

1 **C-9 CULVERT 9 IN L-D4**

2
3 **Location.**

4 Culvert 9 is located at L-D4 Station 755+08 east of S-193.

5
6 **Purpose.**

7 The structure was designed to provide conveyance of runoff to the lake from the
8 surrounding area and permit irrigation withdrawals from the lake.

9
10 **Description.**

11 Culvert 9 was completed in 1936 as a part of the original Herbert Hoover Dike. Culvert 9
12 has been backfilled and abandoned due to its poor condition. Flood control regulation for
13 this area is now provided primarily by S-133.

14
15 Note: For maintenance and repair schedule, see Table A-3, Herbert Hoover Dike
16 Culvert Repairs, following the Structure Descriptions.

1 **C-10 CULVERT 10 IN L-D9**

2
3 **Location.**

4 Culvert 10 is located between S-351 and S-352 through L-D2 at station 0+99.

5
6 **Purpose.**

7 Culvert 10 was completed in 1935 as a part of the original Herbert Hoover Dike. The
8 culvert was designed to provide conveyance of runoff to the lake from the surrounding
9 area and to permit irrigation withdrawals from the lake.

10
11 **Description.**

12 Culvert 10 is a two-barrel, ten-foot diameter, CMP culvert structure. The culvert is
13 equipped with flapgates on the lakeside which automatically open whenever the landside
14 stage exceeds the lake stage. The invert elevation is 5.6 ft., NGVD. There is a short
15 sheet pile channel extending into the lake. Flood water from the surrounding area is
16 pumped through Culvert 10 by the Pahokee Drainage District Pump Station No. 1,
17 located immediately upstream of the culvert. Irrigation water is obtained from the lake
18 by operating the pump to equalize the head across Culvert 10. A flapgate is then opened,
19 the pump turned off, and water is siphoned from the lake through the pump. The barrels
20 of Culvert 10 have been lined with elliptical liner pipes.

21
22 **Operation.**

23 South Shore Drainage District has a pump station connecting to this structure through a
24 short canal. For drainage, water is pumped into Lake Okeechobee through the canal and
25 this structure. The flap gates prevent water from the Lake backing into the canal. For
26 irrigation releases from the Lake, the flap gate can be manually to release water to the
27 pump station. Water can be discharged through the trough or the pump in the pump
28 station. The trough discharge capacity is 4.7 acre-feet per hour at lake stage 12.5 feet and
29 the pumping capacity of each pump is 8.3 acre-feet per hour.

30
31 **Summary for Culvert C-10**

32

33 Levee No.	L-D9
34 Levee Station	0+99
35 Number of Barrels	2
36 Diameter (ft.)	10
37 Invert Elev. (ft., NGVD)	5.6
38 Pipe Length (ft.)	111
39 Overall Length (ft.)	162

40

41 Note 1: The overall length of the culvert is the distance from the toe of the lakeside
42 headwall to the toe of the landside headwall. The above data is taken from Herbert
43 Hoover Dike Culverts Structural Letter Report, April 1992.

44
45 Note 2: For maintenance and repair schedule, see Table A-3, Herbert Hoover Dike
46 Culvert Repairs, following the Structure Descriptions.

1 **C-10A CULVERT 10A IN L-D9**

2
3 **Location.**

4 Culvert 10A is located at the north end of the L-8 canal through L-D9 at station 539+71.

5
6 **Purpose.**

7 Culvert 10A was constructed in 1933 as a part of the original Herbert Hoover Dike. The
8 structure is designed to provide irrigation releases from Lake Okeechobee to the
9 agricultural lands along the L-8 canal and to afford gravity drainage of that canal into
10 Lake Okeechobee during flood periods, when the lake is lower than the canal. It also
11 affords some measure of water supply to the East Coast area of Palm Beach County and
12 is used to make regulatory releases.

13
14 **Description.**

15 The structure has five barrels each ten-foot in diameter with an invert elevation of 5.3 ft.,
16 NGVD. The structure has four flap gates and one slide gate on the center barrel. The
17 flap gates are manually lifted by crane when the head differential is less than one foot.
18 The slide gate is operated by hand or portable power unit. A pump was originally
19 included with the construction of this culvert but was later removed at the time Levee 8,
20 which adjoins Culvert 10A, was constructed. The barrels of Culvert 10A have been lined
21 with liner pipes.

22
23 **Operation.**

24 Based on recommendation of the SFWMD's environmental science division, the
25 minimum gate opening of this structure has to be above two and one-half feet or closed to
26 protect manatees. The structure is operated to make regulatory releases depending on
27 levels in Lake Okeechobee, the level in the WCA No. 1, and water demands in the L-8
28 Canal.

29
30 **Summary for Culvert C-10A**

31		
32	Levee No.	L-D9
33	Levee Station	539+71
34	Number of Barrels	5
35	Diameter (ft.)	10
36	Invert Elev. (ft., NGVD)	5.3
37	Pipe Length (ft.)	76
38	Overall Length (ft.)	127
39		

40 Note 1: The overall length of the culvert is the distance from the toe of the lakeside
41 headwall to the toe of the landside headwall. The above data is taken from Herbert
42 Hoover Dike Culverts Structural Letter Report, April 1992.

43
44 Note 2: For maintenance and repair schedule, see Table A-3, Herbert Hoover Dike
45 Culvert Repairs, following the Structure Descriptions.

1 **C-11 CULVERT 11 IN L-D9**

2
3 **Location.**

4 Culvert 11 is located at station 717+80 in L-D9.

5
6 **Purpose.**

7 Culvert 11 was completed in 1933 as a part of the original Herbert Hoover Dike. The
8 culvert was designed to provide conveyance of runoff to the lake from the surrounding
9 area and to permit irrigation withdrawals from the lake.

10
11 **Description.**

12 Culvert 11 is a single-barrel, ten-foot, diameter, CMP culvert structure. The culvert is
13 equipped with a manually operated slidegate located on the lakeside. The invert
14 elevation of the pipe is 7.0 ft., NGVD. This structure has a short sheet pile channel
15 which extends into the lake. Culvert 11 is scheduled to have elliptical liner plates
16 installed along its entirety.

17
18 **Operation.**

19 The slidegate can be operated to permit gravity drainage of flood water to the lake if the
20 landside stage exceeds the lake stage or to permit the Mayaca Drainage District pump
21 station to pump flood water from the surrounding area through Culvert 11 into the lake.
22 The slidegate can also be operated to maintain desirable water levels and to supply water
23 for irrigation and other demands in the Culvert 11 service area from the lake.

24
25 **Summary for Culvert C-11**

26		
27	Levee No.	L-D9
28	Levee Station	717+80
29	Number of Barrels	1
30	Diameter (ft.)	10
31	Invert Elev. (ft., NGVD)	7.0
32	Pipe Length (ft.)	95
33	Overall Length (ft.)	146
34		

35 **Note 1:** The overall length of the culvert is the distance from the toe of the lakeside
36 headwall to the toe of the landside headwall. The above data is taken from Herbert
37 Hoover Dike Culverts Structural Letter Report, April 1992.

38
39 **Note 2:** For maintenance and repair schedule, see Table A-3, Herbert Hoover Dike
40 Culvert Repairs, following the Structure Descriptions.

1 **C-12 CULVERT 12 IN L-D2**

2
3 **Location.**

4 Culvert 12 is located at station 1031+37 in L-D2, 3.9 miles north of Structure 351 (S-
5 351).

6
7 **Purpose.**

8 Culvert 12 was completed in 1934 as a part of the original Herbert Hoover Dike. The
9 culvert serves the East Shore Drainage District and was designed to provide conveyance
10 of runoff to the lake from the surrounding area and to permit irrigation withdrawals from
11 the lake.

12
13 **Description.**

14 Culvert 12 is a three-barrel, ten-foot diameter, CMP culvert structure. The structure is
15 equipped with flapgates which automatically open whenever the landside stage exceeds
16 the lake stage. The invert elevation is 5.5 ft., NGVD.

17
18 **Operation.**

19 Flood water from the surrounding area is pumped through Culvert 12 into the lake by the
20 East Shore Drainage District Pump Station which is located immediately upstream of the
21 culvert. Irrigation water is obtained from the lake by operating the pump to equalize the
22 head across Culvert 12. A flapgate is then opened, the pump turned off, and water is
23 siphoned from the lake through the pump.

24
25 **Summary for Culvert C-12**

26

27 Levee No.	L-D2
28 Levee Station	1031+37
29 Number of Barrels	3
30 Diameter (ft.)	10
31 Invert Elev. (ft., NGVD)	5.5
32 Pipe Length (ft.)	91
33 Overall Length (ft.)	142

34

35 Note 1: The overall length of the culvert is the distance from the toe of the lakeside
36 headwall to the toe of the landside headwall. The above data is taken from Herbert
37 Hoover Dike Culverts Structural Letter Report, April 1992.

38
39 Note 2: For maintenance and repair schedule, see Table A-3, Herbert Hoover Dike
40 Culvert Repairs, following the Structure Descriptions.

1 **C-12A CULVERT 12A IN L-D2**

2
3 **Location.**

4 Culvert 12A is located at station 1140+80 in L-D2.

5
6 **Purpose.**

7 Culvert 12A was completed in 1933 as a part of the original Herbert Hoover Dike. The
8 culvert was designed to provide conveyance of runoff to the lake from the surrounding
9 area and to permit irrigation withdrawals from the lake.

10
11 **Description.**

12 Culvert 12A is a single-barrel, seven-foot-wide box culvert structure. The culvert is
13 equipped with a flapgate on the lakeside which automatically opens whenever the
14 landside stage exceeds the lake stage. The invert elevation is 6.0 ft., NGVD. There is a
15 short sheet pile channel extending into the lake.

16
17 **Operation.**

18 Flood water from the surrounding area is pumped through Culvert 12A by the 715 Farms
19 Pump Station, located immediately upstream of the culvert. Irrigation water is obtained
20 from the lake by operating the pump to equalize the head across Culvert 12A. The
21 flapgate is then opened, the pump turned off, and water is siphoned from the lake through
22 the pump.

23
24 **Summary for Culvert C-12A**

25

26	Levee No.	L-D2
27	Levee Station	1140+80
28	Number of Barrels	1
29	Diameter (ft.)	7
30	Box	
31	Invert Elev. (ft., NGVD)	6.0
32	Pipe Length (ft.)	86
33	Overall Length (ft.)	137

34

35 Note 1: The overall length of the culvert is the distance from the toe of the lakeside
36 headwall to the toe of the landside headwall. The above data is taken from Herbert
37 Hoover Dike Culverts Structural Letter Report, April 1992.

38
39 Note 2: For maintenance and repair schedule, see Table A-3, Herbert Hoover Dike
40 Culvert Repairs, following the Structure Descriptions.

