MANATEE COUNTY, FLA

WATER WORKS PROJECT

SECTION I

RAW WATER FACILITIES

· RUSSELL & AXON ·

CONSULTING ENGINEERS INCORPORATED

DAYTONA BEACH, FLA. ST. LOUIS, MO.

EARTH DAM & GATED SPILLWAY

PART B

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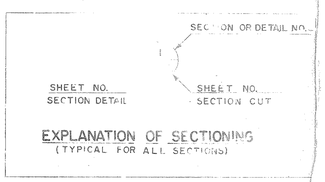
20	SERVICE BRIDGE - PLAN, ELEVATION & DETAILS		



EXPLANATION OF SECTIONING
(TYPICAL FOR ALL SECTIONS)

R16E R17E R18E R19E R20E R21E

T33S T34S T35S

HILLSBOROUGH COUNTY

MANATEE COUNTY

SARASOTA COUNTY

GULF OF MEXICO

TAMPA BAY

TERRA CEIA BAY

MANATEE RIVER

BRADEN RIVER

PINEY POINT

BUCKEYE ROAD

MOCCASIN WALLOW RD.

GILETTE

PARRISH

RUBONIA VIEW RD.

PALM

EXPERIMENTAL FARM ROAD

MENDOZA ROAD

MEMPHIS

ELLENTON

FT. HAMER

GOLF COURSE RD.

RYE ROAD

RUTLAND ROAD

MANHATTAN

UPPER MANATEE RIVER ROAD

RYE BRIDGE

RYE BR. CANAL

RYE BR. CREEK

DAM

RAW WATER PUMPING STA.

WATER TREATMENT PLANT

See Section II (Hwy. & Bridge Relocation)

SULLIVAN BRIDGE

BRADENTON-ARCADIA ROAD

10 Miles to City Limits of Bradenton

Limits of Reservoir

PALMETTO

BRADENTON

RIVERVIEW

PALMA SOLA

MANATEE AVE. W.

MANATEE AVE.

10TH ST.

13TH ST.

17TH ST. BLVD.

34TH ST. W.

59TH ST. W.

26TH ST. W.

NASHVILLE ROAD

ORANGE RIDGE

SAMOSET

ELWOOD PARK

ELWOOD PARK RD.

38TH AVE E.

CORTEZ ROAD S.R. 684

ELEVATED TANK

BOOSTER PUMPING STATION

ONECO ROAD

CENTER ROAD

LITTLE PITTSBURGH RD.

SAUNDERS ROAD

BAYSHORE BLVD.

GULF COAST BLVD.

SARALAKE

TALAVASI

TALAVASI RD.

LOCKWOOD

LOCKWOOD RIDGE RD.

JAMES AVE.

AIRPORT

ARCADIA ROAD

S.R. 70

LORRAINE ROAD

LINGER LODGE RD.

LINGER LODGE

SLOUGH 22

LOOPER CREEK

WATERBURY ROAD

BETHANY BLVD.

VERNA

PARMALEE

MYAKKA CITY

S.R. 64

S.R. 62

S.R. 675

S.R. 683

S.R. 45

S.R. 43

U.S. 301

U.S. 41

U.S. 19

S.R. 54

S.R. 70

S.R. 72

S.R. 780

S.R. 789

S.R. 64

S.A.L. R.R.

A.C.L. R.R.

MANATEE COUNTY

SCALE: 1" = 1 MILE

N

NO.	DATE	DESCRIPTION	BY
1	1966, 67	AS-BUILT	K.H.

REVISIONS

• RUSSELL & AXON • INC. •
CONSULTING ENGINEERS
DAYTONA BEACH, FLA. ST. LOUIS

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
KEY MAP
MANATEE COUNTY, FLORIDA

DESIGNED BY: GEC	FILE NO. 6353-3-2-I-B
DRAWN BY: BSK	SHEET No. 2
CHECKED BY: RSK	OF 35 SHEETS
DATE: 1965	SCALE: 1" = 1 MILE

No. 3176 STATE OF FLORIDA REGISTERED ENGINEER

N

MANATEE RIVER

BOGGY CREEK

LAKE

LAKE

B-00 B-2 B-4 B-8 B-12 B-14 B-16 B-17 B-18 B-20 B-22 B-24 B-26 B-30 B-34 B-38 B-42 B-46 B-50 B-50

S 52° 00' 00" E

State Co-ordinate Point - (384,039.46 - 1147,353.43)

℄ DAM AXIS

State Co-ordinate Point (387,002.03 - 1151,855.47)

5141.348'
N35°11'08"E

See Grid on Sht #6

B-60 B-62 B-61 B-59 B-55 B-58 B-57 B-56

382,500 383,000 383,500 384,000 384,500 385,000 385,500 386,000 386,500 387,000 387,500

1,147,000 1,147,500 1,148,000 1,148,500 1,149,000 1,149,500 1,150,000 1,150,500 1,151,000 1,151,500

15,300 ft²
35
700'
1500'
1500'

NO.	DATE	DESCRIPTION REVISIONS	
1	JAN 67	AS BUILTS	A.J.K.

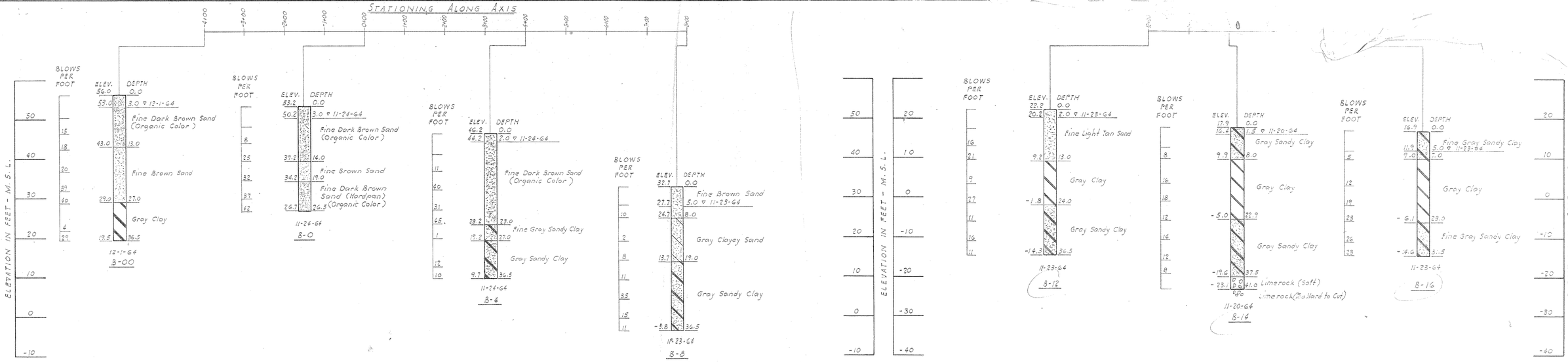
• RUSSELL & AXON • INC. •
CONSULTING ENGINEERS
DAYTONA BEACH, FLA. ST. LOUIS, MO.

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
BORING LOCATION PLAN
MANATEE COUNTY, FLORIDA

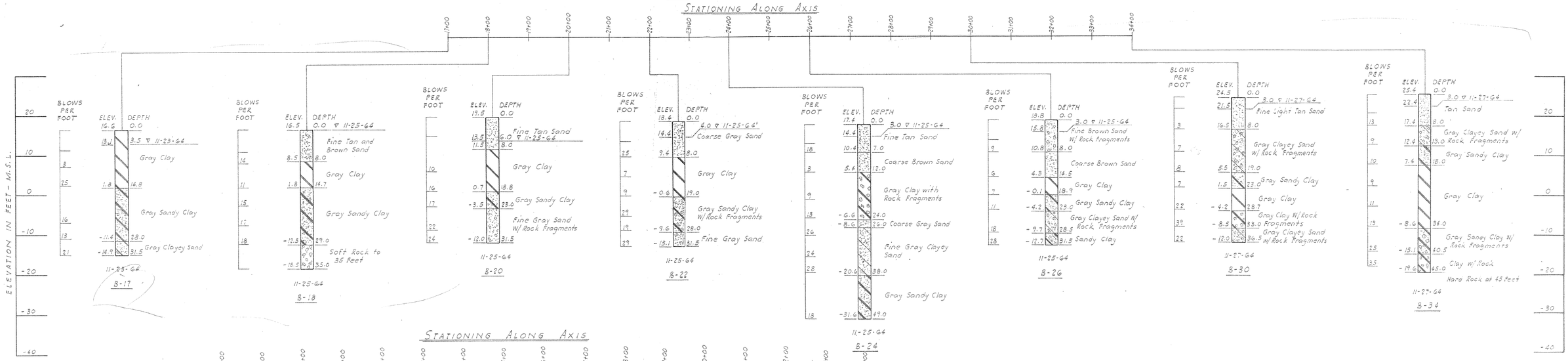
DESIGNED BY G.W.C.	FILE No. 6353-3-3-I-B
DRAWN BY R. Lane	SHEET No. 3
CHECKED BY [illegible]	OF 35 SHEETS
DATE May 68	SCALE: 1"=200'

REGISTERED ENGINEER No. 3078 STATE OF FLORIDA

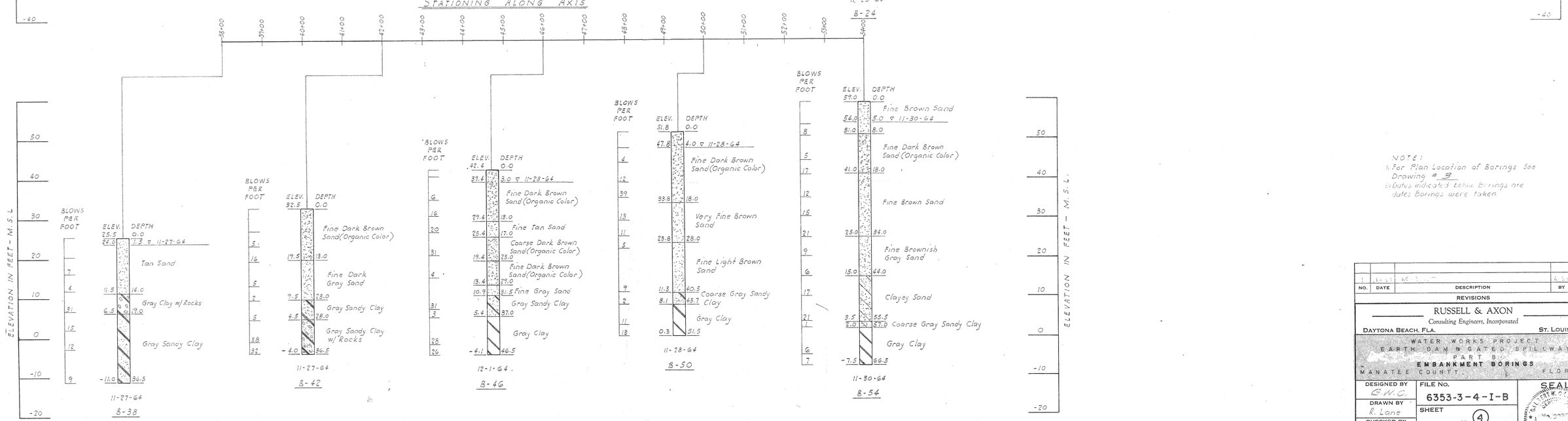
STATIONING ALONG AXIS



STATIONING ALONG AXIS



STATIONING ALONG AXIS



NOTE:
1) For Plan Location of Borings See Drawing # 3
2) Dates indicated below Borings are dates Borings were taken.

NO.	DATE	DESCRIPTION	BY	CKD.
		REVISIONS		

RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
EMBANKMENT BORINGS
MANATEE COUNTY FLORIDA

DESIGNED BY	G.W.C.
DRAWN BY	R. Lane
CHECKED BY	GC
DATE	May 65
FILE No.	6353-3-4-I-B
SHEET No.	4
OF	35 SHEETS
SCALE:	NONE

SEAL
GEORGE W. CRAWFORD
No. 2977
STATE OF FLORIDA
REGISTERED ENGINEER

STATIONING ALONG AXIS OF DAM

4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00 41+00 42+00

ELEVATION IN FEET - M.S.L.

40 30 20 10 0 -10

B-59

700' U.S.

BLOWS PER FOOT
9
17
10
16
8
35

ELEV.	DEPTH	
40.8	0.0	
38.3	2.5	▽ 11-20-64 Fine Dark Brown Sand (Organic Color)
31.8	9.0	Fine Tan Sand
28.8	12.0	Fine Gray Sand w/ Rock Fragments
21.8	19.0	Gray Sandy Clay
0.8	40.0	Hard Rock

11-20-64

B-60

650' U.S.

BLOWS PER FOOT
20
17
2
1
3
15

ELEV.	DEPTH	
38.9	0.0	
36.4	2.5	▽ 11-19-64 Fine Dark Brown Sand (Organic Color)
30.9	8.0	Fine Light Tan Sand
23.9	15.0	Clayey Sand
20.9	18.0	Fine Light Gray Sandy Clay
15.9	23.0	Fine Dark Gray Sandy Clay W/ Rock Fragments
7.4	31.5	

11-19-64

B-61

1300' U.S.

BLOWS PER FOOT
6
7
12
6
12
22

ELEV.	DEPTH	
27.9	0.0	
26.0	1.9	▽ 11-20-64 Fine Brown Sand
9.9	18.0	Gray Sandy Clay W/ Rock Fragments
-3.6	31.5	

11-20-64

B-62

850' U.S.

BLOWS PER FOOT
35
4
8
10
22
6

ELEV.	DEPTH	
27.9	0.0	
25.1	2.8	▽ 11-20-64 Coarse Brown Sand
19.9	8.0	W/ Rock Fragments
13.4	14.5	Gray Sandy Clay & Small Rock Fragments
0.9	27.0	Gray Sandy Clay
-3.6	31.5	Coarse Gray Sand

11-20-64

B-58

900' U.S.

BLOWS PER FOOT
8
12
17
29
27
26

ELEV.	DEPTH	
26.3	0.0	
22.8	3.5	▽ 12-1-64 Fine Dark Brown Sand (Organic Color)
14.3	12.0	Coarse Gray Sand
9.3	17.0	Gray White Clay
2.3	24.0	Gray Clay
-5.2	31.5	

12-1-64

B-57

1800' U.S.

BLOWS PER FOOT
16
9
5
25
21

ELEV.	DEPTH	
26.2	0.0	
23.7	2.5	▽ 12-1-64 Fine Light Gray Sand
19.2	7.0	Fine Gray Brown Sand
13.2	13.0	Fine Gray Sand
8.2	18.0	Gray Clay
1.8	28.0	

12-1-64

B-55

750' U.S.

BLOWS PER FOOT
10
19
12
3
7
9

ELEV.	DEPTH	
34.8	0.0	
31.8	3.0	▽ 11-30-64 Fine Dark Brown Sand (Organic Color)
26.8	8.0	Brown Sand
21.8	13.0	Fine Dark Brown Sand (Organic Color)
10.8	24.0	Gray Clayey Sand
6.8	28.0	Gray Clay
-1.7	36.5	

11-30-64

B-56

700' U.S.

BLOWS PER FOOT
3
16
3
35
22

ELEV.	DEPTH	
31.6	0.0	
27.1	4.5	▽ 11-30-64 Fine Dark Brown Sand (Organic Color)
18.6	13.0	Very Fine Dark Gray Sand
8.6	23.0	Gray & White Clay
3.6	28.0	Gray Clay
0.1	31.5	

11-30-64

NOTE:
1) For Plan Location of Borings See Drawing # 3.
2) Dates indicated below Borings are dates Borings were taken.

NO.	DATE	DESCRIPTION	BY	CKD.

REVISIONS

RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
BORROW AREA BORINGS
MANATEE COUNTY, FLORIDA

DESIGNED BY	S.W.C.
DRAWN BY	R. Lane
CHECKED BY	[illegible]
DATE	Nov. 65
FILE No.	6353-3-5-I-B
SHEET No.	5
OF	35 SHEETS
SCALE:	

SEAL
No. 3078 STATE OF FLORIDA REGISTERED ENGINEER

N

LIMITS OF TOE DRAIN

Sta. 8+83 Beginning of Toe Drain

Sta. 14+96 End of toe drain — See Sht #19

Sta. 16+04 End of toe drain — See Sht #19

To Gulf of Mexico

(See Sht. #10 for Toe Drain Details.)

LIMITS OF TOE DRAIN

Sta. 40+69 Beginning of toe drain

LAKE

Differs from Coord. on Sht. #3

51+52.90
Grid Co-ordinate Point
(387,032.03 - 1151,555.47)

31+60.775 by Roberts
51+53.0

STA. 0+00

STA. 2+00

175'

200'

Grid Co-ordinate Point - (384,039.46 - 1147,353.49)

STA. 10+00

1,148,617.45 N
384,931.12 E

STA. 20+00

STA. 30+00

STA. 40+00

N 35°27' 01.8" E

LIMITS OF PART "A" CONTRACT (SECTION I)

Spoil Area

230'

240'

Spoil Area

330'

530'

Spoil Area

220'

90'

325'

550'

SPILLWAY

Sta. 15+50

1250'

1250'

400'

1080'

1650'

1400'

250'

BORROW AREA PART A SECTION I

BORROW AREA PART A SECTION I

LIMITS OF CLEARING PART "B" CONTRACT (SECTION I)

490'±

800'±

BOGGY CREEK

MANATEE RIVER

Selective Clearing Limits
(a work item of Section I Part A)

Reservoir - Clearing & Grubbing
(a work item of Section I Part A)

1,147,000
1,147,500
1,148,000
1,148,500
1,149,000
1,149,500
1,150,000
1,150,500
1,151,000
1,151,500
382,000
383,000
383,500
384,000
384,500
385,000
385,500
386,000
386,500
387,000
387,500
388,000

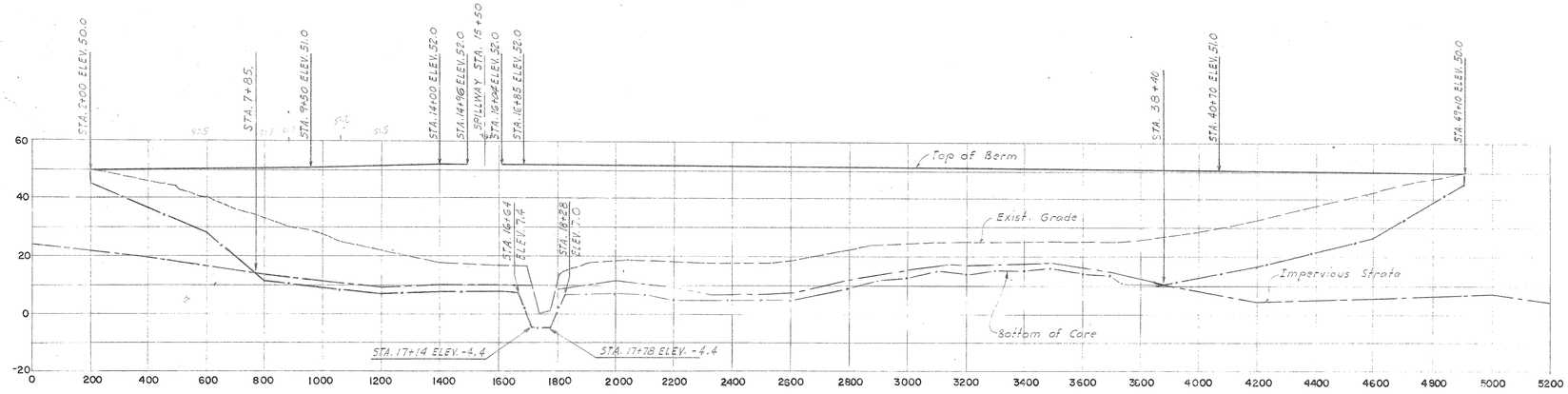
NO.	DATE	DESCRIPTION	BY	CKD.
1	JAN. 67	AS-BUILT	A.J.N.	

REVISIONS

• RUSSELL & AXON • INC. •
CONSULTING ENGINEERS
DAYTONA BEACH, FLA. ST. LOUIS, MO.

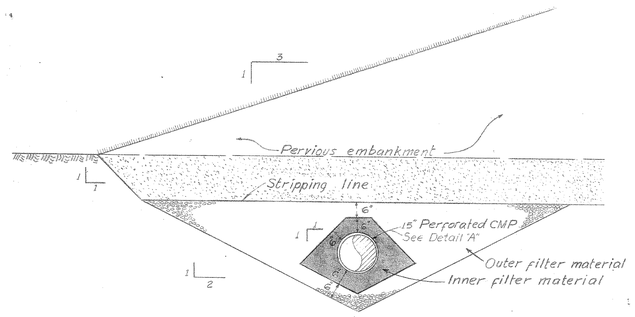
WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
EMBANKMENT LOCATION PLAN
MANATEE COUNTY, FLORIDA

DESIGNED BY G.W.C.	FILE No. 6353-3-6-I-B	SEAL
DRAWN BY B	SHEET No. 6	
CHECKED BY E	OF 35 SHEETS	
DATE May 65	SCALE: 1" = 200'	



℄ PROFILE OF DAM

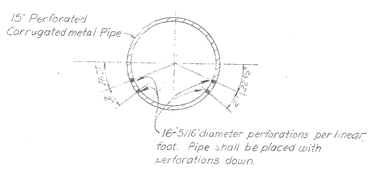
SCALE: VERT. 1"=20' HORIZ. 1"=200'



TOE DRAIN DETAILS

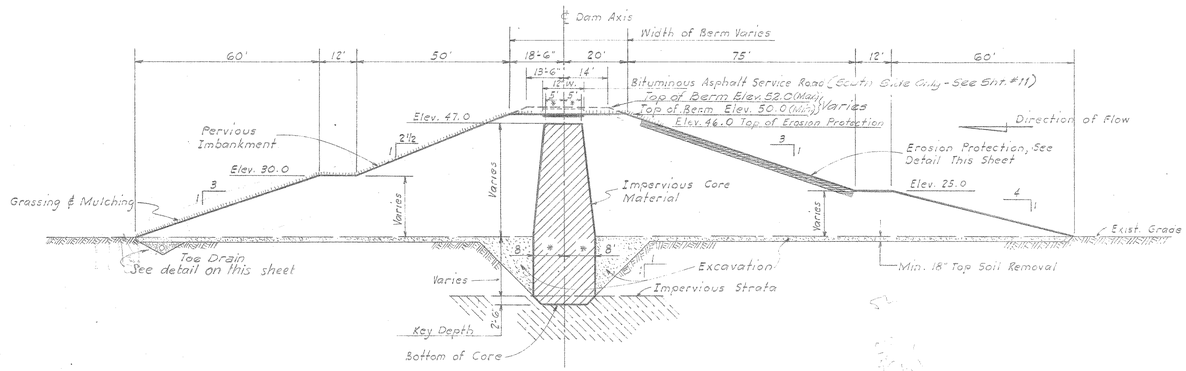
Scale 1"=2'-0"

See Sheet No. 6 for Plan & Stationing



DETAIL "A"

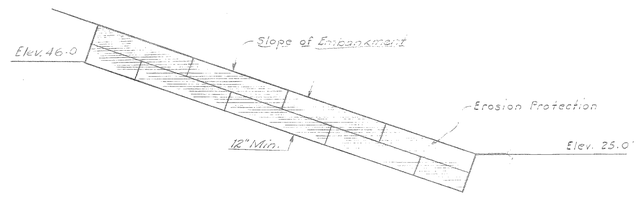
Not to Scale



TYPICAL SECTION THROUGH DAM

Scale: 1"=20'

* = See Sheet Nos. 14 & 18 For Exceptions



TYPICAL EROSION PROTECTION DETAIL

(No Scale)

