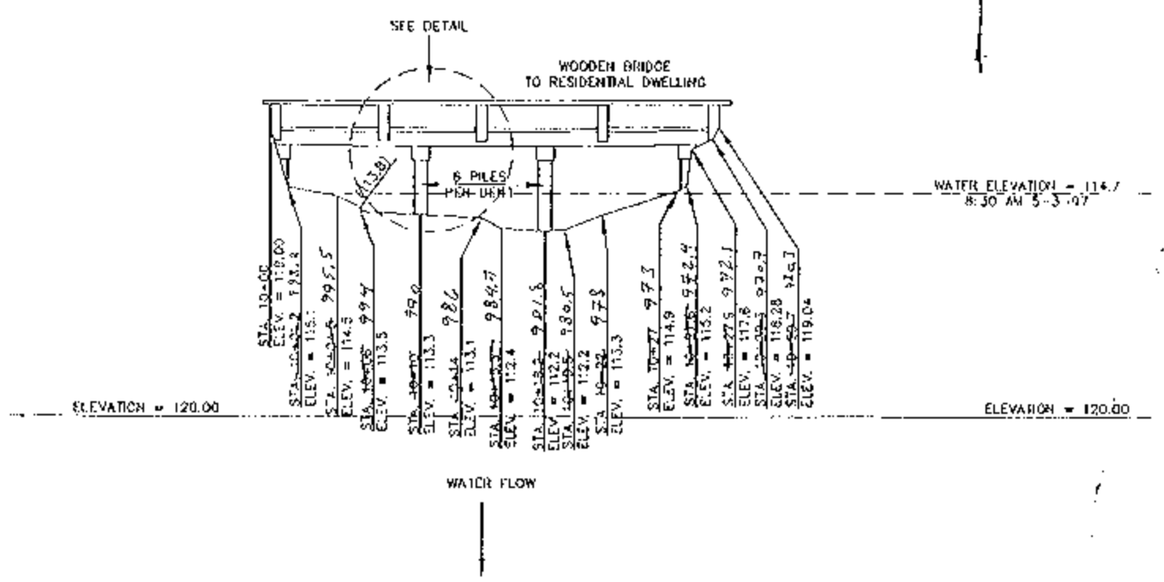
STRUCTURE # 129 – WOLF BRANCH

1100± NORTH OF THE SOUTH LINE OF SECTION 21,
2300± WEST OF THE EAST LINE OF
SECTION 21, TOWNSHIP 19 SOUTH, RANGE 27 EAST

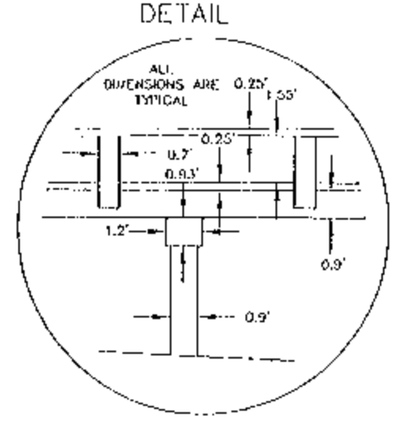
NOTE:
TOP VIEW
IS
NOT TO SCALE



SCALE: 1" = 10'



DETAIL



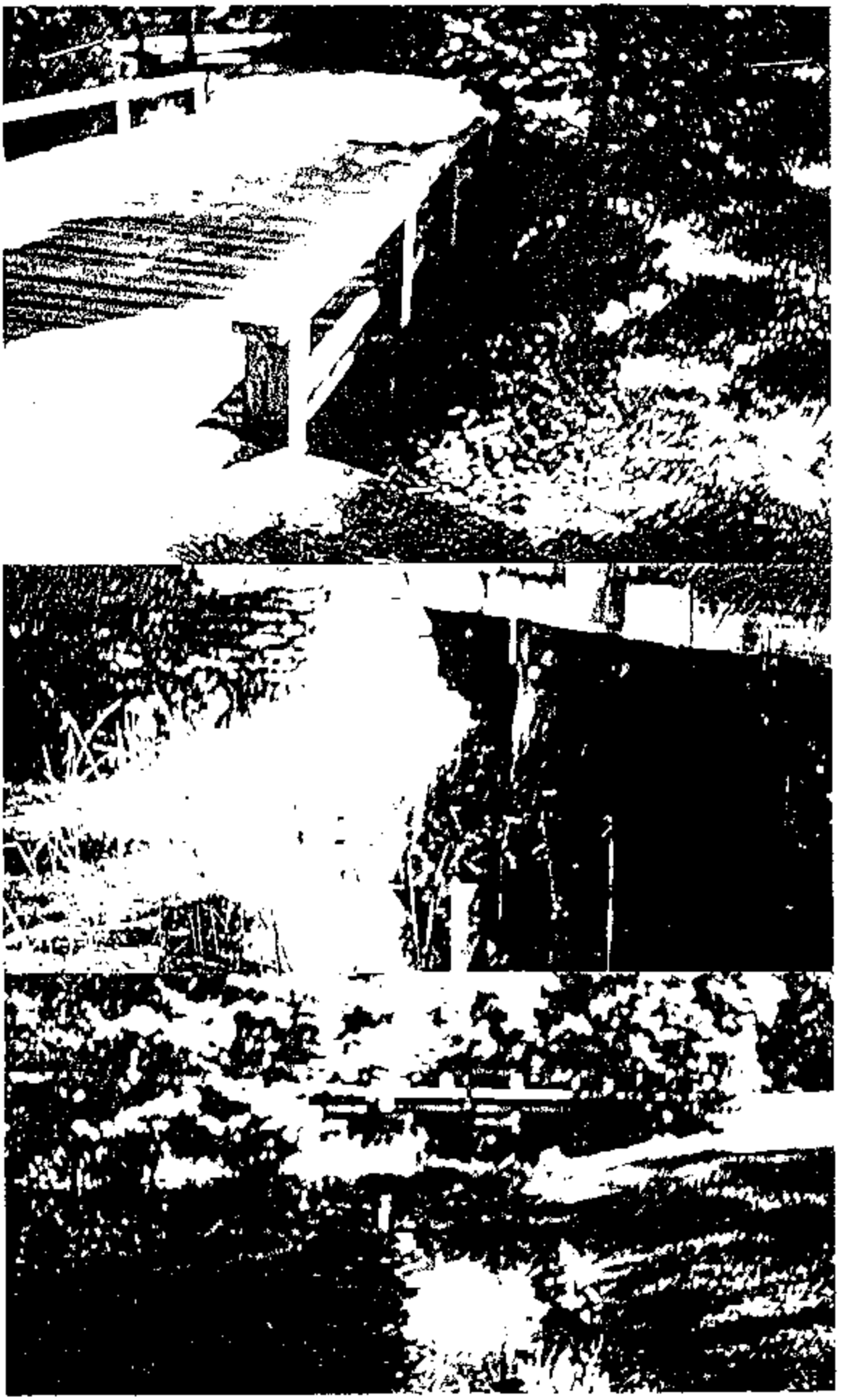
(15.00) DENOTES ELEVATIONS BASED ON N.A.V.D. 1988

FIELD BOOK LAKE "K" PAGES 2-4

QUAD: SORRENTO, FLA.

DEGROVE SURVEYORS, INC.
2155 ART MUSEUM DRIVE
JACKSONVILLE, FLORIDA, 32207
(904) 396-8606

Wolf Branch - Structure 129



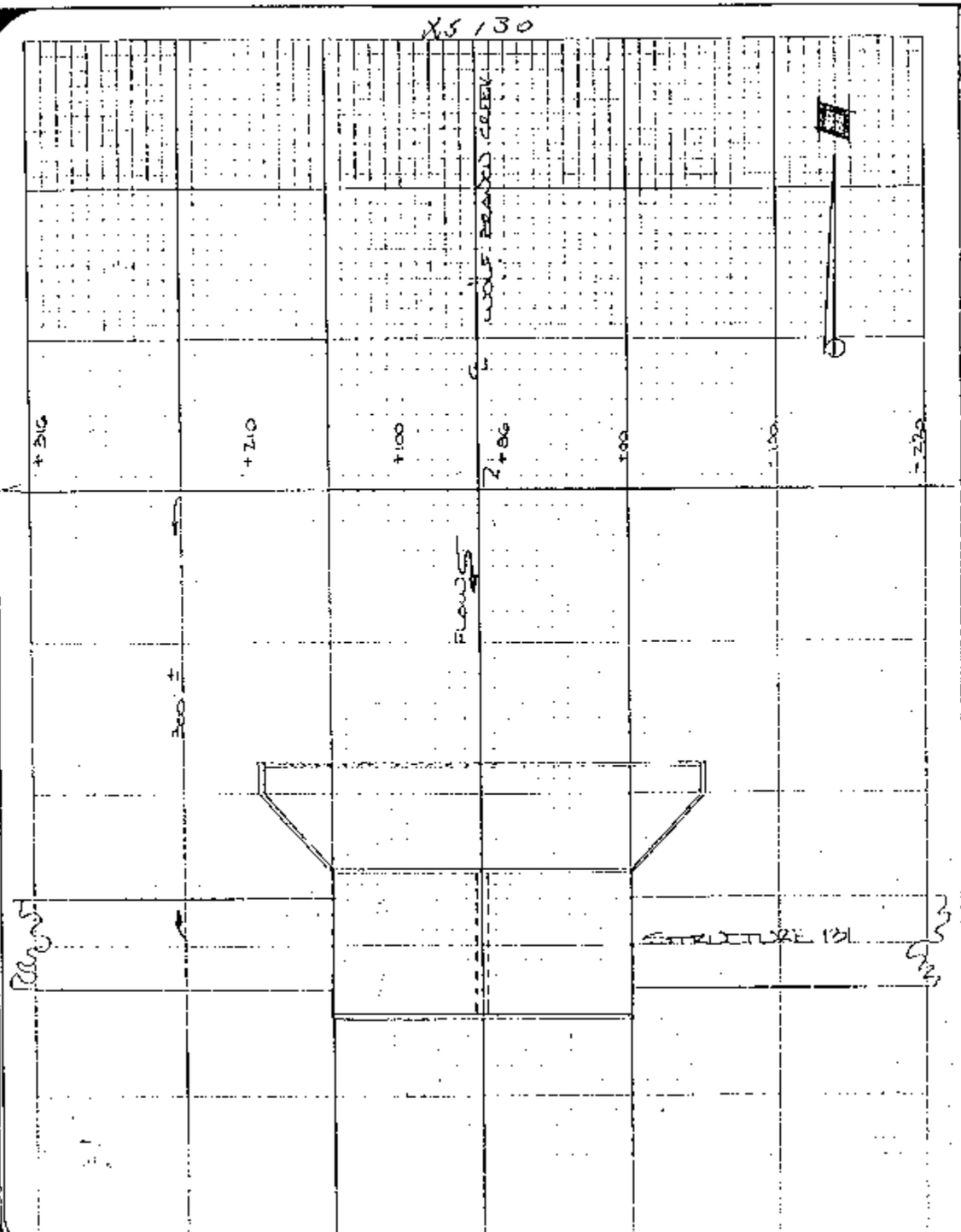
CONTROL
SQUARE 17
B. 16 27

CROSS SECTION 150
200 ± NORTH OF THE SOUTH LINE
OF SECTION 21 2000 ± WEST OF THE
EAST LINE OF SECTION 21 TOWNSHIP 19
SOUTH RANGE 27 EAST SACRAMENTO B.L.

WOLF BRANCH

STA	+	H		ELEV	SEE NOTE
				126.86	
B.M. 131	4.93	126.79			
TURNPOINT 1			1.53	124.76	
	11.10	135.86			
T.O.W.			21.21	114.65	9:00 A.M.
971			18.0	117.86	
978			16.2	119.66	
990			12.2	123.66	
913			10.6	125.26	
882			7.8	128.06	
800			5.0	132.86	
980			1.4	136.46	
1000			18.5	117.86	
1003			19.1	116.76	
1008			20.4	115.46	
1011			21.9	113.96	
1015			22.9	113.16	
1017			23.2	112.66	
1020			25.2	110.66	
1025			26.5	109.36	
1033			27.8	108.06	

STA	+	H		ELEV	SEE NOTE
10+35			28.1	107.76	
10+50			27.2	108.66	
10+68			26.4	109.46	
10+74			27.2	108.66	
10+80			28.8	107.06	
10+86			30.0	105.86	
10+92			28.8	107.06	
10+96			28.1	107.76	
1+100			26.6	109.26	
1+103			25.2	110.66	
1+107			24.0	111.86	
1+110			22.4	113.46	
1+113.6			20.8	115.06	
1+135.1			20.2	115.66	
1+164.6			18.6	117.26	
1+184.1			16.2	119.66	
1+210.1			11.2	124.66	
1+250			5.0	130.86	
1+279.3			3.0	132.86	
1+294.3			0.7	135.16	
1+316			0.7	135.16	
TURNPOINT 2			11.10	124.76	
	1.67	126.43			
B.M. 131			4.58	121.85	


XS 130
WOLF BRANCH CREEK
+316
+210
+100
2+86
+00
-100
-200
FLOWS
300 ±
STRUCTURE 131

XS 130

Northerly

Southerly

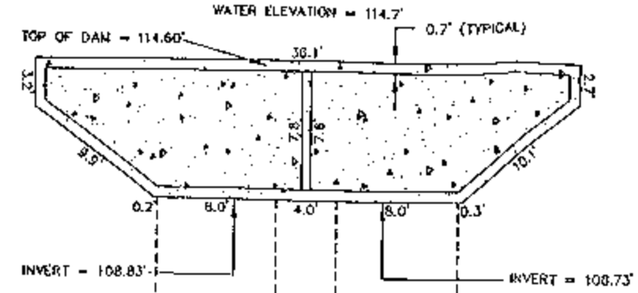
XS 130

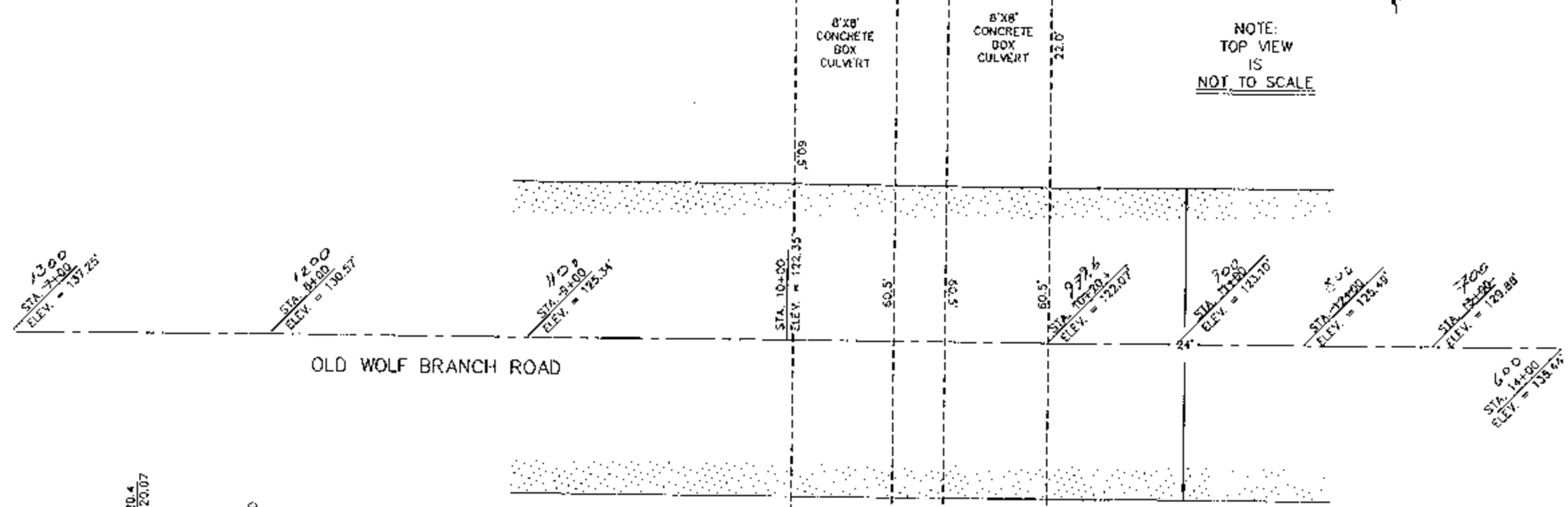
Easterly

Westerly

STRUCTURE # 131 – WOLF BRANCH

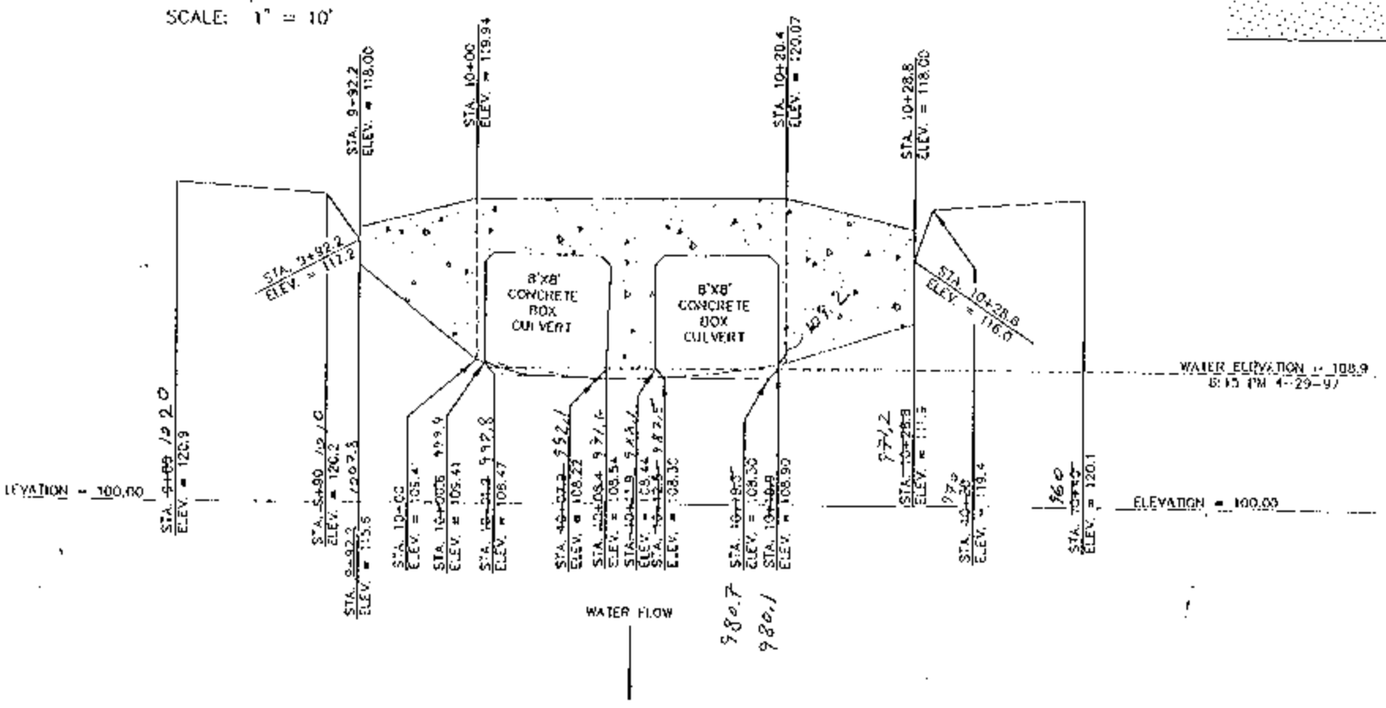
ON THE NORTH LINE OF SECTION 23,
1900± WEST OF THE NORTHEAST CORNER OF
SECTION 23, TOWNSHIP 19 SOUTH, RANGE 27 EAST