1 **C-13 CULVERT 13 IN L-D9**

2
3 **Location.**

4 Culvert 13 is located at station 477+11 in L-D9.

5
6 **Purpose.**

7 Culvert 13 was completed in 1935 as a part of the original Herbert Hoover Dike. The
8 culvert was designed to provide conveyance of runoff to the lake from the surrounding
9 area and to permit irrigation withdrawals from the lake.

10
11 **Description.**

12 Culvert 13 is a single-barrel, ten-foot diameter, CMP culvert structure. The culvert is
13 equipped with a manually operated slide gate on the lakeside. An elliptical liner plate
14 was installed in Culvert 13 in 1978 to strengthen the deformed pipe. The liner plate has a
15 vertical diameter of 6.1 feet and a horizontal diameter of 7.9 feet. The invert elevation of
16 the pipe is 5.6 ft., NGVD. There is a short sheet pile channel extending into the lake.

17
18 **Operation.**

19 The slide gate can be opened to permit gravity discharge of flood water from the
20 surrounding area if the landside stage exceeds the lake stage or it can be opened to permit
21 the Pelican Lakes Drainage District Pump Station, which is located upstream of Culvert
22 13, to pump flood water through Culvert 13 into the lake. The slidegate can be operated
23 to maintain desirable water levels and to supply water for irrigation and other demands in
24 the Culvert 13 service area from the lake.

25
26 **Summary for Culvert C-13**

27

28 Levee No.	L-D9
29 Levee Station	477+11
30 Number of Barrels	1
31 Diameter (ft.)	10
32 Invert Elev. (ft., NGVD)	5.6
33 Pipe Length (ft.)	95
34 Overall Length (ft.)	146

35

36 Note 1: The overall length of the culvert is the distance from the toe of the lakeside
37 headwall to the toe of the landside headwall. The above data is taken from Herbert
38 Hoover Dike Culverts Structural Letter Report, April 1992.

39
40 Note 2: For maintenance and repair schedule, see Table A-3, Herbert Hoover Dike
41 Culvert Repairs, following the Structure Descriptions.

1 **C-14 CULVERT 14 IN L-D9**

2
3 **Location.**

4 Culvert 14 is located at station 574+00 of L-D9.

5
6 **Purpose.**

7 Culvert 14 was completed in 1935 as apart of the original Herbert Hoover Dike. The
8 culvert was designed to provide conveyance of runoff to the lake from the surrounding
9 area and to permit irrigation withdrawals from the lake.

10
11 **Description.**

12 Culvert 14 is a single-barrel, ten-foot diameter, CMP culvert structure. The structure is
13 equipped with a manually operated slide gates located on the lakeside. An elliptical liner
14 plate was installed in Culvert 14 in 1978 to strengthen the deformed pipe. The liner plate
15 has a vertical diameter of 7.1 feet and a horizontal diameter of 8.9 feet. The invert
16 elevation of the pipe is 5.6 ft., NGVD. This structure has a short sheet pile channel
17 which extends into the lake.

18
19 **Operation.**

20 The slide gate can be operated to permit gravity drainage of flood water from the
21 surrounding area if the landside stage exceeds the lake stage or to permit the private
22 pump station, located upstream of the structure, to pump flood water through Culvert 14
23 into the lake. The slidegate can also be operated to maintain desirable water levels and to
24 supply water for irrigation and other demands in the Culvert 14 service area from the
25 lake.

26
27 **Summary for Culvert C-14**

28

29 Levee No.	L-D9
30 Levee Station	574+00
31 Number of Barrels	1
32 Diameter (ft.)	10
33 Invert Elev. (ft., NGVD)	5.6
34 Pipe Length (ft.)	96
35 Overall Length (ft.)	147

36

37 Note 1: The overall length of the culvert is the distance from the toe of the lakeside
38 headwall to the toe of the landside headwall. The above data is taken from Herbert
39 Hoover Dike Culverts Structural Letter Report, April 1992.

40
41 Note 2: For maintenance and repair schedule, see Table A-3, Herbert Hoover Dike
42 Culvert Repairs, following the Structure Descriptions.

1 **C-15 CULVERT 15 IN L-D2**

2
3 **Location.**

4 Culvert 15 is located at station 1201+05 of L-D2.

5
6 **Description.**

7 Culvert 15 was completed in 1933 as a part of the original Herbert Hoover Dike. The
8 structure was abandoned in 1962 when Levee D2 was raised. The culvert was a single-
9 barrel, 21-inch diameter, CMP structure.

10
11 Note: For maintenance and repair schedule, see Table A-3, Herbert Hoover Dike
12 Culvert Repairs, following the Structure Descriptions.

1 **C-16 CULVERT 16 IN L-D9**

2
3 **Location.**

4 Culvert 16 is located at station 667+73 in L-D9.

5
6 **Purpose.**

7 Culvert 16 was completed in 1938 as a part of the original Herbert Hoover Dike. The
8 culvert was designed to provide conveyance of runoff to the lake from the surrounding
9 area and to permit irrigation withdrawals from the lake.

10
11 **Description.**

12 Culvert 16 is a single-barrel CMP culvert structure. The culvert is equipped with a
13 manually operated slidegate located on the lakeside. An elliptical liner plate was
14 installed in 1978 to strengthen the deformed pipe. The liner plate has a vertical diameter
15 of 6.8 feet and a horizontal diameter of 8.6 feet. The invert elevation of the pipe is 5.2 ft.,
16 NGVD. This structure has a short sheet pile channel which extends into the lake.

17
18 **Operation.**

19 The slide gate can be operated to permit gravity drainage of flood water to the lake if the
20 landside stage exceeds the lake stage or to permit the private pump station located
21 upstream of the structure to pump flood water through Culvert 16 into the lake. The
22 slidegate can also be operated to maintain desirable water levels and to supply water for
23 irrigation and other demands in the Culvert 16 service area from the lake.

24
25 **Summary for Culvert C-16**

26

27 Levee No.	L-D9
28 Levee Station	667+73
29 Number of Barrels	1
30 Diameter (ft.)	10
31 Invert Elev. (ft., NGVD)	5.2
32 Pipe Length (ft.)	96
33 Overall Length (ft.)	147

34

35 Note 1: The overall length of the culvert is the distance from the toe of the lakeside
36 headwall to the toe of the landside headwall. The above data is taken from Herbert
37 Hoover Dike Culverts Structural Letter Report, April 1992.

38
39 Note 2: For maintenance and repair schedule, see Table A-3, Herbert Hoover Dike
40 Culvert Repairs, following the Structure Descriptions.

1 **C-154 STRUCTURE 154C IN L-D4**

2
3 **Location.**

4 S-154 culvert is located in L-D4 just north of S-154.

5
6 **Purpose.**

7 The structure is operated to maintain an optimum upstream water control stages, passes
8 the design flood without exceeding the upstream flood design stage. A downstream flap
9 valve prevents backflow from Lake Okeechobee during excessive stages in the lake
10 caused by flood or wind tide.

11
12 **Description.**

13 Culvert S-154C was constructed in 1971 as a part of the L-62(N) Remainder contract.
14 S-154C is a one barrel, six-foot diameter concrete pipe culvert. The structure is equipped
15 with a submersible vertical lift gate on the upstream side and a flapgate on the
16 downstream side. The culvert has an invert elevation of 8.0 feet, NGVD, and the crest of
17 the weir is at 14.0 ft., NGVD.

18
19 **Operation.**

20 The structure is operated to maintain an optimum headwater elevation of 16.0 ft., NGVD.
21 It is opened full during hurricane alerts in order to pass the maximum discharge possible.

22
23 **Summary for Structure 154C**

24

25 Levee No.	L-D4
26 Number of Barrels	1
27 Diameter (ft.)	6
28 Invert Elev. (ft., NGVD)	8.0
29 Pipe Length (ft.)	136

30
31

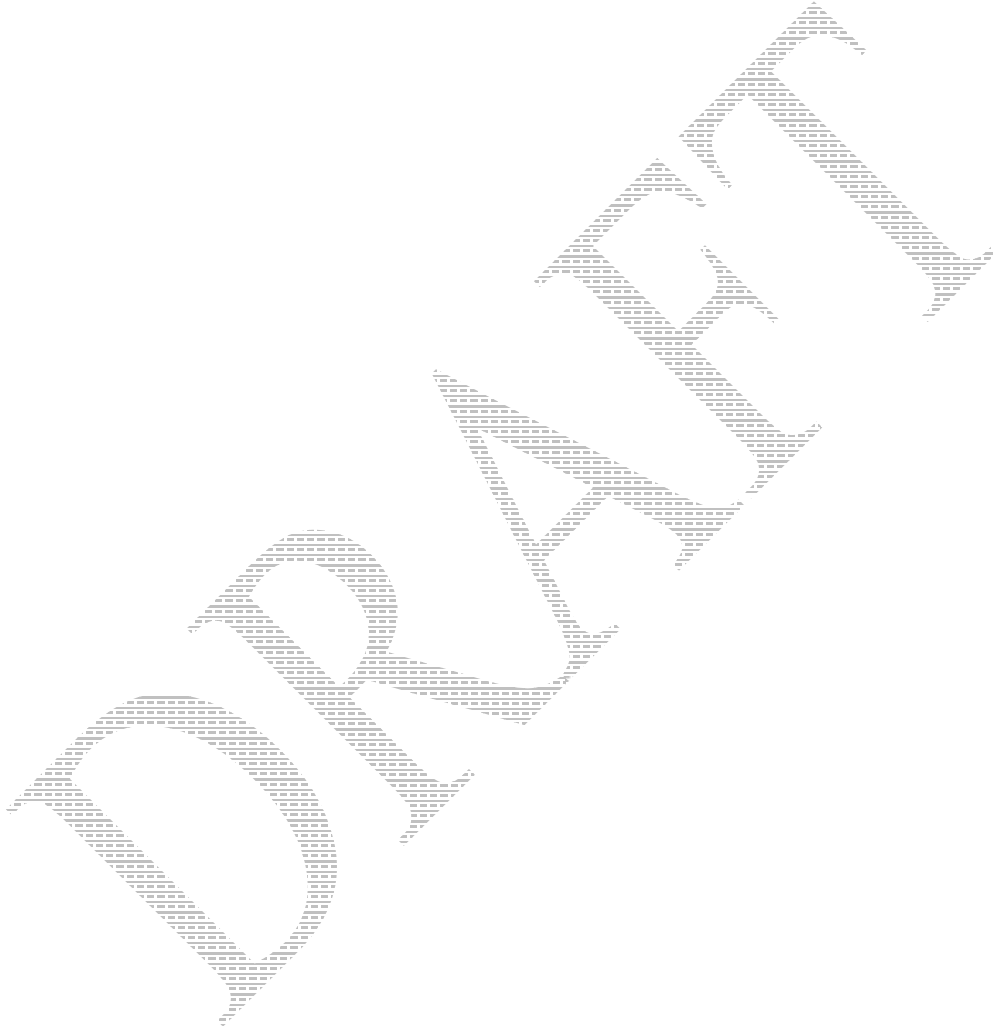
1 **TCC TAYLOR CREEK CULVERT IN L-D4**

2

3 **Description.**

4 The Taylor Creek Culvert was an eight barrel, ten-foot diameter CMP culvert structure
5 constructed in 1936. Concerns about the stability of the headwalls were raised in the
6 mid-1970's. Due to the completion of the Northeast Shore project works it was
7 determined that S-133, S-193, and Culverts 7 through 9 provided adequate water control;
8 thus, this culvert structure was filled in and abandoned.