NOTE: Subject to change to meet construction method

NO.	DATE	DESCRIPTION	BY	CKD.
1	1966-67	AS BUILT'S		

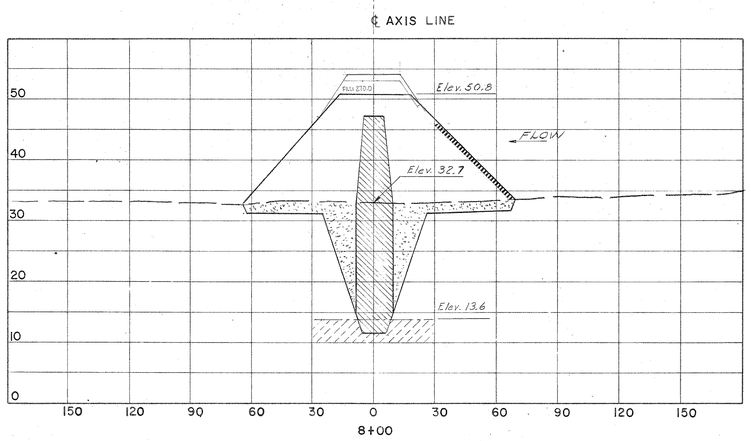
REVISIONS

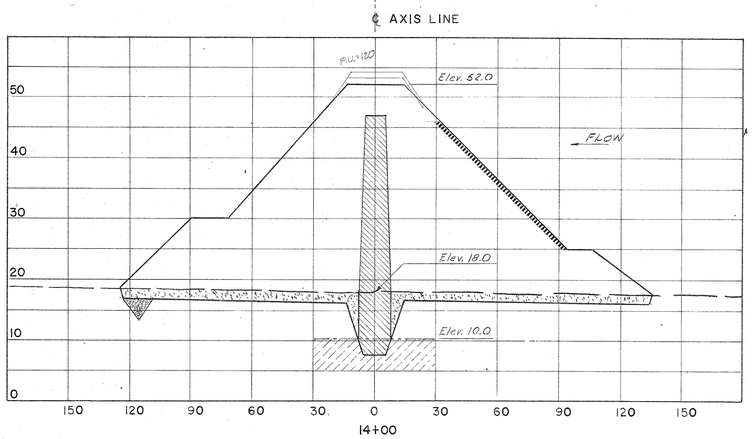
RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

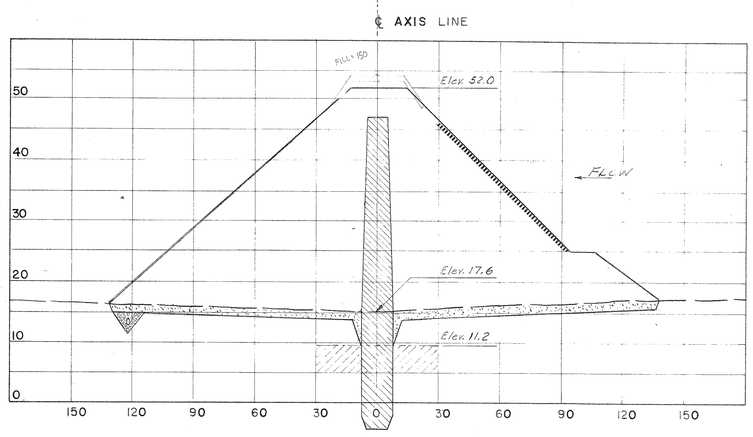
WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
EMBANKMENT DETAILS
MANATEE COUNTY, FLORIDA

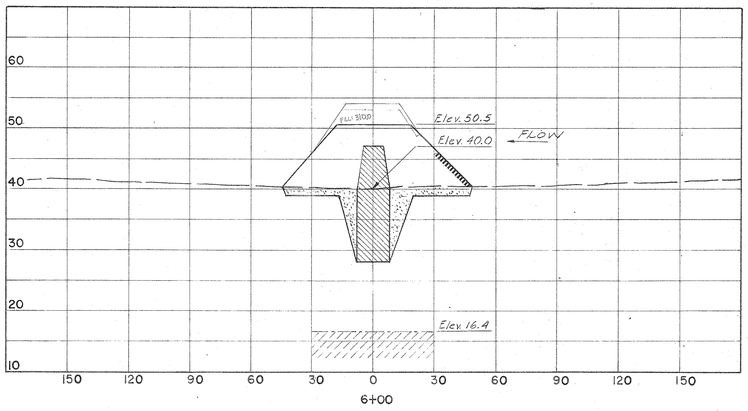
DESIGNED BY	G.W.C.
DRAWN BY	R. Lane
CHECKED BY	
DATE	MAY 65
FILE No.	6353-3-10-I-B
SHEET No.	7
OF	35 SHEETS
SCALE:	As Shown

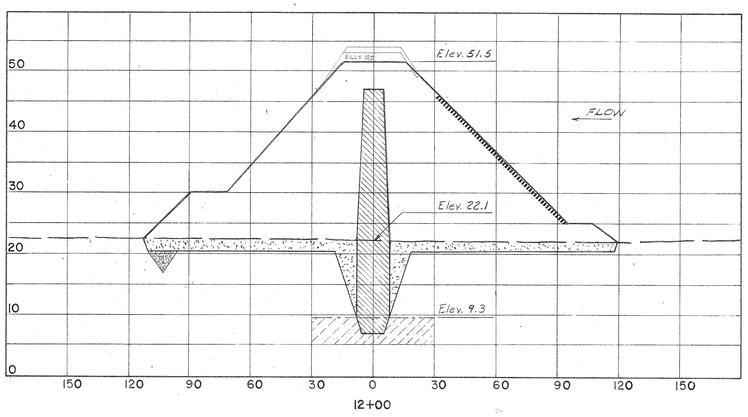
SEAL
RUSSELL & AXON CONSULTING ENGINEERS
No. 2999
STATE OF FLORIDA
REGISTERED ENGINEER

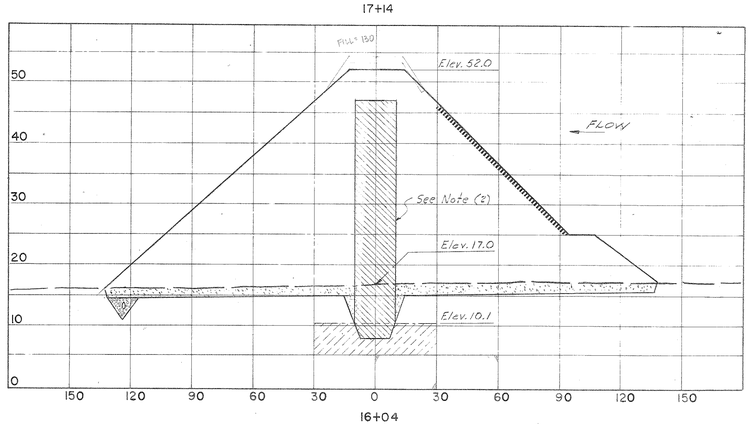


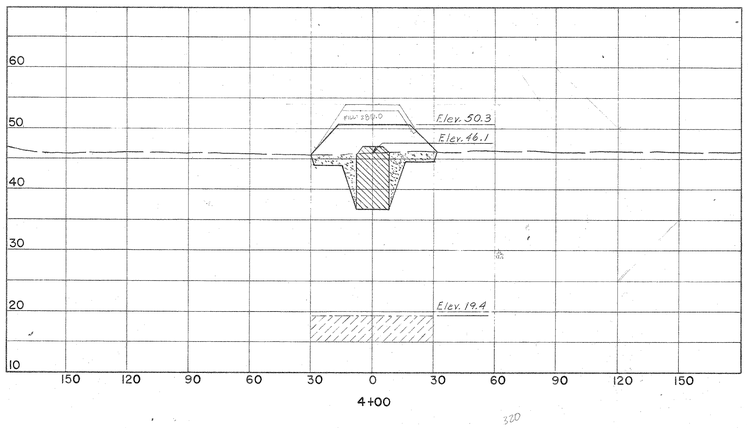


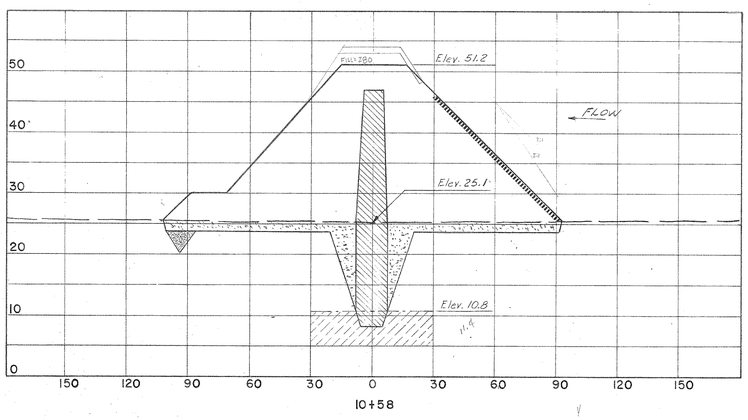


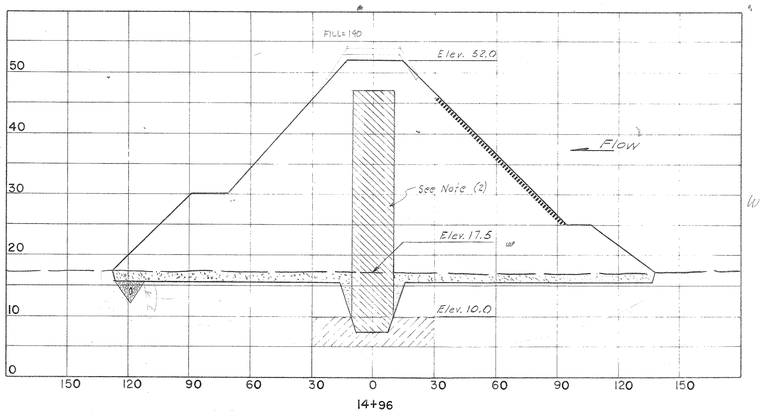


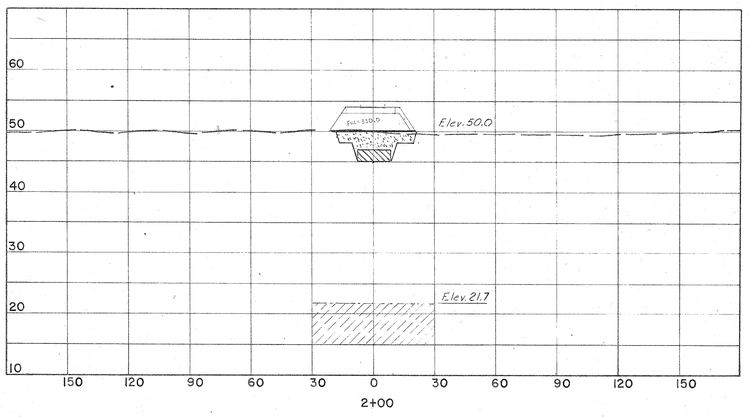


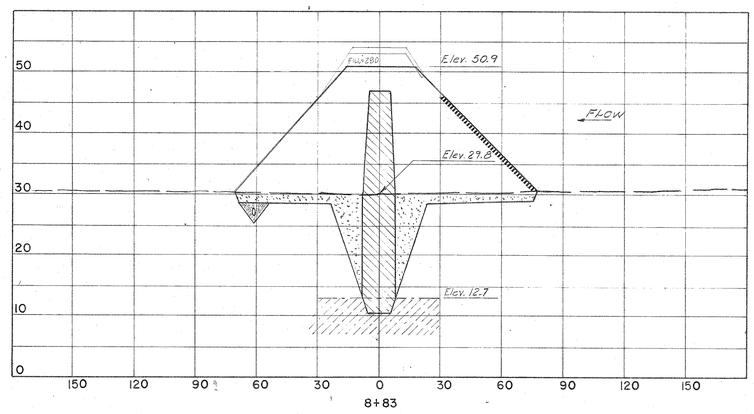












NOTE:

1) For Key to Sections & Explanation of Symbols, See Sheet No. 7

2) See Sheet No. 14 & 18 for Details

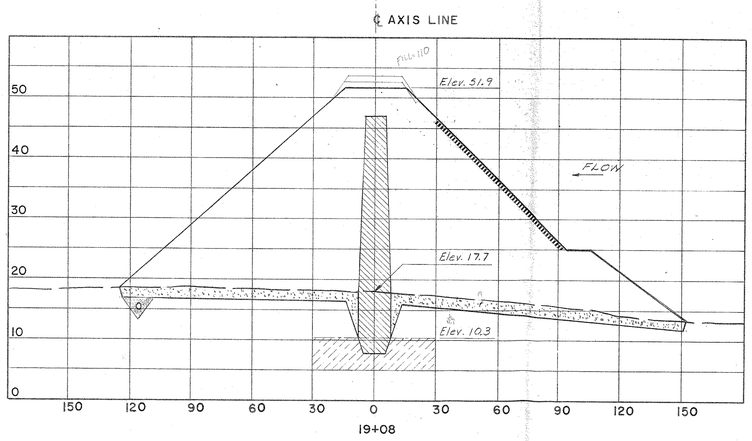
NO.	DATE	REVISIONS	BY	CKD.
1	Jan. 67	AS-BUILT	A.J.H.	

RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
EMBANKMENT CROSS SECTIONS
MANATEE COUNTY, FLORIDA

DESIGNED BY G.W.C.	FILE No. 6353-3-7-I-B
DRAWN BY R. Lane	SHEET No. 8
CHECKED BY GR	OF 35 SHEETS
DATE May 65.	SCALE: As Shown

SEAL
GEORGE W. CZ[illegible]
No. 3078
STATE OF FLORIDA
REGISTERED ENGINEER



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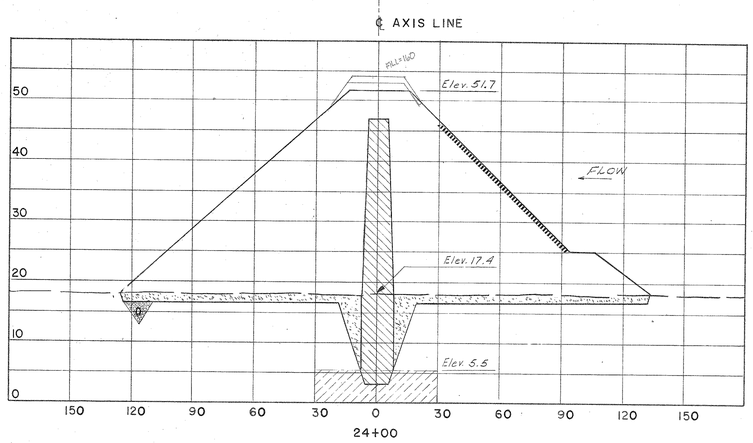

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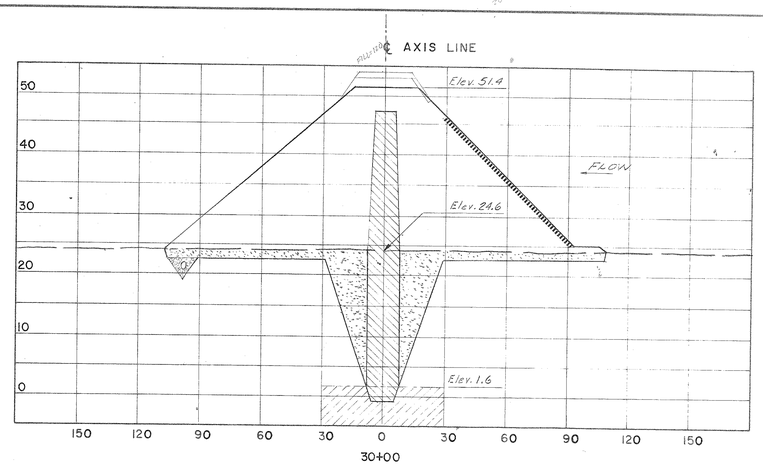

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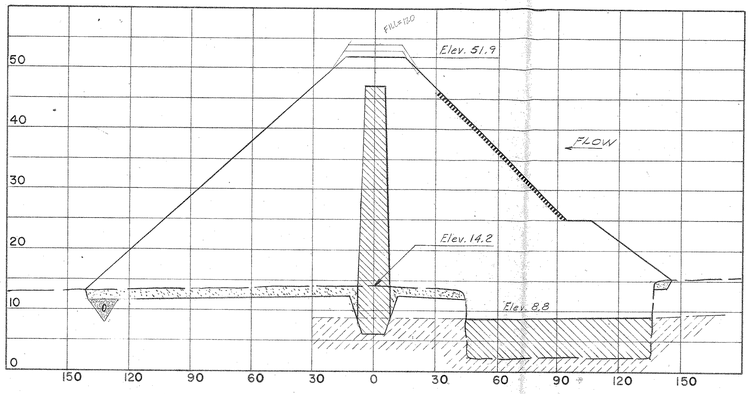

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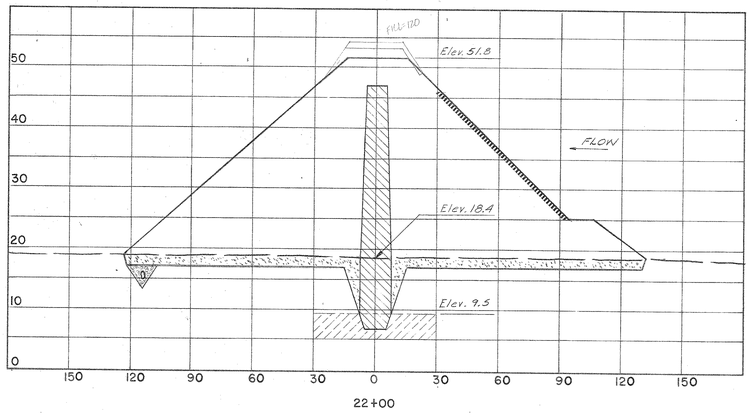

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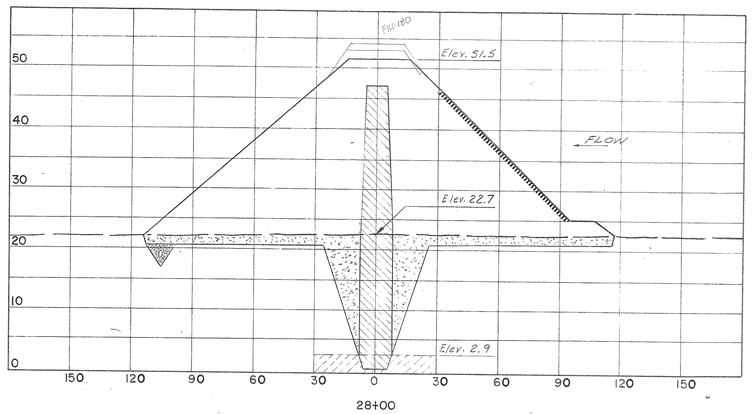

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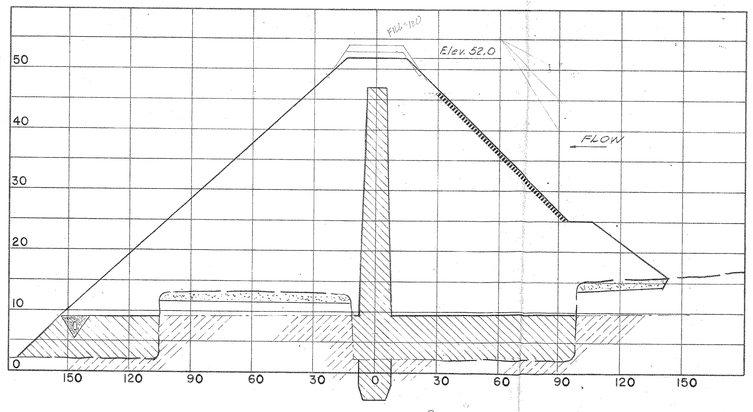

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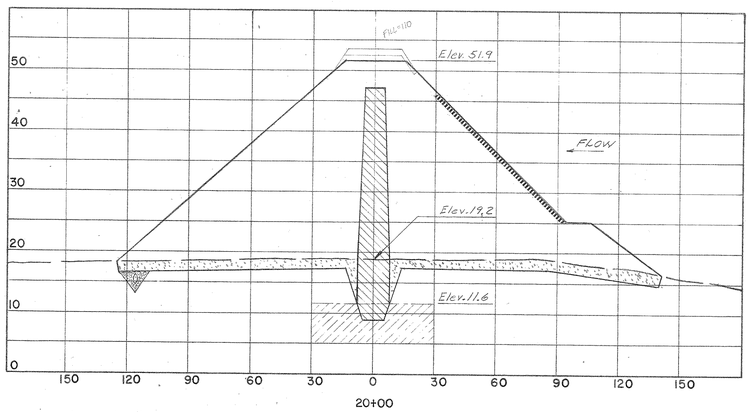

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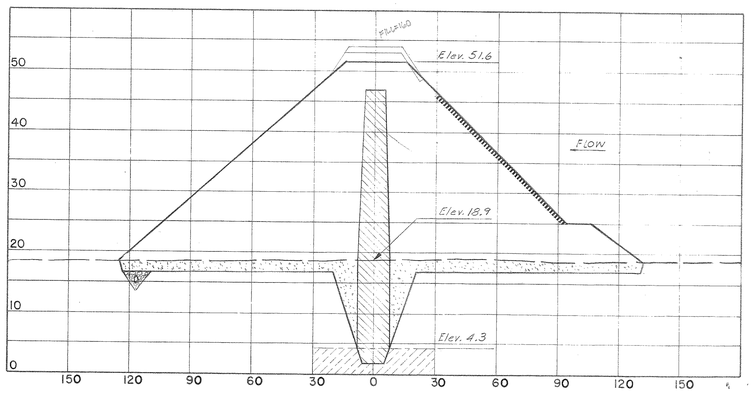

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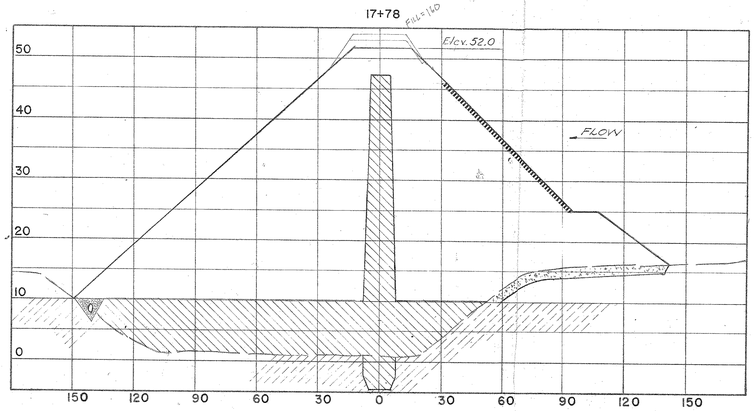

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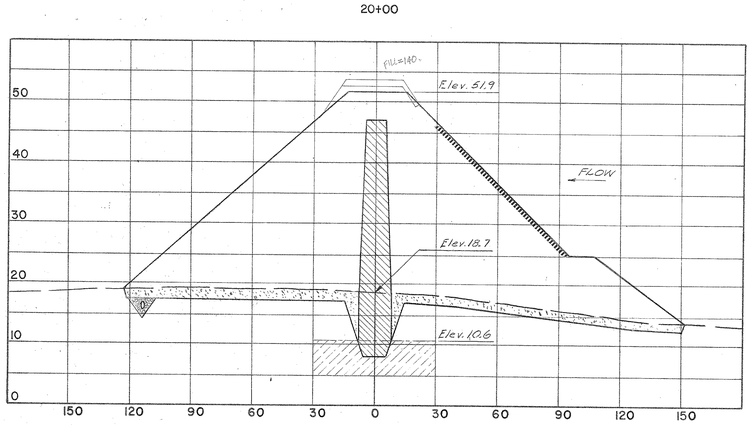


19+32

NOTE:

For key To Sections & Explanation of Symbols, See Sheet No. 7

NO.	DATE	DESCRIPTION	BY	CKD.
1	JAN. 67	AS-BUILT	A.J.H.	