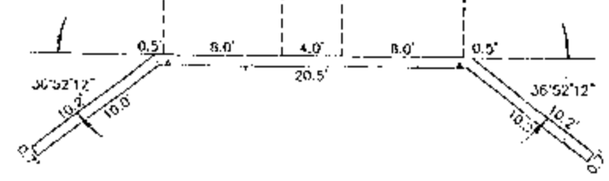




NOTE:
TOP VIEW
IS
NOT TO SCALE

SCALE: 1" = 10'





(15.00) DENOTES ELEVATIONS BASED ON N.A.V.D. 1988

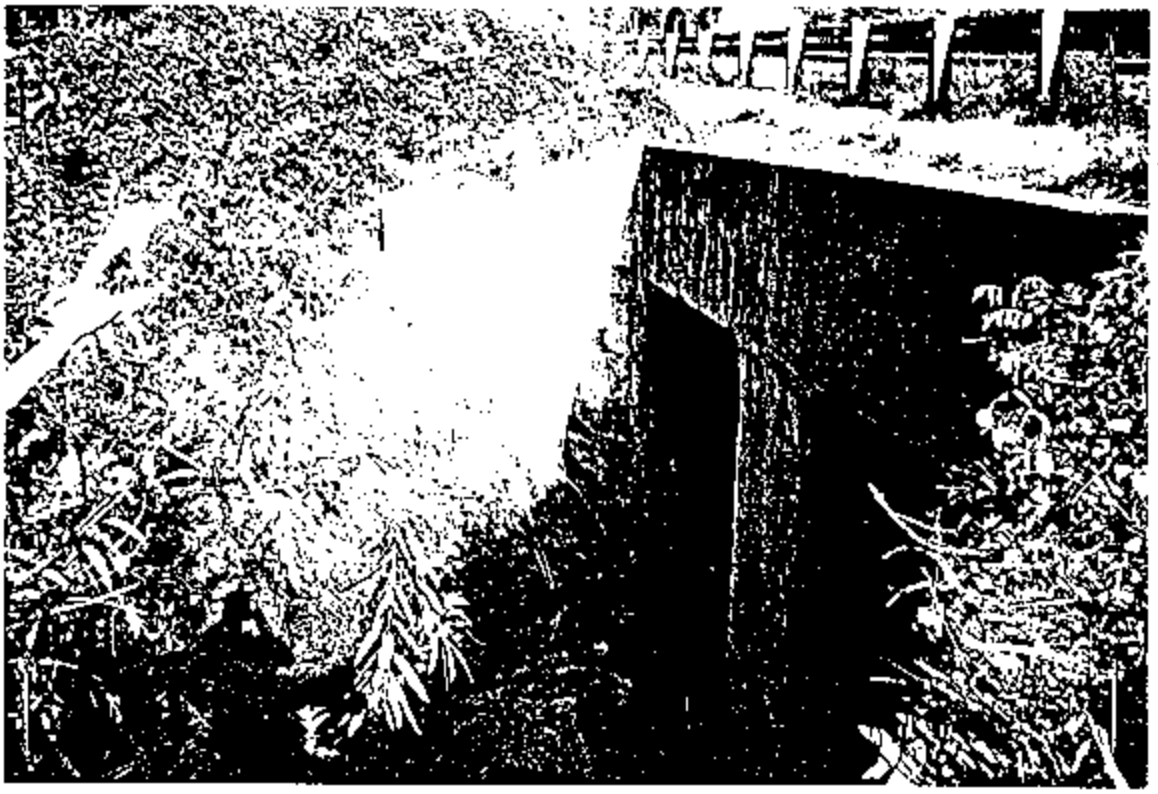
FIELD BOOK LAKE "H" PAGES 54-56

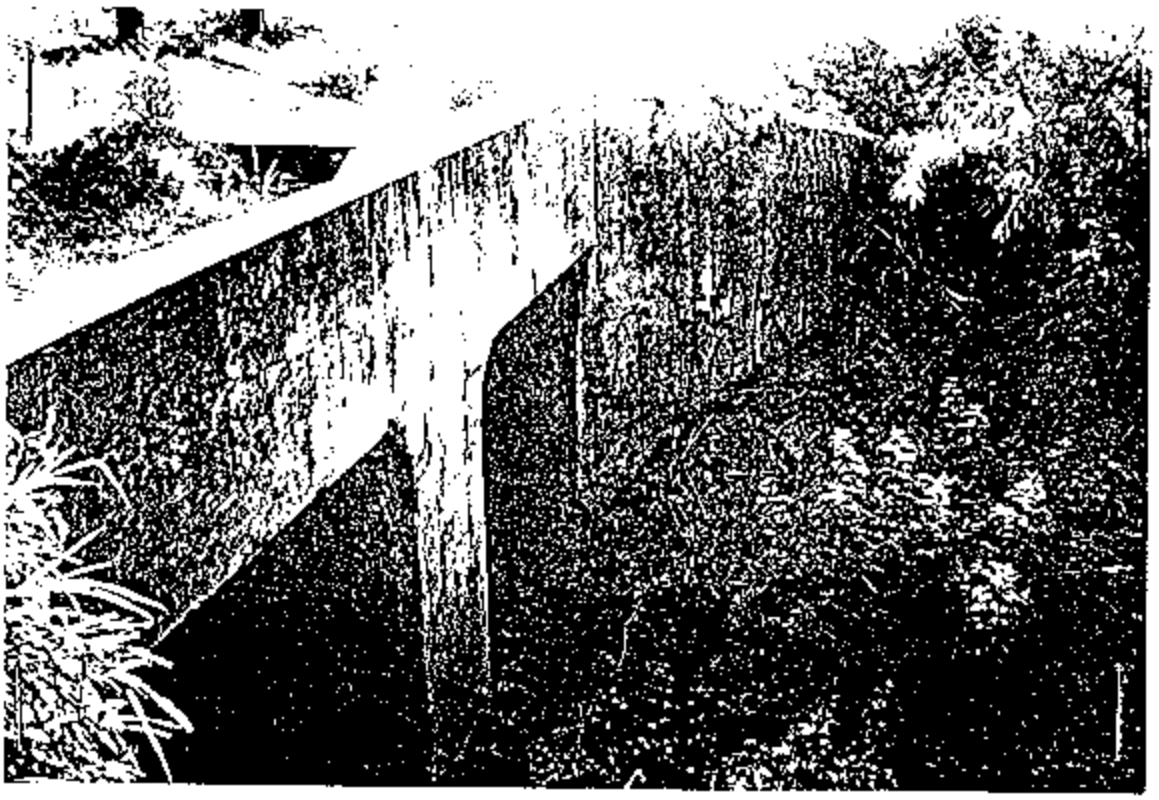
QUAD: SOBRENTO, FLA.

DEGROVE SURVEYORS, INC.
2155 ART MUSEUM DRIVE
JACKSONVILLE, FLORIDA, 32207
(904) 396--8606

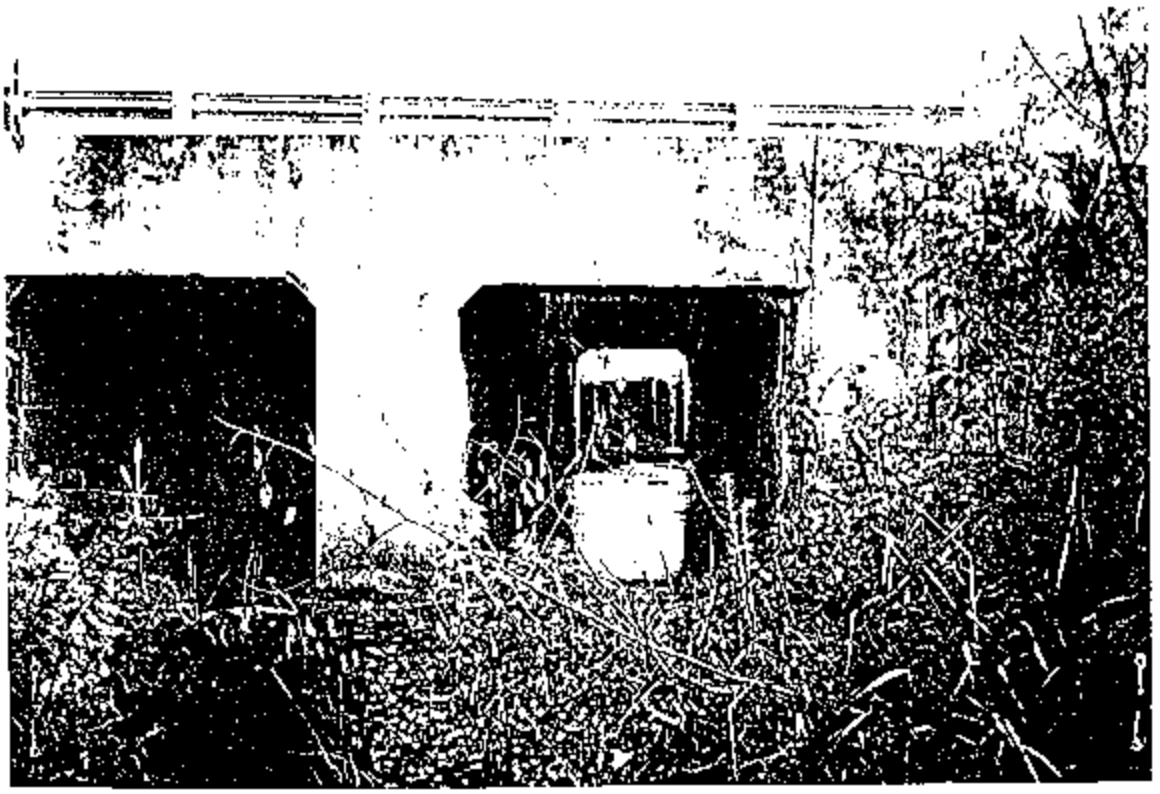
AS 151

U/S End





XS 151
U/S End



(N)

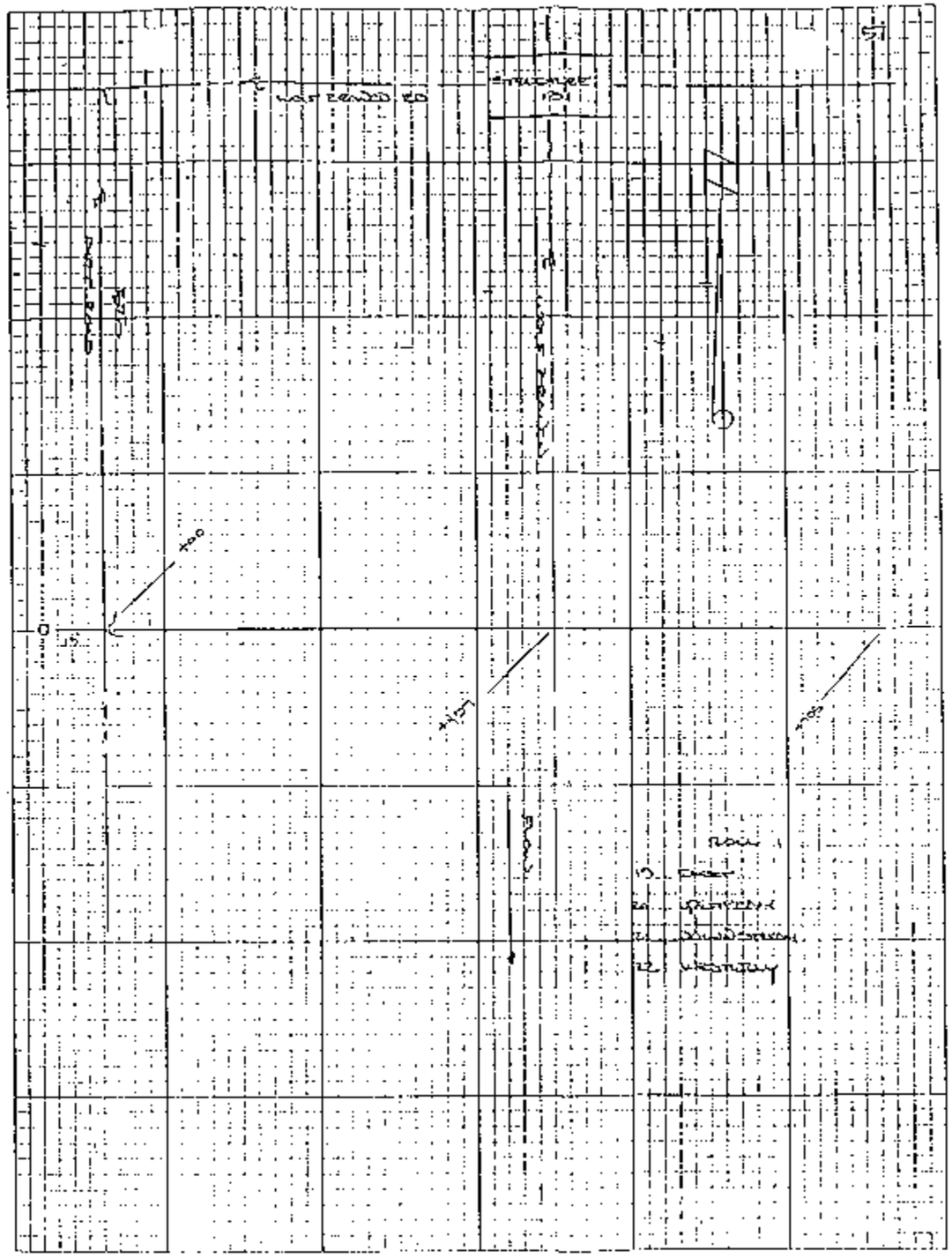
CROSS SEC. NO. 132

525' ± SOUTH OF STRUCTURE 131

100' ± WEST OF THE EAST LINE OF SECTION 23 [illegible] SOUTH RANGE 27 EAST [illegible]

(NAVD 88)

Station					
[illegible] 132	[illegible]	147.26		147.13	
+00 2000			2.3	145.0	℄ ROAD
+100 1900			7.8	139.5	
TURN POINT 1			11.75	132.97	
	2.05	135.06			
+200 1800			3.2	131.9	
+237 1763			6.1	129.0	
+300 1700			12.3	122.8	
+400 1600			25.0	112.1	
TURN POINT 2			25.08	111.78	
	1.50	113.55			
+472 1528			6.8	106.8	
+490 1510			7.2	106.4	
+492 1508			7.5	106.1	TOE
+492.5 1507.5			8.9	104.7	TOE
+495 1505			9.9	103.7	BOTTOM



[illegible]
[illegible]
[illegible]
4.30.97

CROSS [illegible] 132
WOLF [illegible]

[illegible] 150.3			0.0	103.6 ✓	[illegible]
~~+500~~ 15.00			0.5	104.1 ✓	TOE
~~+501~~ 14.99			7.7	105.7 ✓	
~~+502.5~~ 14.98.5			7.4	106.2 ✓	T.O.B
TOP OF WATER			8.95	104.6	1.55 P.M
~~+574~~ 14.26			7.2	106.4 ✓	
~~+600~~ 14.00			5.4	108.2 ✓	
TURN POINT 3			1.51	112.04 ✓	
	14.05	126.89			
~~+705~~ 12.95			4.5	122.0 ✓	
TURN POINT 4			14.05	112.04	
	0.97	113.01			
TURN POINT 5			1.03	111.98	
	22.95	134.93			
TURN POINT 6			1.96	132.97	
	14.39	147.36			
[illegible] 132			0.24	147.12 ✓ (-0.01)	