9



1 **C-21 GATED CULVERT**

2
3 **Location.**

4 The culvert is located in the existing Clewiston Drainage District levee at C-21 Station
5 136+80.
6

7 **Purpose.**

8 The culvert was installed to provide gravity drainage, when conditions are favorable,
9 from the western portion of Clewiston Drainage District to C-21. The gravity drained
10 area is also included in the area served by the Clewiston Drainage District pump station
11 which pumps directly into C-21.
12

13 **Description.**

14 The C-21 Gated Culvert is a single 72-inch CMP with a slidegate, and the invert
15 elevation is 6.0 feet, NGVD.
16
17

18 **Summary for Structure C-21 Gated Culvert**

19

20 Levee No.	C-21
21 Number of Barrels	1
22 Diameter (ft.)	6
23 Invert Elev. (ft., NGVD)	6.0

24
25
26

1 **G-35 POPASH SLOUGH CULVERT**

2
3 **Location.**

4 This structure is located where Levee 62 crosses Popash Slough, about two miles west of the
5 City of Okeechobee.
6

7 **Purpose.**

8 The culvert permits releases through L-62 to maintain low flow down the old slough run which
9 was interrupted by the construction of L-62.
10

11 **Description.**

12 This structure is a 36-inch, single-barrel CMP culvert with a manually operated sluice gate
13 mounted on a timber frame erected on the upstream end of the structure.
14

15 **Operation.**

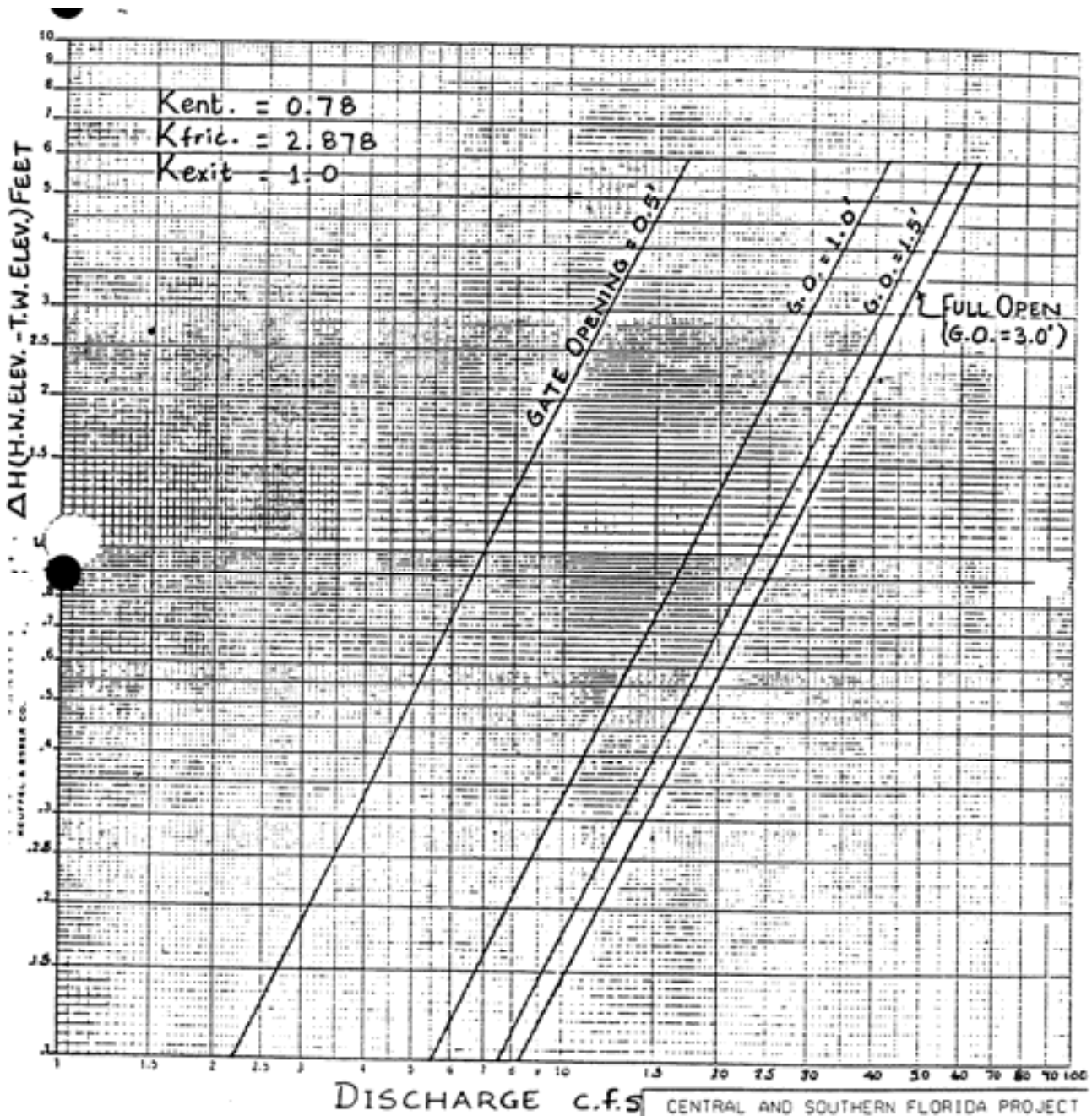
16 The structure is not designed to pass flood flows, which are diverted by L-62 to the west into C-
17 38 (Kissimmee River). The structure also provides an alternate method of discharge of the L-62
18 canal. However, it is used for this purpose only when flows in L-62 canal must be rerouted.
19

20 **Summary for Popash Slough Culvert (G-35)**

21

22 Levee No.	L-62
23 Number of Barrels	1
24 Diameter (ft.)	3
25 Invert Elev. (ft., NGVD)	14.0
26 Pipe Length (ft.)	117

1 G-35 RATING CURVE



CENTRAL AND SOUTHERN FLORIDA PROJECT
 MASTER WATER CONTROL MANUAL FOR
 LAKE OKEECHOBEE AND THE EVERGLADES
 AGRICULTURAL AREA

POPASH SLOUGH CULVERT: RATING CURVE
 1 - 36" CMP 117' LONG

JACKSONVILLE DISTRICT

A-G35-2

2
3

1 APPENDIX A

2
3 Index by Local Area

4
5 Structure Description Page No.

6
7 Northeast Shore

8
9

10	S-2	Pump Station 135 and Lock	A-S135-1
11	HCL	Henry Creek Lock	A-HCL-1
12	S-153	Structure 153	A-S153-1
13	S-191	Structure 191	A-S191-1
14	S-192	Structure 192	A-S192-1
15	AS-133	Pump Station 133	A-S133-1
16	S-193	S-193 Lock (Hurricane	
17		Gate Structure No. 6)	A-S193-1
18	S-154	Structure 154	A-S154-1
19	G-35	Popash Slough Culvert (G-35)	A-G35-1
20	S-154C	Culvert S-154C in L-D4	A-S154C-1
21	C-6	Culvert 6 in L-D4	A-C6-1
22	C-7	Culvert 7 in L-D4	A-C7-1
23	C-8	Culvert 8 in L-D4	A-C8-1
24	C-9	Culvert 9 in L-D4	A-C9-1
25	TCC	Taylor Creek Culverts in L-D4	A-TCC-1

26
27 Kissimmee River and Istokpoga Basin

28

29	S-65E	Structure 65E	A-S65E-1
30	S-84	Structure 84	A-S84-1
31	S-72	Structure 72	A-S72-1
32	S-71	Structure 71	A-S71-1

33
34 Northwest Shore

35

36	S-127	Pump Station 127 and Lock	A-S127-1
37	S-129	Pump Station 129	A-S129-1
38	S-131	Pump Station 131 and Lock	A-S131-1

Index by Local Area

<u>Structure</u>	<u>Description</u>	<u>Page No.</u>
<u>Fisheating Creek</u>		
<u>Moore Haven-Newhall Area</u>		
S-47D	Structure 47D	A-S47D-1
S-47B	Structure 47B	A-S47B-1
C-5	Culvert 5 in L-D3	A-C5-1
C-5A	Culvert 5A in L-D3	A-C5A-1
<u>Caloosahatchee River</u>		
S-77	Structure 77 and HGS No. 1	A-S77-1
S-78	Structure 78 and Lock	A-S78-1
S-79	Structure 79 and Lock	A-S79-1
S-47D	Structure 47D (refer other section)	A-S47D-1
S-235	Structure 235	A-S235-1
<u>South Shore Area</u>		
C-1	Culvert 1 in L-D1	A-C1-1
C-1A	Culvert 1A in L-D1	A-C1A-1
S-4	Pump Station 4	A-S4-1
C-2	Culvert 2 in L-D1	A-C2-1
S-310	S-310 Lock (Hurricane Gate Structure No. 2)	A-S310-1
S-236	Pump Station 236	A-S236-1
C-3	Culvert 3 in L-D2	A-C3-1
PS-3	Pump Station 3	A-S3-1
S-354	Structure 354 (formerly HGS No. 3)	A-S354-1
C-4A	Culvert 4A in L-D2	A-C4A-1
PS-2	Pump Station 2	A-S2-1
S-351	Structure 351 (formerly HGS No. 4)	A-S351-1
C-12	Culvert 12 in L-D2	A-C12-1
C-12A	Culvert 12A in L-D2	A-C12A-1
C-15	Culvert 15 in L-D2	A-C15-1
C-10	Culvert 10 in L-D9	A-C10-1
S-352	Structure 352 (formerly HGS No. 5)	A-S352-1
C-13	Culvert 13 in L-D9	A-C13-1

1
2 Index by Local Area
3

4 <u>Structure</u>	5 <u>Description</u>	6 <u>Page No.</u>
7 C-10A	Culvert 10A in L-D9	A-C10A-1
8 C-14	Culvert 14 in L-D9	A-C14-1
9 C-16	Culvert 16 in L-D9	A-C16-1
10 C-11	Culvert 11 in L-D9	A-C11-1

11
12
13 St. Lucie Canal
14

15 S-308	Structure 308B and C	A-S308B-1
16 S-80	Structure 80 (St. Lucie Spillway) and Lock	A-S80-1
17 SCS	Sixteen Erosion Control Spillways	A-SCS-1
18 S-153	Structure 153	A-S153-1