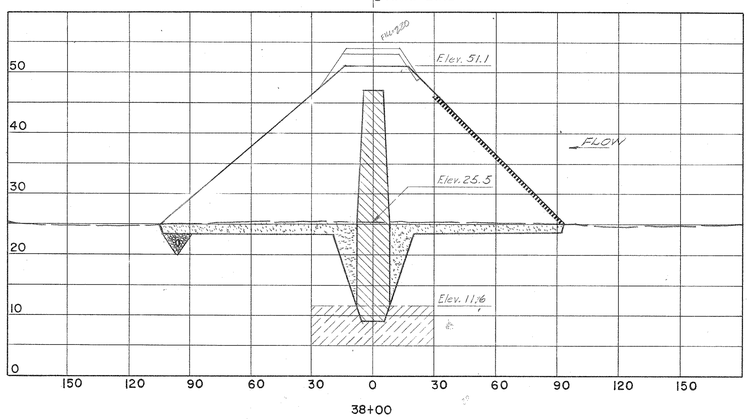
REVISIONS

RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
EMBANKMENT CROSS SECTIONS
MANATEE COUNTY, FLORIDA

DESIGNED BY G.W.C.	FILE No. 6353-3-8-I-B
DRAWN BY R. Lane	SHEET No. 9
CHECKED BY [illegible]	OF 35 SHEETS
DATE May 65	SCALE: As Shown

ALBERT W. CLIFFORD CERTIFICATE OF AUTHORIZATION No. 3078 STATE OF FLORIDA REGISTERED ENGINEER



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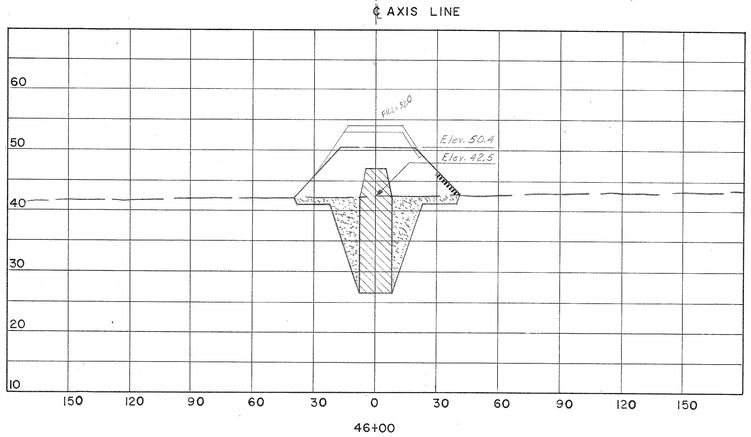

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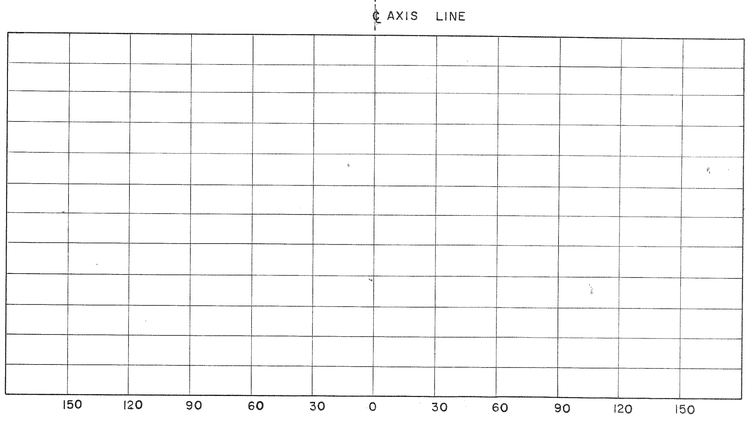

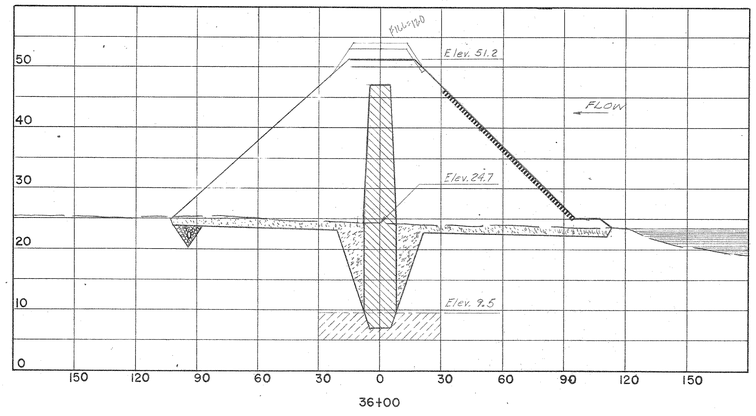

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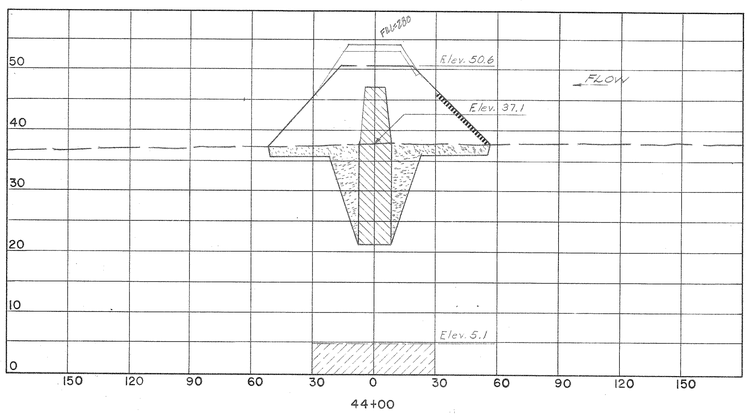

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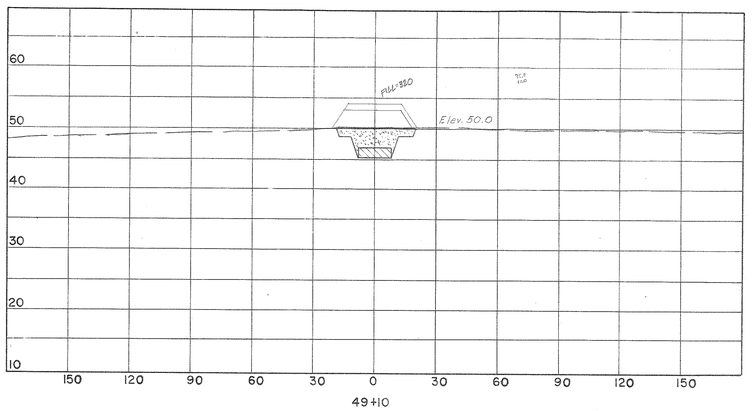

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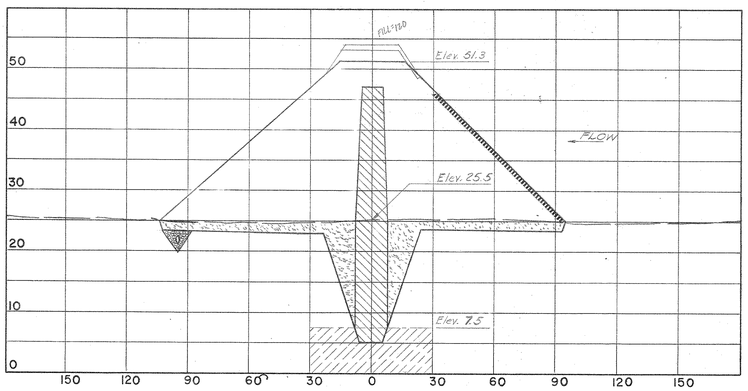

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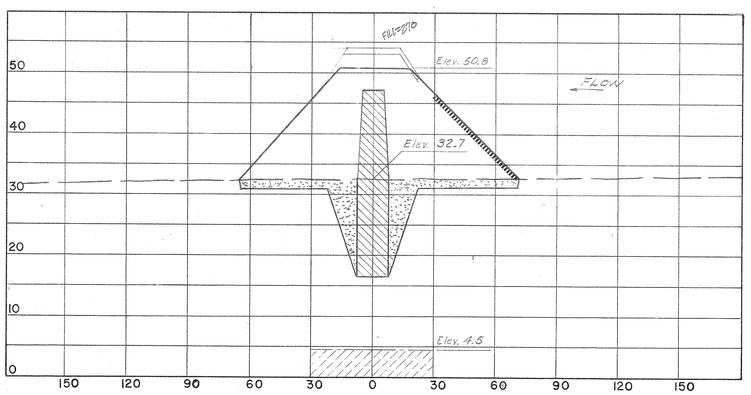

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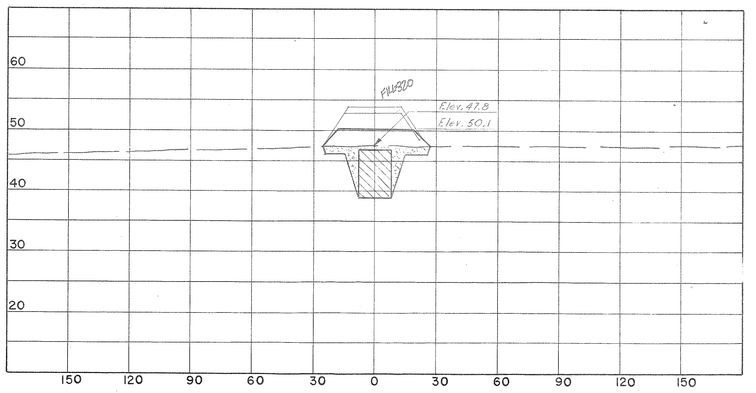

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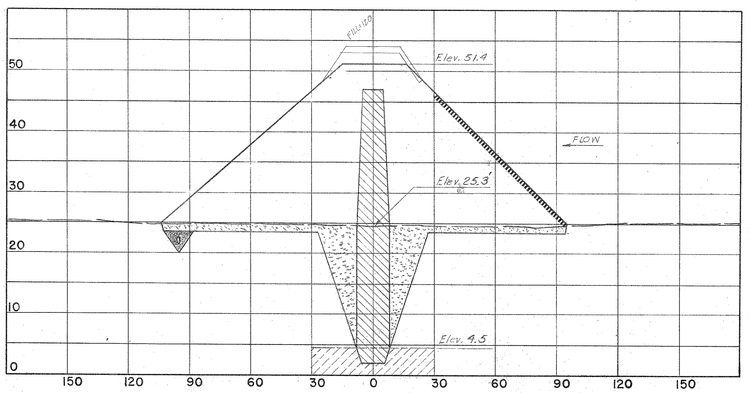

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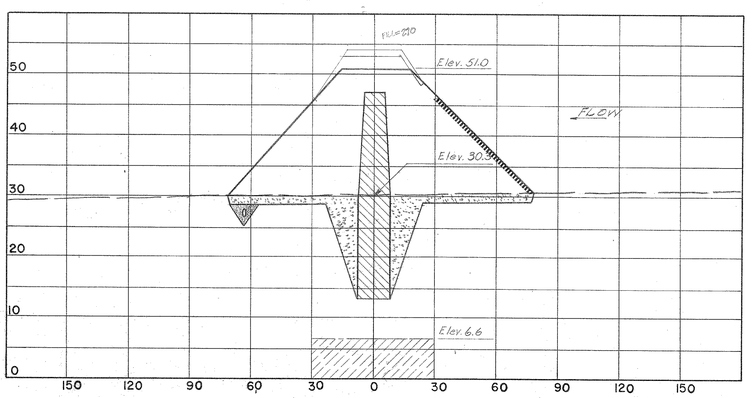


40+80

NOTE:
For Key to Sections & Explanation of Symbols, See Sheet No. 7

NO.	DATE	DESCRIPTION	BY	CKD.
1	JAN. 47	AS-BUILT	A.J.H.	

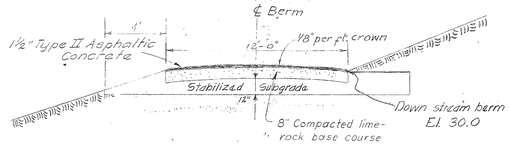
REVISIONS

RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

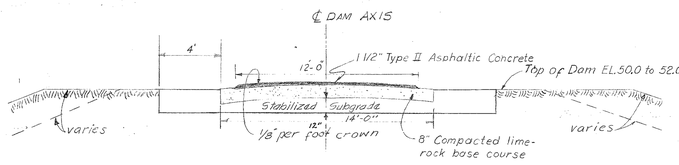
WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
EMBANKMENT CROSS SECTIONS
MANATEE COUNTY, FLORIDA

DESIGNED BY G.W.C	FILE NO. 6353-3-9-I-B
DRAWN BY R. Lane	SHEET No. 10
CHECKED BY [illegible]	OF 35 SHEETS
DATE MAY, 47	SCALE: AS SHOWN

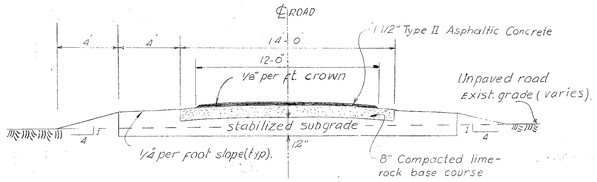
Seal: GEORGE W. CLIFFORD, REGISTERED ENGINEER, No. 3078, STATE OF FLORIDA, REGISTERED



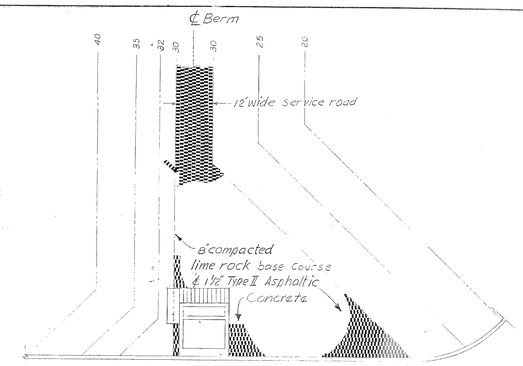
Service Road (Down stream berm)



Service Road (Top of Dam)



Service Road



DETAIL "A" (PARKING AREA)

SCALE: 1"=20'

TYPICAL ROADWAY CROSS SECTIONS

SCALE: 1" = 4'-0"

NO.	DATE	DESCRIPTION	BY
1	JAN 67	AS BUILT	A.J.H.

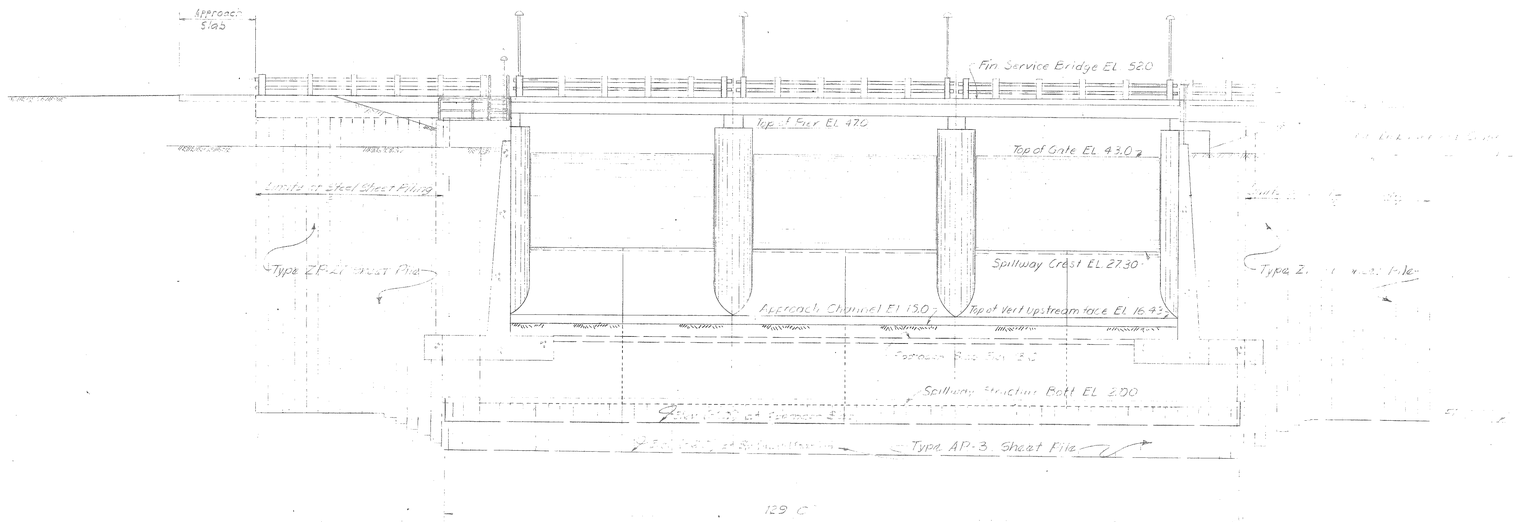
REVISIONS

· RUSSELL & AXON · INC. ·
CONSULTING ENGINEERS
DAYTONA BEACH FLA. ST. LOUIS MO.

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
SERVICE ROAD PLAN & DETAILS
MANATEE COUNTY, FLORIDA

DESIGNED BY G.W.C.	FILE NO. 6353-3-11-I-B
DRAWN BY	SHEET NO. 11
CHECKED BY	OF 35 SHEETS
DATE May 65.	SCALE: As Shown

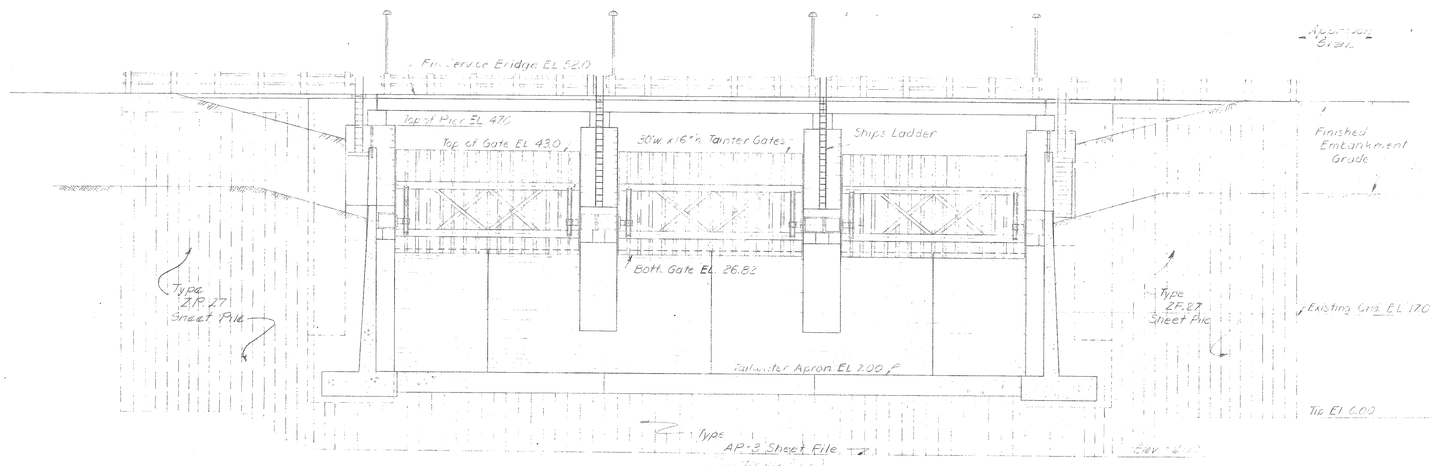
GILBERT W. CLYDE CERTIFICATE No. 3078 STATE OF FLORIDA REGISTERED ENGINEER



129 C

UPSTREAM ELEVATION

Scale: 1"=10'-0"



Note:
Steel Bearing Pile supporting structure omitted from Elevations

DOWNSTREAM ELEVATION

Scale: 1"=10'-0"

NOTE:
Foundation Piles and Superstructure Retaining Walls not shown in Elevations.

NO.	DATE	DESCRIPTION
3	Jul 65	As Built
2	Jul 65	General Revisions

REVISIONS

RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA.

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
GATED SPILLWAY ELEVATIONS
MANATEE COUNTY, FLA.

DESIGNED BY G.W.C.	FILE No. 6353-3-12-I-B
DRAWN BY R.L.B.S.	SHEET No. 12
CHECKED BY G.W.C.	OF 35 SHEETS
DATE [illegible]	SCALE:

12' Wide Service Road

Conc. Approach Slab

48" Gen. Wr. Iron Pipe to Pump House, see sheet # 28

48" Gen. Wr. Iron Pipe See sheet # 28

Elev. 30

Fine Screen Chamber

Light Standard

Bar Screen Chamber

30" Downstream Release Port

exist. grd.

Monolith Joint

Bridge Deck

Symmetrical about ℄

Light Standard

Direction of Flow

Grating over ship log open

Mobile Hoist Track

Upstream face of Spillway

Approach Wall Length = 148'-0"

End Sill

N

37, 33

191, 99

NOTE: No approach slab required this side

Elev. 30.0

Ex. St. Grade

SPILLWAY AXIS

SPILLWAY GENERAL PLAN

scale: 1"=10'-0"

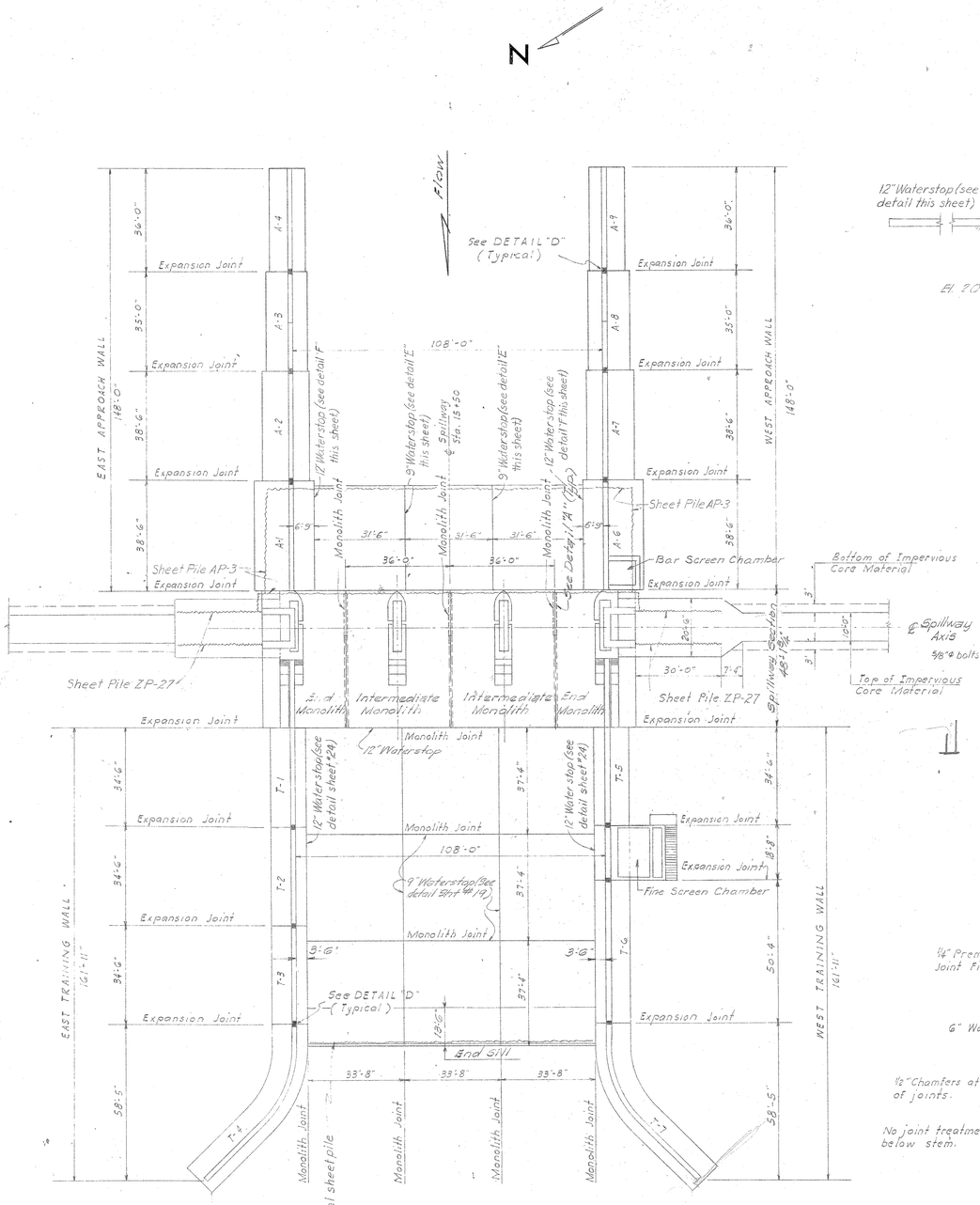
NO.	DATE	DESCRIPTION	BY	CKD.
		REVISIONS		

RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
SPILLWAY GENERAL ARRANGEMENT
MANATEE COUNTY FLORIDA

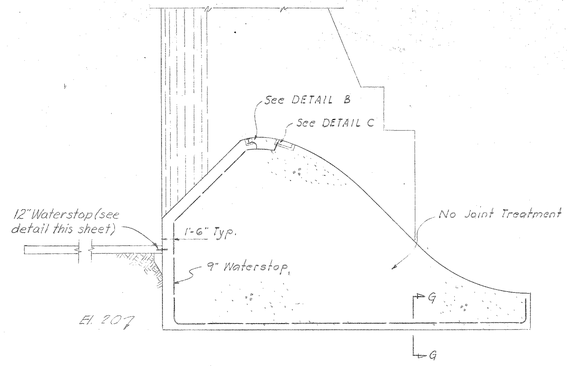
DESIGNED BY	SWB
DRAWN BY	CJV
CHECKED BY	
DATE	
FILE NO.	6353-3-13-I-B
SHEET No.	13
OF	35 SHEETS
SCALE:	