WOLF BRANCH - CROSS SECTION 132

Upstream

Downstream

WOLF BRANCH - CROSS SECTION 132

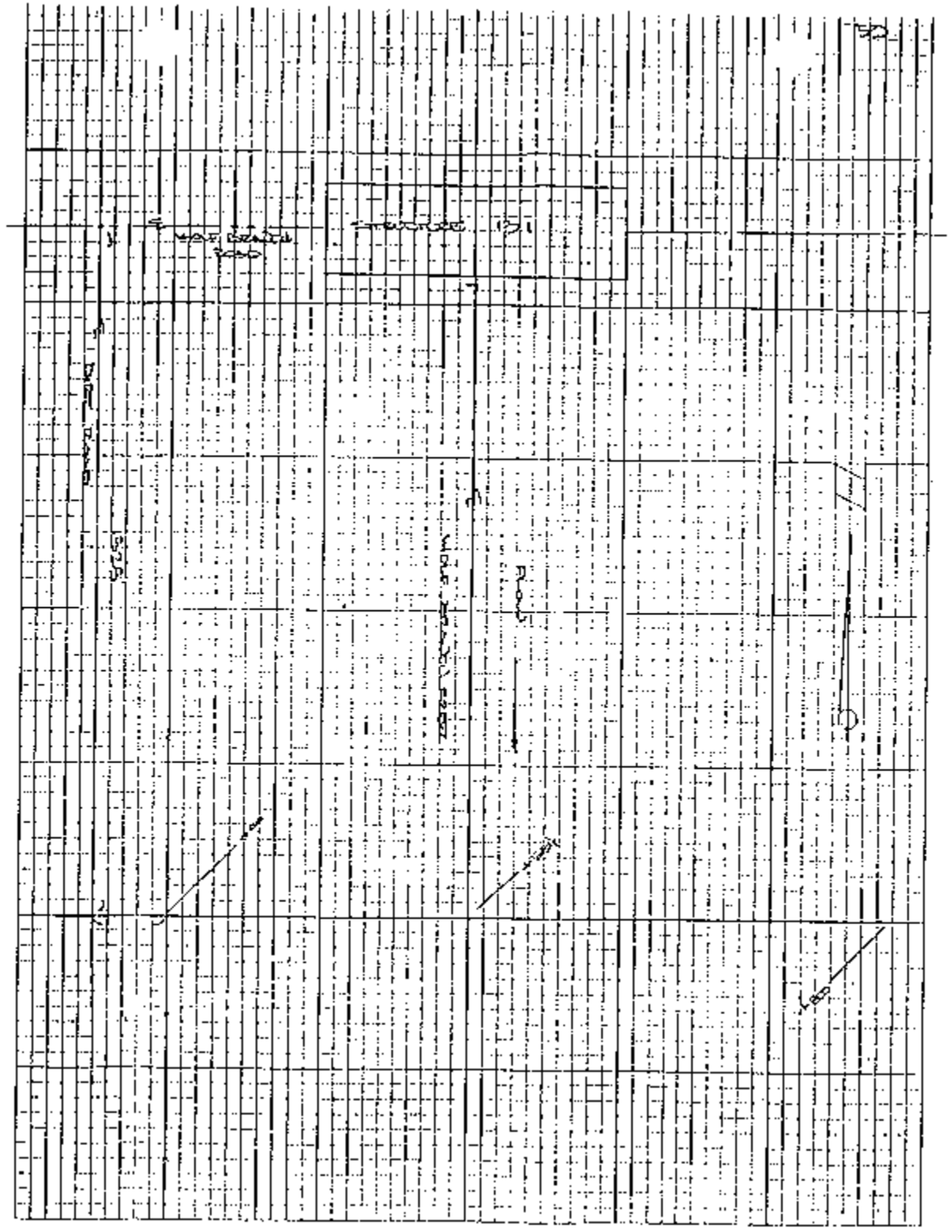
Easterly

Westerly

COXWELL
SCHAEFFER
LARSEN
4-30-57

CROSS SEC 3D 133 (N)
1525± SOUTH OF STRUCTURE 131
1700± WEST OF THE EAST LINE OF
SECTION 23 TOWNSHIP 19 SOUTH
RANGE 27 EAST CORRECTED FLA

STA	F	H	F	ELEV	SEE DATE
BLK 133	2.74	143.02		139.28	
2000			2.8	140.2	
1900			7.4	135.6	
1800			14.3	128.7	
TURN POINT 1			14.22	128.80	
	1.42	130.22			
1700			10.2	120.0	
1658			12.8	117.4	
TURN POINT 2			12.86	117.36	
	0.51	117.87			
1600			6.8	111.1	
1550			11.7	106.2	
1500			13.6	104.3	
TURN POINT 3			13.63	104.24	
	4.52	108.76			



COXWELL
SCHAEFFER
LARSEN
4-30-97

CROSS SEC 50 [illegible]
WOLF RANCH

STA		ELEV
1451	6.3	~~111.6~~ 102.5
1450	7.2	~~110.7~~ 101.6
1449.5	9.4	~~108.5~~ 99.4
1446	10.0	~~107.9~~ 98.8
1444	9.6	~~108.3~~ 99.2
1441.5	9.4	~~108.5~~ 99.4
1439.5	6.5	~~111.0~~ 101.9
TOP OF WATER	9.15	~~108.92~~ ~~96.6~~ (99.61)
1400	7.9	~~110.0~~ 100.9
1355	8.0	~~107.7~~ 100.8
1359	9.1	~~108.8~~ 99.7
1355	9.2	~~108.7~~ 99.6
1355	8.1	~~109.8~~ 100.7
TOP OF WATER	8.02	~~109.07~~ 99.94

CONT.

ROLL 2
5 EASTERLY
6 UPSTREAM
7 DOWNSTREAM
8 WESTERLY

STA				ELEV
1342			7.6	~~110.3~~ 101.2
1324			6.2	~~111.7~~ 102.6
1300			9.1	~~117.8~~ 108.7
TURN POINT 4			9.22	~~108.54~~ 108.54
	19.71	128.25		
1200			9.4	127.9
TURN POINT 5			19.71	108.54
	9.99	109.53		
TURN POINT 6			5.30	104.23
	13.81	118.04		
TURN POINT 7			9.70	117.34
	13.29	130.63		
TURN POINT 8			1.84	128.79
	14.30	143.07		
[illegible]			3.00	139.29 (0.01)

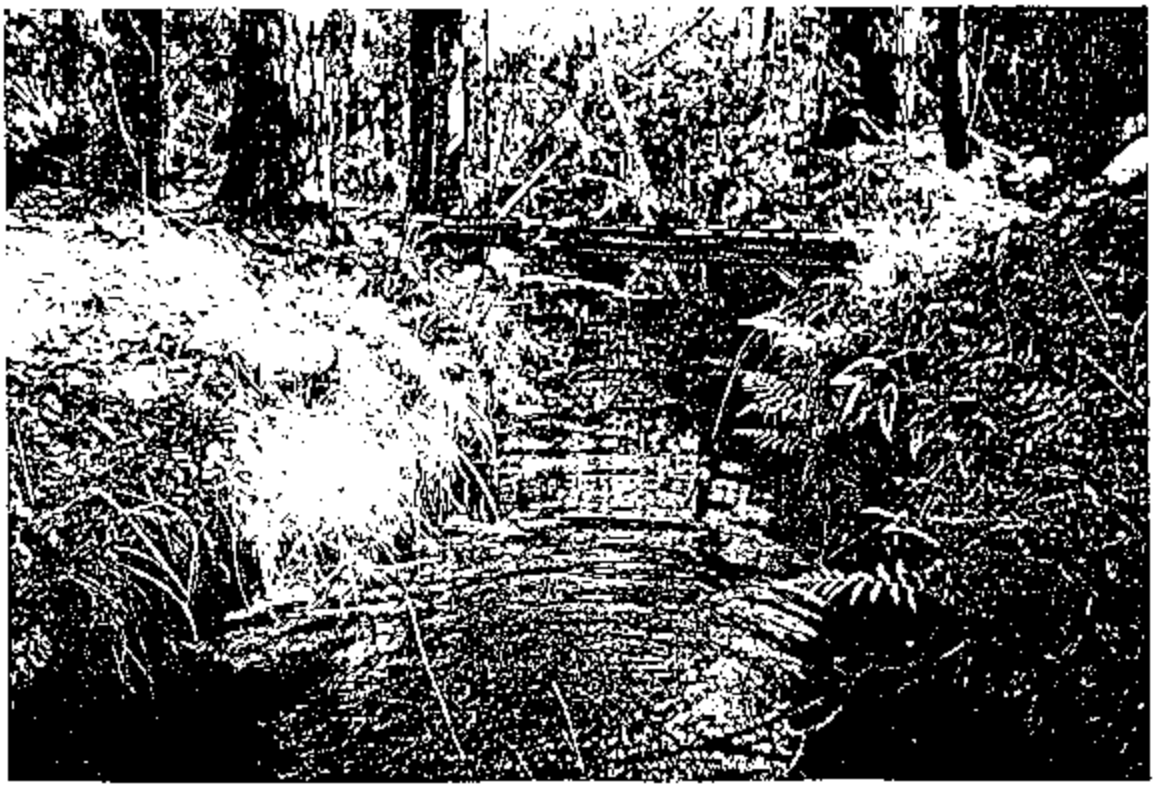
WOLF BRANCH - CROSS SECTION 133

Easterly

Westerly

WOLF BRANCH - CROSS SECTION 133

Upstream



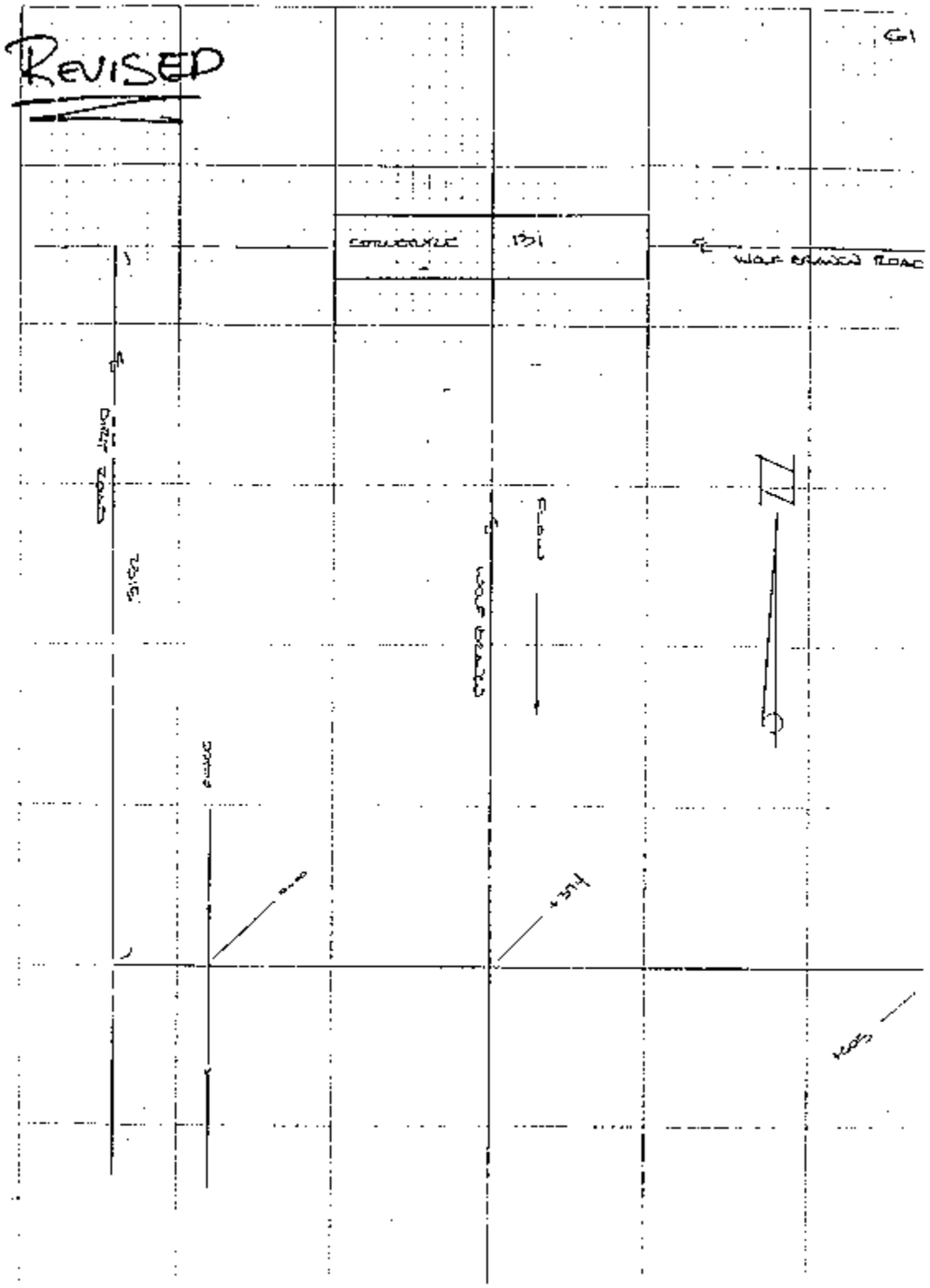
Downstream

COXWELL
SCHAEFFER
LARSEN
4-30-97

CROSS SECTION 134
2315± SOUTH OF STRUCTURE 131
1600' ± WEST OF THE EAST LINE
OF SECTION 23 TOWNSHIP 19 SOUTH
RANGE 27 EAST SORRENTO FLA

STA	+	H	-	ELEV	SEE PAGE
				126.27	I-65
B.M. 134	2.44	128.73			
~~+00~~ 2000			0.2	128.5	
~~+100~~ 1900			9.5	119.2	
~~+200~~ 1800			19.1	109.6	
TURN POINT 1			18.94	109.79	
	0.19	109.98			
~~+300~~ 1700			7.6	102.4	
~~+400~~ 1640			10.6	99.4	T.O.B
TURN POINT 2			10.41	99.57	
	3.66	103.23			
~~+363~~ 1637			12.8	90.4	TOE
~~+371~~ 1629			15.6	87.6	BOTTOM
~~+374~~ 1626			16.3	86.9	℄
~~+378~~ 1622			15.8	87.4	BOTTOM

REVISED



COXWELL
SCHAEFER
LARSEN
4-30-57

CROSS SECTION 134

STA	+	H	-	ELEV	
~~+384~~ 1616			12.8	90.4	TOE
~~+393~~ 1607			11.8	91.4	
~~+403~~ 1597			4.5	98.3	T 0.25
~~+500~~ 1500			4.5	98.7	
TOP OF WATER			16.74	~~86.5~~	3.15 p.m.
TURN POINT 3			4.22	99.01	
	20.37	119.38			
~~+524~~ 1476			15.6	99.8	
~~+605~~ 1395			6.9	112.5	
TURN POINT 4			20.37	99.01	
	4.47	103.48			
TURN POINT 5			3.90	99.58	
	10.52	110.10			
TURN POINT 6			0.29	109.81	
	19.19	129.00			
B.M. 134			2.69	126.31	+10.02

ROLL 2

1 EASTERLY
2 UPSTREAM
3 DOWNSTREAM
4 WESTERLY

NEW TOP OF WATER
87.30

WOLF BRANCH - CROSS SECTION 134

Upstream

Downstream

WOLF BRANCH - CROSS SECTION 134

Easterly

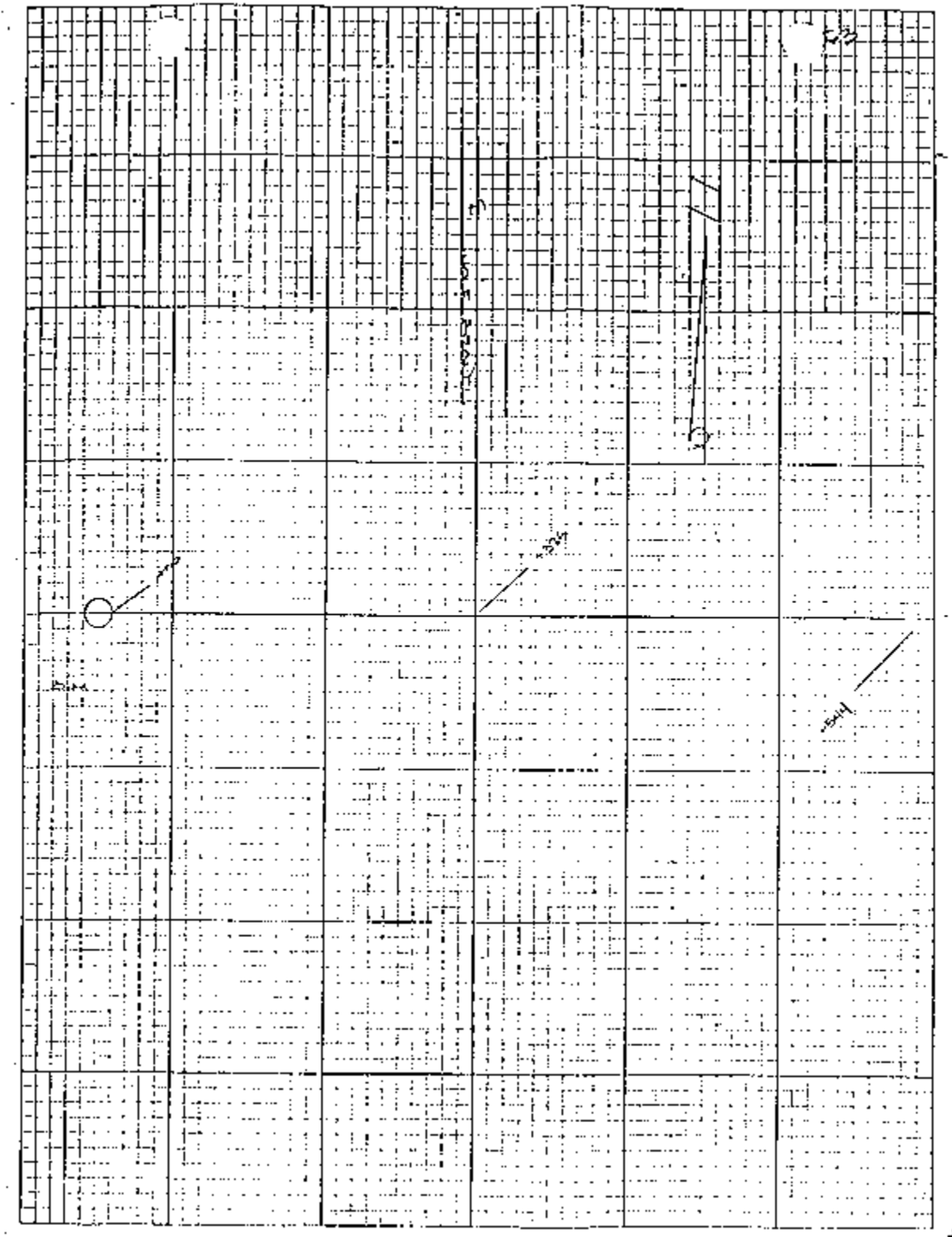
Westerly

COXWELL
SQUARTER
HARSEN
4-30-97

CROSS TOP 35 (N)
3500' ± SOUTH OF STRUCTURE 131
1600' ± WEST OF THE EAST LINE
OF SECTION 23 TOWNSHIP 19 SOUTH
RANGE 21 EAST CORRECTED FLA

(NAVD 88)