19
20
21 Agricultural Area
22

23 Nine Mile Canal Area
24

25 S-4	Pump Station 4	A-S4-1
26 S-169	Structure 169	A-S169-1
27 C-21	C-21 Gated Culvert	A-C21-1
28 S-235	Structure 235 (refer to other section)	A-S235-1

29
30
31 Miami Canal basin, S-3 to S-8
32

33 S-3	Pump Station 3 (refer to other section)	A-S3-1
34 S-8	Pump Station 8	A-S8-1
35 S-8	Pump Station 8 Spillway	A-S8-3

Index by Local Area

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33

<u>Structure</u>	<u>Description</u>	<u>Page No.</u>
	<u>North New River Canal basin, S-2 to S-7</u>	
S-2	Pump Station 2 (refer to other section)	A-S2-1
S-7	Pump Station 7	A-S7-1
S-7	Pump Station 7 Spillway	A-S7-3
S-150	Structure 150	A-S150-1
	<u>Hillsboro Canal basin, S-2 to S-6</u>	
S-2	Pump Station 2(refer to other section)	A-S2-1
S-6	Pump Station 6	A-S6-1
	<u>West Palm Beach Canal basin, Culvert 10A to S-5A</u>	
S-5A	Pump Station 5A	A-S5A-1
S-5AX	Structure 5A(X)	A-S5AX-1
	<u>Levee 8 basin</u>	
C-10A	Culvert 10A (refer to other section)	A-C10A-1
S-76	Structure 76	A-S76-1
S-5AS	Structure 5A(S)	A-S5AS-1
S-5AE	Structure 5A(E)	A-S5AE-1
S-5AW	Structure 5A(W)	A-S5AW-1

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Table A-1

Lake Okeechobee Head Analysis

Structure [No. of Pumps]	(1) Orig. SPF Discharge El. (feet)	(2) Orig. Drawdown Intake El. (feet)	(3) Orig. SPF Δ Head (feet) (1) - (2)	(4) Revised SPF Discharge El. (feet)	(4) Revised SPF Δ Head (feet) (4) - (2)	(6) Min. Intake El. for Pumping (feet)
S-2 [4]	21.5	11.5	10.0	24.8	13.3	9.5
S-3 [3]	21.5	12.3	9.2	24.8	12.5	10.3
S-4 [3]	23.5	11.5	12.0	24.8	13.3	9.5
S-127 [5]	23.5	13.0	10.5	24.8	11.8	11.0
S-129 [3]	23.5	13.0	10.5	24.8	11.8	11.0
S-131 [2]	23.5	13.0	10.5	24.8	11.8	11.0
S-133 [5]	23.5	13.0	10.5	24.8	11.8	11.0
S-135 [4]	23.5	13.0	10.5	24.8	11.8	11.0
S-236 [3]	23.5	7.5	16.0	24.8	17.3	5.5

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Notes:

- 1) Data in Columns (1) and (2) were obtained from hydraulic data found in the original Design Memoranda (s-2 & S-3) and the Detail Design Memoranda (all others). When the pumps are being operated outside of this range, they should be observed to ensure that they are performing properly (no overloading, overheating, cavitation, etc.)
- 2) Information in Column (3) indicates the original pool-to-pool heads during SPF conditions for which the pumps were designed.
- 3) Data in Column (4) was obtained from EN-HW on 4/27/95.
- 4) Information in Column (5) indicates the revised pool-to-pool heads during SPF conditions that could occur at the structure.
- 5) Data in Column (6) was obtained from either the O&M Manual (S-2, S-3, and S-4) or from a memo for the Chief, Coastal Design Section from EN-HW, dated 16 March 1995, Subject: Herbert Hoover Dike Major Rehabilitation Report – Tailwater Elevations. These are the lowest elevations to which water may be drawn down without potentially damaging the pumps. **The pumps should not be operated below this level on the intake side.** (The pool-to-pool heads should not exceed the maximum shown in Column 3 of Table A-2)

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Table A-2

Lake Okeechobee Flow Analysis

Structure [No. of Pumps]	(1) ΔHead at Rated Point (feet)	(2) Flow at Rated Point (cfs)	(3) ΔHead Max. (feet)	(4) Flow at Max. ΔHead (cfs)	(5) Revised SPF ΔHead (feet)	(6) Flow at Revised SPF ΔHead (cfs)
S-2 [4]	7.2	900	10.0	710	13.3	Unknown
S-3 [3]	6.4	860	9.2	575	12.5	Unknown
S-4 [5]	7.0	935	12.0	650	13.3	Unknown
S-127 [5]	4.5	125	10.5	125	11.8	Unknown
S-129 [3]	4.5	125	10.5	125	11.8	Unknown
S-131 [2]	4.5	125	10.5	125	11.8	Unknown
S-133 [5]	4.5	125	10.5	125	11.8	Unknown
S-135 [4]	4.5	125	10.5	125	11.8	Unknown
S-236 [3]	11.0*	85	27.5	67.5	17.3	85.0

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- Notes:
- 1) Data in Columns (1), (2), (3), and (4) were obtained from each respective pump's curve, the hydraulic data found in the original Design Memoranda (S-2 & S-3) and the Detail Design Memoranda (all others), and from the O&M Manual.
 - 2) Information in Columns (3) and (4) indicates the maximum pool-to-pool heads (and respective flows) under which these pumps should operate. Any pool-to-pool heads greater than these will be outside the range of the pump operating curve.
 - 3) Information in Column (5) indicates the revised pool-to-pool heads during SPF conditions that could occur at the structure.
 - 4) Since the revised SPF pool-to-pool heads for the pumps are greater than the maximum pool-to-pool heads at which the pumps should be operated (with the exception of S-236), it is unknown what flows can be obtained during SPF conditions. The pumps can be operated within the pump operating curve during SPF conditions only by increasing the operated within the pump operating curve during SPF conditions only by increasing the Intake Elevation so that the pool-to-pool heads are within the maximum amounts.

* It is unclear from the O&M Manual and from the pump curve at what ΔHead the rated capacity has been set. This information is taken from the hydraulic data.

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Table A-3

Herbert Hoover Dike Culvert Repairs

**Herbert Hoover Dike Culvert Repairs
Summary of Work
MAIN EMBANKMENT CULVERT NUMBER**

Scope of Work		1	1A	2	3	4A	5	5A	6	7	8	9	10	10A	11	12	12A	13	14	15	
Hired Labor										Jul-93		Oct-93		Dec-93		May-94					
Contract No.1 (94-C-0010)						Jul-95		Jul-95		Jul-95		Jul-95		Jul-95		Jul-95		Jul-95		Jul-95	
Contract No. 2						Jul-95		Jul-95		Jul-95		Jul-95		Jul-95		Jul-95		Jul-95		Jul-95	
Filled and Abandoned Install Liners						Jul-95		Jul-95		Jul-95		Jul-95		Jul-95		Jul-95		Jul-95		Jul-95	
Install Liners						Jul-95		Jul-95		Jul-95		Jul-95		Jul-95		Jul-95		Jul-95		Jul-95	
Drive Steel Sheet Pile Wingwalls						Jul-95		Jul-95		Jul-95		Jul-95		Jul-95		Jul-95		Jul-95		Jul-95	
Excavation/Fill/Backfill Slope		X	X		X*	X*	X	X			X		X*		X*	X		X*	X*	X	
Place Gablon Revetment		X	X		X*	X*	X	X			X		X*		X*	X		X*	X*	X	
Remove Grouted Riprap		X			X	X					X		X		X	X	X	X		X	
Drive Steel Sheet Pile Wingwalls			X				X								X*	X				X	
Install SSP Wingwall Pile Cap					X*	X*							X*		X*				X*	X*	
Resleeve Culvert Barrels																X					
Wingwall Foundation repairs																	X				
Contract No. 3														X							
Place Gablon Revetment														X							
Extend Culvert Barrels														X							
Construct New Headwalls														X							

6
7
"X" Indicates work scheduled but not completed.
* Scope of work on culverts 3, 4A, 10, 11, 13, 14 deleted from contract one