SEAL
REGISTERED ENGINEER No. 9078 STATE OF FLORIDA



PLAN

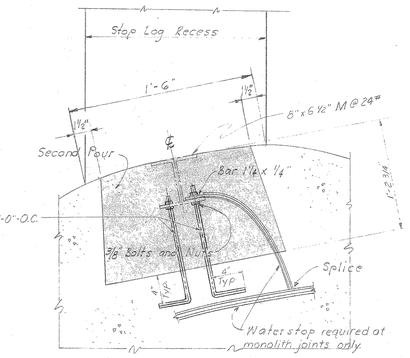
Scale: 1" = 20'



DETAIL "A"

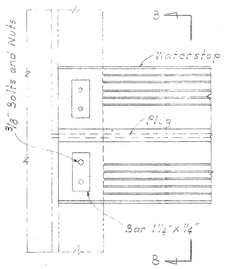
SPILLWAY

Scale: 1/8" = 1'-0"

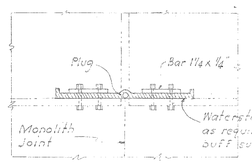


DETAIL "B"

Scale 1½" = 1'-0"



PLAN

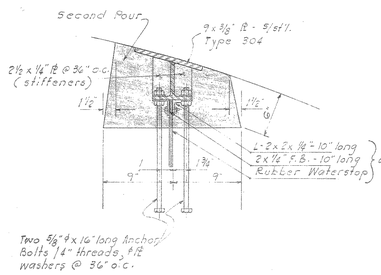


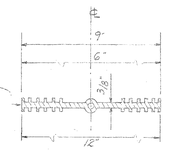
SECTION B-B

TYPICAL WATERSTOP CONNECTION AT STOP LOG REST

SEE DETAIL "B"

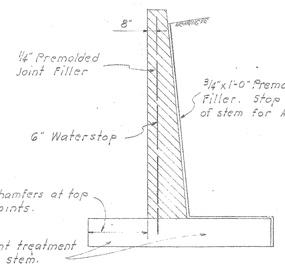
Scale: 3" = 1'-0"





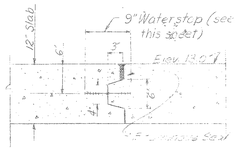
WATERSTOP

Scale: 3" = 1'-0"



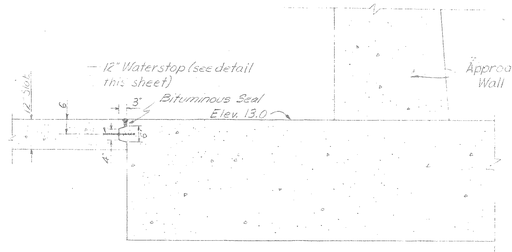
DETAIL "D"

No Scale



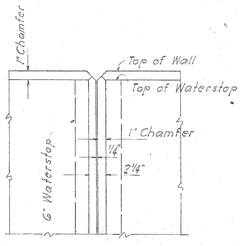
DETAIL "E"

Scale 1" = 1'-0"

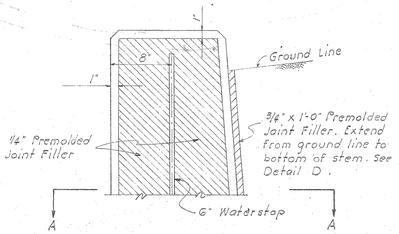


DETAIL "F"

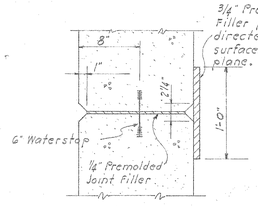
Scale 1/2" = 1'-0"



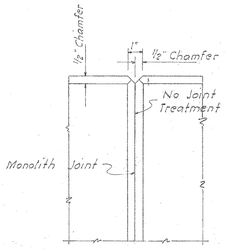
ELEVATION



SECTION

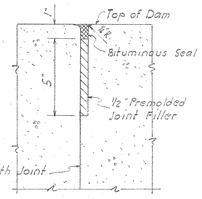


SECTION A-A



ELEVATION

END SILL & STILLING BASIN



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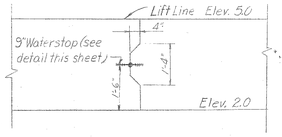


SECTION "G-G"

Scale 1/2" = 1'-0"

EXPANSION JOINT DETAILS

Scale: 1½" = 1'-0"

MONOLITH JOINT DETAILS

Scale: 3" = 1'-0"

NO.	DATE	DESCRIPTION	BY	CKD.
2	JAN. 67	AS-BUILT		
1	JULY 65	APPROACH SLAB & SILL JOINT		

REVISIONS

RUSSELL & AXON

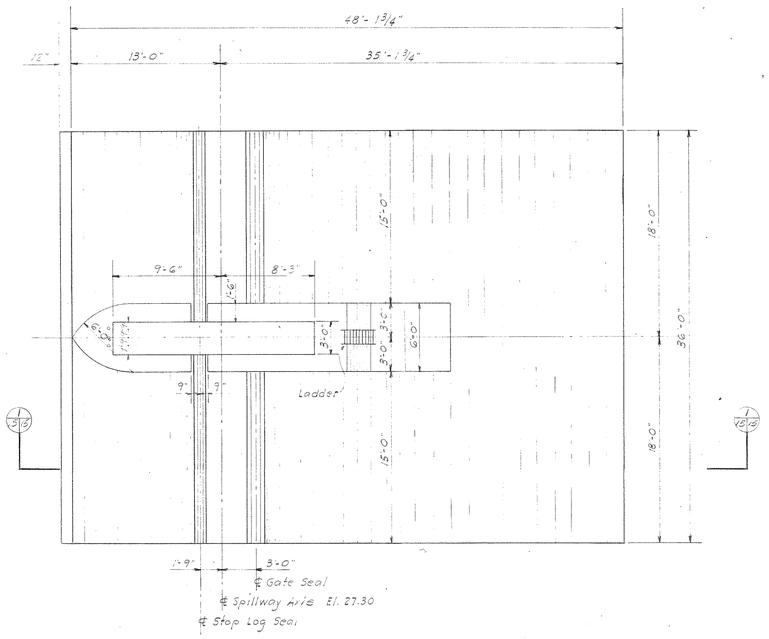
Consulting Engineers, Incorporated

DAYTONA BEACH, FLA. ST. LOUIS, MO.

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
GENERAL PLAN & JOINT DETAILS
MANATEE COUNTY, FLORIDA

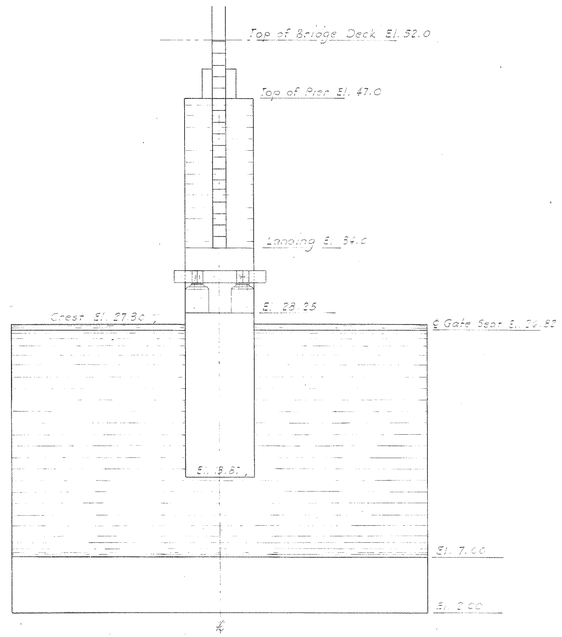
DESIGNED BY G.W.C.	FILE No. 6353-3-14-1-B
DRAWN BY R. Lane	SHEET No. 14
CHECKED BY GC	OF 35 SHEETS
DATE May 65	SCALE: As Shown

SEAL



SPILLWAY - PLAN

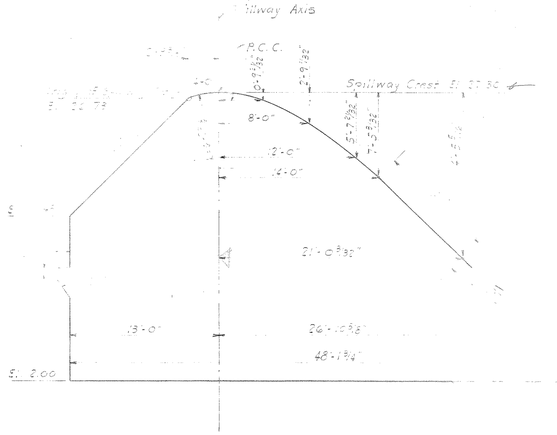
Scale ——— 3/16"=1'-0"



DOWNSTREAM ELEVATION

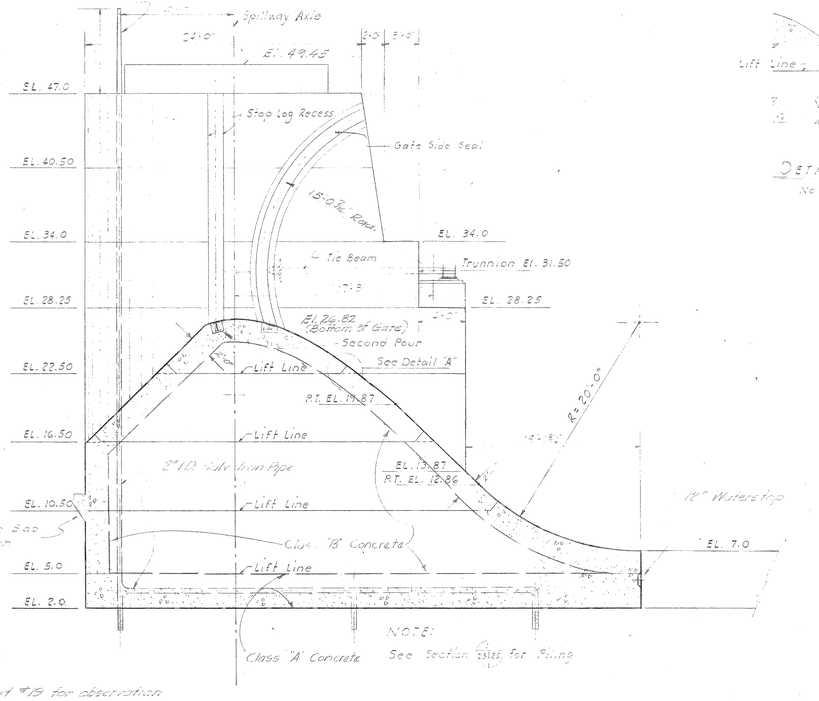
Scale ——— 3/16"=1'-0"

(Pile Omitted)



SPILLWAY DETAIL

Scale ——— 3/16"=1'-0"



NOTE:
See sheet #19 for observation Well details

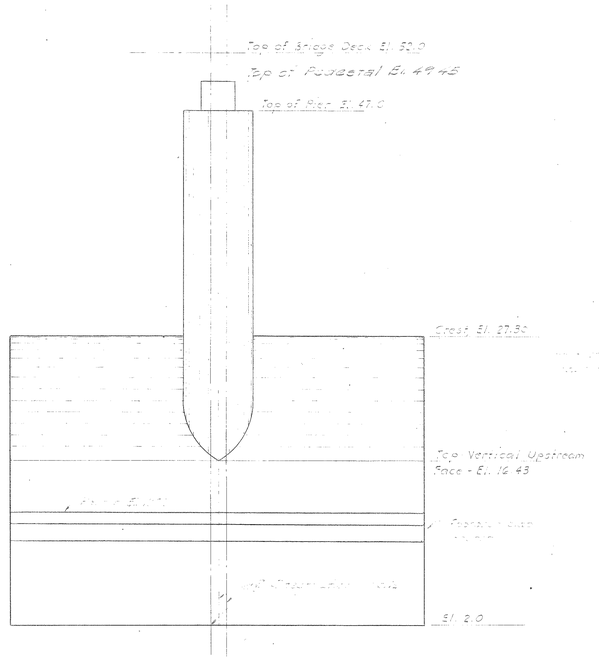
SECTION 5/8

Scale ——— 3/16"=1'-0"

NOTE:
See Section 5/8&9 for Piling

DETAIL "A"

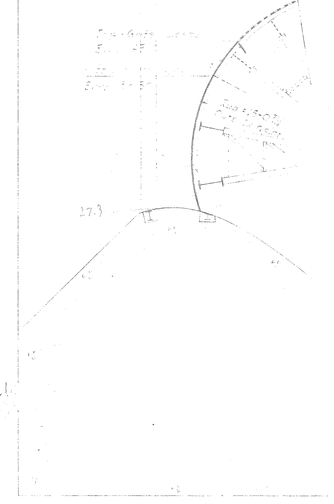
No Scale



UPSTREAM ELEVATION

Scale ——— 3/16"=1'-0"

(Pile Omitted)



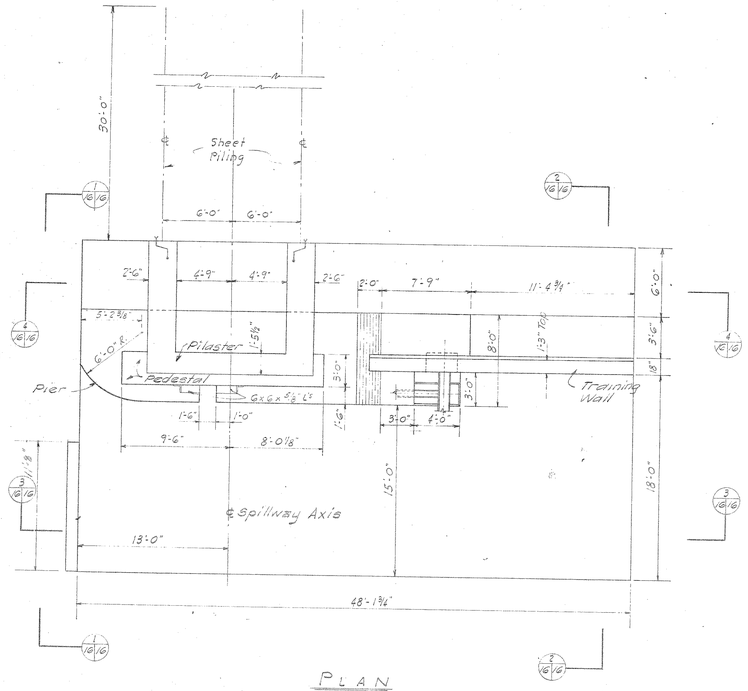
TAINTER GATE

NO.	DATE	REVISION

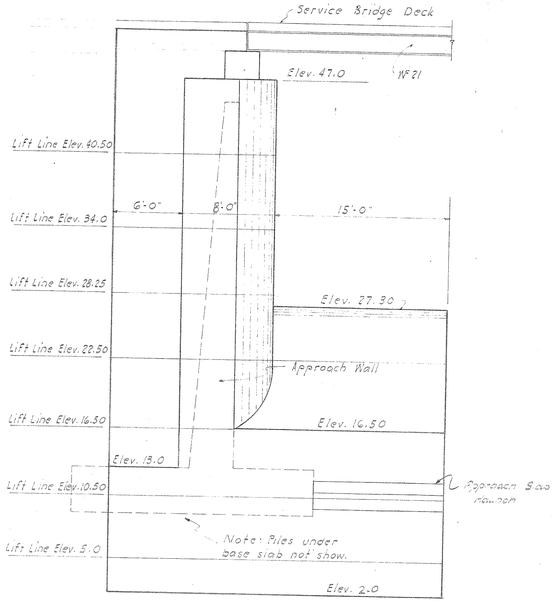
SHELL & ASSOCIATES
Consulting Engineers
DAYTONA BEACH, FLA.

WATER WORKS PROJECT
EARTH DAM & SPILLWAY
PARRISH
INTERMEDIATE MONOLITH
MANATEE COUNTY, FLA.

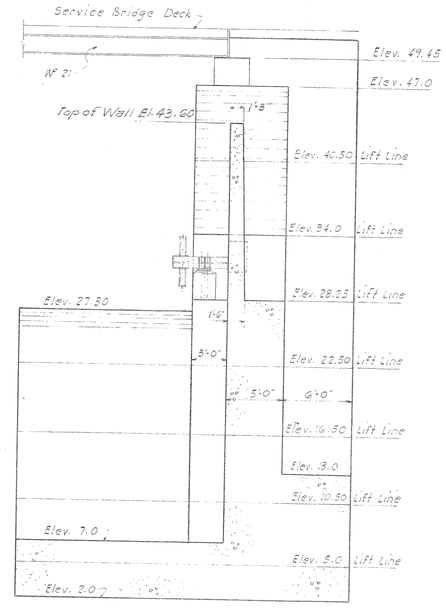
DESIGNED BY	FILE NO.
DRAWN BY	6353-3-15-1
CHECKED BY	SHEET No. 15
DATE	SHEET



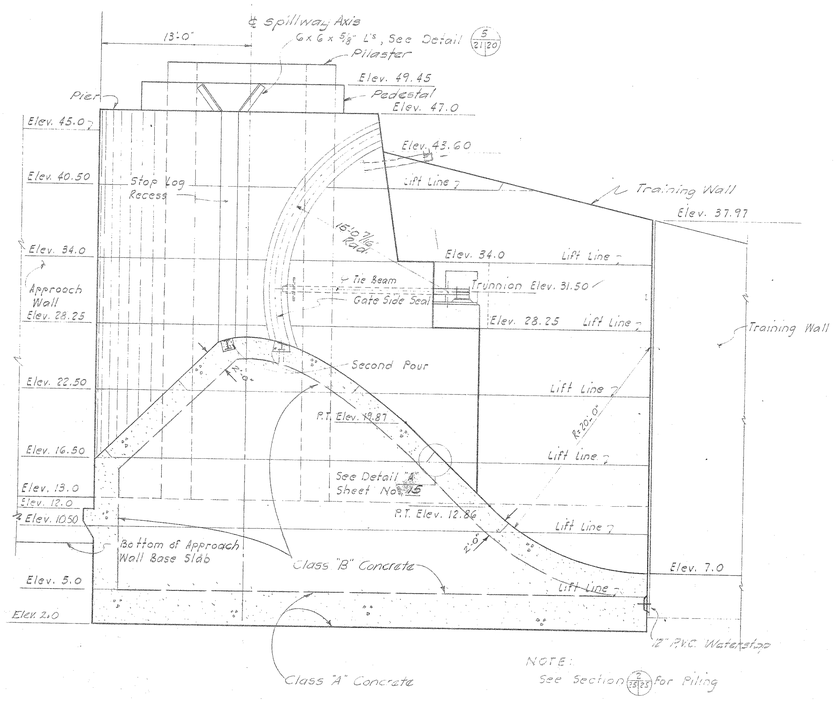
PLAN



SECTION 1/16 1/16
(Pile Omitted)

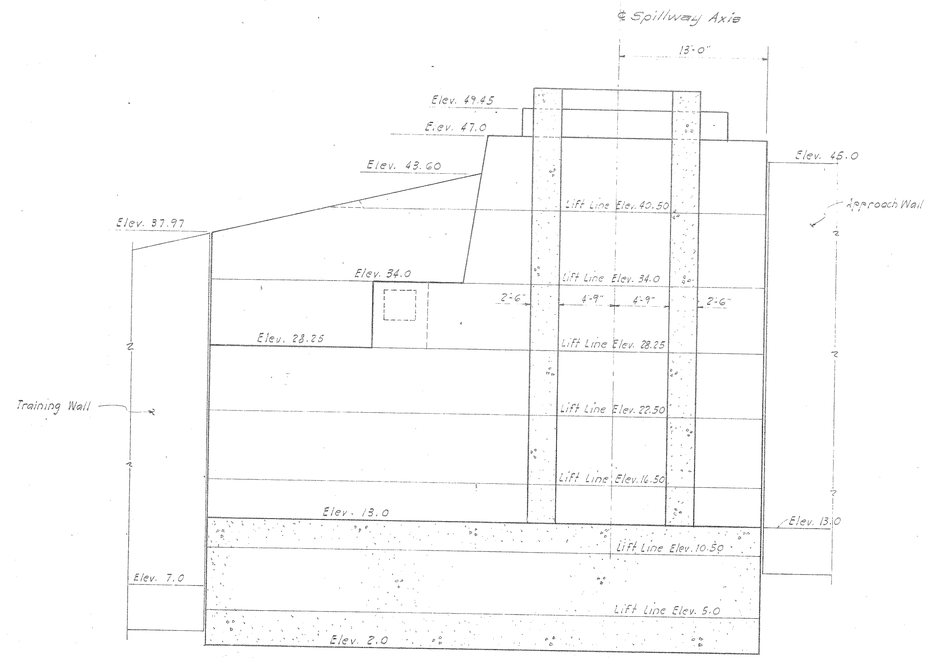


SECTION 3/16 1/16
(Pile Omitted)



NOTE:
See Section 2/23 25 for Piling

SECTION 3/16 1/16



NOTE:
See Section 2/23 25 for Piling

SECTION 4/16 1/16

NO.	DATE	DESCRIPTION	BY	CKD.
2	JAN 67	AS-BUILT		
1	6-1-65	REVISED		

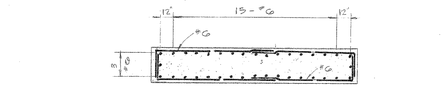
REVISIONS

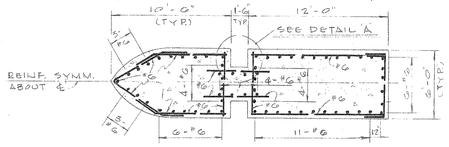
RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

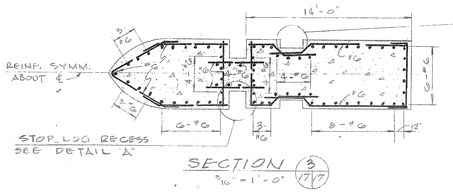
WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
END MONOLITH DETAILS
MANATEE COUNTY, FLORIDA

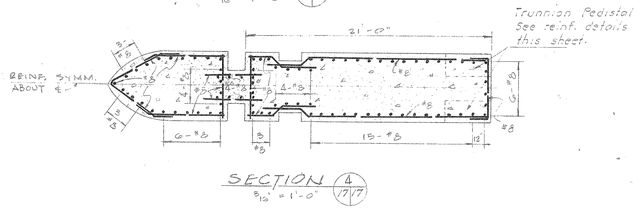
DESIGNED BY	G.W.C.
DRAWN BY	R. Lane
CHECKED BY	GWC
DATE	May 65
FILE NO.	6353-3-16-I-B
SHEET NO.	16
OF	35 SHEETS
SCALE:	3/16 = 1'-0"

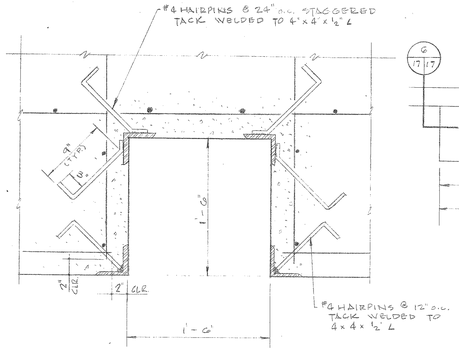
REGISTERED U.S. ENGINEER No. 5078 STATE OF FLORIDA

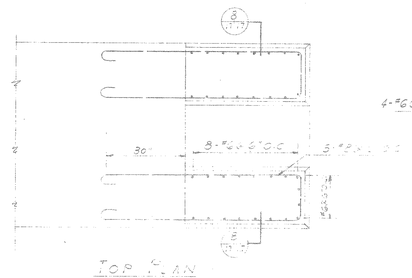


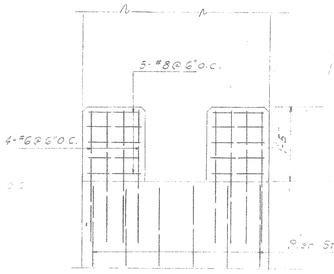




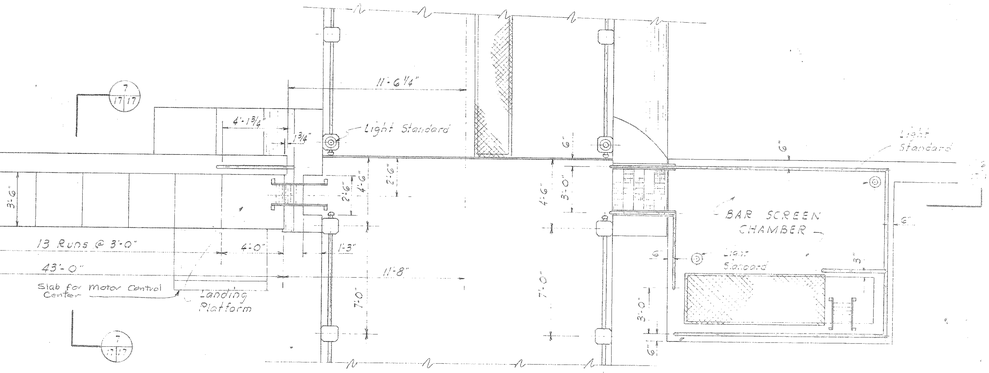


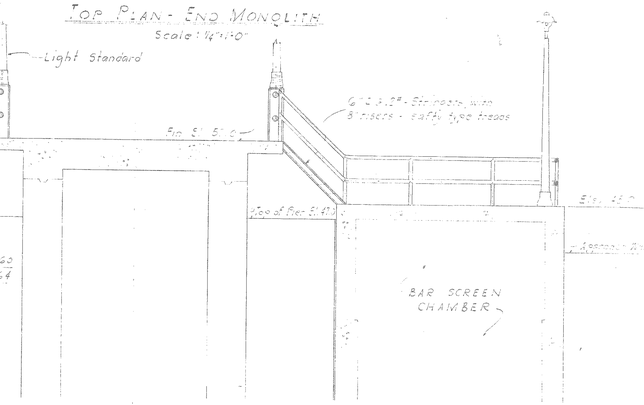


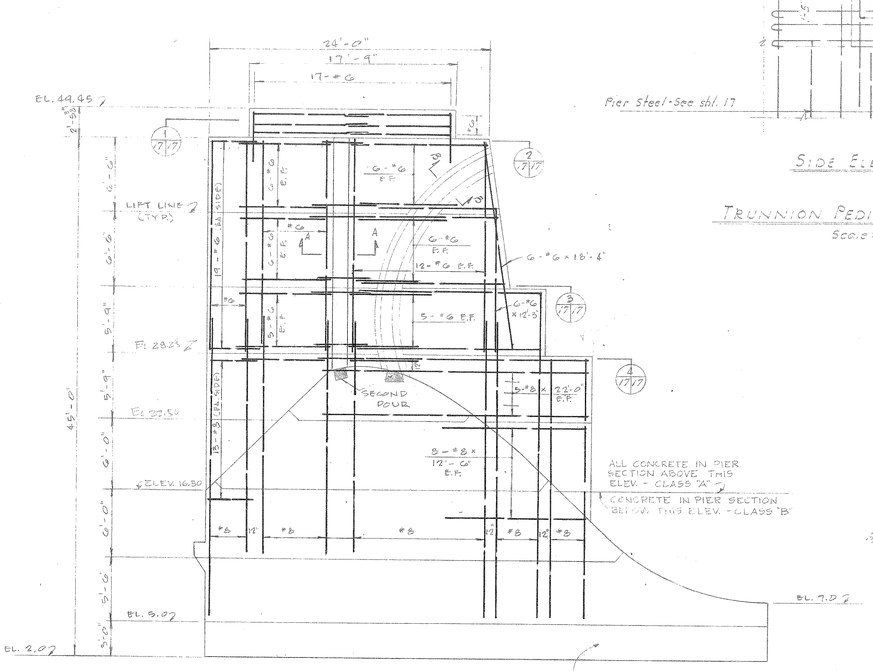




NOTE:
13 Runs of steps shall be built at south end of bridge only. At north end of bridge build landing platform only.