STA	+	H	±	ELEV	SEE PAGE # 65
BM 35	0.80	117.52		116.72	
+100 1940			1.4	116.1	
+150 1900			13.9	103.6	
[illegible] point 1			13.51	103.61	
	0.27	103.88			
+200 1800			12.6	91.3	
+232 1768			15.4	88.5	
+250 1761			17.4	86.5	
+269 1731			19.7	84.18	
+281 1719			20.0	83.9	
+289 1717			18.9	85.0	
+313 1687			20.5	83.4	TOP
+318.5 1681.5			22.7	81.2	TOE
+321 1679			22.8	81.1	
+325 1675			23.2	80.7	E



Cornell
Schaeffer
Larsen
4-30-97

Cross Tool 136
Wolf Branch

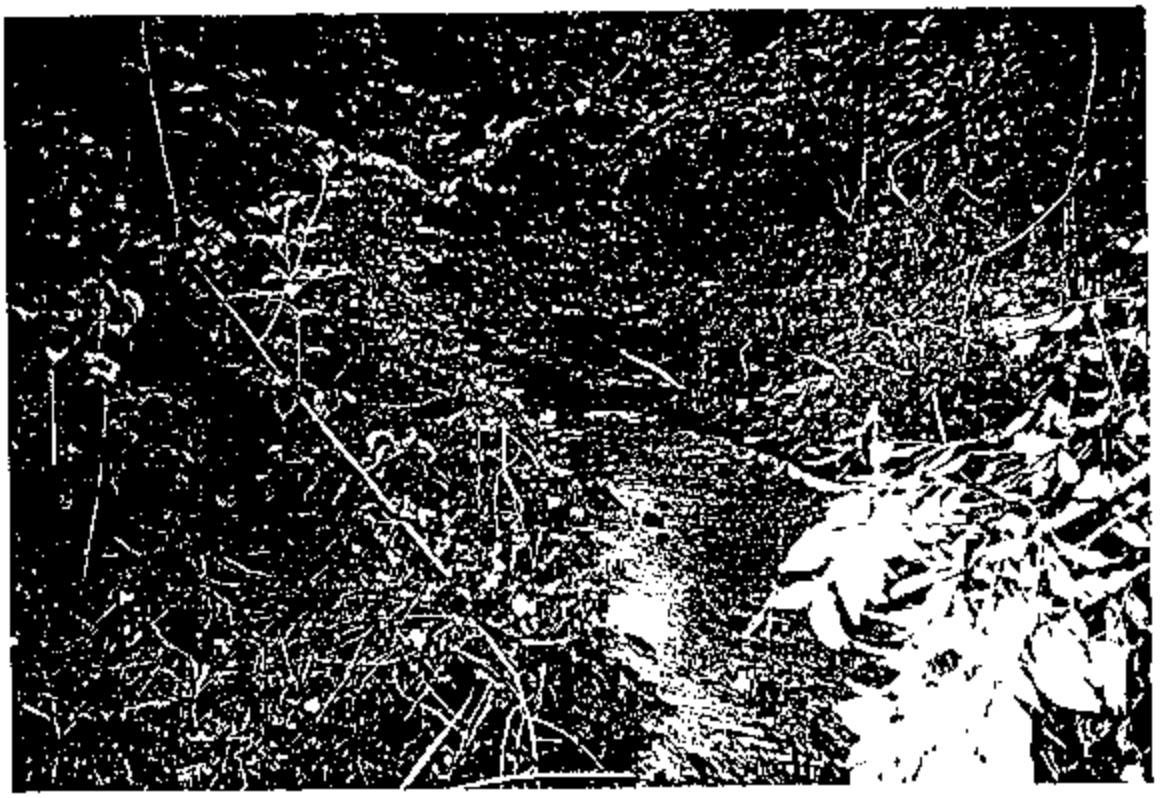
Sta				Elev	
+375 / 1672			0.0	84.9	
Top of water			22.40	81.48	7:15 p.m.
Turn point 2			19.81	~~[illegible]~~ 84.07	
	12.54	96.61 ~~[illegible]~~			
+349 / 1653			11.0	85.6	
+351 / 1649			0.2	88.4	
+400 / 1600			3.7	~~[illegible]~~ 92.7	
+438 / 1562			0.6	~~[illegible]~~ 96.0	
Turn point 3			0.02	95.99 ~~[illegible]~~	
	13.96	109.95 ~~[illegible]~~			
+500 / 1500			5.5	104.5	
+544 / 1956			0.1	109.9	

COXWELL
SCHAEFFER
LAZERD
4.30.57

CROSS = TOP 135
HALF BRANCH

TURN POINT 1			13.56	95.77 ~~[illegible]~~
	0.65	96.64 ~~[illegible]~~		
TURN POINT 5			12.57	84.07 ~~[illegible]~~
	13.57	103.64 ~~[illegible]~~		
TURN POINT 6			0.01	103.63 ~~[illegible]~~
	13.70	117.33 ~~[illegible]~~		
O.M. 135			0.55	116.74 (+0.02)

WOLF BRANCH - CROSS SECTION 135



Upstream

Downstream

WOLF BRANCH - CROSS SECTION 135

Easterly

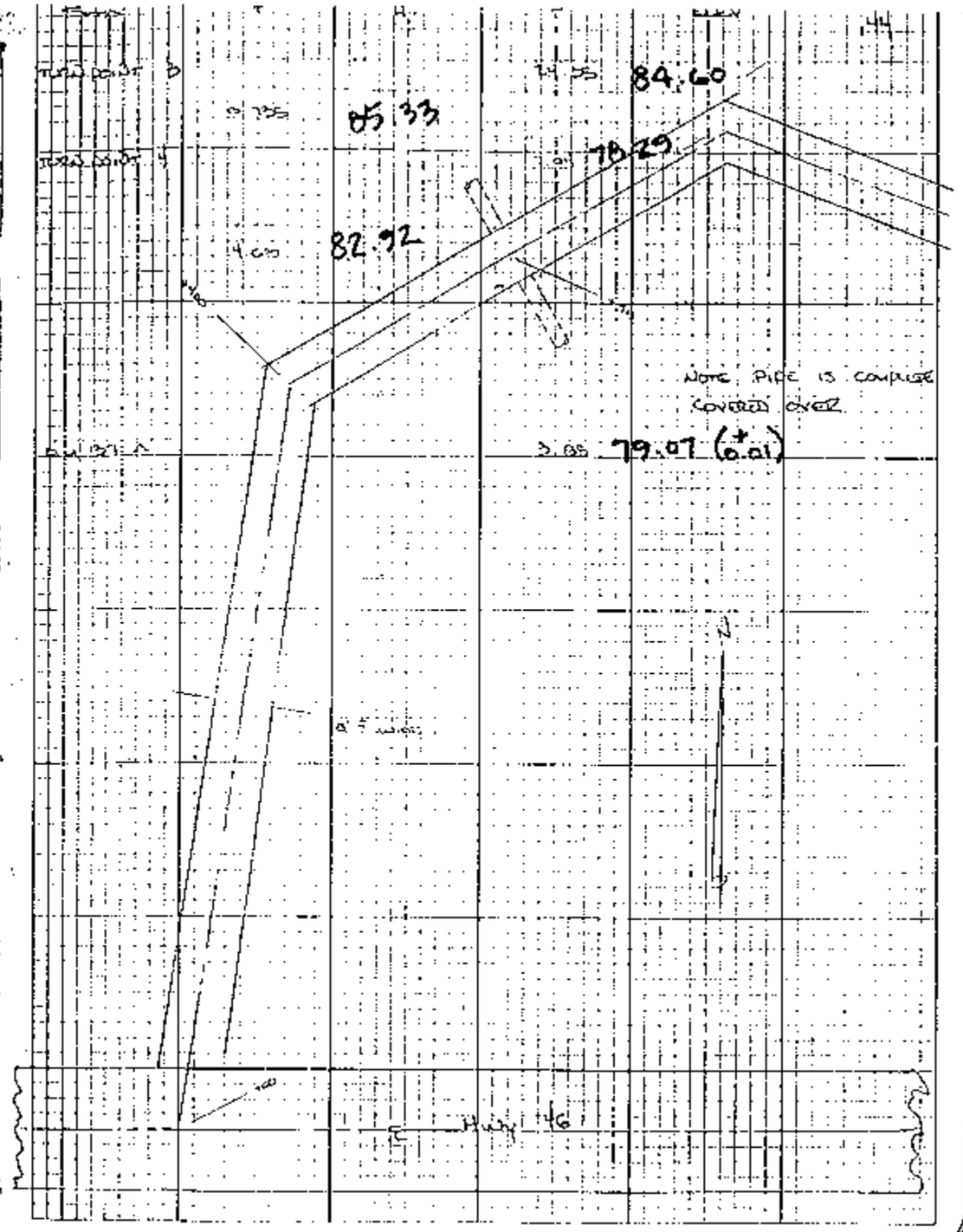
Westerly

(N) ℄ DIRT ROAD

300 ± NORTH OF THE SOUTH LINE OF SECTION 23 600 ± WEST OF THE EAST LINE OF SECTION 23 TOWNSHIP 13 SOUTH RANGE 27 EAST SORRENTO FLA (WOLF BRANCH)

Pg I-74

Sta	+	±	-	Elev
B.M. 137 A	4.31	83.37 ✓		79.06
+00			4.30	79.00 ✓ ℄ Hwy 46
+100			5.4	78.0 ✓ ℄ Dirt Road
+200			4.3	79.1 ✓
+300			4.9	78.5 ✓
+400			6.0	77.4 ✓
+500			5.7	77.7 ✓
+600			4.6	78.8 ✓
+700			5.6	77.8 ✓
Turn Point 1			5.08	78.29 ✓
	7.06	85.35 ✓		
+800			8.7	76.7 ✓
+900			8.5	76.9 ✓
+911			8.6	76.8 ✓
+1000			8.0	77.4 ✓
+1100			3.9	81.5 ✓
Turn Point 2			9.755	84.60 ✓
	24.35	108.95		
+1200			20.7	88.2
+1300			4.3	97.6



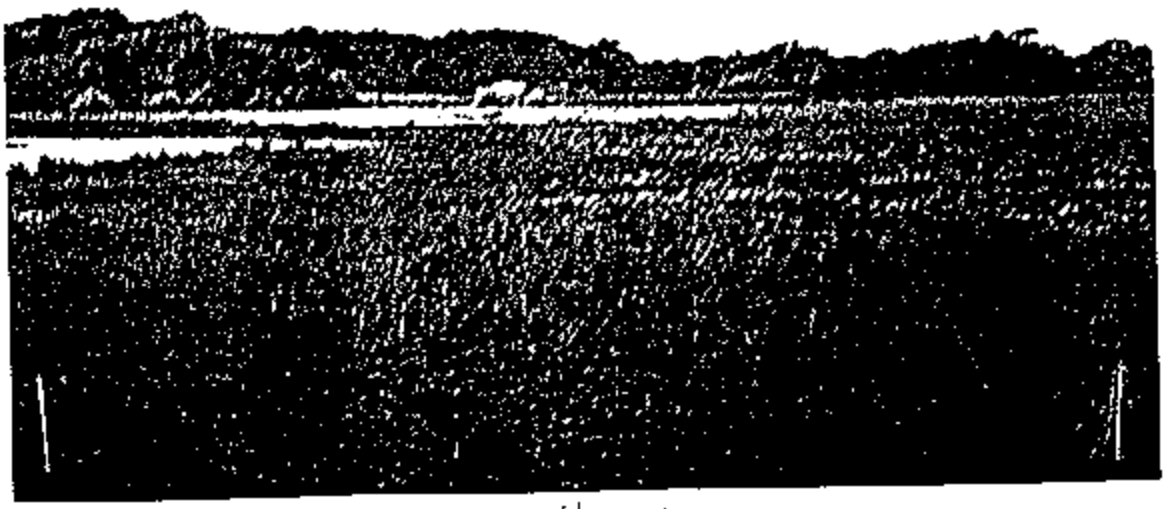
XS 136

Westerly

Easterly

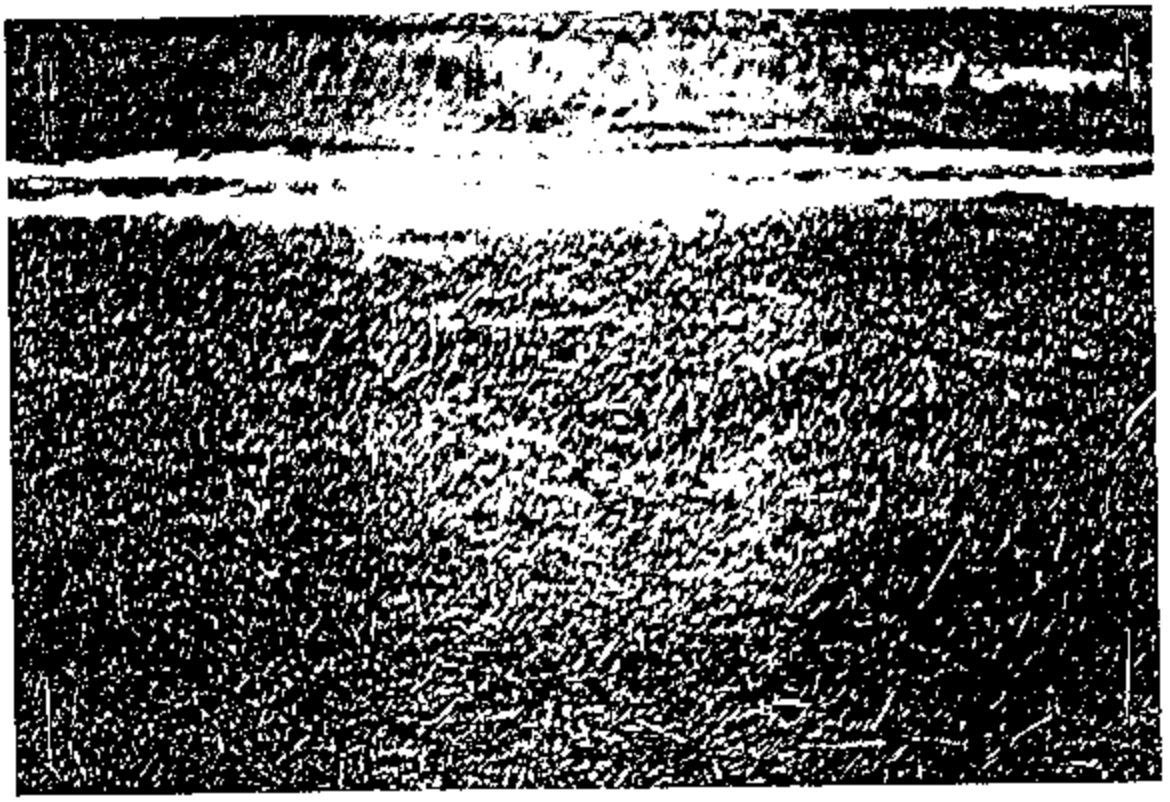
XS 126

Northerly



Southerly

XS 136



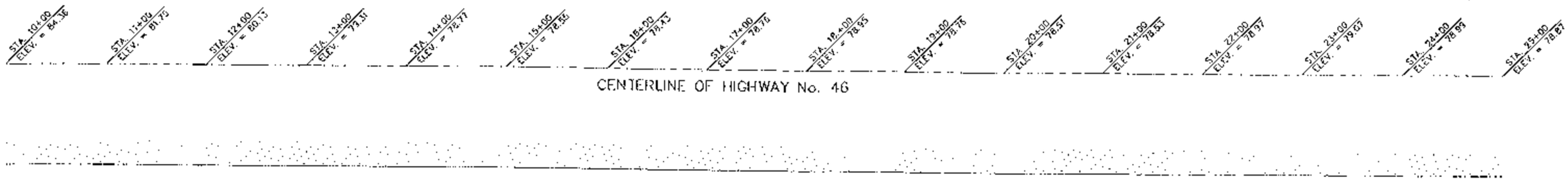
Southerly (Culvert)

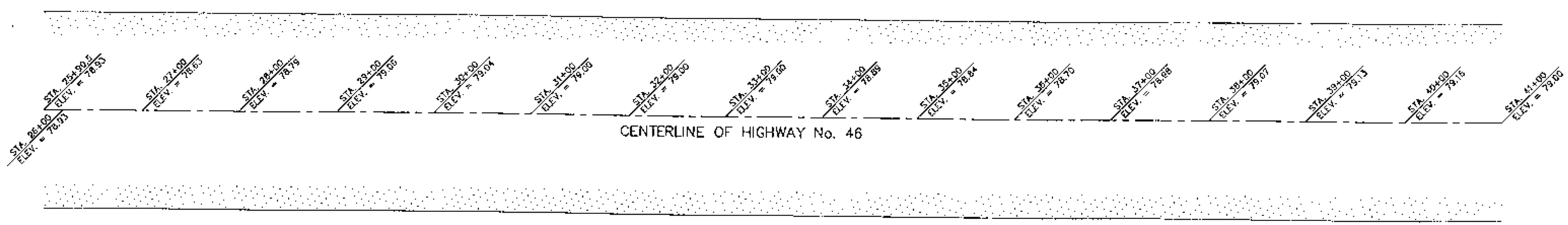
STRUCTURE # 137 - WOLF BRANCH

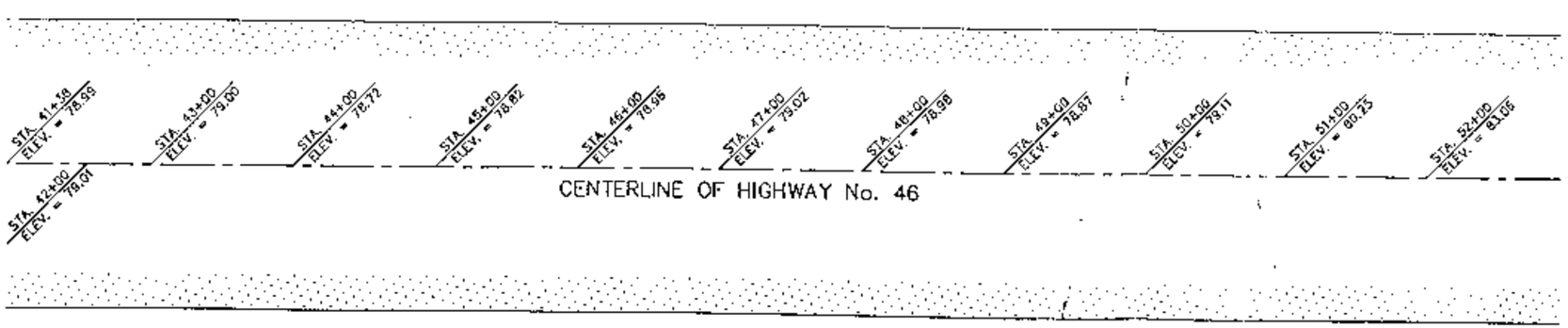
200±' SOUTH OF THE NORTH LINE OF SECTION 33,
2300±' WEST OF THE EAST LINE OF
SECTION 33, TOWNSHIP 19 SOUTH, RANGE 27 EAST