Appendix A Plates

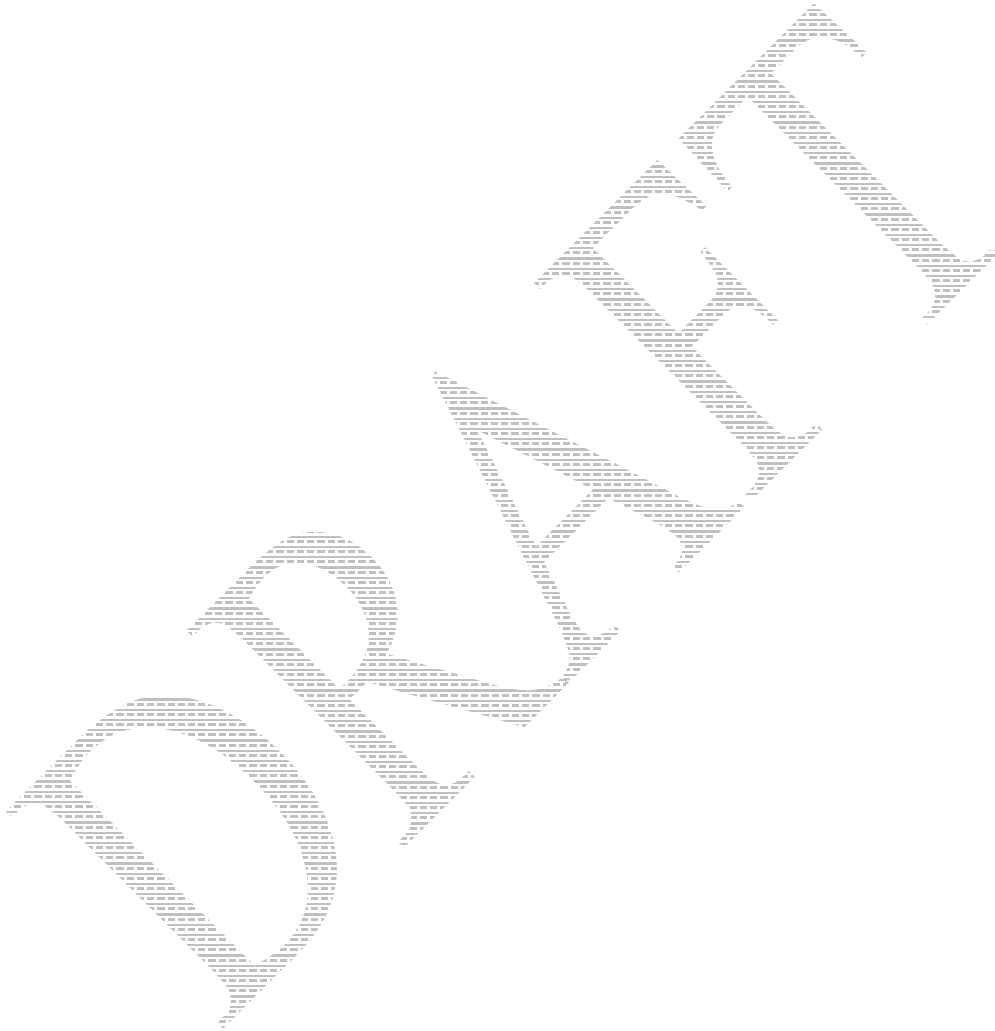


PLATE A-1 MOORE HAVEN LOCK RESERVATION

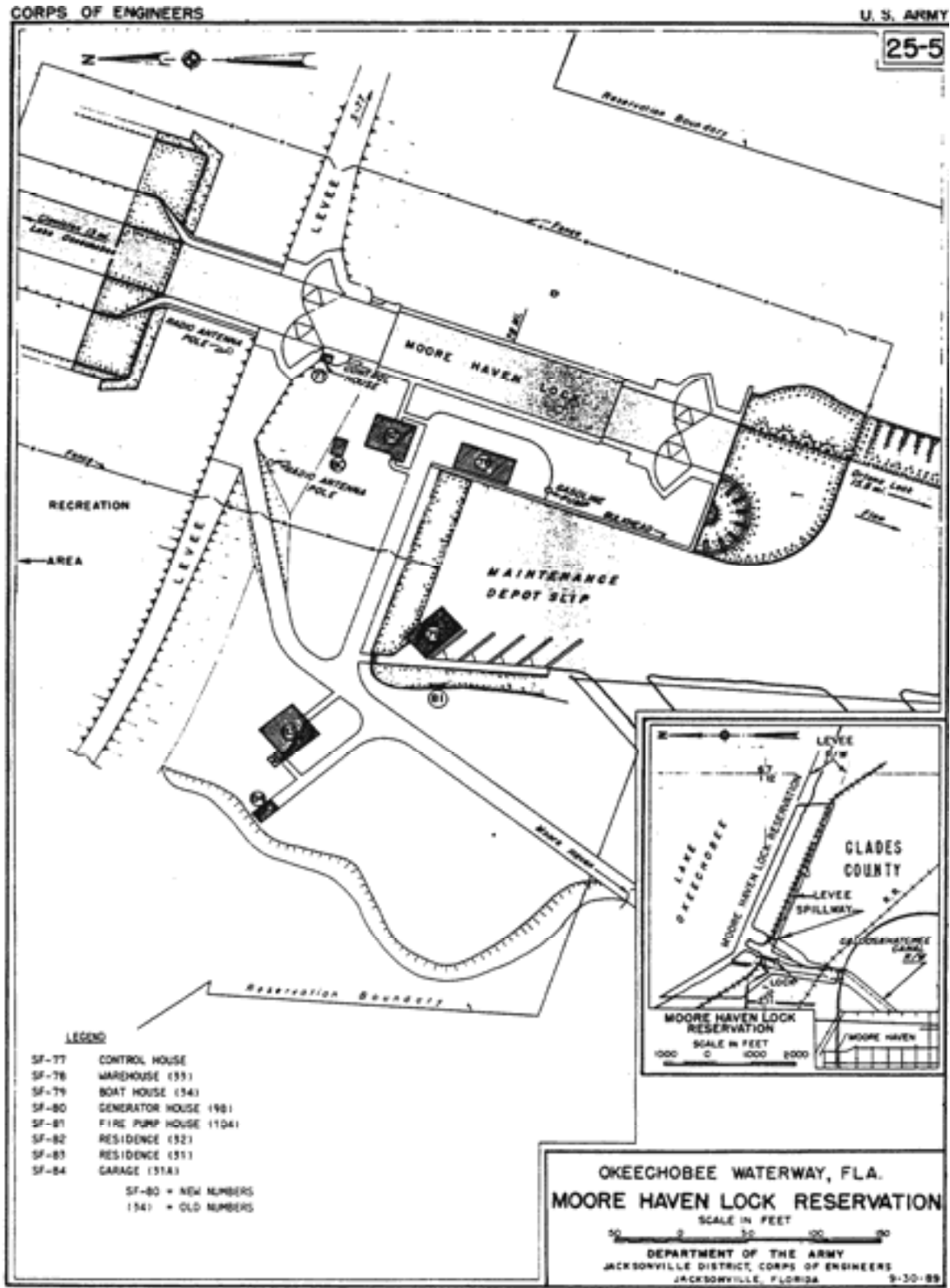


Plate A-1

PLATE A-2 MOORE HAVEN LOCK

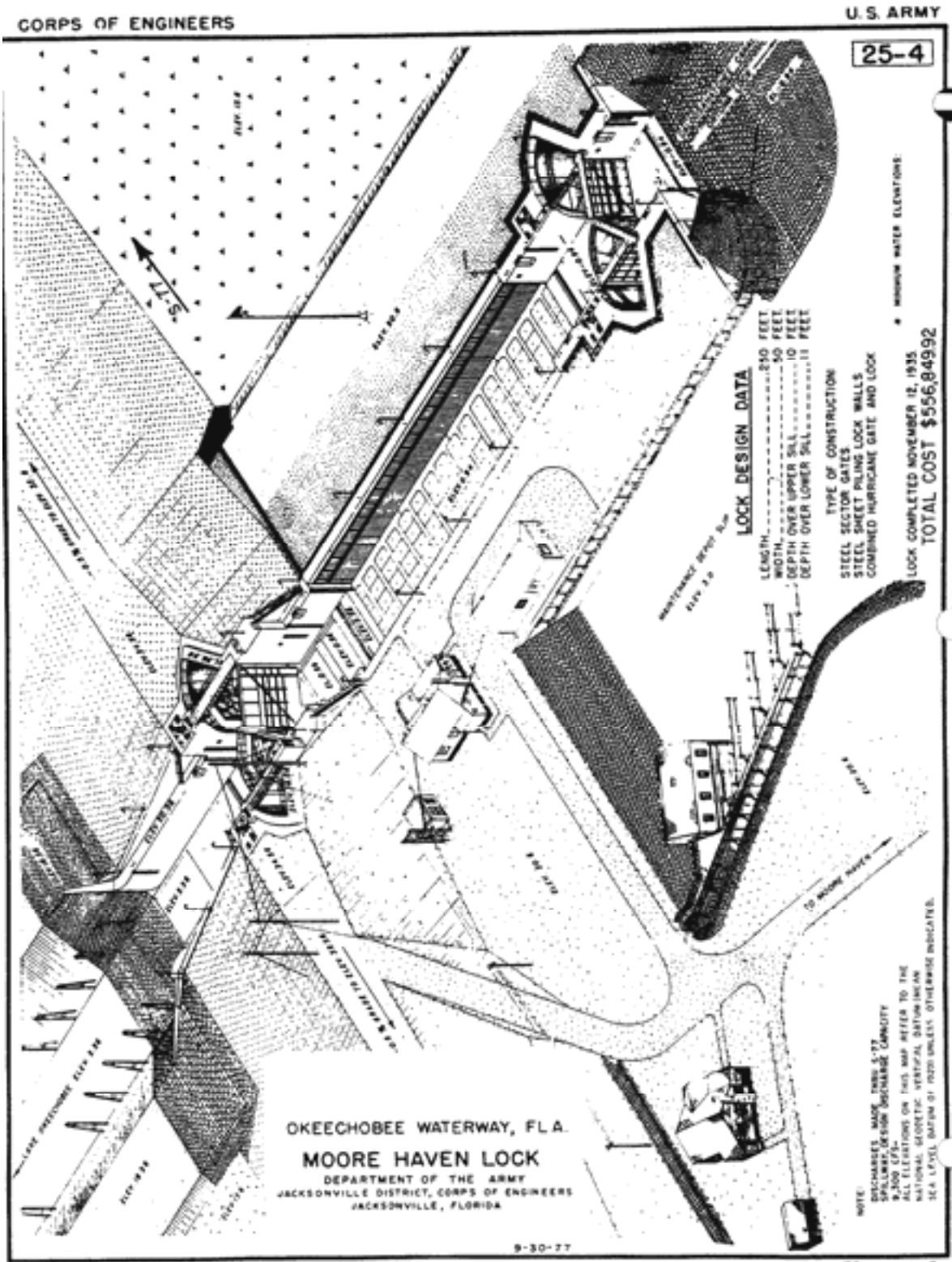


Plate A-2