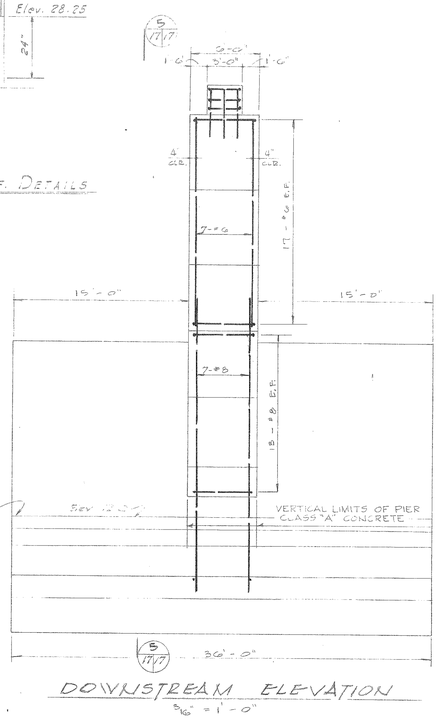




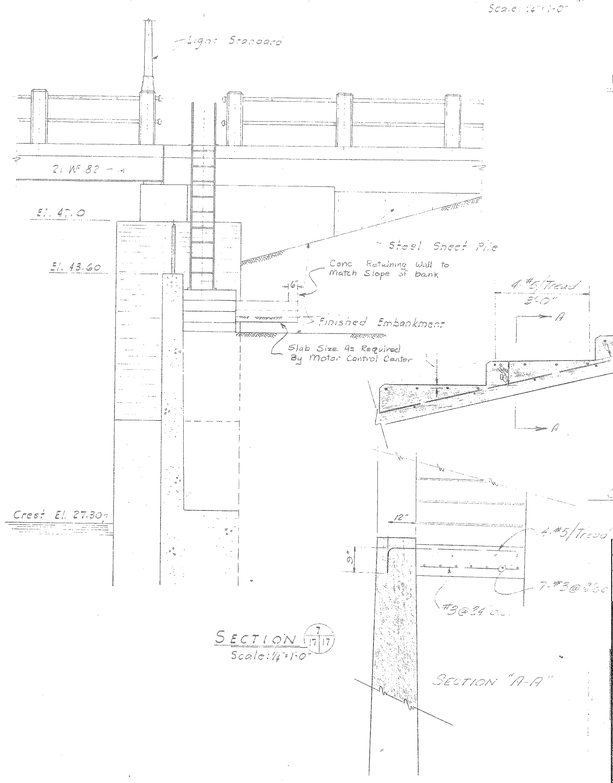
NOTE:
See Sht. No's. 15 & 16 For Classes of Concrete.

SECTION 5/17
3/16" = 1'-0"

TRUNNION PEDISTAL REINF. DETAILS
Scale: ½"=1'-0"



DOWNSTREAM ELEVATION
3/16" = 1'-0"



REINFORCEMENT NOTES:

1. ALL DIMENSIONS ARE TO CENTERLINE OF BAR UNLESS OTHERWISE NOTED.
2. BARS SHALL BE SPACED AT 12" c/c, UNLESS OTHERWISE NOTED.
3. PRIMARY REINF. SHALL HAVE A MIN. CONCR. COVER OF 2". ALL OTHER REINF. SHALL HAVE A MIN. 3" CONCRETE COVER.
4. BAR LAPS OR SPLICES SHALL BE NOT LESS THAN 36 BAR DIAMETERS; BARS SHALL TERMINATE AT SUPPORTS & BEYOND OPENINGS NOT LESS THAN 24 BAR DIAMETERS.
5. BARS MAY BE SHIFTED SLIGHTLY AS REQ'D IN FIELD TO MISS SECOND POURS OPEN ENDED EMBEDDED ITEMS.

NO.	DATE	DESCRIPTION	BY	CKD.
2				
1				

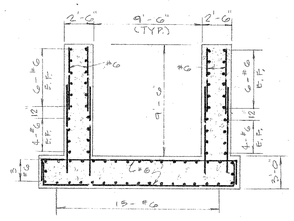
REVISIONS

RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. — ST. LOUIS, MO.

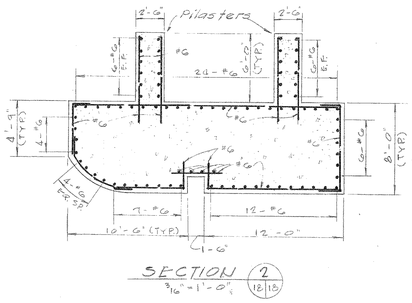
WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART 3
INTERMEDIATE MONOLITH-STRUCTURAL DETAILS
MANATEE COUNTY, FLORIDA

DESIGNED BY G.W.C.	FILE NO. 6353-3-17-I-B
DRAWN BY K.C.	SHEET No. 17
CHECKED BY	OF 35 SHEETS
DATE May '65	SCALE:

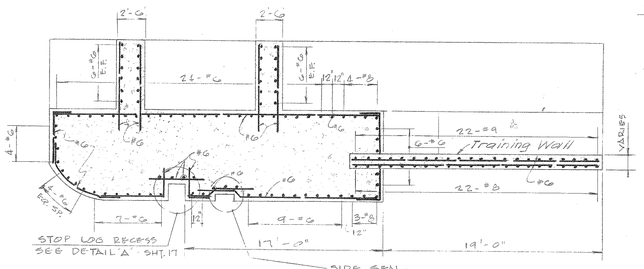
SEAL



SECTION (1) 18|18
3/16" = 1'-0"



SECTION (2) 18|18
3/16" = 1'-0"



SECTION (3) 18|18
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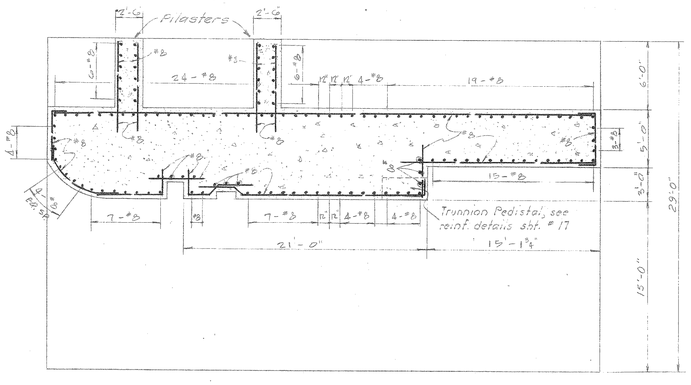
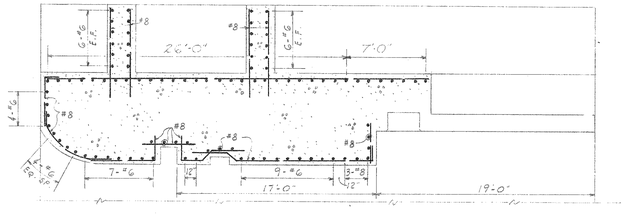
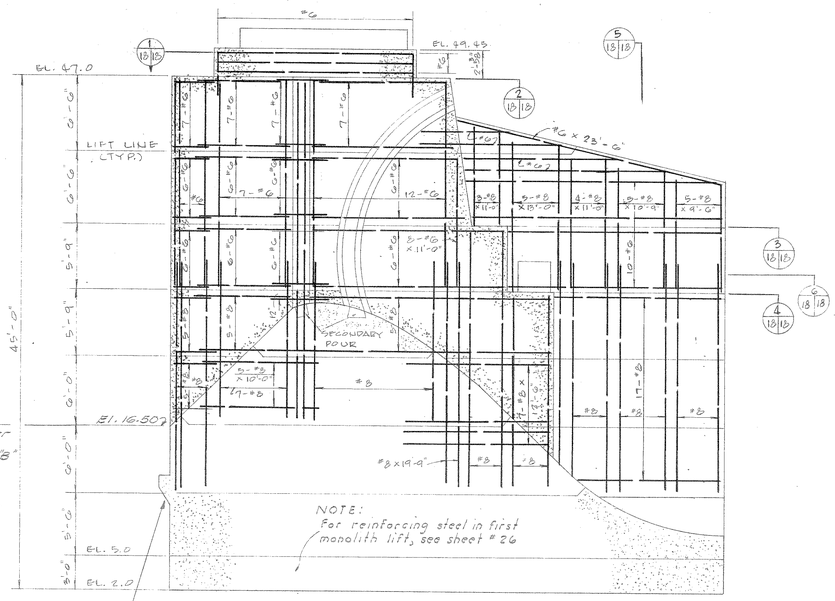


SECTION (4) 18|18
3/16" = 1'-0"



SECTION (6) 18|18
3/16" = 1'-0"

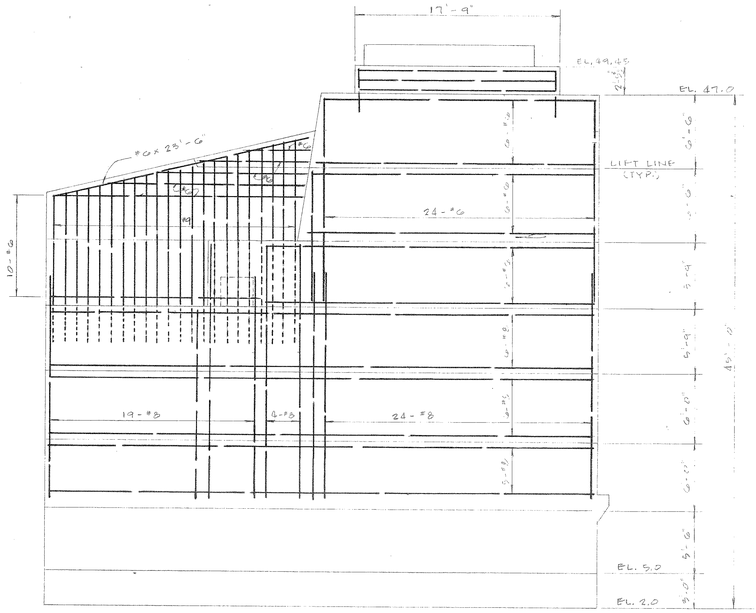


All concrete in Pier section above this Elev. - Class "A"

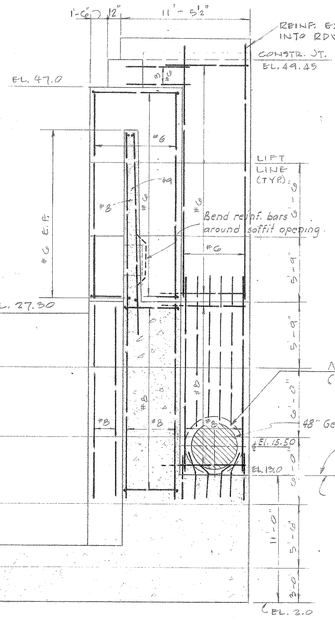
Concrete in Pier Section below this Elev. "Class B"

NOTE:
See sheet No. 26 for bracket rein-steel detail.

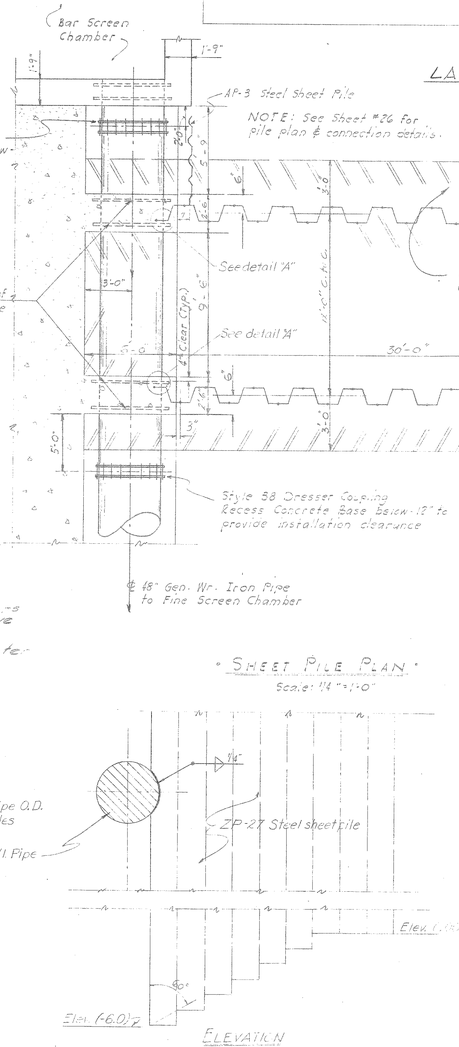
RIVERSIDE ELEVATION
3/16" = 1'-0"



LANDSIDE ELEVATION
3/16" = 1'-0"



SECTION (5) 18|18
3/16" = 1'-0"



"SHEET PILE PLAN"
Scale: 1/4" = 1'-0"

ELEVATION
DETAIL "A"
Scale: 1/4" = 1'-0"

NOTES:
FOR GENERAL REINFORCEMENT NOTES SEE SHEET NO. 17.

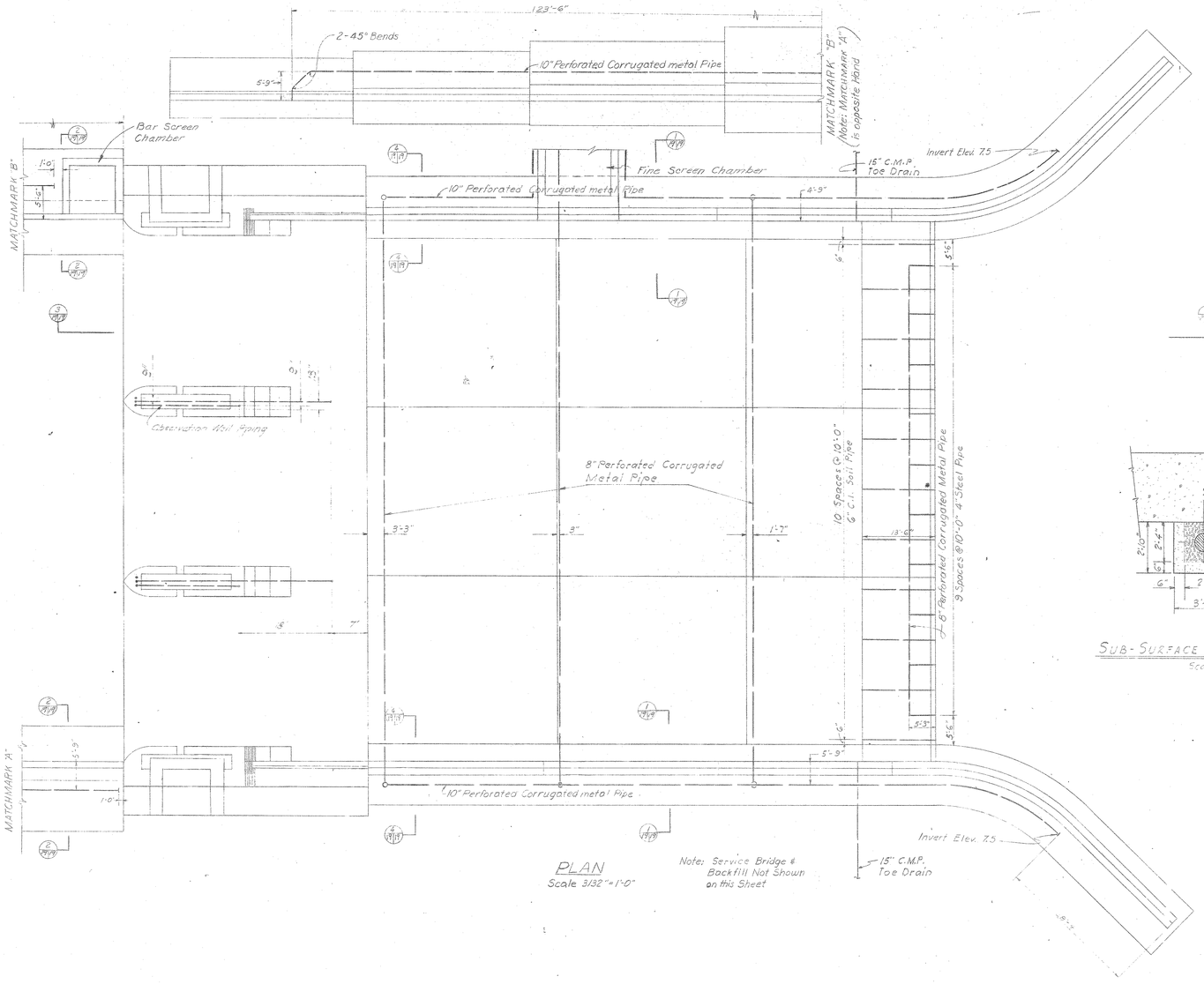
NO.	DATE	DESCRIPTION	BY	CKD.
		REVISIONS		

RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
END MONOLITH-STRUCTURAL DETAILS
MANATEE COUNTY, FLORIDA

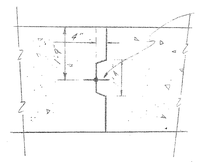
DESIGNED BY G.W.C.	FILE NO. 6353-3-18-I-B
DRAWN BY R.C.	SHEET NO. 18
CHECKED BY R.S.V.	OF 35 SHEETS
DATE 1947 1966	SCALE:

No. 5078 STATE OF FLORIDA REGISTERED ENGINEER

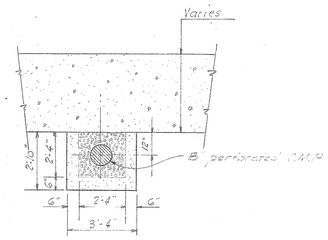


PLAN
Scale 3/32" = 1'-0"

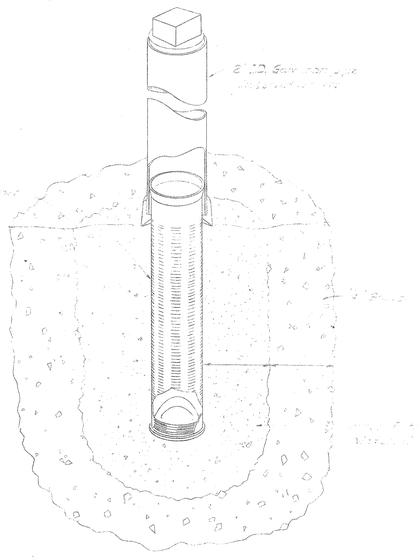
Note: Service Bridge & Backfill Not Shown on this Sheet



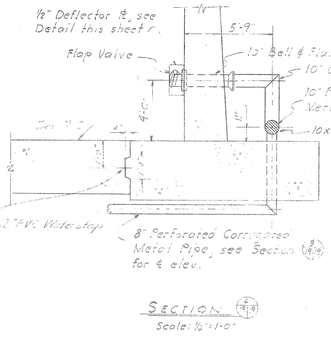
INTERIOR MONOLITH JOINT
Scale 1" = 1'-0"



SUB-SURFACE DRAINAGE MANIFOLD
Scale 3/16" = 1'-0"

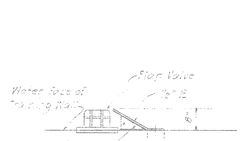


WELL STRAINER DETAIL
Six Required No Scale



NOTE:
Filter material not shown in this section

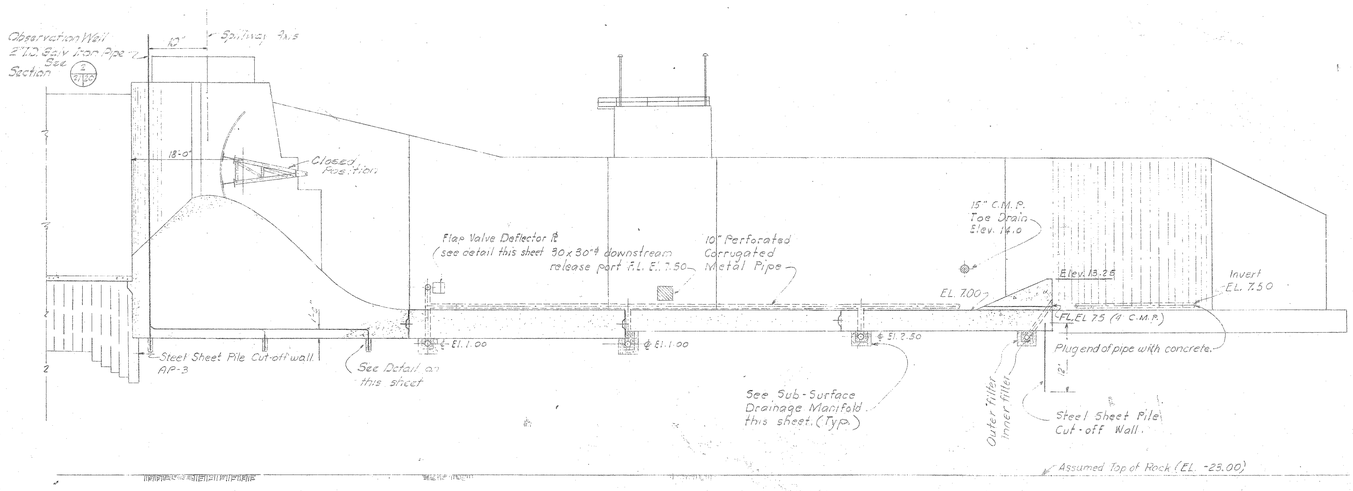
SECTION
Scale: 1/2" = 1'-0"