(SHEET 1 OF 4 SHEETS)

NOTE:
TOP VIEW
IS
NOT TO SCALE







(15.00) DENOTES ELEVATIONS BASED ON N.A.V.D. 1988

FIELD BOOK LAKE "H" PAGES 70-78

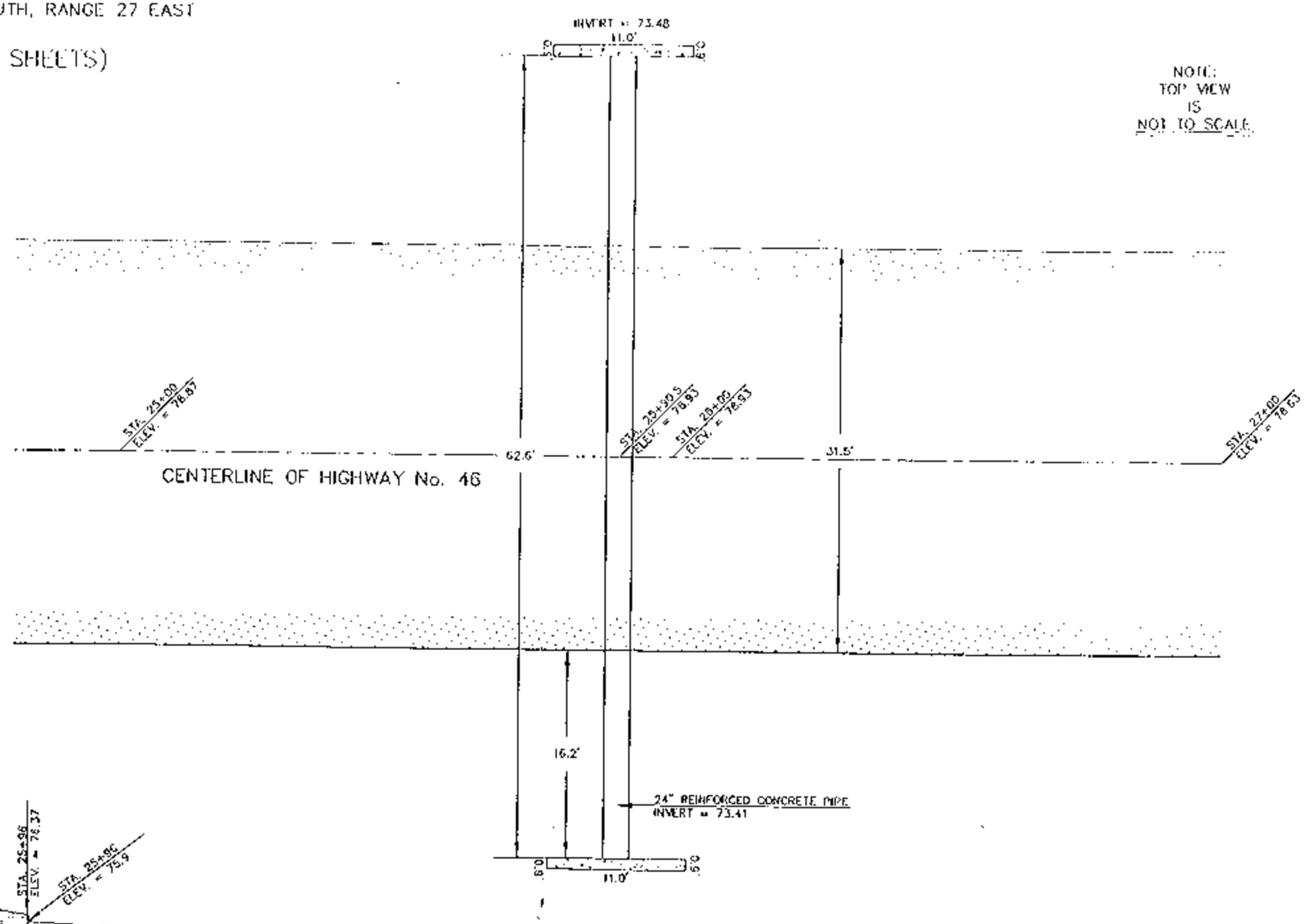
QUAD: SORRENTO, FLA.

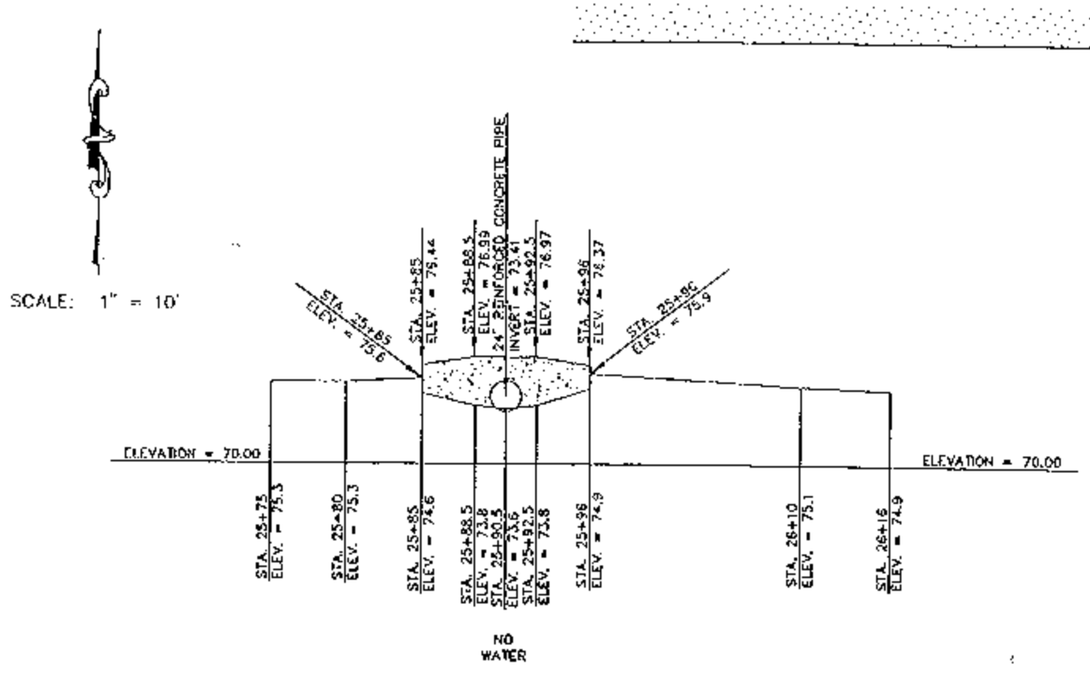
DEGROVE SURVEYORS, INC.
2155 ART MUSEUM DRIVE
JACKSONVILLE, FLORIDA, 32207
(904) 396-8606

STRUCTURE # 137 -- WOLF BRANCH

200±' SOUTH OF THE NORTH LINE OF SECTION 33,
2300±' WEST OF THE EAST LINE OF
SECTION 33, TOWNSHIP 19 SOUTH, RANGE 27 EAST

(SHEET 2 OF 4 SHEETS)





(15.00) DENOTES ELEVATIONS BASED ON N.A.V.D. 1988

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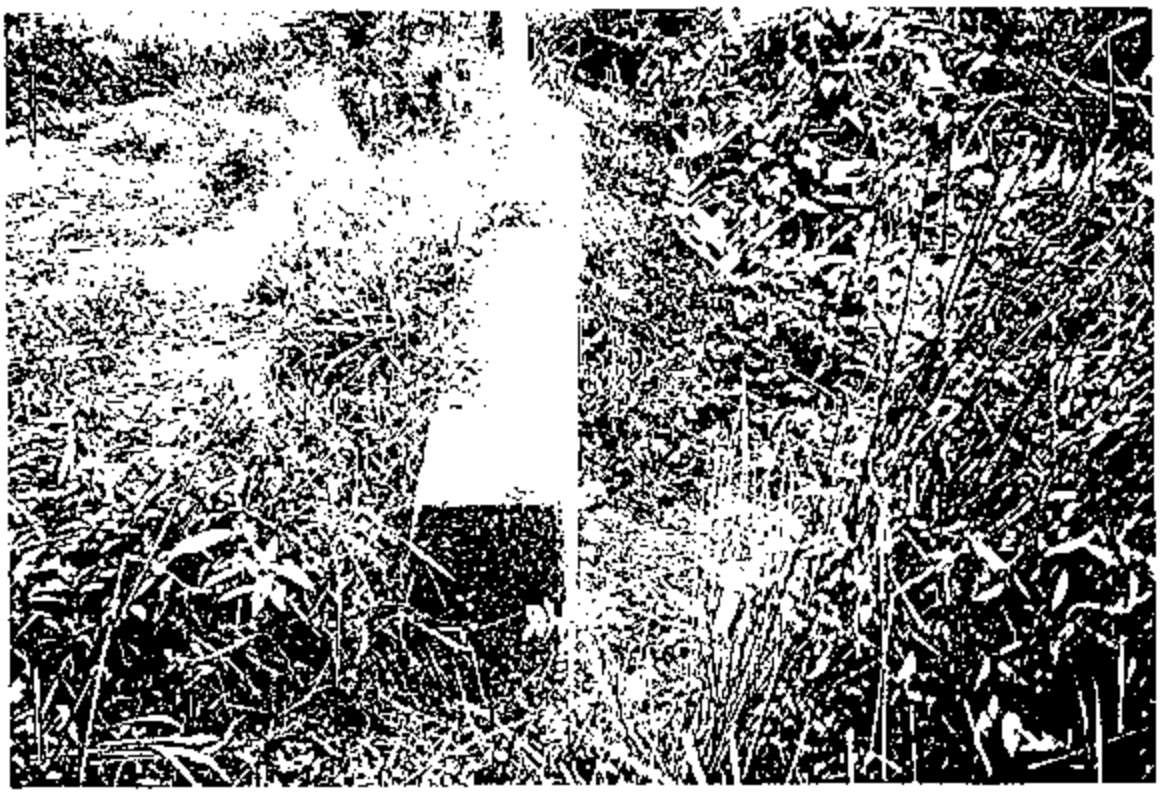
JACKSONVILLE, FLORIDA, 32207
(904) 396-8606

D/S End

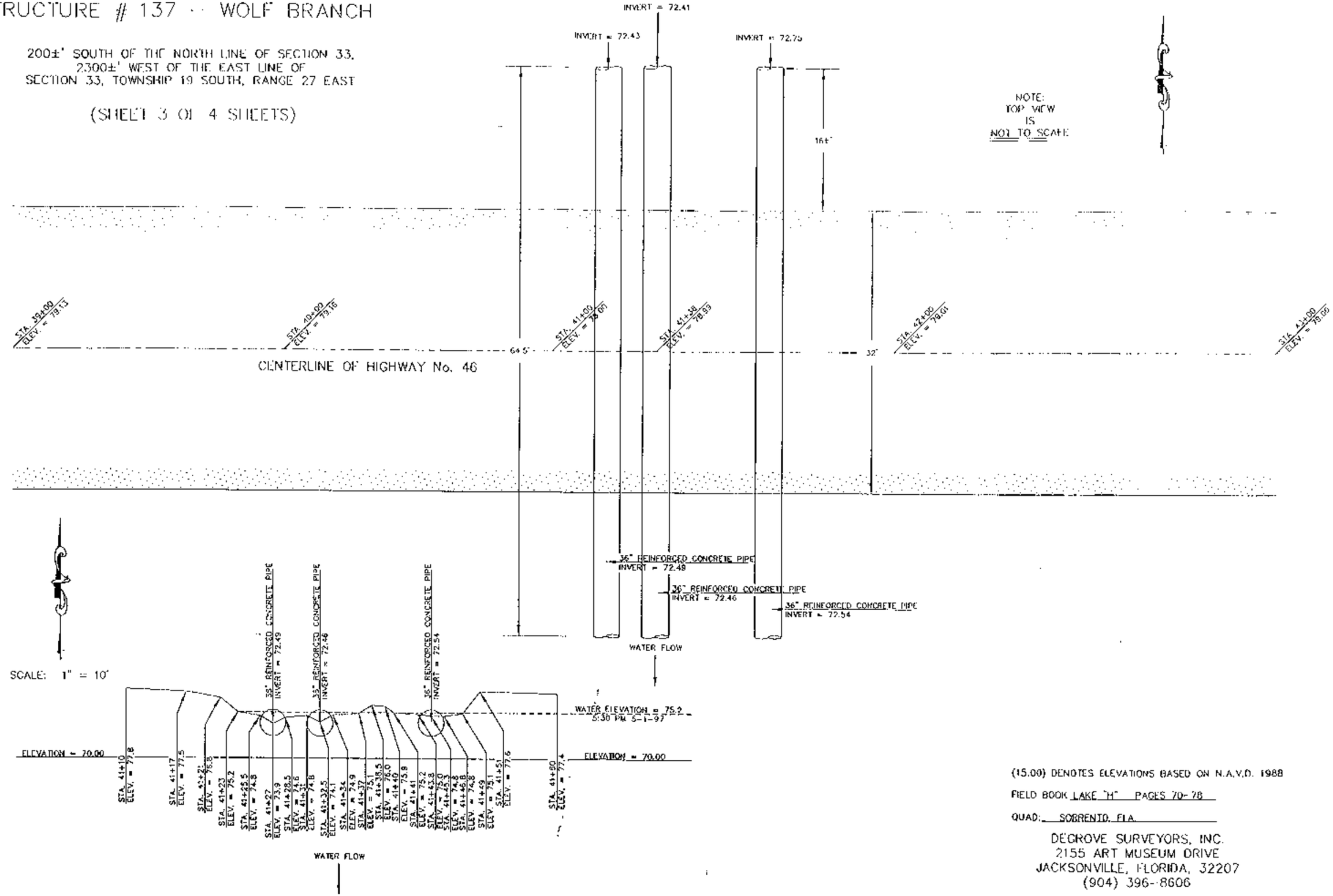


XS 157 S/A 2590
D/S End

STRUCTURE # 137 -- WOLF BRANCH

200±' SOUTH OF THE NORTH LINE OF SECTION 33,
2300±' WEST OF THE EAST LINE OF
SECTION 33, TOWNSHIP 19 SOUTH, RANGE 27 EAST

(SHEET 3 OF 4 SHEETS)