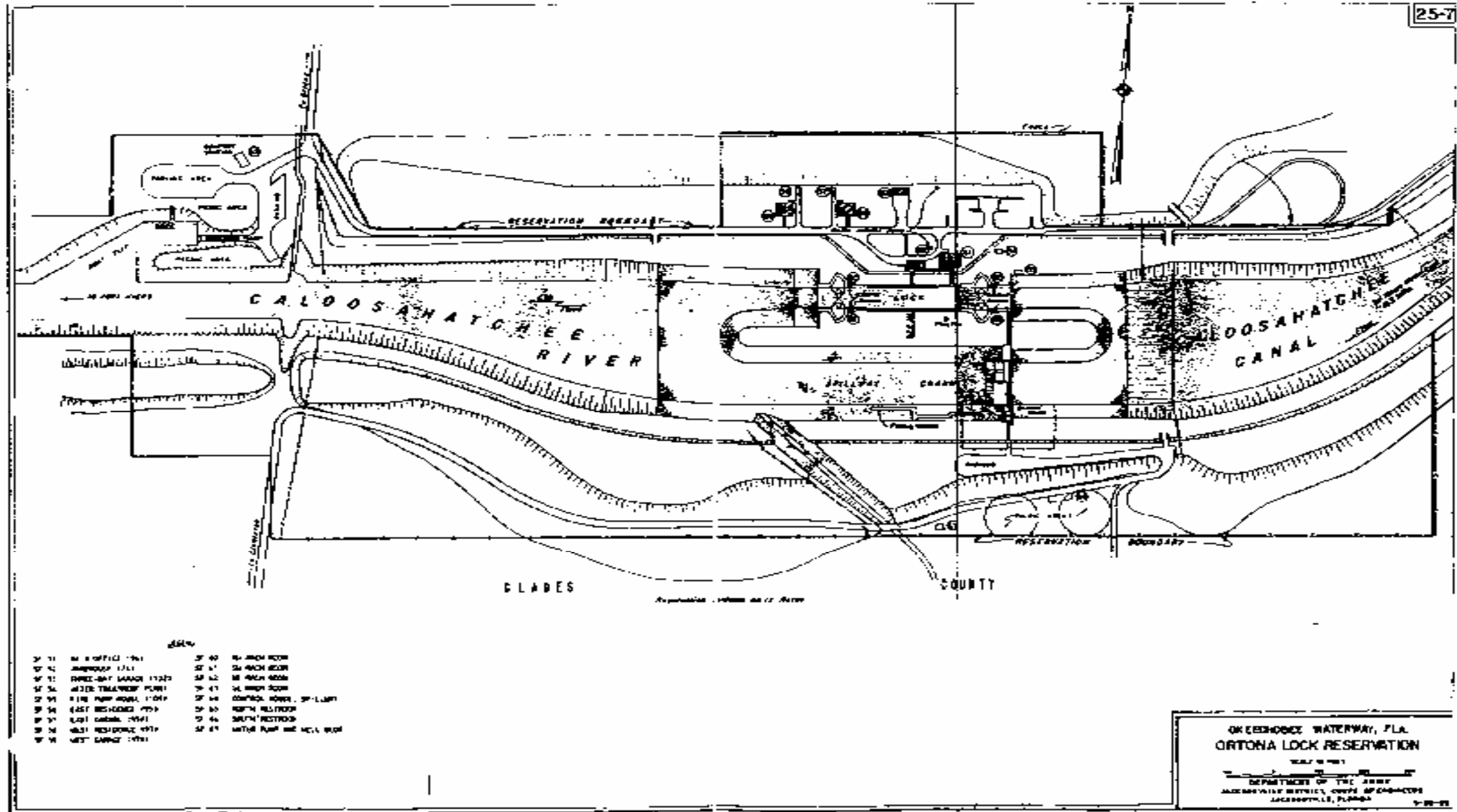


PLATE A-3 ORTONA LOCK RESERVATION

PLATE 1-4 ORTONA LOCK

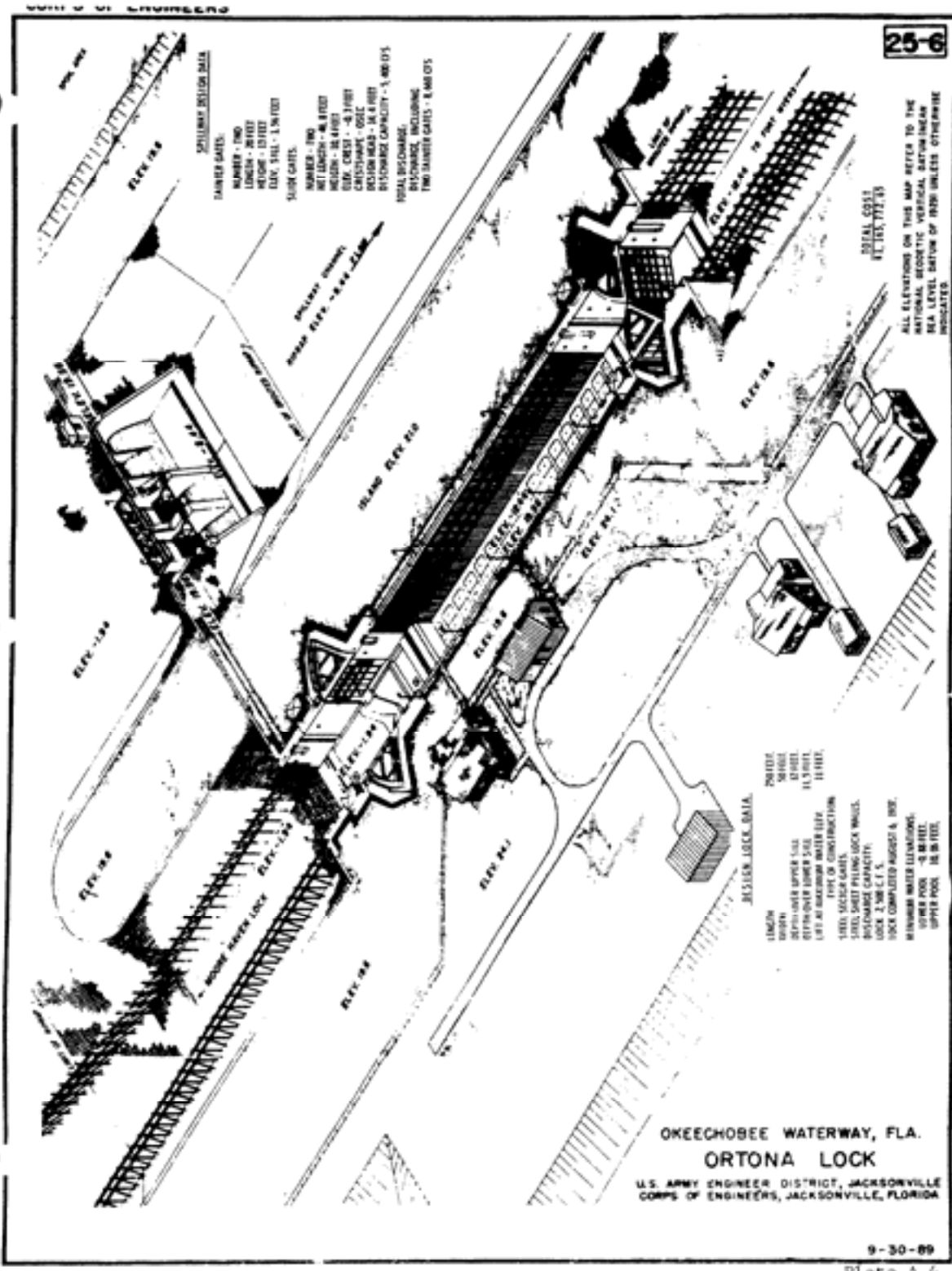


PLATE A-5 W.P. FRANKLIN LOCK AND DAM RESERVATION

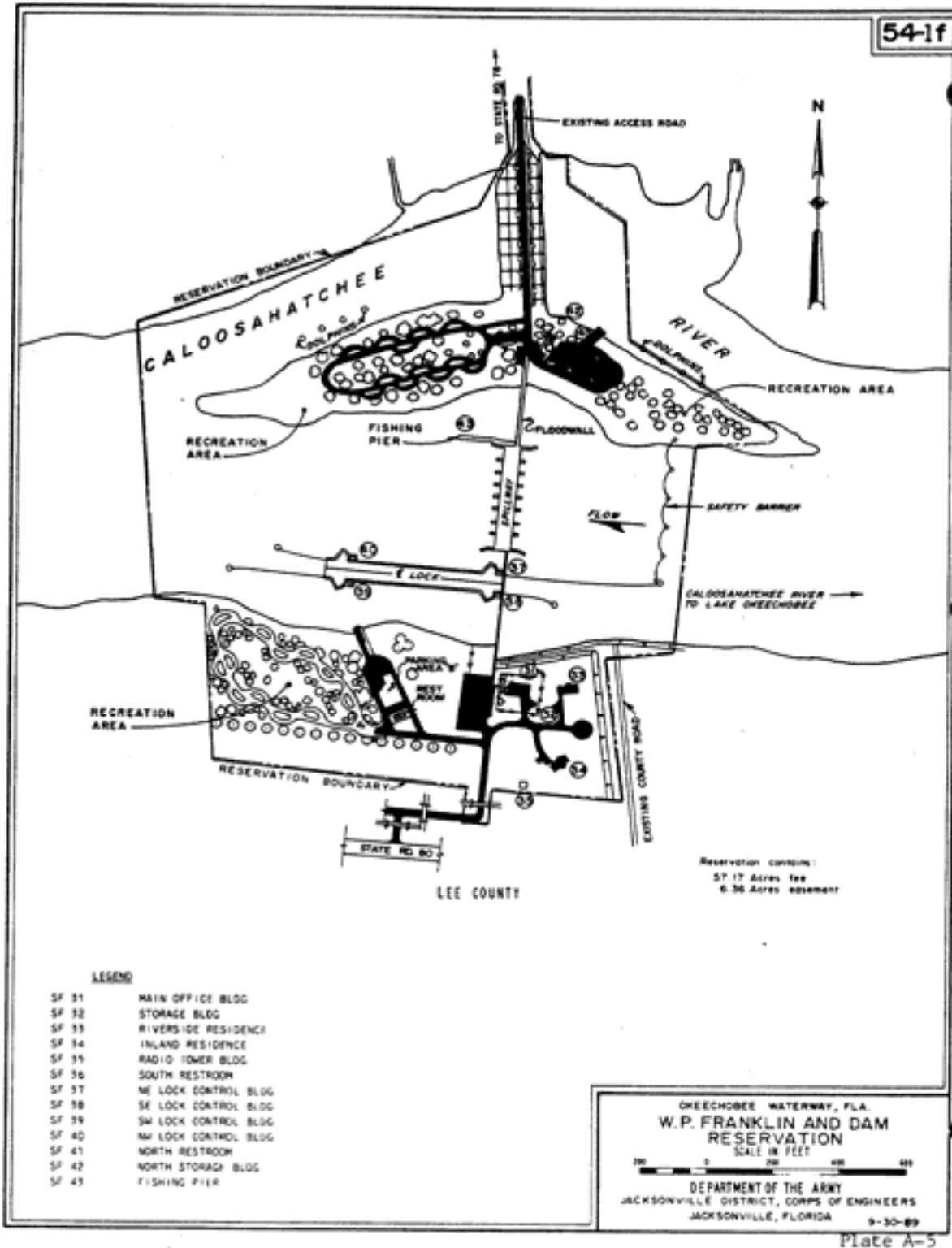
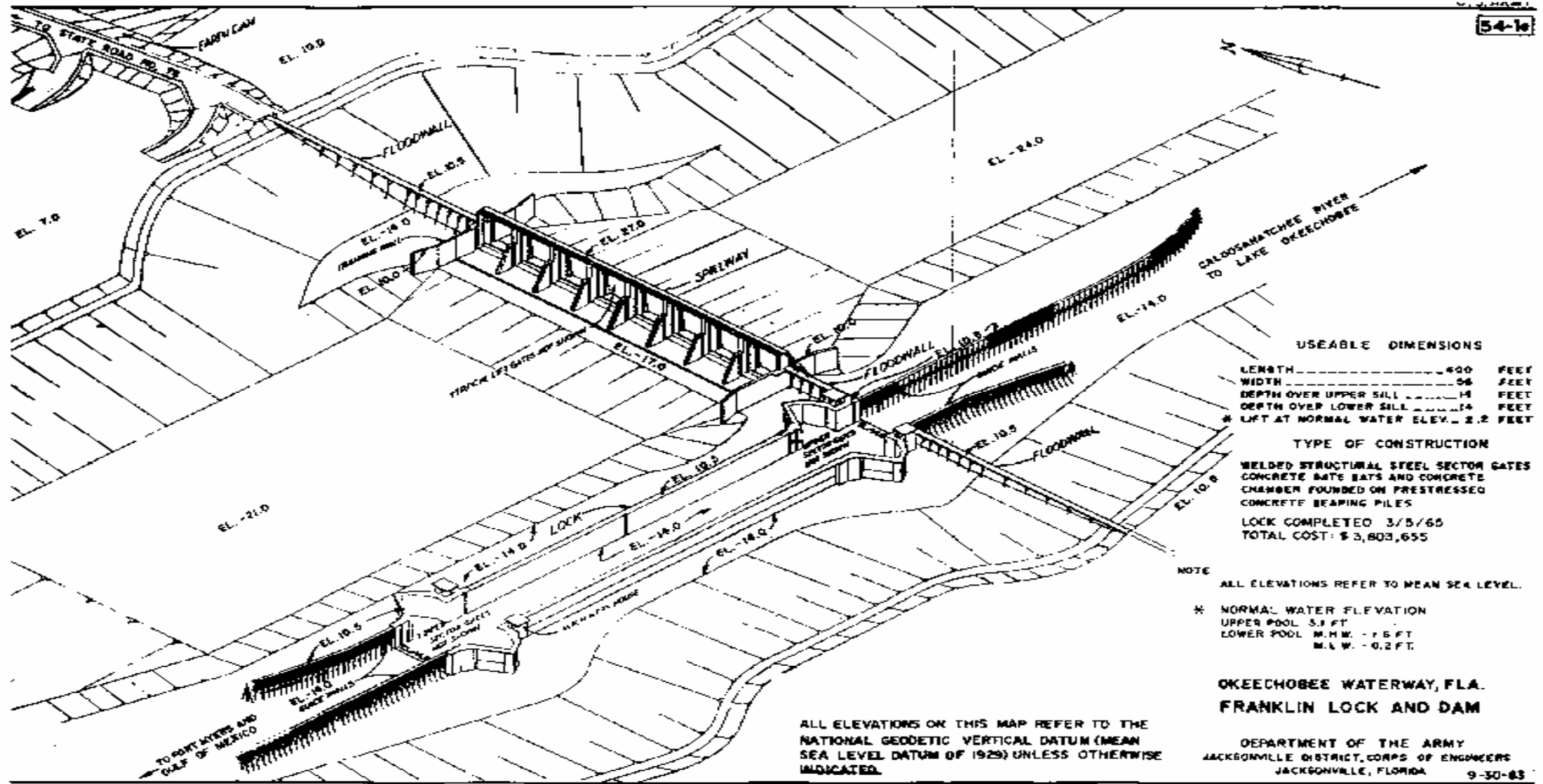