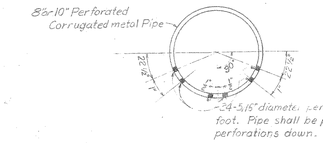
TOP PLAN

SIDE ELEVATION

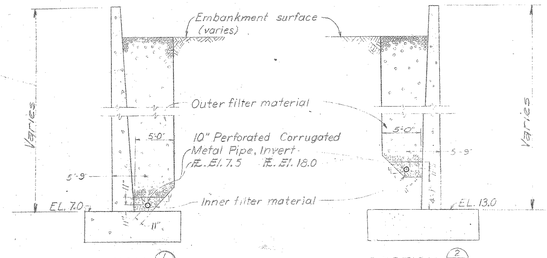
FLAP VALVE DEFLECTOR R DETAIL
(2 Required)
Scale 1/2" = 1'-0"



SECTION
Scale 3/32" = 1'-0"

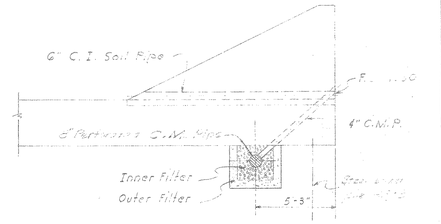


PIPE PERFORATIONS
Not to Scale



SECTION
Not to Scale
TRAINING-WALL

SECTION
Not to Scale
APPROACH-WALL



DETAIL PIPING AT END SILL
Scale: 1/4" = 1'-0"

NO.	DATE	DESCRIPTION	BY	CKD.
2	JAN. 67	AS BUILT		
1	July, 65	General Revisions - Addendum No. 1		

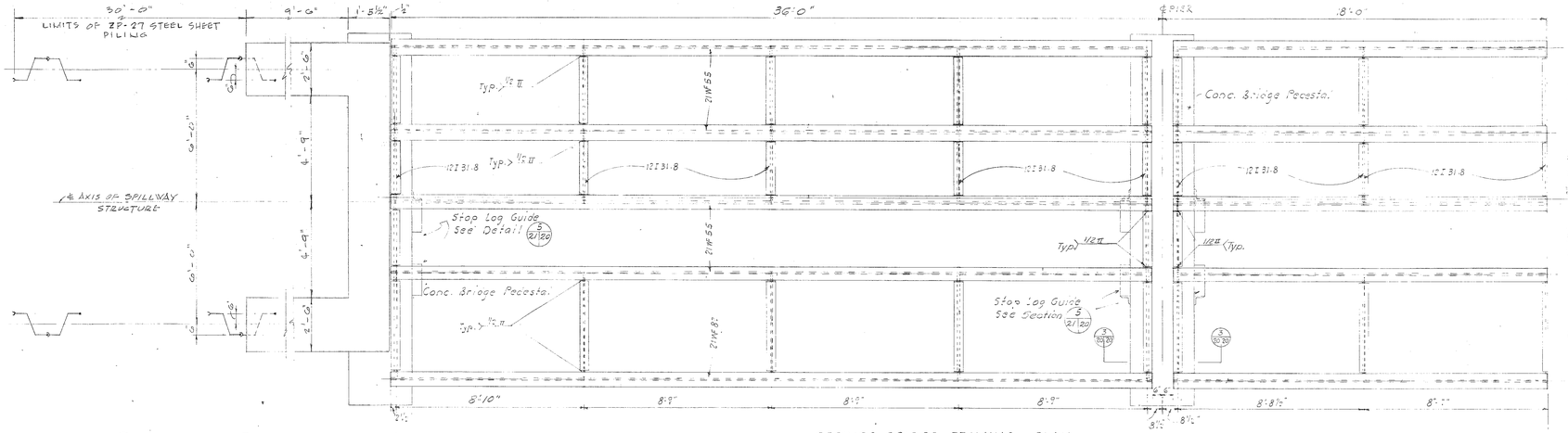
REVISIONS

RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

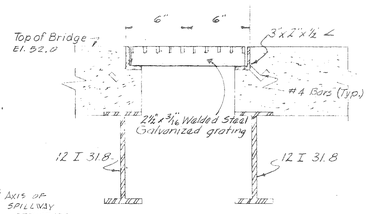
WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
SUBSURFACE DRAINAGE SYSTEMS
MANATEE COUNTY, FLORIDA

DESIGNED BY	G.W.C.
DRAWN BY	R.A.L. & T.B.
CHECKED BY	G.W.C.
DATE	11-1-65
FILE No.	6353-3-19-I-B
SHEET No.	19
OF	35 SHEETS
SCALE:	As Shown

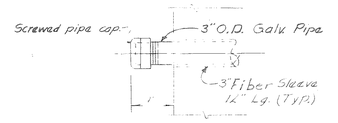
STATE OF FLORIDA No. 8279 REGISTERED ENGINEER



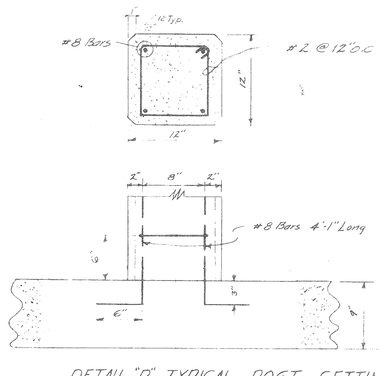
SERVICE BRIDGE FRAMING PLAN
Scale: ⅜" = 1'-0"



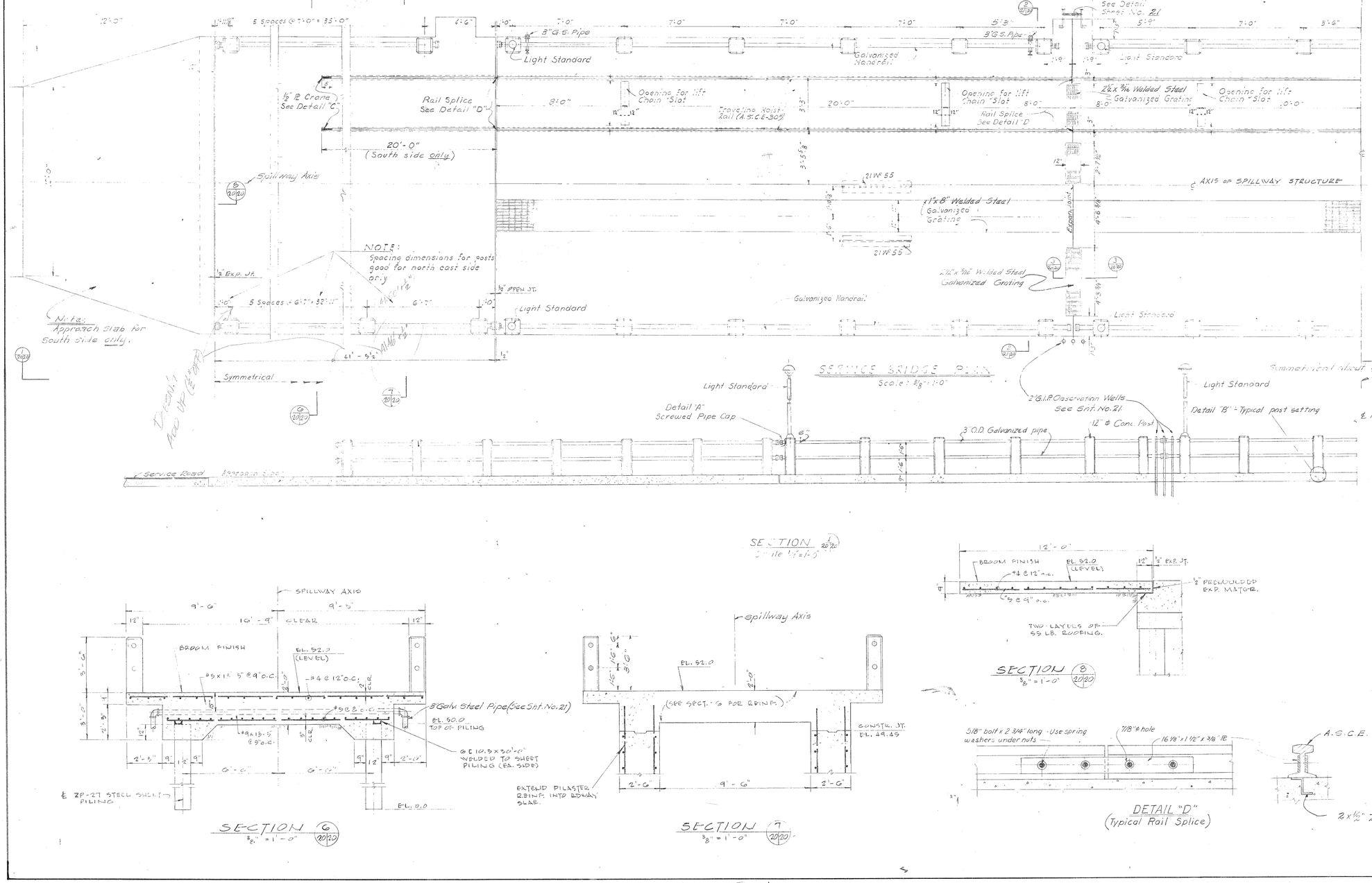
SECTION 3/22/20
Scale: 1½" = 1'-0"



DETAIL "A"
Scale = 1½" = 1'-0"



DETAIL "B" TYPICAL POST SETTING
Scale: 1½" = 1'-0"



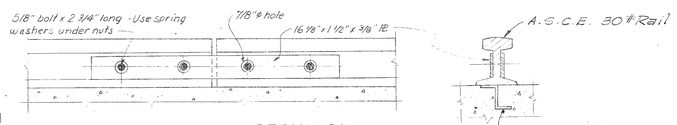
SERVICE BRIDGE PLAN
Scale: ⅜" = 1'-0"

SECTION 1/20/20
Scale: ½" = 1'-0"

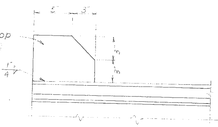
SECTION 8/20/20
⅜" = 1'-0"

SECTION 6/20/20
⅜" = 1'-0"

SECTION 7/20/20
⅜" = 1'-0"



DETAIL "D" (Typical Rail Splice)



DETAIL "C"
Note to Scale

NO.	DATE	DESCRIPTION	BY	CKD.
2	JAN 67	AS-BUILT	A.J.N.	
1	July 65	Observation Pipes Added - Addm. No. 2	RAL	

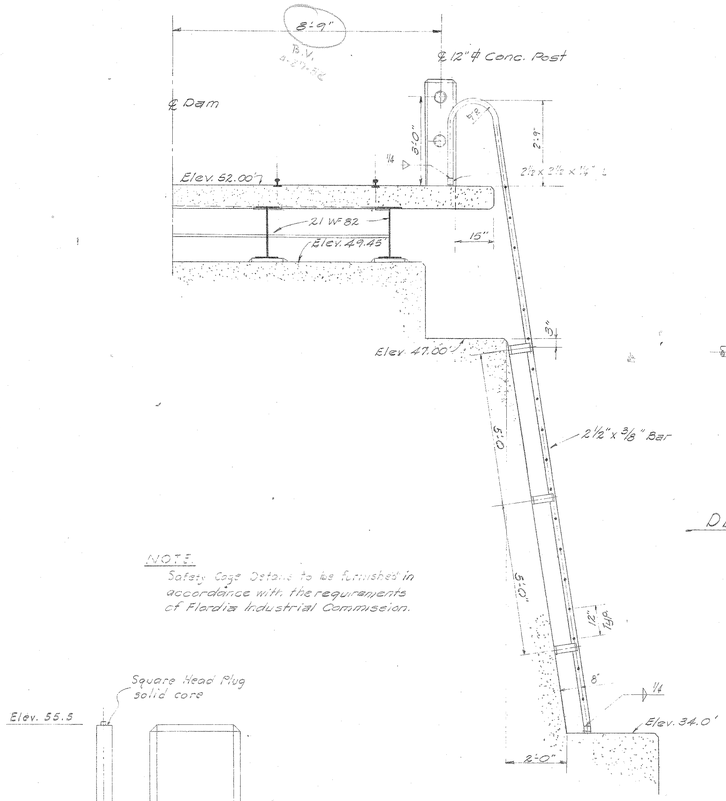
REVISIONS

RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
SERVICE BRIDGE-PLAN, ELEVATION & DETAILS
MANATEE COUNTY, FLORIDA

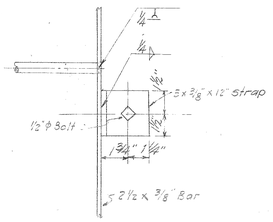
DESIGNED BY G.H.C.	FILE NO. 6353-3-20-I-B	SHEET
DRAWN BY R.A.L. & C.M.	SHEET No. 20	
CHECKED BY R.A.L.	OF 35 SHEETS	
DATE MAY 65	SCALE: AS SHOWN	

GILBERT T. FRAZIER CERTIFICATE No. 5078 STATE OF FLORIDA REGISTERED ENGINEER

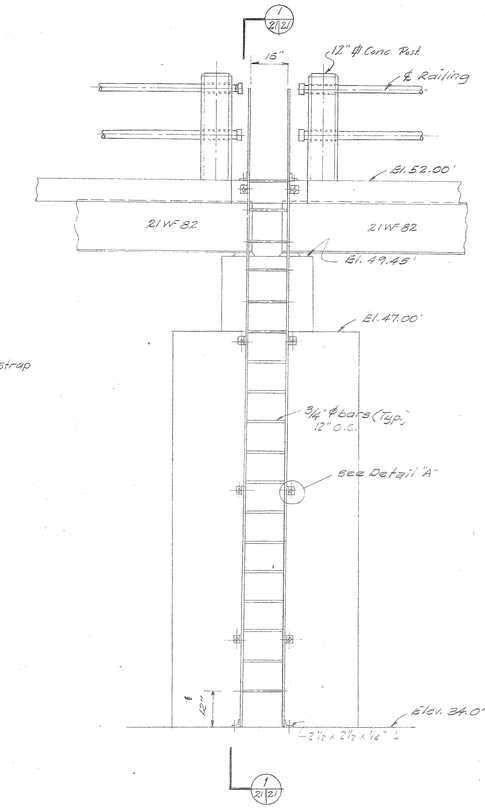


SECTION (1/21/21)
Scale: ½" = 1'-0"

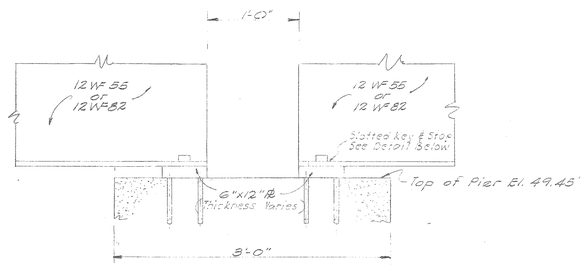
NOTE
Safety Cage Details to be furnished in accordance with the requirements of Florida Industrial Commission.



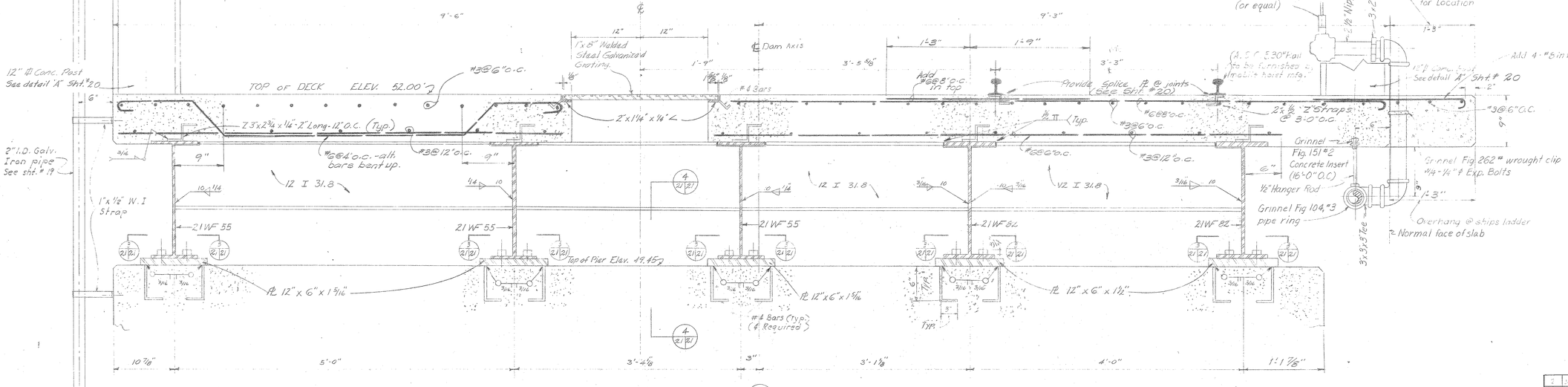
DETAIL "A"
Scale: 1½" = 1'-0"



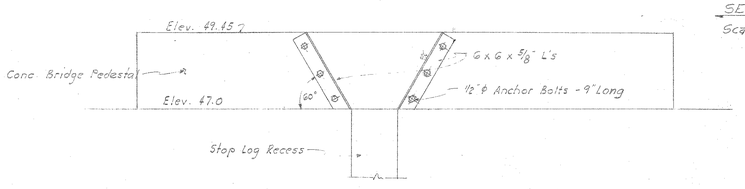
ELEV. OF LADDER
Scale: ½" = 1'-0"



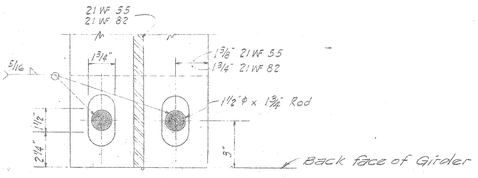
SECTION (4/21/21)
Scale: 1½" = 1'-0"



SECTION (2/21/20)
Scale = 1½" = 1'



STOP LOG GUIDE DETAIL (5/21/20)
Scale: ½" = 1'-0"



PLAN (3/21/21)
SLOTTED KEY DETAIL
Scale: 3" = 1'-0"

NO.	DATE	DESCRIPTION	BY	CKD.
2	2-21-57	ADDED TOP	G.W.C.	
1	10-26-56	STRENGTHEN PIER, ADDED PL'S	C.M.	

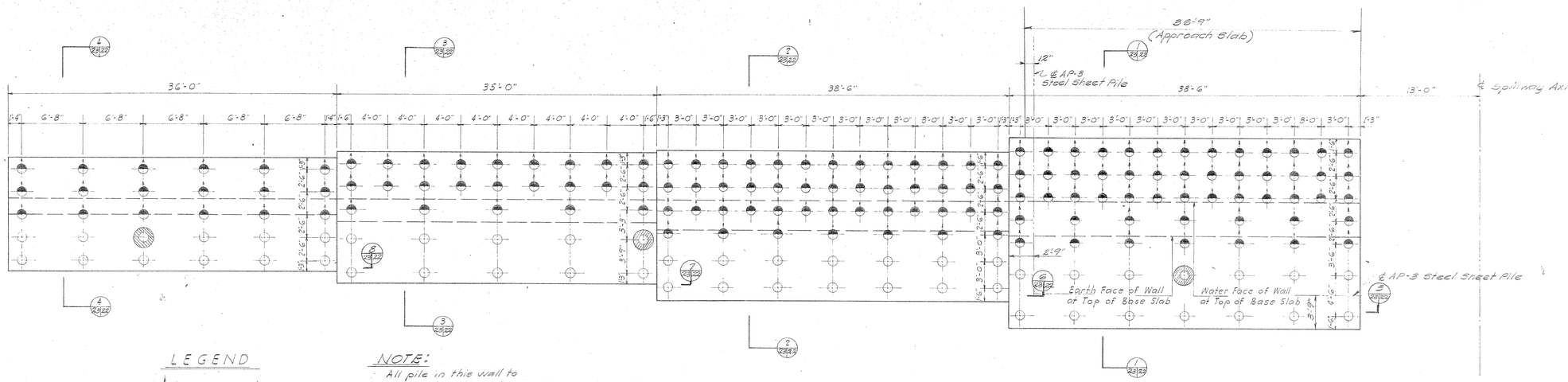
REVISIONS

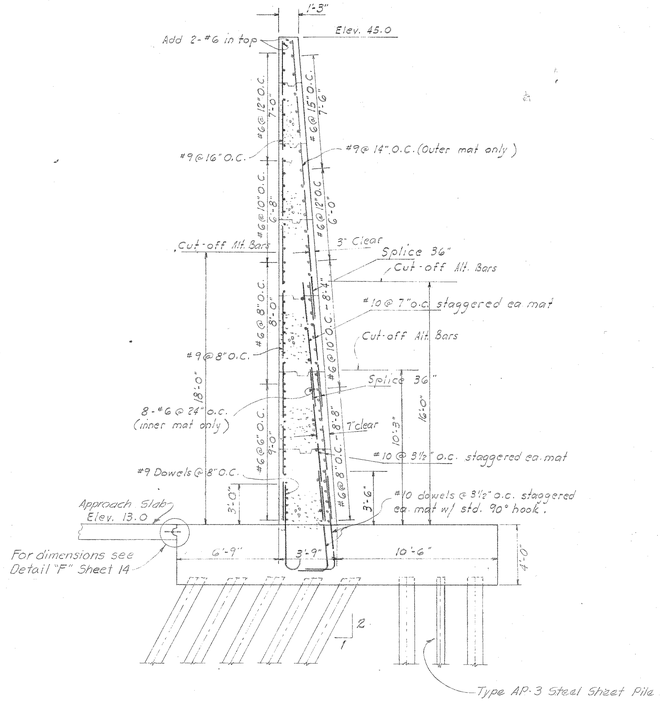
RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
SERVICE BRIDGE DETAILS
MANATEE COUNTY, FLORIDA

DESIGNED BY	G.W.C.
DRAWN BY	C.M.
CHECKED BY	G.W.C.
DATE	May 56
FILE NO.	6353-3-21-I-B
SHEET No.	21
OF	35 SHEETS
SCALE:	As Shown

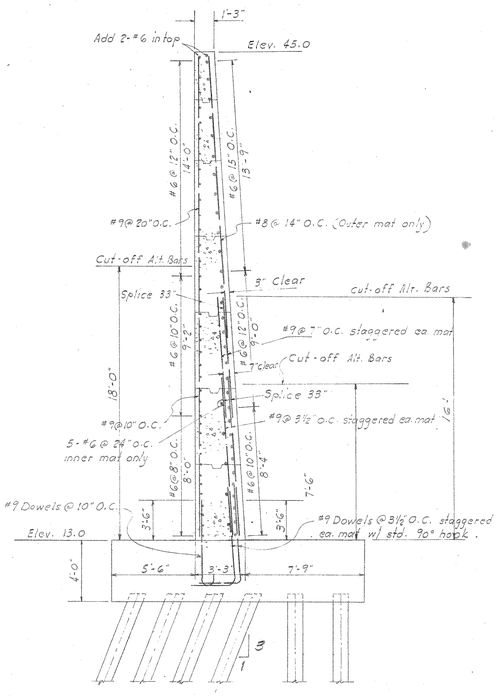
SEAL
GEORGE W. CARTER
No. 9078
STATE OF FLORIDA
REGISTERED ENGINEER


38'-9" (Approach Slab)
12" ℄ AP-3 Steel Sheet Pile
36'-0"
35'-0"
38'-6"
38'-6"
13'-0"
℄ Spillway Axis
6'-8" 6'-8" 6'-8" 6'-8" 6'-8"
4'-0" 4'-0" 4'-0" 4'-0" 4'-0" 4'-0" 4'-0"
3'-0" 3'-0" 3'-0"