(15.00) DENOTES ELEVATIONS BASED ON N.A.V.D. 1988

FIELD BOOK LAKE "H" PAGES 70-78

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2155 ART MUSEUM DRIVE
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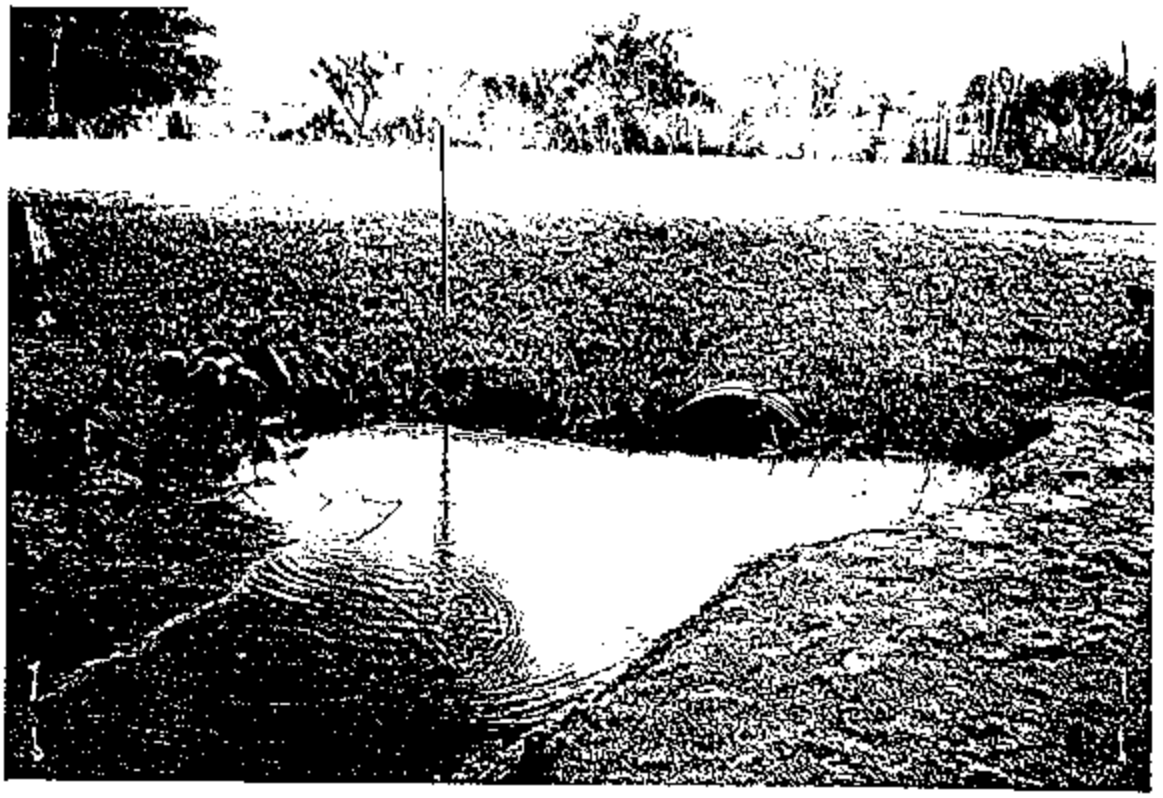
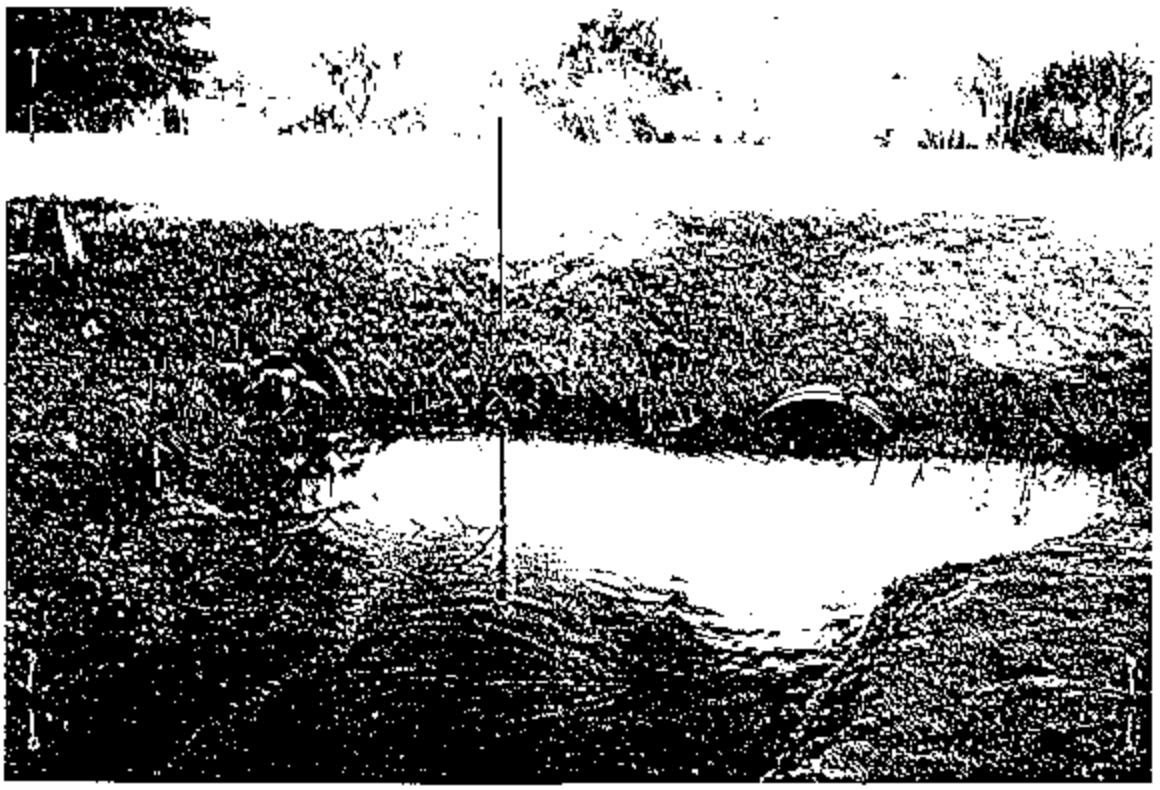
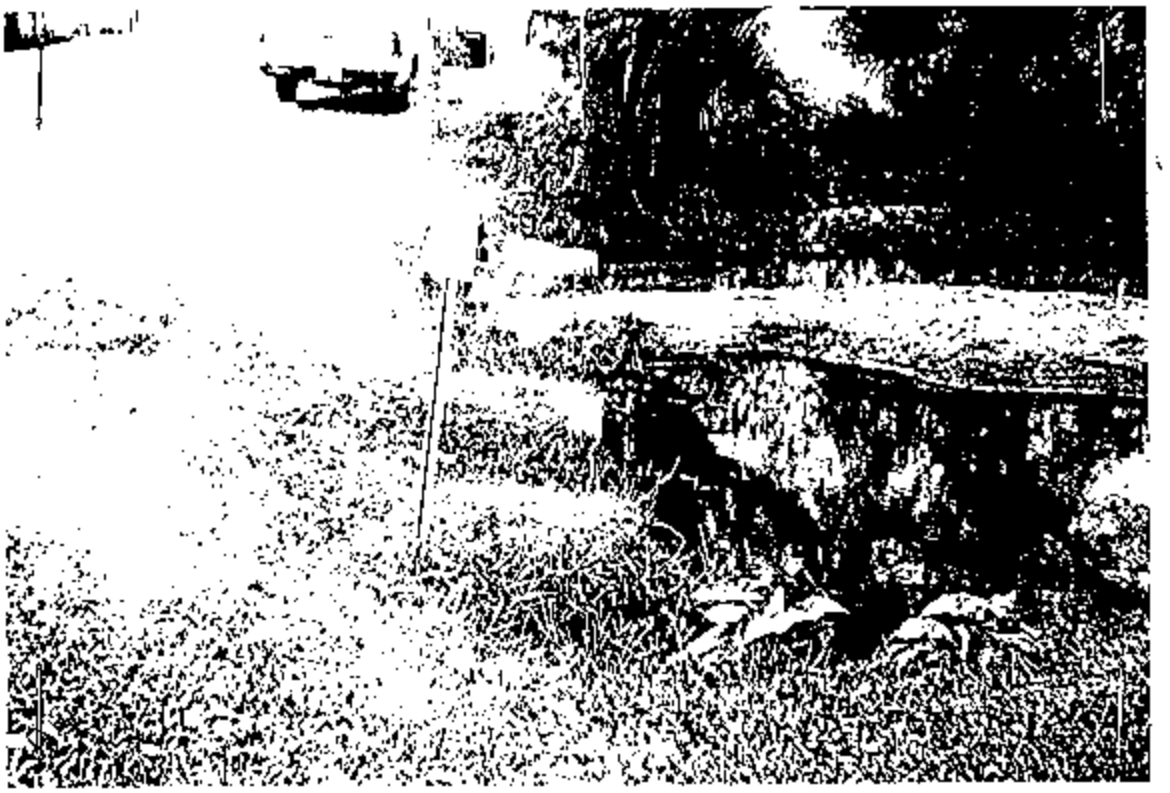
XS 101 - STA 7150

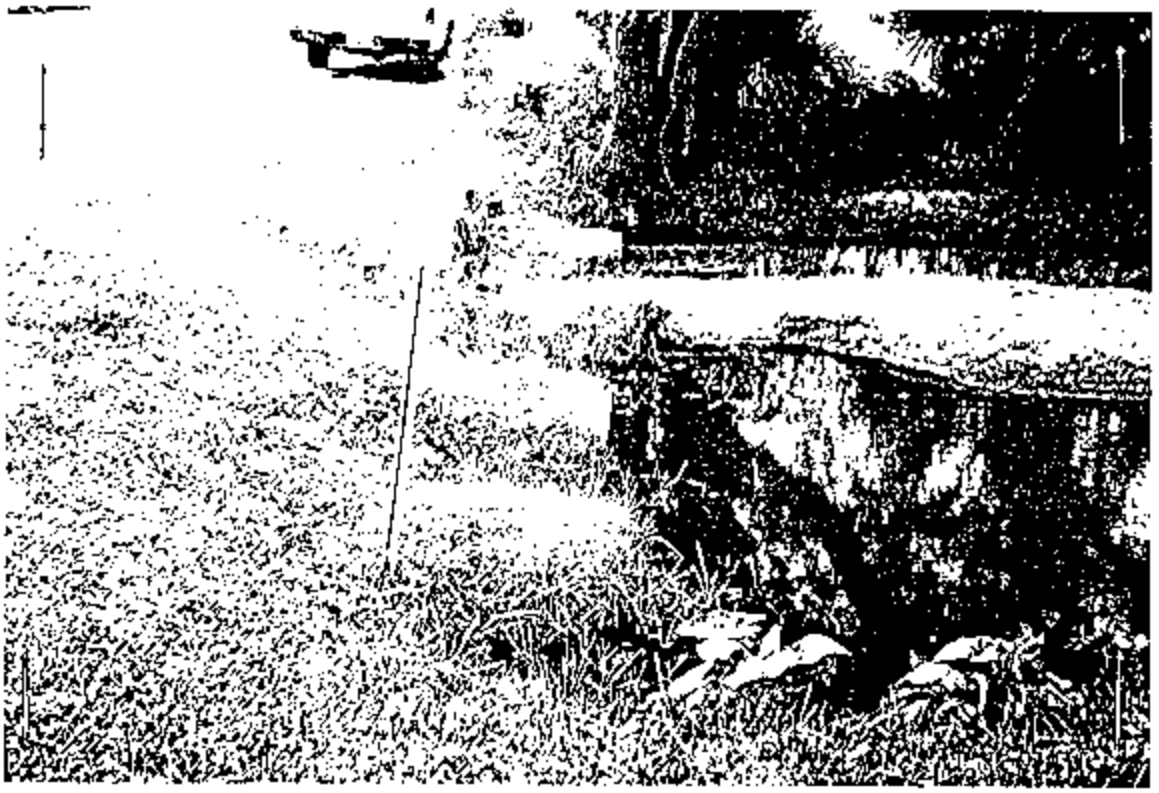
D/S End



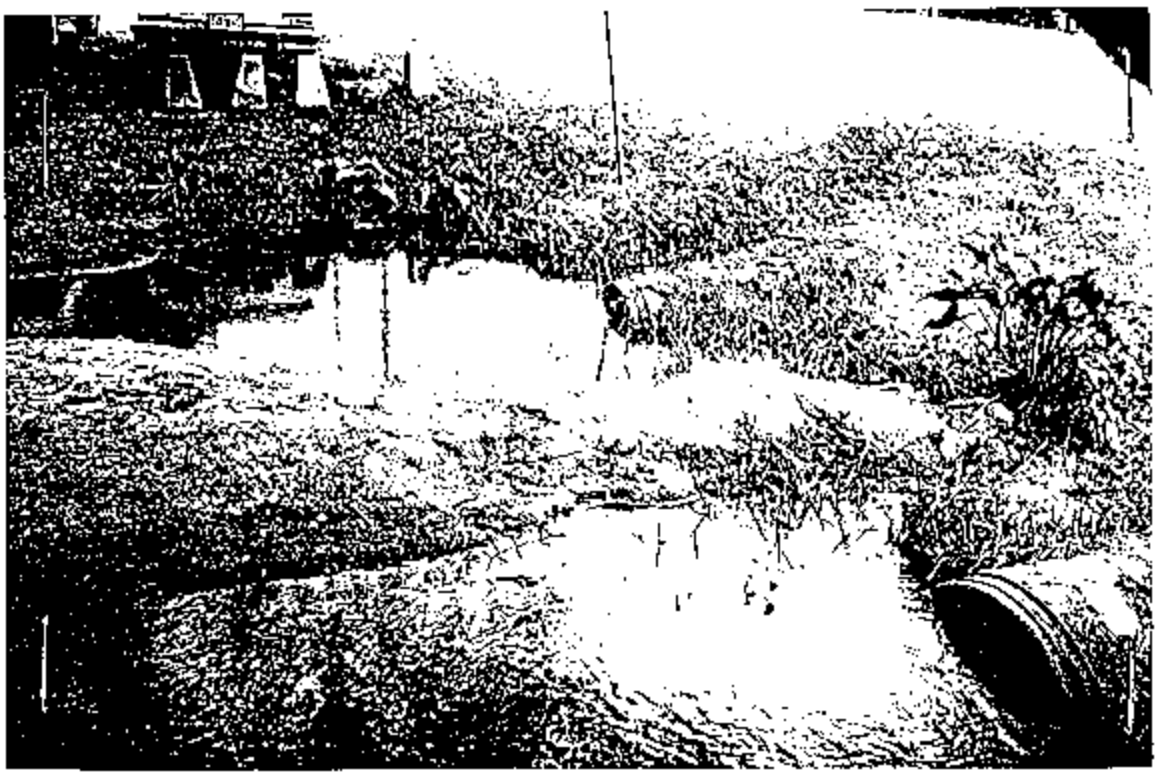


XS 13+ ~ STA 4138
D/S End





XS 127 - 31A 4158
D/S End

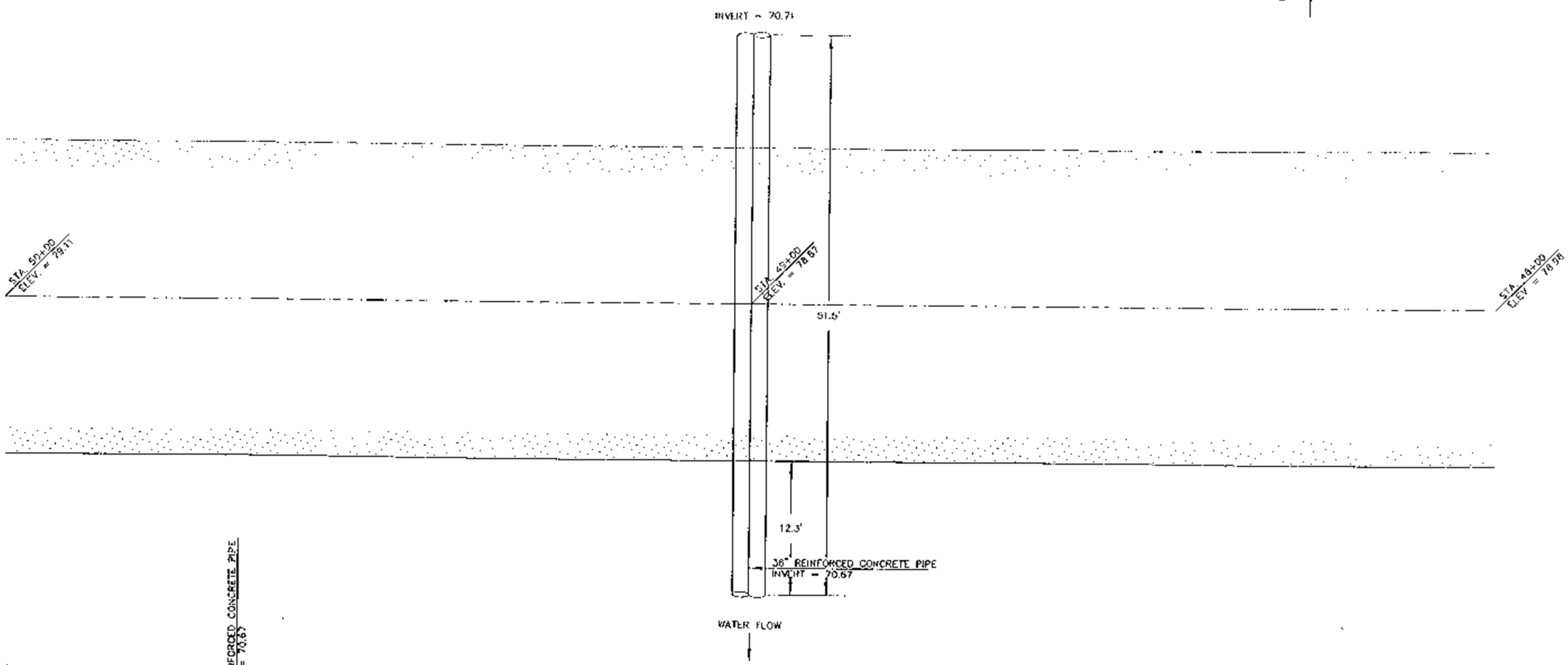


STRUCTURE # 137 -- WOLF BRANCH

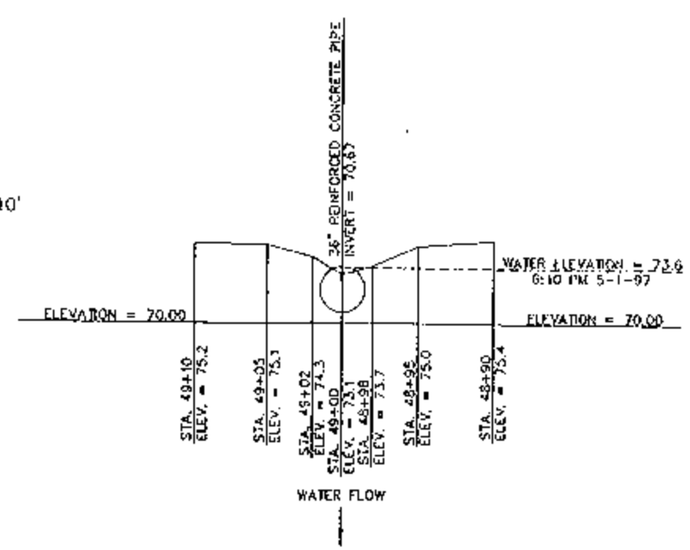
200±' SOUTH OF THE NORTH LINE OF SECTION 33,
2300±' WEST OF THE EAST LINE OF
SECTION 33, TOWNSHIP 19 SOUTH, RANGE 27 EAST

(SHEET 4 OF 4 SHEETS)

NOTE:
TOP VIEW
IS
NOT TO SCALE



SCALE: 1" = 10'