Plate A-5

PLATE A-6 FRANKLIN LOCK AND DAM



USEABLE DIMENSIONS

LENGTH 400 FEET
 WIDTH 56 FEET
 DEPTH OVER UPPER SILL 14 FEET
 DEPTH OVER LOWER SILL 14 FEET
 * LIFT AT NORMAL WATER ELEV. - 2.2 FEET

TYPE OF CONSTRUCTION

WELDED STRUCTURAL STEEL SECTION GATES
 CONCRETE BATE BATS AND CONCRETE
 CHAMBER FOUNDED ON PRESTRESSED
 CONCRETE BEARING PILES

LOCK COMPLETED 3/5/65
 TOTAL COST: \$ 3,803,655

NOTE

ALL ELEVATIONS REFER TO MEAN SEA LEVEL.

* NORMAL WATER FLEVATION
 UPPER POOL 3.1 FT
 LOWER POOL M.M.W. - 1.6 FT
 M.L.W. - 0.2 FT.

**OKEECHOBEE WATERWAY, FLA.
 FRANKLIN LOCK AND DAM**

DEPARTMENT OF THE ARMY
 JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
 JACKSONVILLE, FLORIDA 9-30-63

ALL ELEVATIONS ON THIS MAP REFER TO THE
 NATIONAL GEODETIC VERTICAL DATUM (MEAN
 SEA LEVEL DATUM OF 1929) UNLESS OTHERWISE
 INDICATED.

PLATE A-7 ST. LUCIE LOCK AND DAM RESERVATION

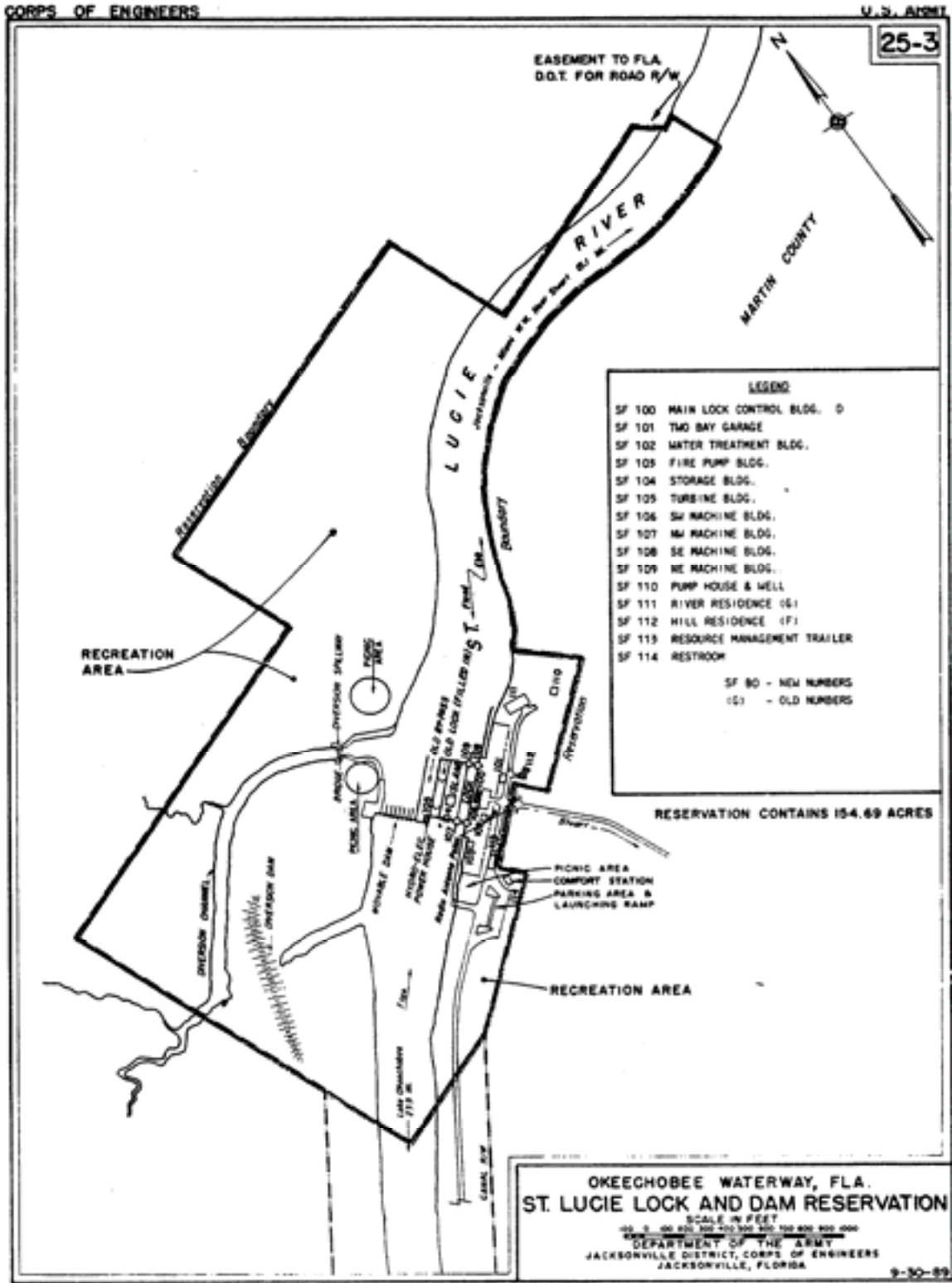
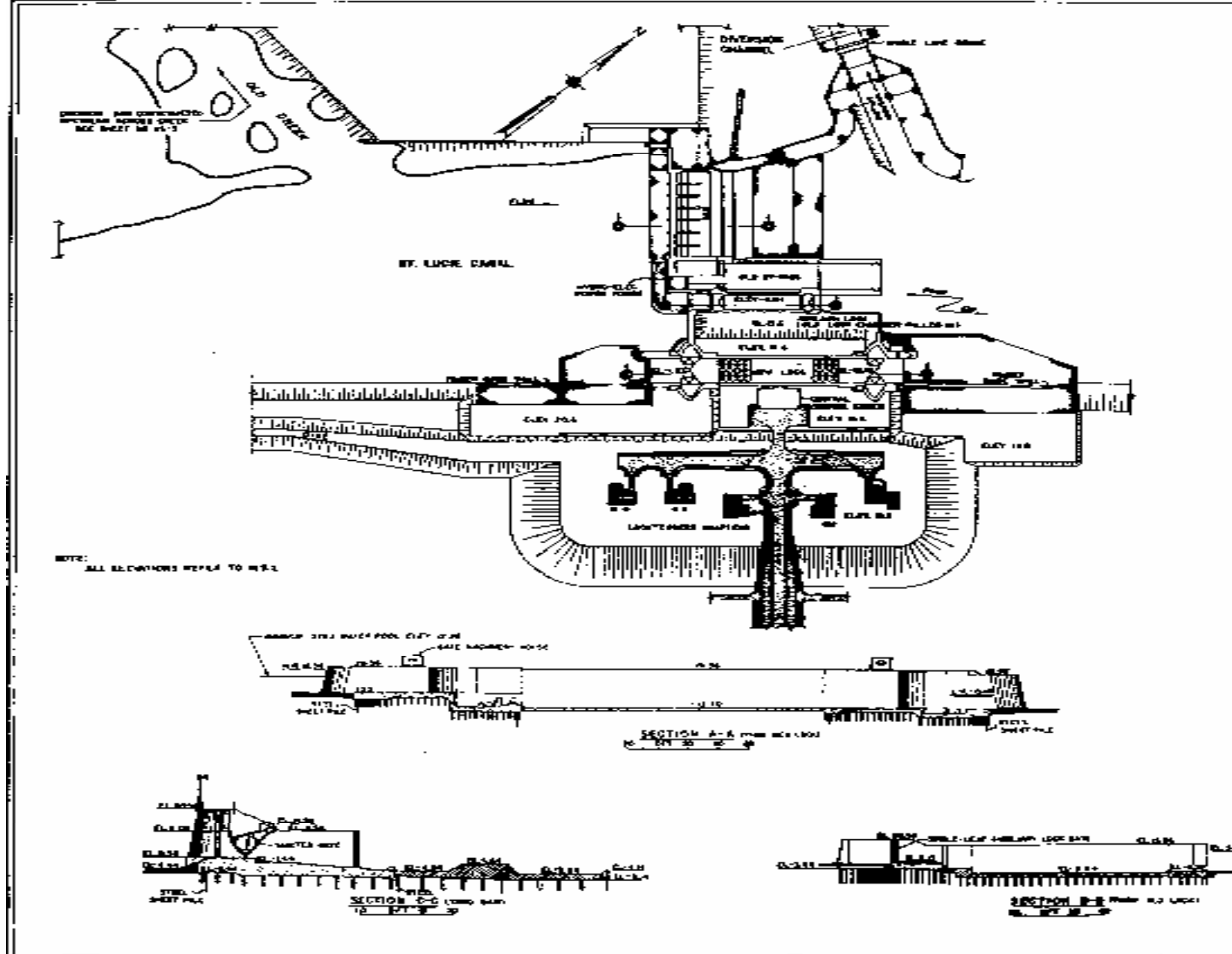


PLATE A-8 ST. LUCIE LOCK AND DAM

CORPS OF ENGINEERS

U.S. ARMY

25-2



OLD LOCK
USABLE DIMENSIONS

LENGTH.....100 FEET
DEPTH OVER UPPER BILL.....30 FEET
DEPTH OVER LOWER BILL.....40 FEET
LEFT.....50 FEET

TYPE OF CONSTRUCTION: CONCRETE LOCK WALLS AND REINFORCED CONCRETE SPILLWAYS, COMPLETED BY EVERGLADES DRAINAGE DISTRICT IN 1922 AT A TOTAL COST OF \$48,000. THE OLD LOCK IS NOW AS AN OBSTACLE TO THE NEW ST. LUCIE LOCK.