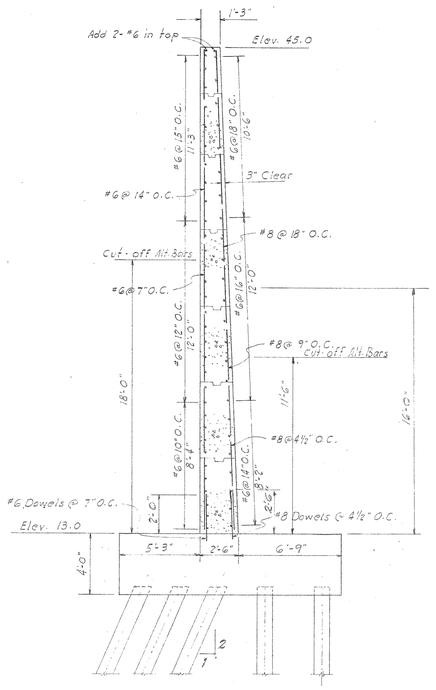
TYPE A-1

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



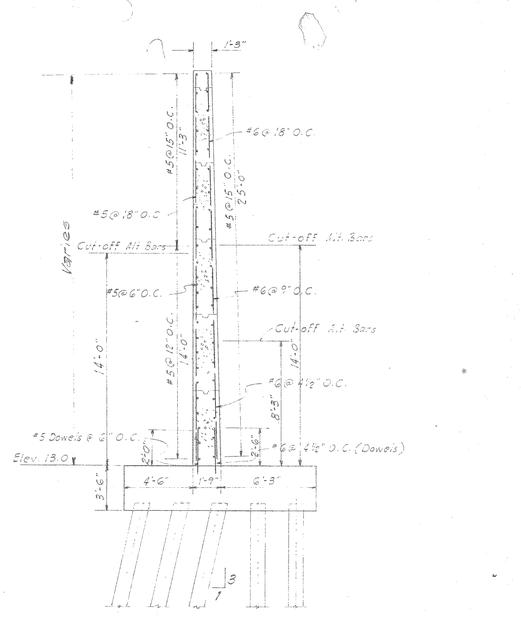
TYPE A-2

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



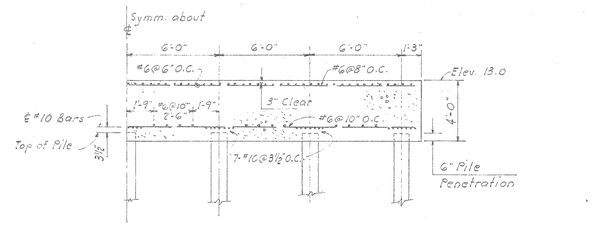
TYPE A-3

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



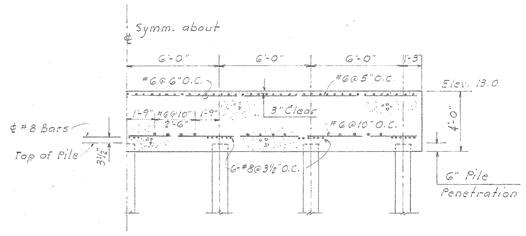
TYPE A-4

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



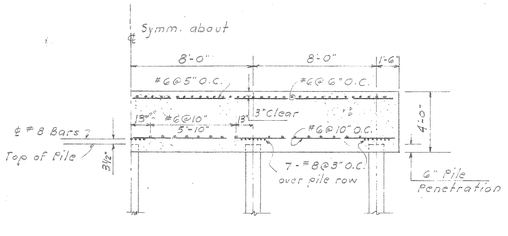
SECTION 5/23/22

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



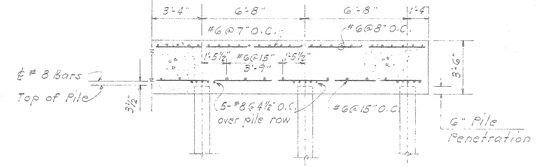
SECTION 6/23/22

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



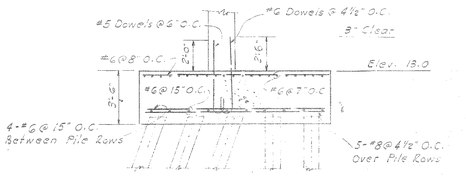
SECTION 7/23/22

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



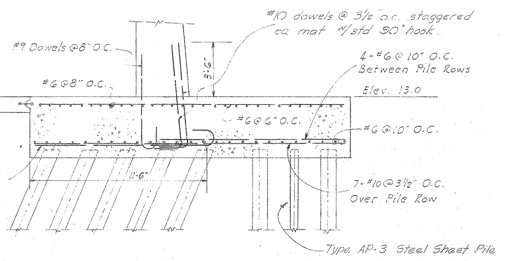
SECTION 8/23/22

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



SECTION 4/23/22

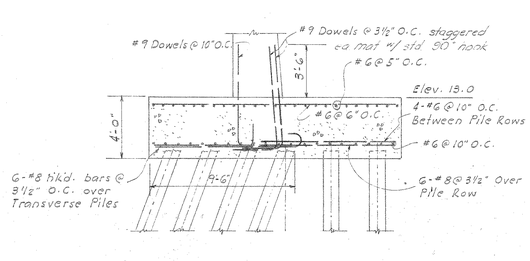
Scale: 1/4"=1'-0"



SECTION 1/23/22

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

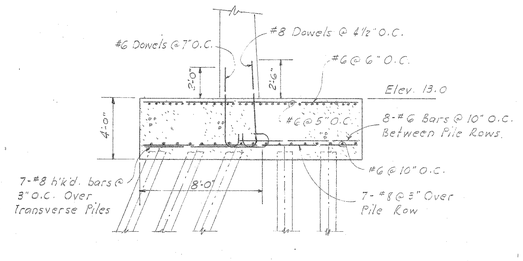
TYPE A-1 BASE SLAB



SECTION 2/23/22

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

TYPE A-2 BASE SLAB



SECTION 3/23/22

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

TYPE A-3 BASE SLAB

TYPE A-4 BASE SLAB

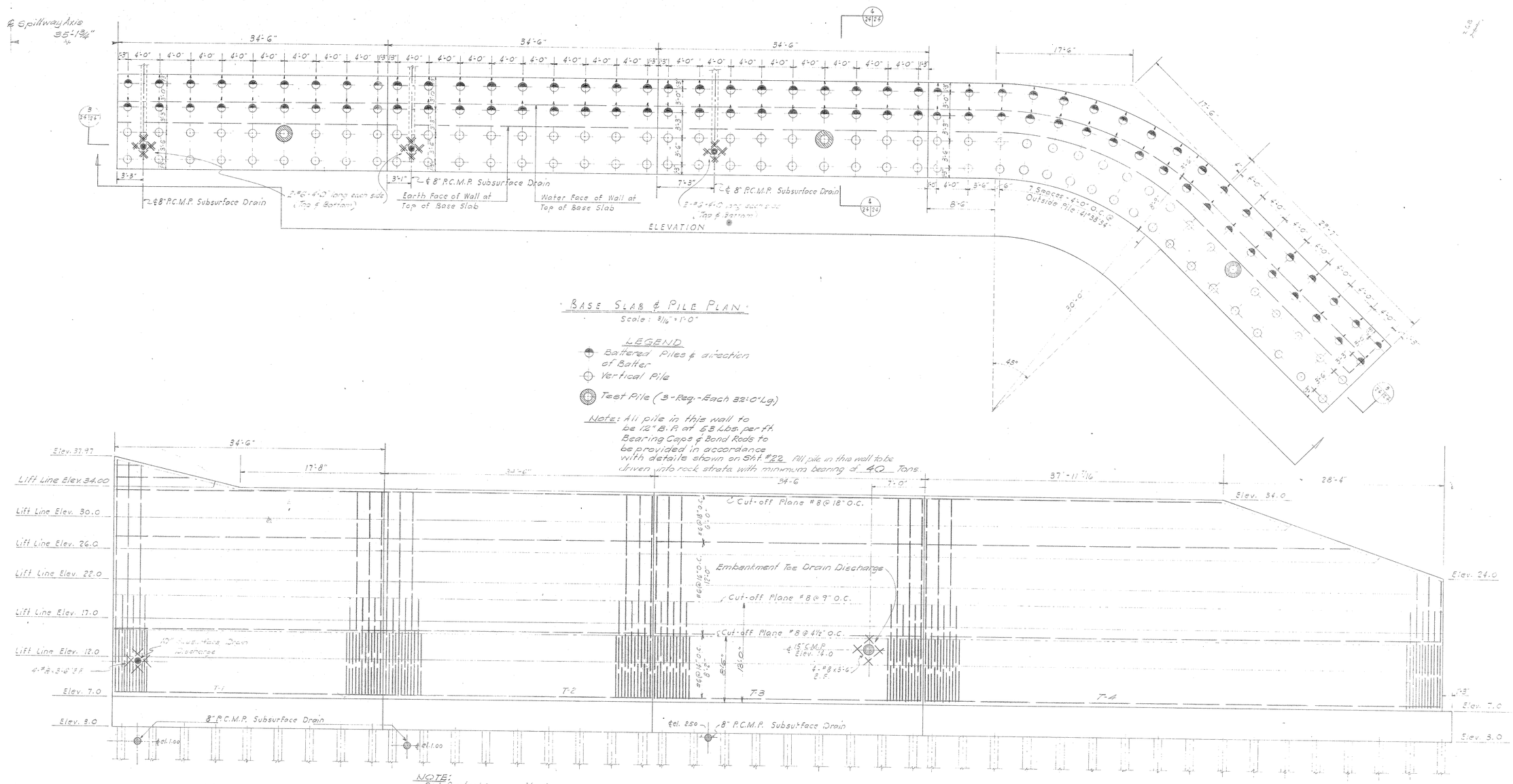
NO.	DATE	DESCRIPTION	BY	CKD.
		REVISIONS		
2	Jan.'23	Add 2nd Stage	AJH	
1	July 66	Reinf. Steel - Addendum No. 2	RAG	RAG

RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
APPROACH WALL STRUCTURAL
MANATEE COUNTY FLORIDA

DESIGNED BY G.W.C.	FILE No. 6353-3-23-I-B
DRAWN BY R. Lane	SHEET No. 23
CHECKED BY	OF 35 SHEETS
DATE May 65	SCALE: 1/4"=1'-0"

SEAL: ROBERT W. CRAIG, No. 3079, STATE OF FLORIDA, REGISTERED ENGINEER



BASE SLAB & PILE PLAN

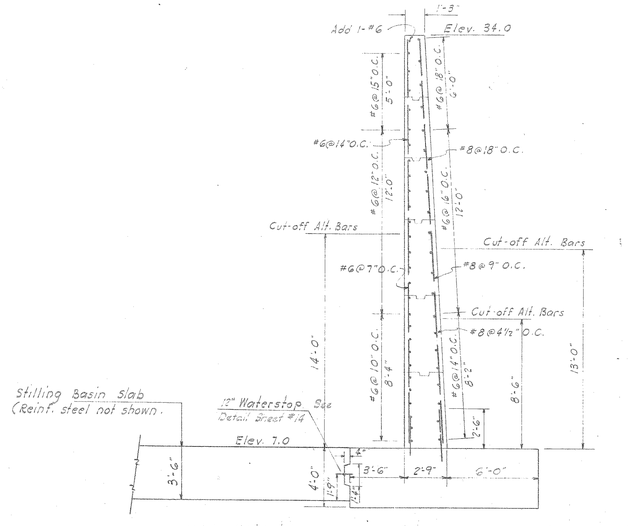
Scale: 3/16" = 1'-0"

LEGEND

- Battered Piles & direction of Batter
- Vertical Pile
- Test Pile (3-Req.-Each 32'-0" Lg.)

Note: All pile in this wall to be 12" B.P. at 53 Lbs. per ft. Bearing Caps & Bond Rods to be provided in accordance with details shown on Sht #22. Fill pile in this wall to be driven into rock strata with minimum bearing of 40 Tons.

NOTE: Reinf. steel in opposite face (Water Side) Not Shown. Typical Section this Sht.



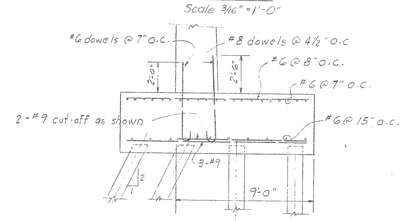
NOTE: 5'-0" thick slab joint construction to be same as this detail.

TYPE T-1 THRU T-7

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

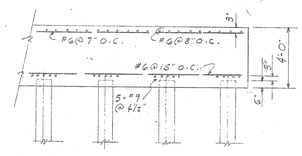
ELEVATION

Scale 3/16" = 1'-0"



SECTION (24/24)

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



SECTION (24/24)

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

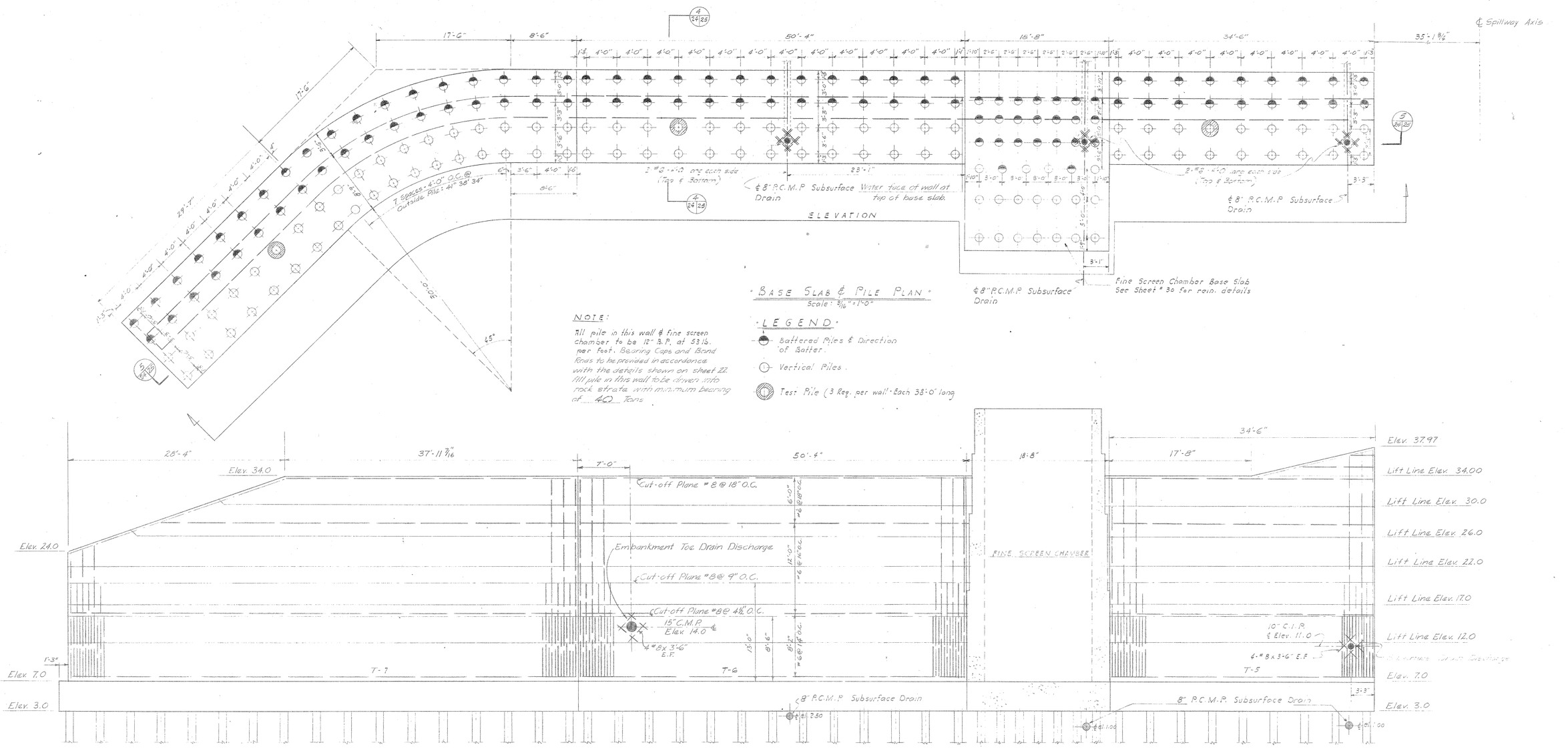
NO.	DATE	DESCRIPTION	BY	CKD.
		REVISIONS		

RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
E. TRAINING WALL - PLAN, ELEVATION & MISC. DETAILS
MANATEE COUNTY, FLORIDA

DESIGNED BY	G.W.C.
DRAWN BY	R. Lane
CHECKED BY	GWC
DATE	May '68
FILE NO.	6353-3-24-I-B
SHEET No.	24
OF	35 SHEETS
SCALE:	As Shown

STATE OF FLORIDA No. 8370 REGISTERED ENGINEER



NOTE:
Reinf. steel in opposite face (Water Side) Not Shown. Typical section on Sht. No. 24

℄ ELEVATION
Scale: 3/16" = 1'-0"

NO.	DATE	DESCRIPTION	BY	CKD.
		REVISIONS		

RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
W. TRAINING WALL - PLAN, ELEVATION & MISC. DETAILS
MANATEE COUNTY, FLORIDA

DESIGNED BY G.W.C.	FILE No. 6353-3-25-I-B	SEAL
DRAWN BY C.M.	SHEET No. 25	ALBERT W. CLIFFORD REGISTERED No. 3878 STATE OF FLORIDA REGISTERED ENGINEER
CHECKED BY	OF 35 SHEETS	
DATE MAY 65	SCALE: 3/16" = 1'-0"	

Detail A
Detail B
Detail C
ZP-27 Steel Sheet Pile
Pilaster above
Approach Wall Base Slab (See Sht.# 22 for Pile Plan)
AP-3 Steel Sheet Pile
NOTE: Reinforcing typical for all (3) three Approach Slab Monoliths. Alternate bars (top & bottom) to be continuous thru monolith joints.
54 - #4 @ 8" o.c. (in top)
37 - #4 @ 12" o.c. (in bottom)
32 - #4 @ 12" o.c. (in top)
42 - #6 @ 6" o.c. (in bottom)
72 - #6 @ 8" o.c. (in top)
48 - #6 @ 12" o.c. (in bottom)
A Spaces @ 2'-6" = 80'-0"
B Spaces @ 6'-0" = 18'-0"
Approach Wall Base Slab (See Sht.# 22 for Pile Plan)
ZP-27 Steel Sheet Pile 48'-1 3/4"
Training Wall Base Slab

4 - #4 cont.
#4@12 o.c.
#4@8 o.c.
Elev. 13.0
#4 @ 12 o.c.
#4-stirrups @ 18" o.c.
Type AP-3 Steel Sheet Pile
#6@6" o.c.
#6@8 o.c.
12" Waterstop. See Detail Sht 14.
APPROACH SLAB REIN. STEEL DETAIL
Scale 1/4" = 1'-0"

NOTE: Steel Sheet Pile, Approach slab and end monolith reinforcing not shown. End monolith reinf. shall be similar to intermediate monolith reinf.

AP-3 Steel Sheet Pile
Detail A
ZP-27 Steel Sheet Pile
Pilaster
Detail B
AP-3 Steel Sheet Pile
Detail C
DETAILS of STEEL SHEET PILE
Scale 1" = 1'-0"

CENTER LINE
INTERMEDIATE MONOLITH
END MONOLITH
SYMMETRICAL ABOUT CENTER LINE
NOTE: Reinforcing typical for all (8) nine Stilling Basin Monoliths. Alternate bars (Top & Bott.) to be continuous thru monolith joints.
37 - #6 @ 12" O.C. in bottom
55 - #8 @ 8" O.C. in top
33'-8" #4 @ 12" O.C. in bottom
30'-0" #8 @ 8" O.C. in top
AP-3 Steel Sheet Pile
End Sill
37'-4"
SPILLWAY STRUCTURE PILING AND REIN. STEEL DETAILS
Scale 1/8" = 1'-0"

Rein. Number
Piles Per Row
57 Piles in GROUP
42 Piles in GROUP
SECTION
Scale 1/4" = 1'-0"

#8@12 O.C.
#6@12 O.C.
Elev. 13.25
4" Clear
Pile Penetration
Type AP-3 Steel Sheet Pile
SECTION THRU END SILL
Scale 1/4" = 1'-0"

NOTE: See Approach Slab Detail this sheet.
10'-0"
Elev. 15.0
12" Slab
Top of Slab El. 13.0
12'-0"
Type AP-3 Steel Sheet Pile
#6@8" O.C. Ea. Way
#6@12" O.C. Ea. Way
3" clear
15" Clear
Elev. 5.0 Lift Line
5'-0" Pile Penetration @ End
Assumed Rock Elev. -83.0
Rein. Number
Piles Per Row
96 Piles in A GROUP
54 Piles in B GROUP
SECTION
Scale: 1/8" = 1'-0"

4" Clear
#8@8" O.C. Ea. Way
#8@12" O.C. Ea. way
Typical Monolith
Elev. 7.00
5'-6"
Sheet Pile cut-off wall
Elev. 13.25
See End Sill Rein. Steel Detail this Sheet
Note
All piles in monoliths shall be 14" B.P. at 73 lbs per foot.

BEARING CAP SCHEDULE

Location	Pile Row Numbers	Direction of Batter	Cap Dimensions A	B	C	No. of Caps per monolith	Pile Bearing Value Minimum Bearing
Intermediate Monolith	1, 3, 5, 6, 7, 7A & 8	◐	16"	14"	1'-4"	26 each	60 Ton
"	2, 4, 6 & 7	◑	17"	17"	1'-6"	19 each	90 Ton
"	8, 9, 10 & 11	◑	16"	15"	1'-3 1/8"	22 each	90 Ton
End Monolith	1, 3, 5, 6, 7, 8, 9 & 10	◐	16"	14"	1'-4"	27 each	40 Ton
"	1, 2, 3, 4, 5 & 6	◑	16"	15"	1'-3 1/8"	24 each	90 Ton
"	8, 9, 11, 12 & 13	◑	16"	14"	1'-3 1/8"	22 each	60 Ton

6"
Holes for rock wales
1/8" vent holes
14" B.P. @ 73#
BEARING CAP DETAIL

LEGEND
Batter Piles & direction of Batter
Vert. Co. Pile
Test Pile (4 Req. - 50'-0" long)

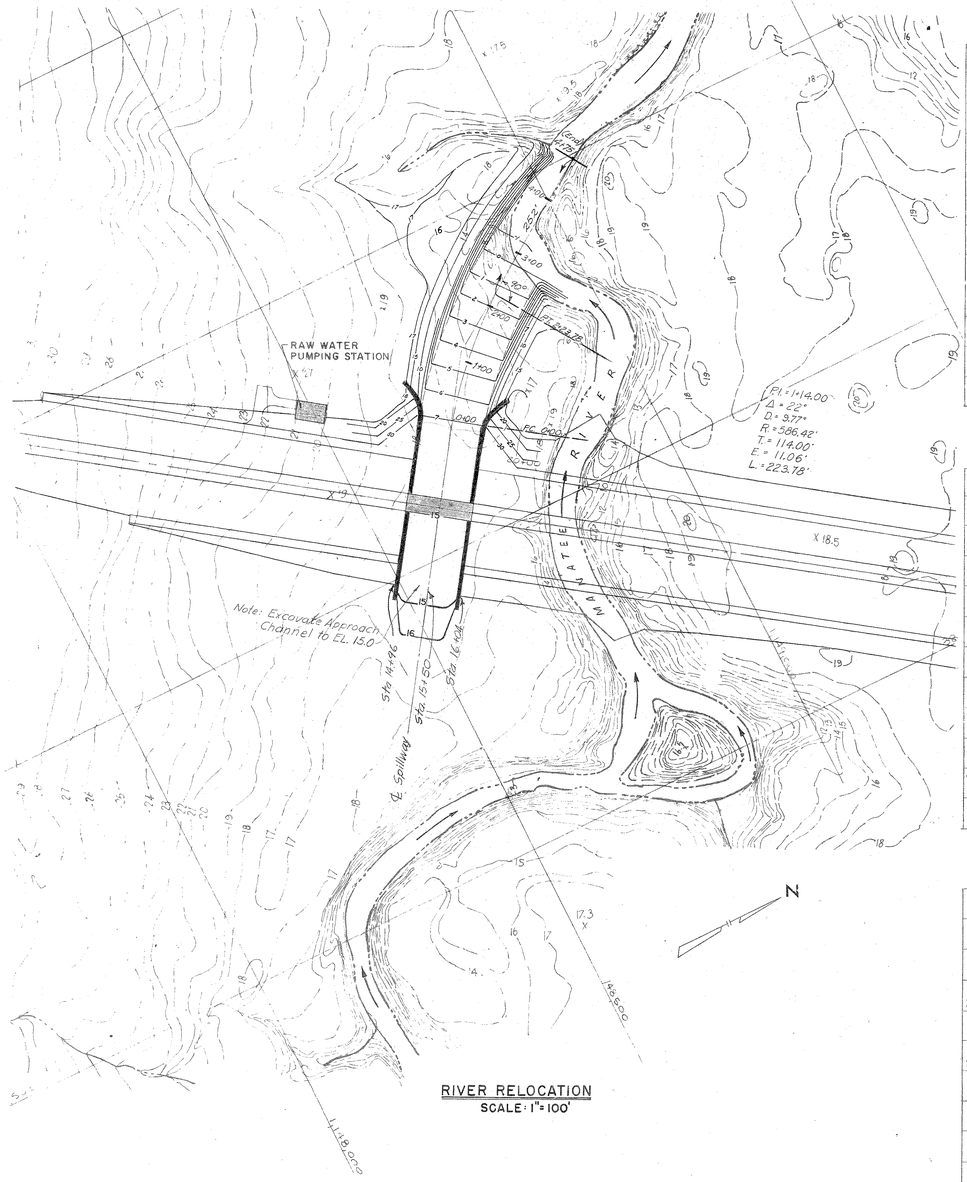
NO.	DATE	DESCRIPTION	BY	CKD.
3	11/1/65	Pile bearing value noted. Addm. No. 3	R.R.	
2	10/1/65	Arrangement of details through Sta. 6+00 changed. Quantities as per Addendum No. 2.	R.J.K.	