(15.00) DENOTES ELEVATIONS BASED ON N.A.V.D. 1988

FIELD BOOK LAKE "H" PAGES 70-78

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2155 ART MUSEUM DRIVE
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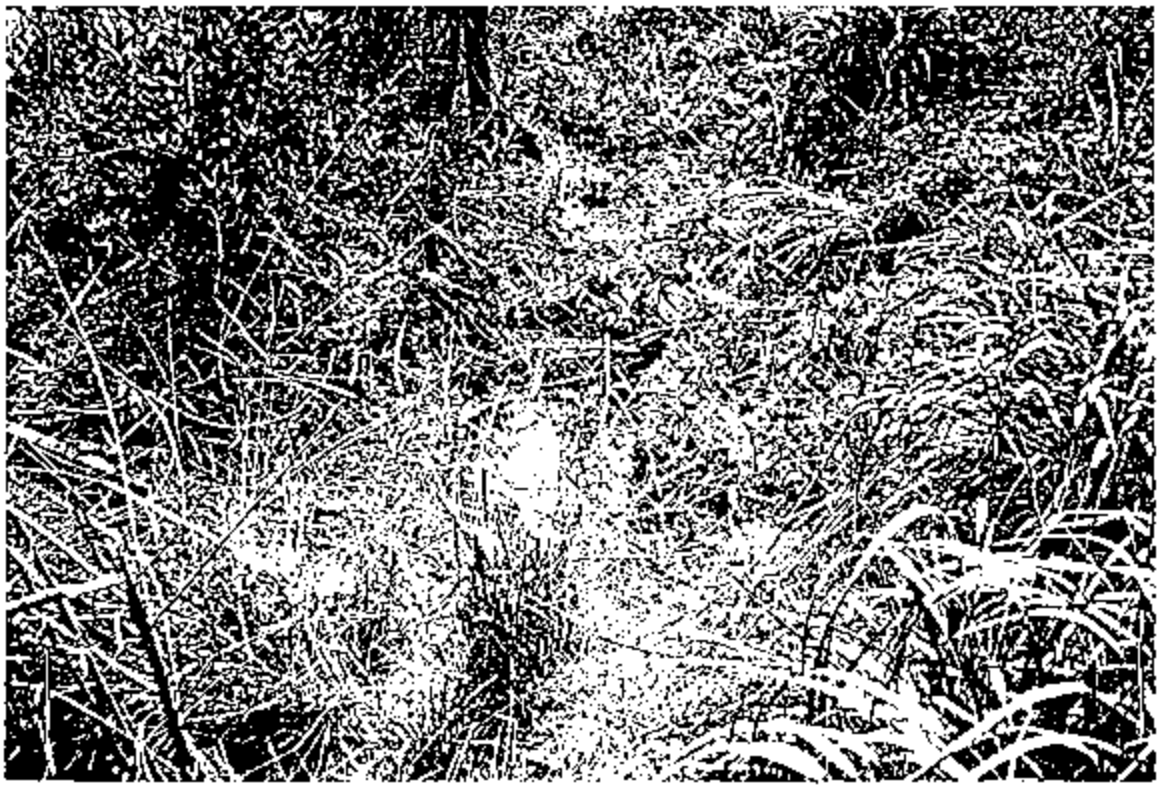
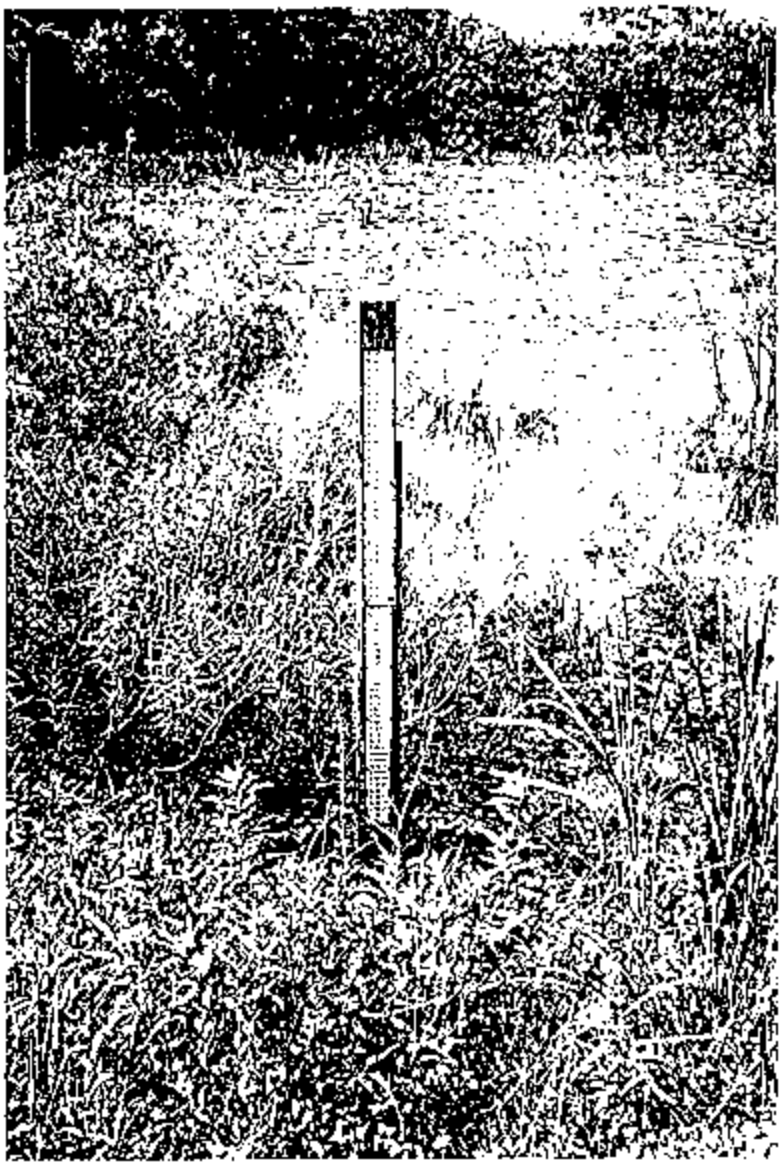
XS 10 + ~ 51A 7700

D/S End



XS 137 ~ STA 4900
D/S End

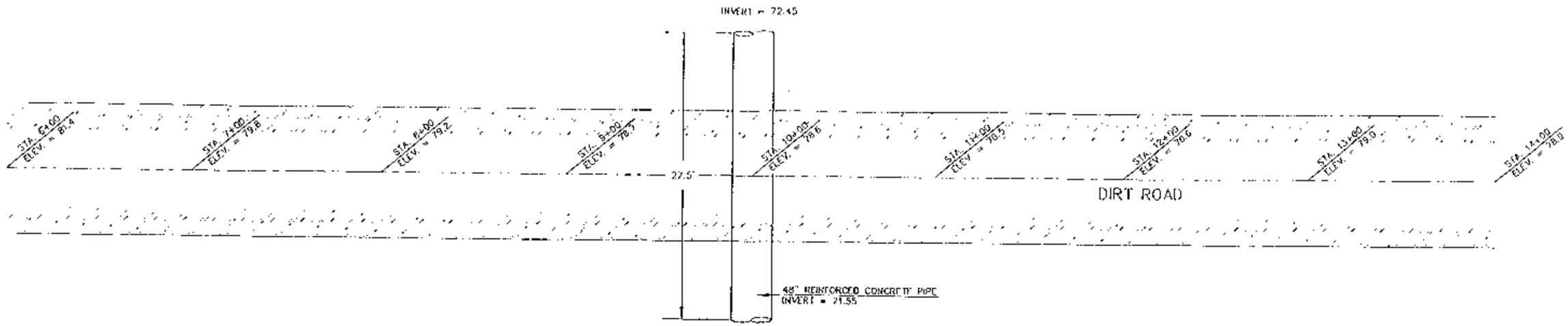
Guage @ SK 46
(XS 137)

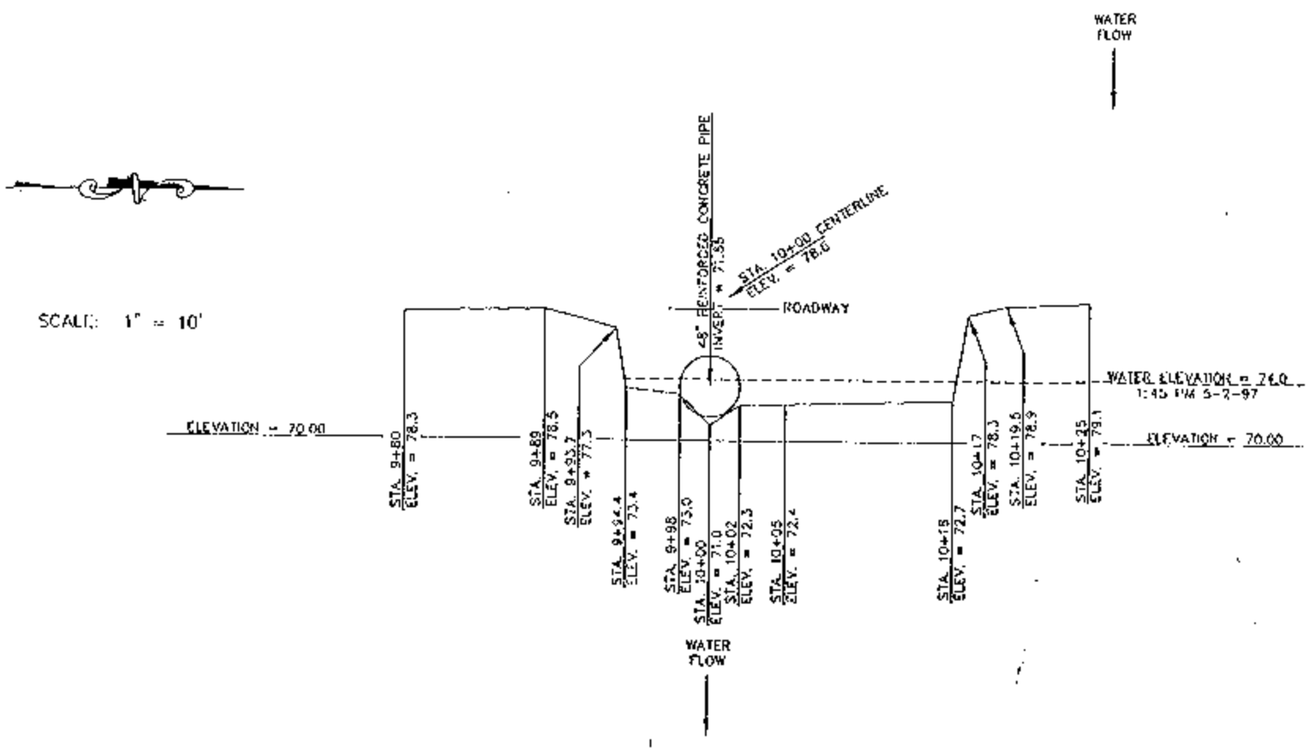


STRUCTURE # 138 – WOLF BRANCH

600±' SOUTH OF THE NORTH LINE OF SECTION 33,
800±' WEST OF THE EAST LINE OF
SECTION 33, TOWNSHIP 19 SOUTH, RANGE 27 EAST

NOTE:
TOP VIEW
IS
NOT TO SCALE





(15.00) DENOTES ELEVATIONS BASED ON N.A.V.D. 1988

FIELD BOOK LAKE "H" PAGES 76-77

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2155 ART MUSEUM DRIVE
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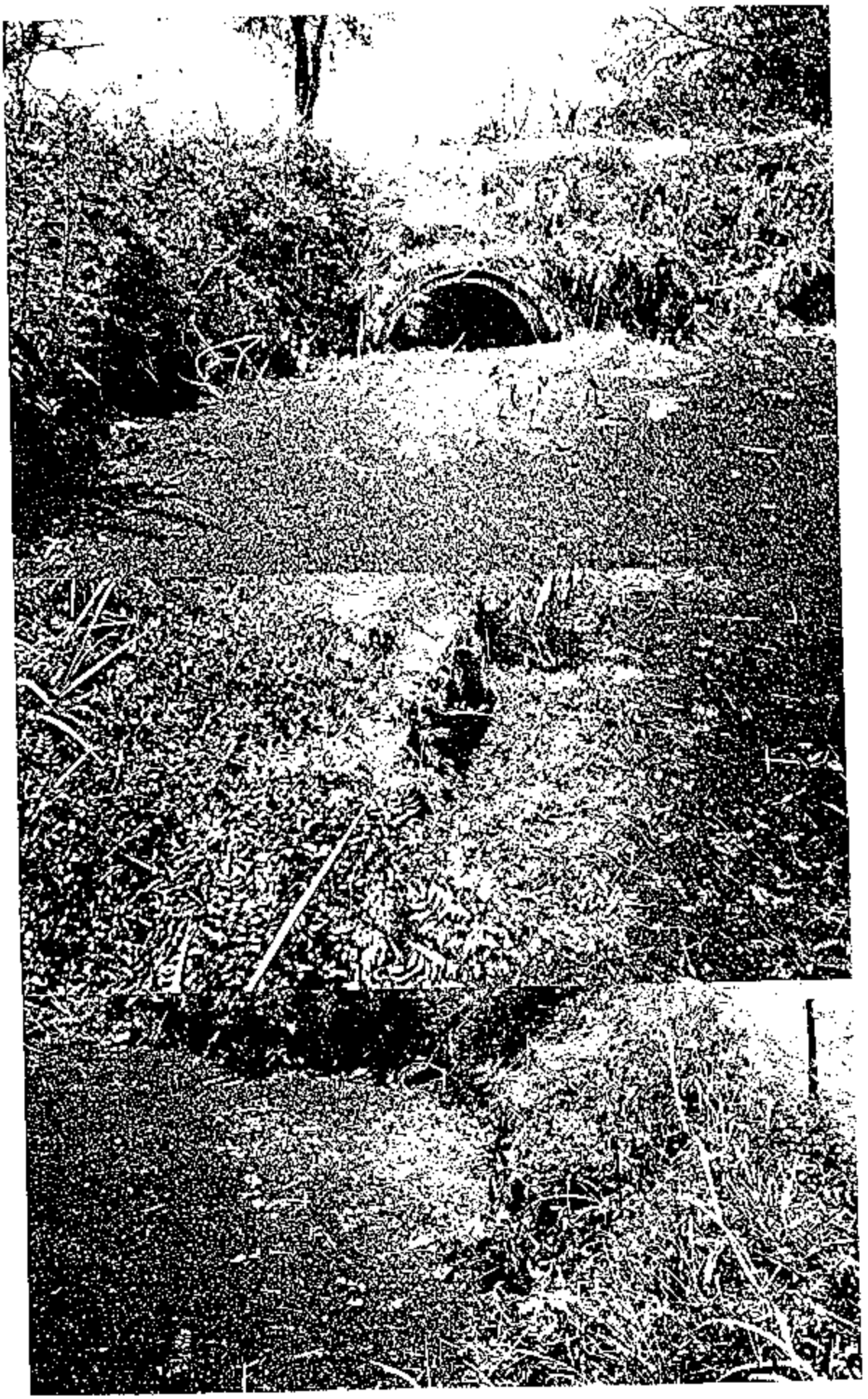
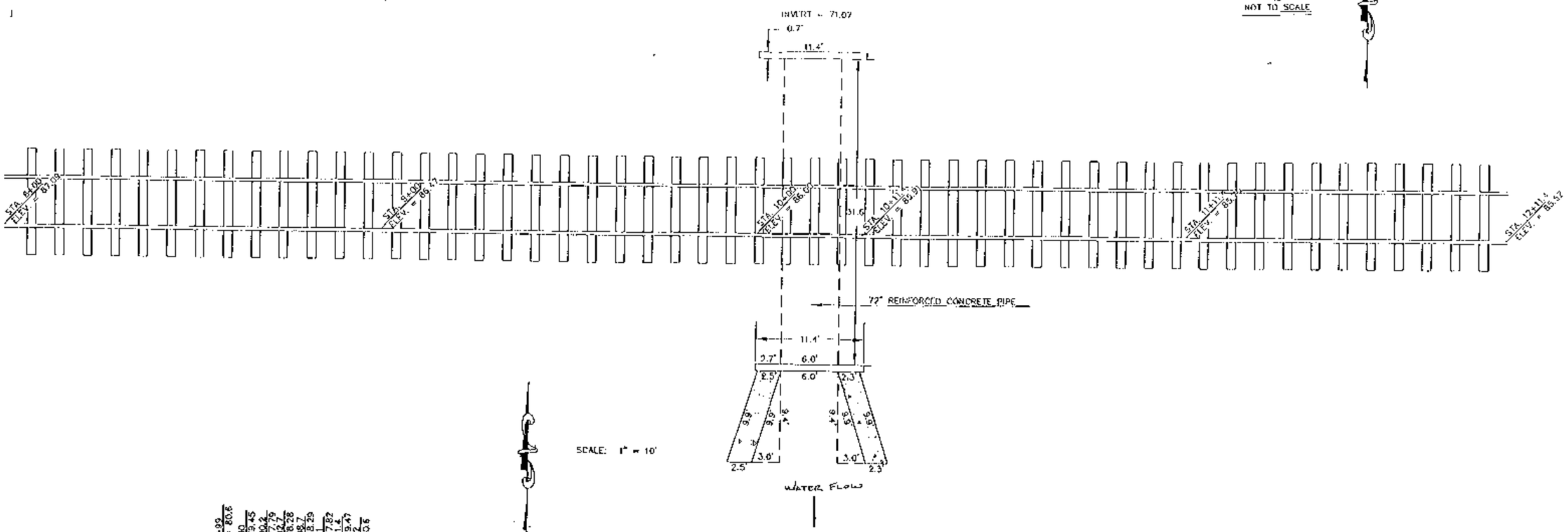
WOLF BRANCH - Structure 138



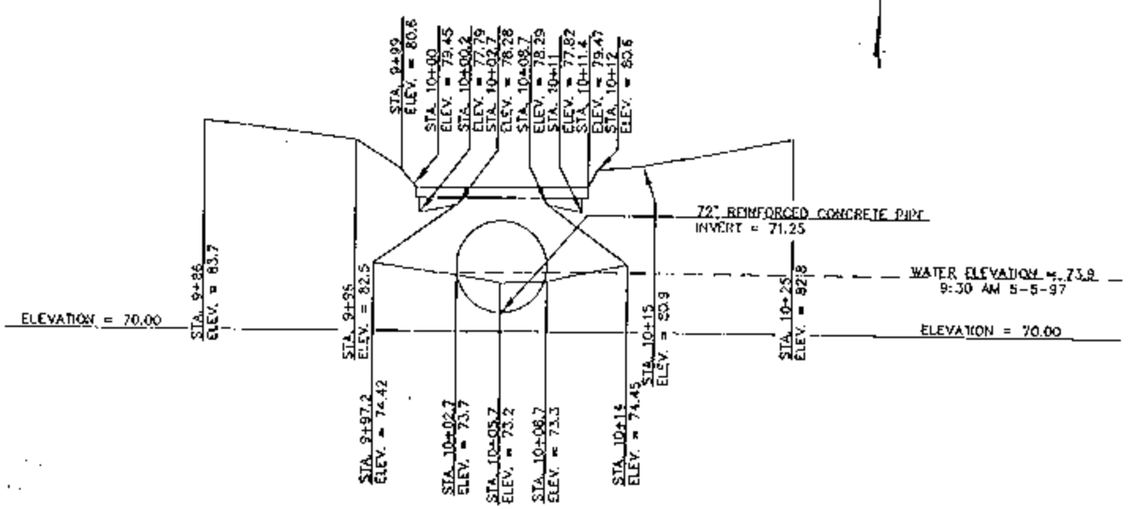
STRUCTURE # 139 – WOLF BRANCH

1300±' SOUTH OF THE NORTH LINE OF SECTION 34,
300±' EAST OF THE WEST LINE OF
SECTION 34, TOWNSHIP 19 SOUTH, RANGE 27 EAST