WITH MINIMUM STILL WATER POOL ELEVATION 124.5 FEET

NEW LOCK AND DAM
USABLE DIMENSIONS

LENGTH.....150 FEET
DEPTH OVER UPPER BILL.....30 FEET
DEPTH OVER LOWER BILL.....40 FEET
LEFT.....150 FEET
WITH MINIMUM STILL WATER POOL ELEVATION 124.5 FEET

TYPE OF CONSTRUCTION

STEEL SECTION LOCK WALLS, CONCRETE AND STEEL SHEET PILE LOCK WALLS, CONCRETE AND SPILLWAY, CONTROLLED BY 7 TANTON SALES, EACH 20 FEET WIDE BY 40.5 FEET HIGH, CONCRETE SPILLWAY SPILLWAY, UNCONTROLLED, BREAKING CAPACITY: 85,000 C.F.S. VIA LOCK AND SPILLWAY; 4,800 C.F.S. VIA DIVERGENT SPILLWAY.

LOCK COMPLETED 30 JANUARY, 1944. SPILLWAY, WITH TEMPORARY WOODEN FLASHBOARDS, AND SPILLWAY SPILLWAY, WITH OTHER DIVERGENT WORKS, NOW COMPLETED 20 MARCH, 1944; RECONSTRUCTION OF 7 STEEL TANTON SALES IN THE DAM SPILLWAY, AND OF A STEEL SPILLWAY LOCK GATE IN THE OLD LOCK, WAS COMPLETED 30 MARCH, 1940.

TOTAL COST \$2,000,000.00

THESE BUILDINGS NO LONGER OWNED BY GOVT.

NEW BUILDING ARE SHOWN ON MAP 25-1

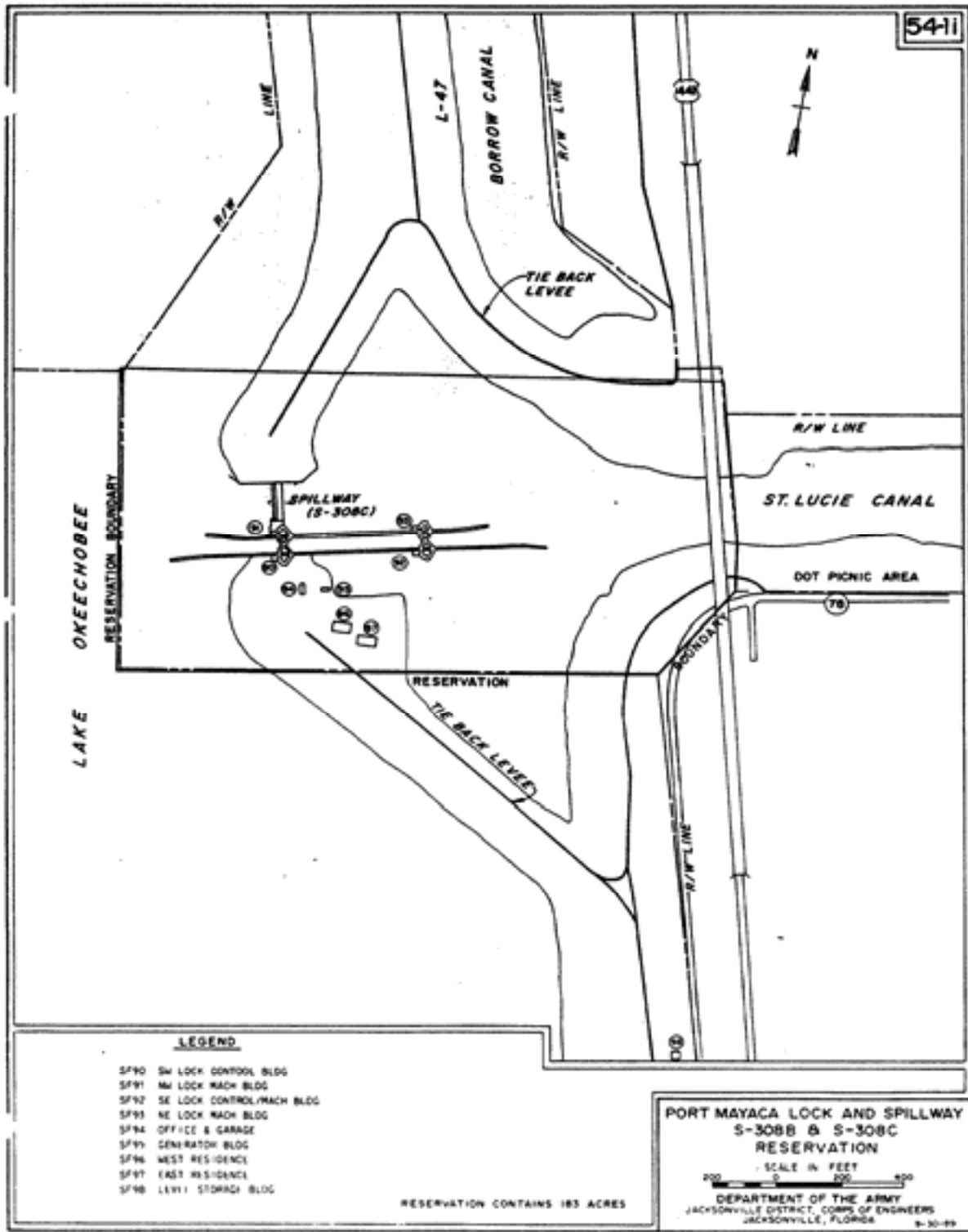
OKEECHOBEE WATERWAY,
FLA.
ST. LUCIE LOCK AND DAM

SCALE IN FEET
0 50 100 200

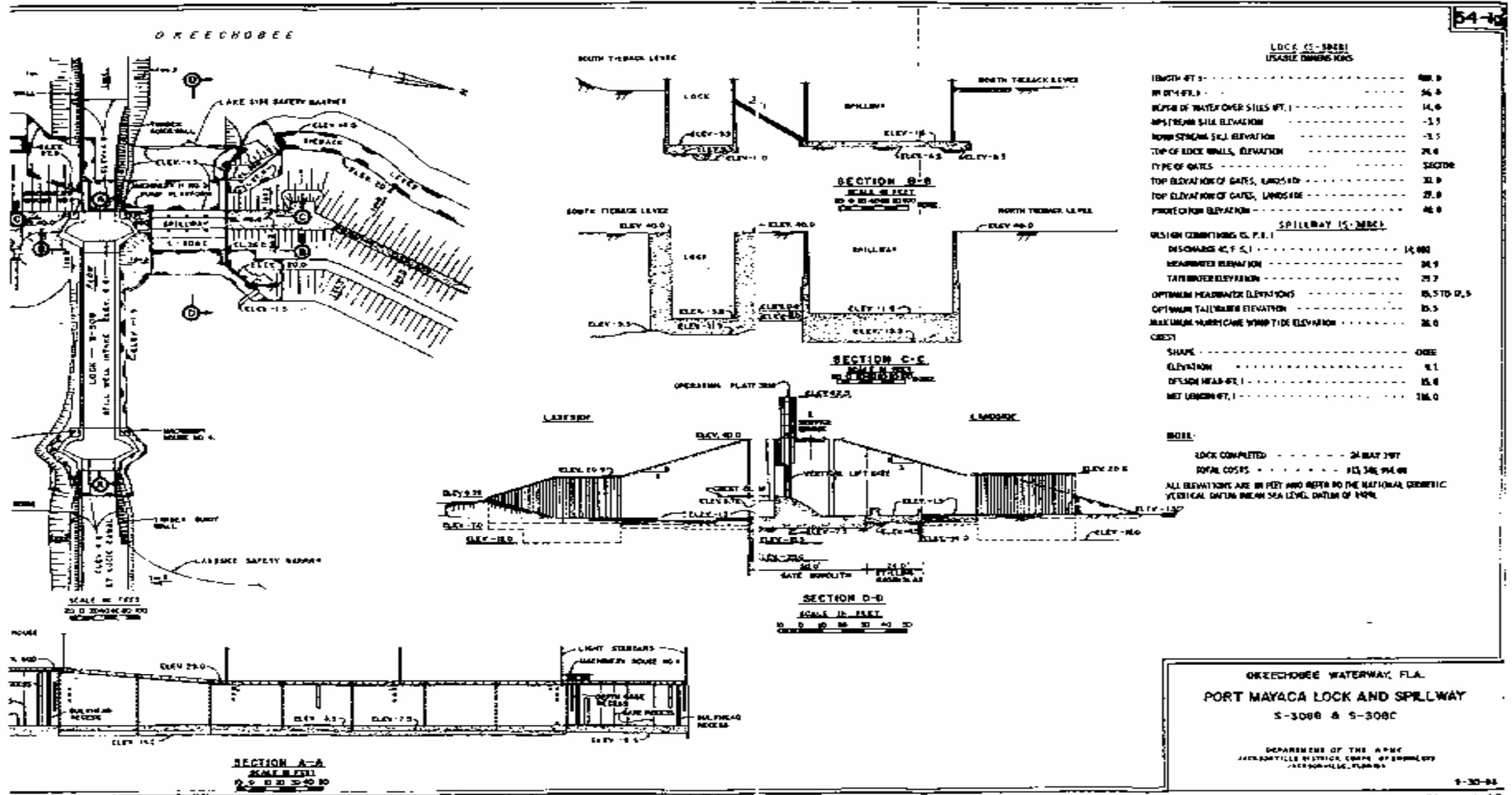
JACKSONVILLE FLORIDA DISTRICT
6-30-49

Plate A-8

PLATE A-9 PORT MAYACA LOCK AND SPILLWAY RESERVATION



1PLATE A-10 PORT MAYACA LOCK AND SPILLWAY



OKEECHOBEE WATERWAY, FLA.
PORT MAYACA LOCK AND SPILLWAY
 S-3088 & S-308C

DEPARTMENT OF THE ARMY
 JACKSONVILLE DISTRICT CORPS OF ENGINEERS
 JACKSONVILLE, FLORIDA

9-30-64

Plate A-10