NOTE:
TOP VIEW
IS
NOT TO SCALE



SCALE: 1" = 10'



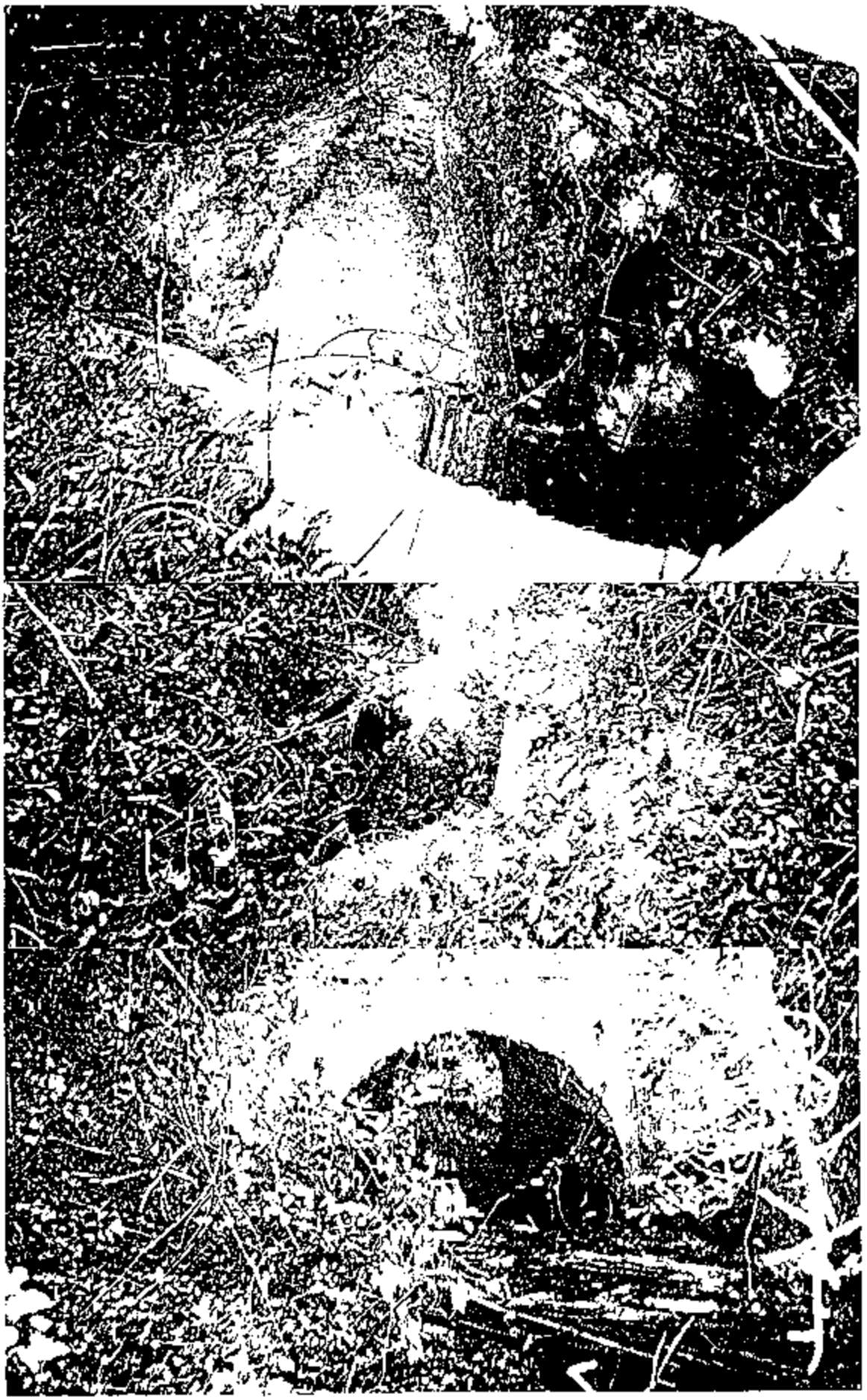
(15.00) DENOTES ELEVATIONS BASED ON N.A.V.D. 1988

FIELD BOOK LAKE "J" PAGES 2-3

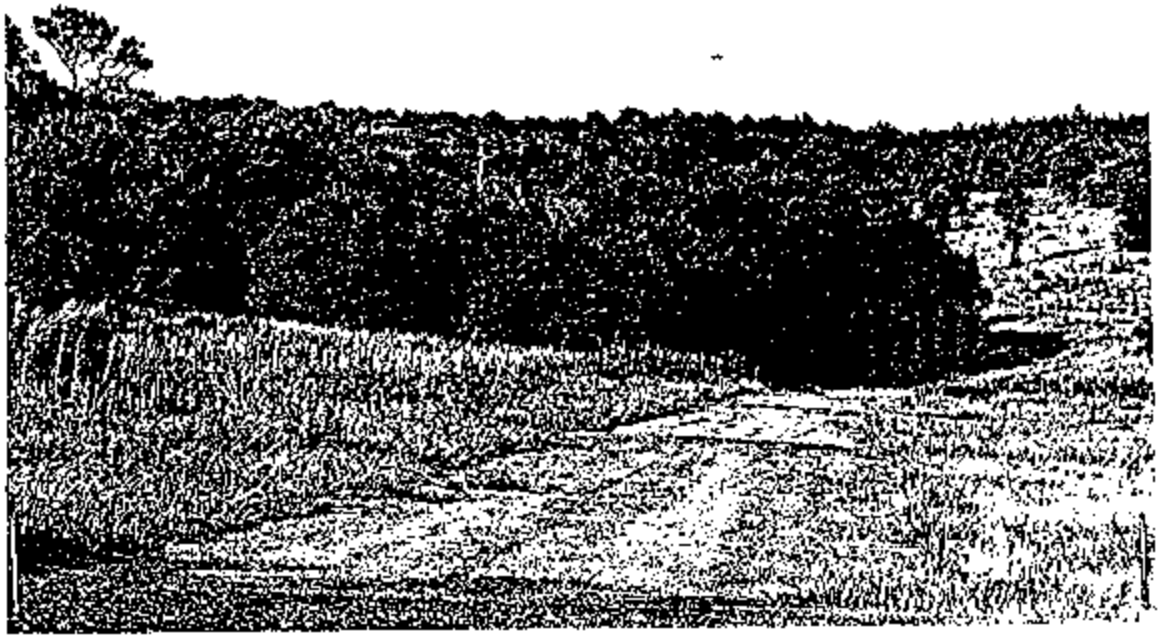
QUAD: SORRENTO, FLA.

DEGROVE SURVEYORS, INC.
2155 ART MUSEUM DRIVE
JACKSONVILLE, FLORIDA, 32207
(904) 396-8606

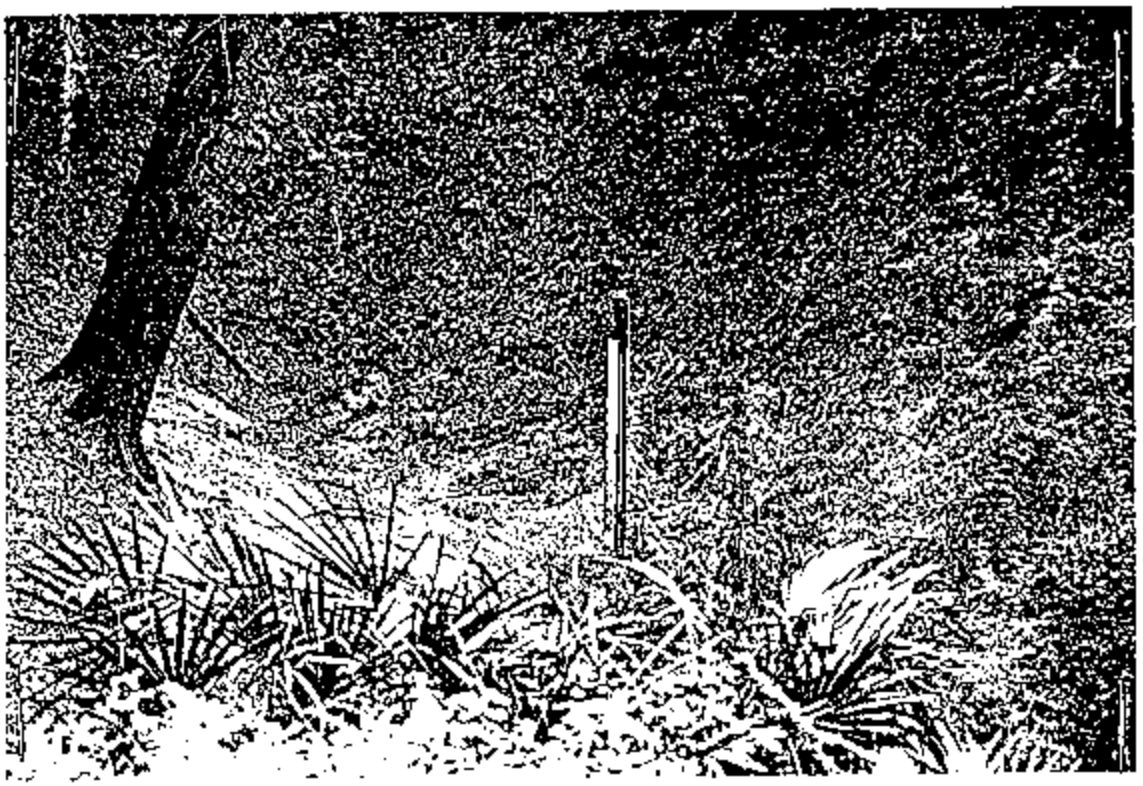
Wolf Branch - Structure 139



Wolf Branch



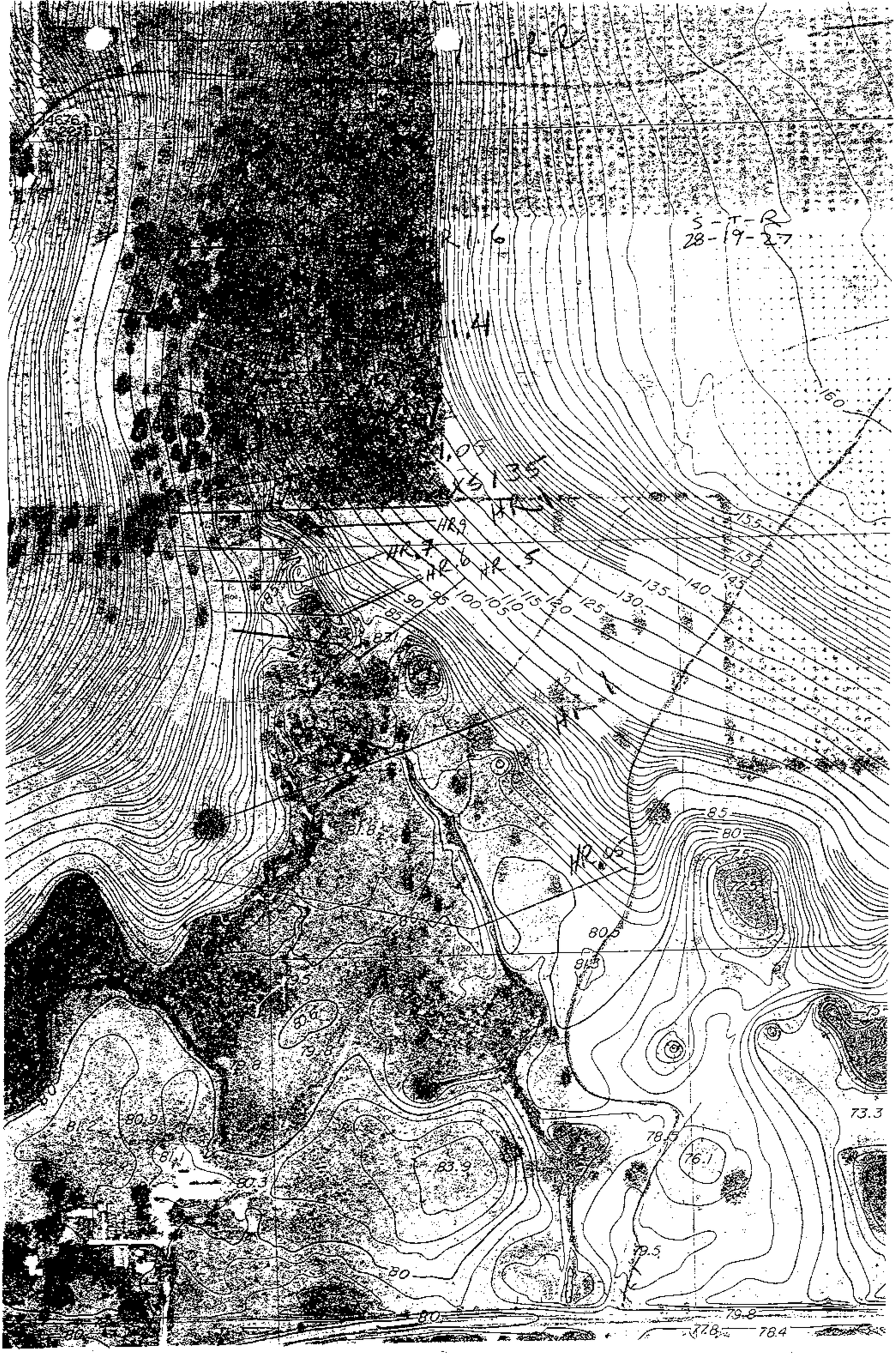
Looking NE toward Sink



Sink and Gauge.

Wolf Branch

Waterfall u/s of Sink.


S-T-R
28-19-27
HR 1.6
HR 1.4
HR 1.05
HR 1
HR 9
HR 7
HR 6
HR 5
HR 1
HR 05
160
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83.1
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73.3
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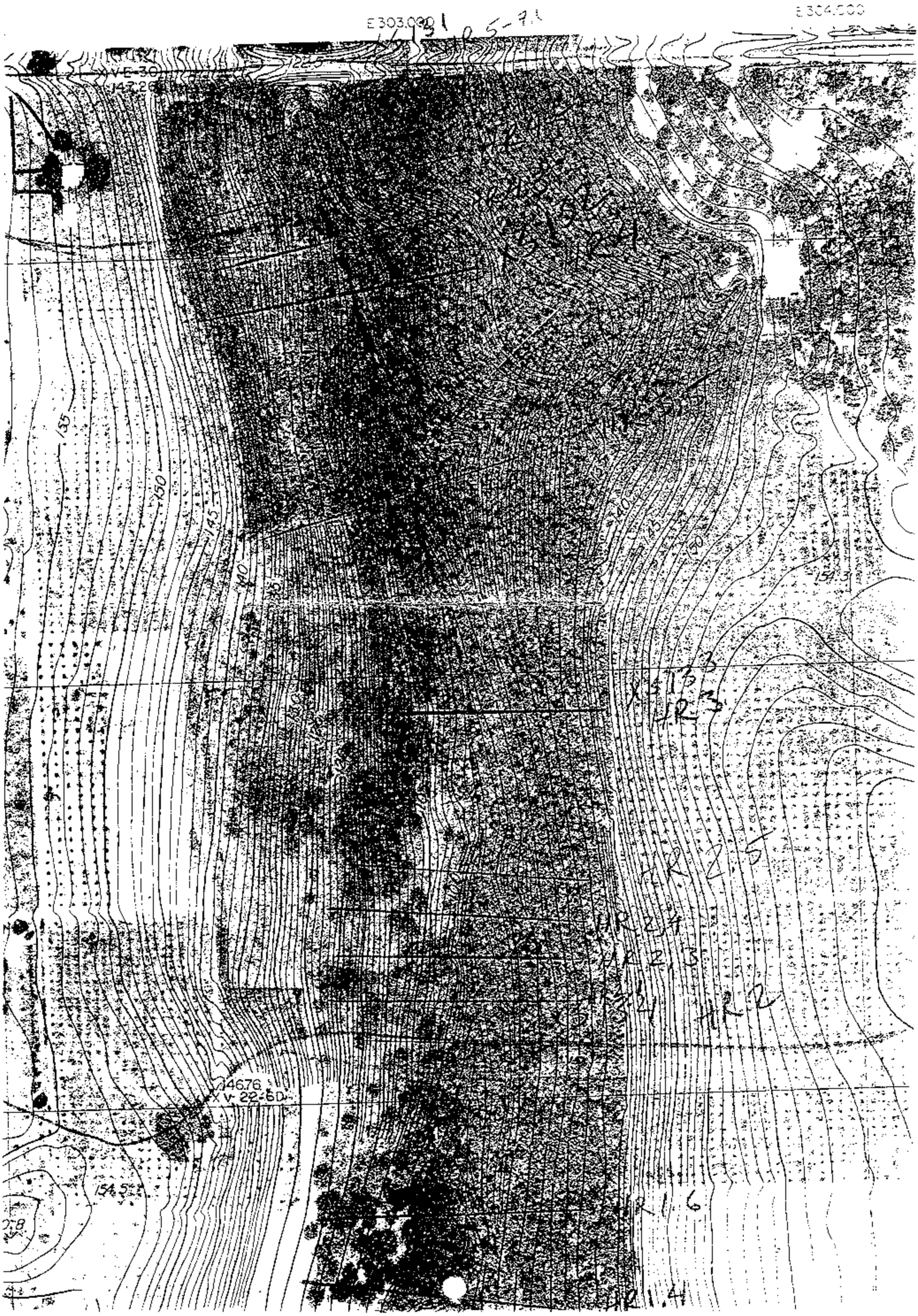
78.4

S28-T19-R27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154.3
HR 2.5
HR 2.4
HR 2.3
HR 2
HR 1.6
HR 1.4
146.76
V-22-6D
154.5

XV-22-10B
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XV 21-22 B
152.56
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155
521-T19-R27
160
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X UE-30
122.5
120

S21-719-R27

165
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165.2
164.5
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HR
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169.4
168.5
167.5
170.2
170.1
16-7-4
X 168.5
169.1
167.8
167.5
170.8
168.2
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168.3
16-7-3
X 167.3
166.3
166.8
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170.5
16-5-1
X 166.9
169.8
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166.8
WS 165.5
167.2
166.5
16-5-2
X 166.7
165.6
166.1
167.8
166.5
165.5
163

S16-T19-R27