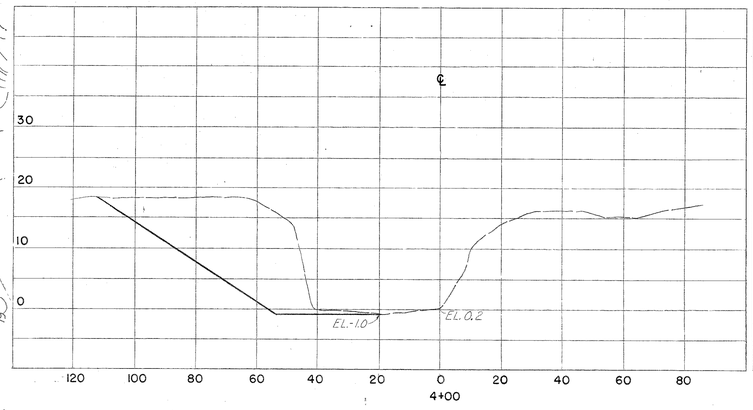
REVISIONS

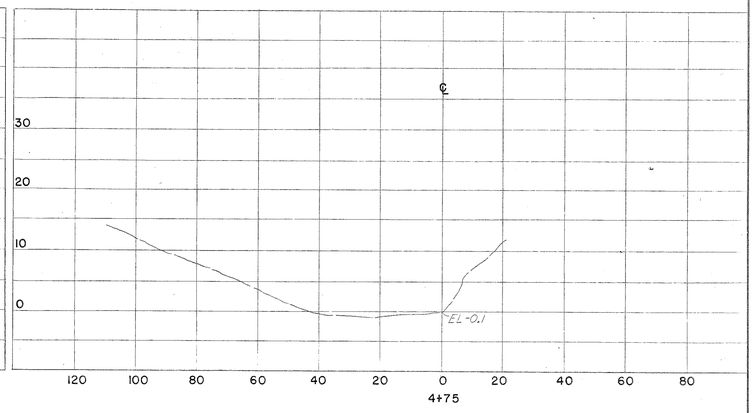
RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

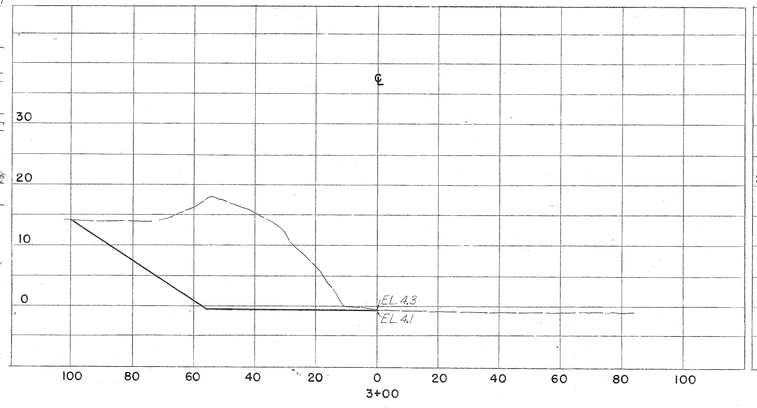
WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
SPILLWAY STRUCTURE, PILING, & REIN. STEEL DETAILS
MANATEE COUNTY, FLORIDA

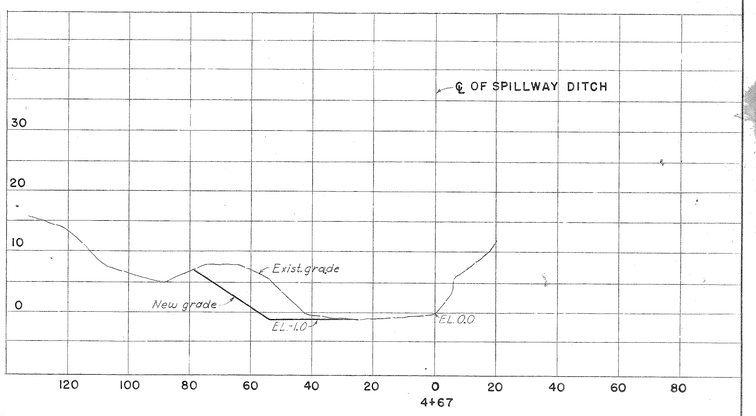
DESIGNED BY G.W.C.	FILE No. 6353-3-25-I-B	SEAL: REGISTERED CIVIL ENGINEER No. 3078 STATE OF FLORIDA
DRAWN BY R.J.K.	SHEET No. 26	
CHECKED BY G.W.C.	OF 35 SHEETS	
DATE May, 1965	SCALE: As Shown	

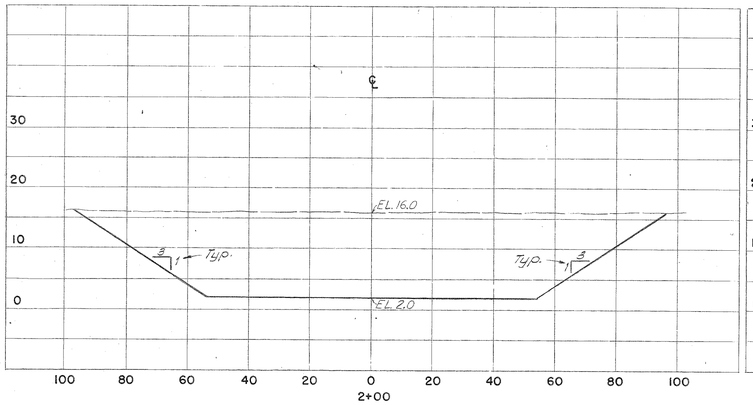


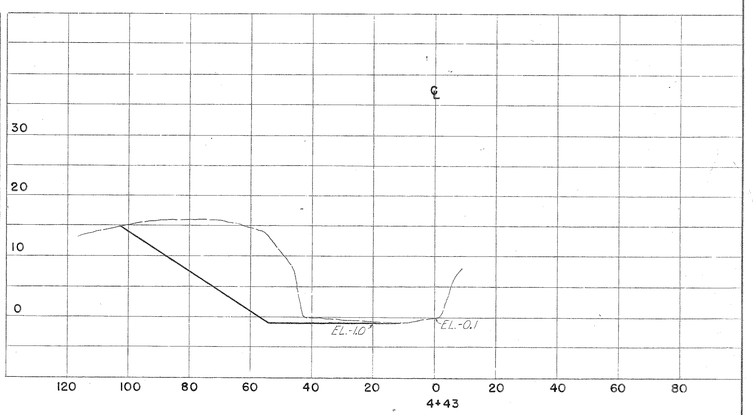


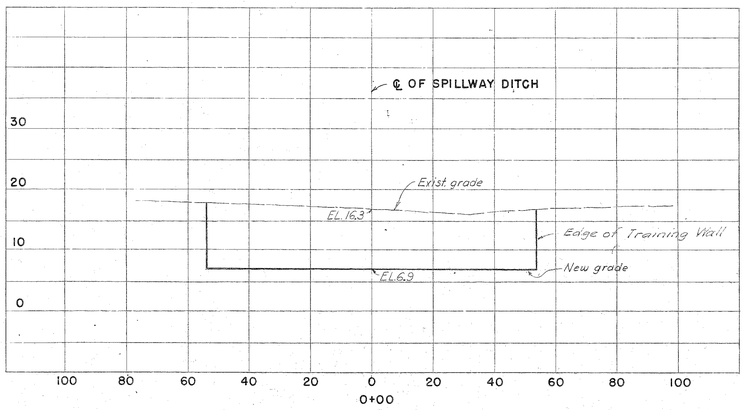


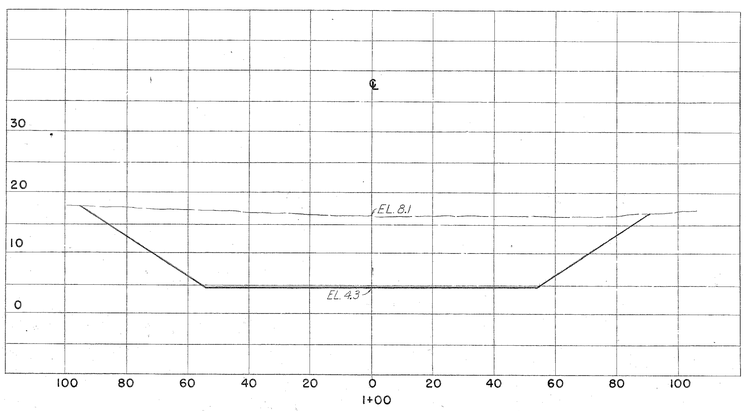












NO.	DATE	DESCRIPTION	BY	CKD.
1	JAN 67	AS-BUILT	R.J.M.	

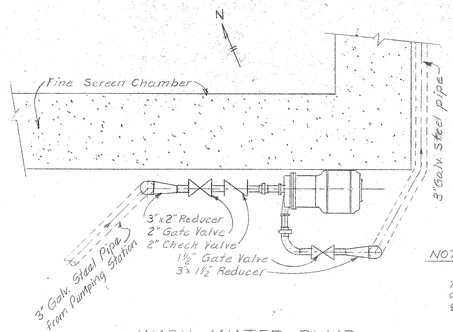
REVISIONS

RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
EXIT CHANNEL LOCATION & CROSS SECTIONS
MANATEE COUNTY, FLORIDA

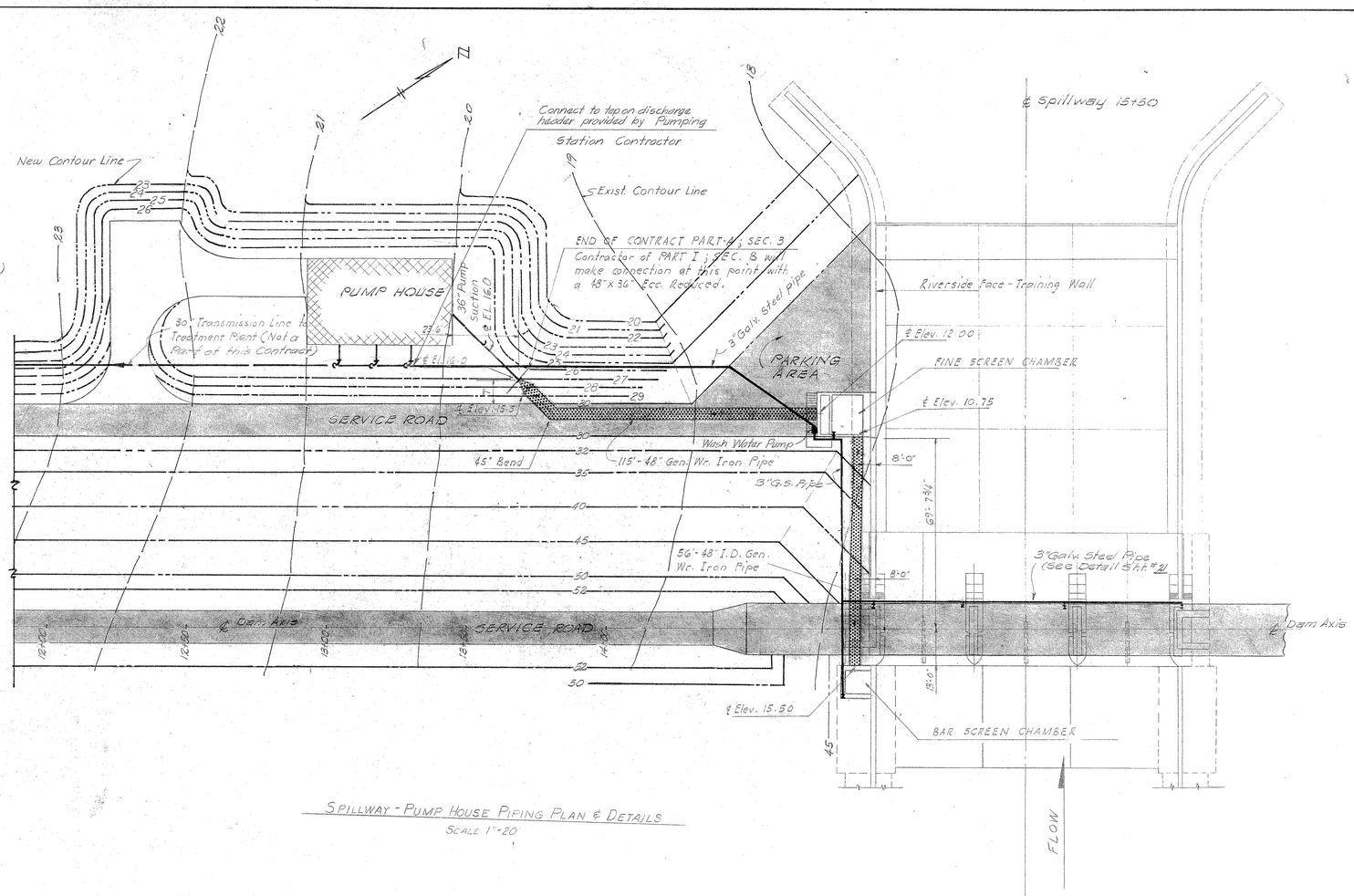
DESIGNED BY G.W.C.	FILE No. 6353-3-26-I-B
DRAWN BY T.B.	SHEET No. 27
CHECKED BY GR	OF 35 SHEETS
DATE May 65.	SCALE: As Shown

SEAL
R. J. MAST W. C. FOX, JR.
No. 3079
STATE OF FLORIDA
REGISTERED ENGINEER



NOTE:
Pump base to be direct mounted to outs. face of South wall (@ S.E. Cor.) of Fine Screen Chamber. Pump ℄ Elev. 32.50.

WASH WATER PUMP
SECTIONAL PLAN (Below Stairs)
(No Scale)



SPILLWAY - PUMP HOUSE PIPING PLAN & DETAILS
SCALE 1"=20'

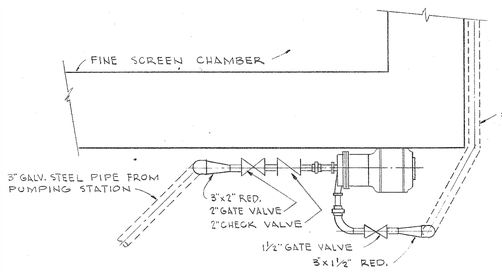
NO.	DATE	DESCRIPTION	BY	CKD.
2	JAN '57	AS BUILT	AJA	
1	10/56	48" G.W.I.P. Moved - Addendum No. 2	EJL	BSV

REVISIONS

RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

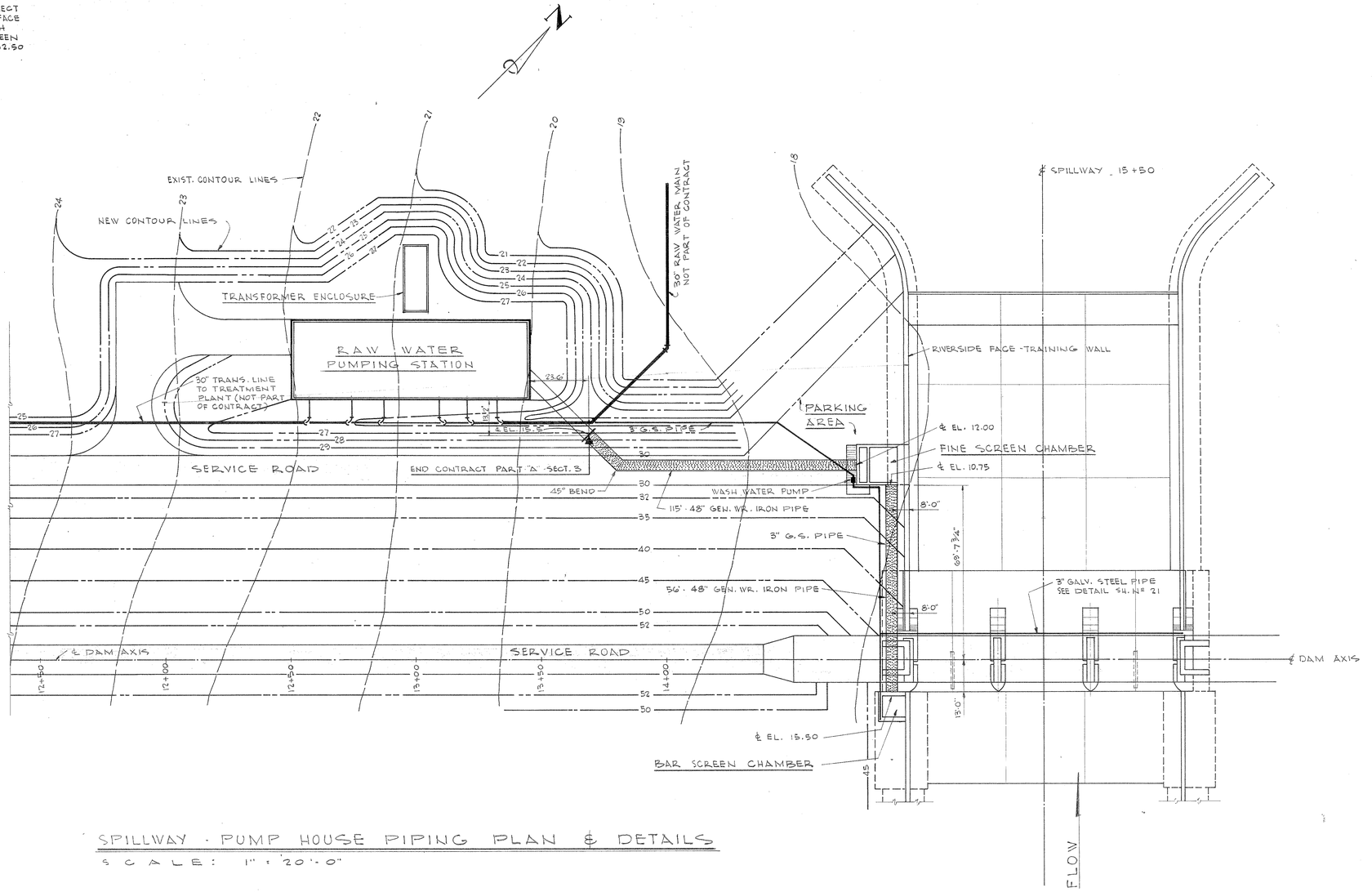
WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
SPILLWAY - PUMP HOUSE PIPING PLAN & DETAILS
MANATEE COUNTY, FLORIDA

DESIGNED BY G.W.C.	FILE No. 6353-3-28-I-B	SEAL: CLAUDE E. ALLFREE, REGISTERED ENGINEER, No. 3078, STATE OF FLORIDA
DRAWN BY B.G.V.	SHEET No. 28	
CHECKED BY	OF 35 SHEETS	
DATE MAR. 1956	SCALE: As shown	



NOTE:
PUMP BASE TO BE DIRECT MOUNTED TO OUTSIDE FACE OF SOUTH WALL AT SOUTH EAST COR. OF FINE SCREEN CHAMBER. PUMP ℄ EL. 32.50

WASH WATER PUMP
SECTIONAL PLAN
(BELOW STAIRS)
NOT TO SCALE



SPILLWAY - PUMP HOUSE PIPING PLAN & DETAILS
SCALE: 1" = 20'-0"

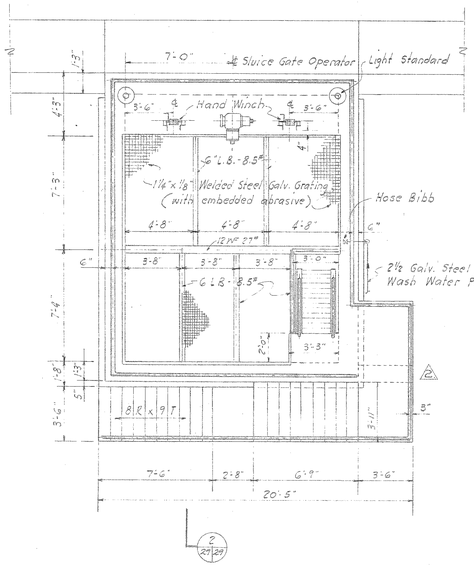
NO.	DATE	DESCRIPTION	BY	CKD.
		JAN 67 AS-BUILT		
2	FEB. 66	REVISED CONTOURS & REDRAWN	A.J.N.	J.R.C.
1	JULY 66	48" G.W.I.P. MOVED - ADDENDUM Nº 2	R.A.L.	J.G.V.

REVISIONS

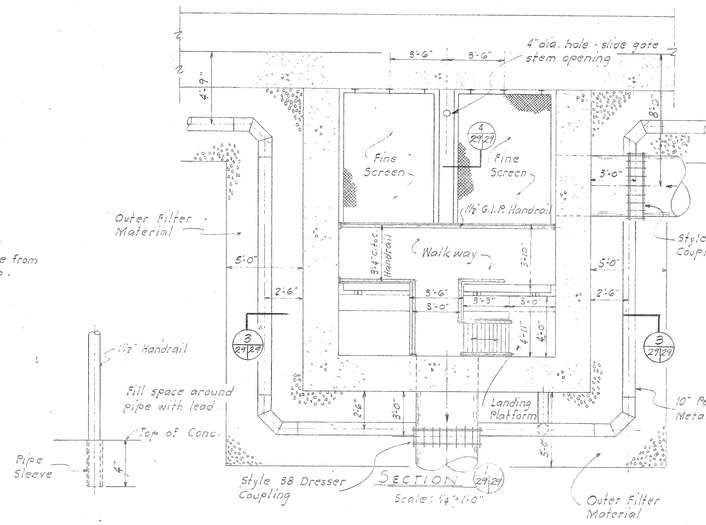
RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. — ST. LOUIS, MO.

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
SPILLWAY - PUMP HOUSE PIPING PLAN & DETAILS
MANATEE COUNTY, FLORIDA

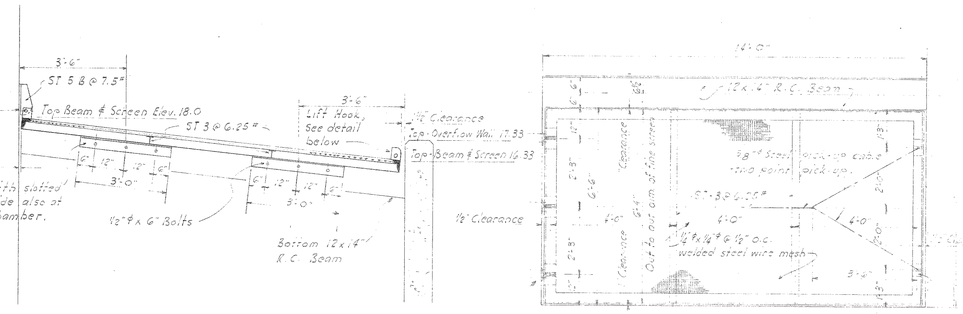
DESIGNED BY G.W.C.	FILE No. 6353-3-28-1-B	SEAL
DRAWN BY A.J.N.	SHEET No. 28	
CHECKED BY J.R.C.	OF 35 SHEETS	
DATE FEB. 1966	SCALE: AS SHOWN	

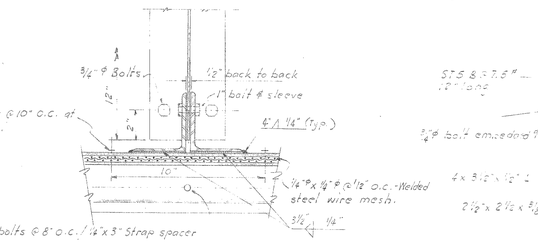


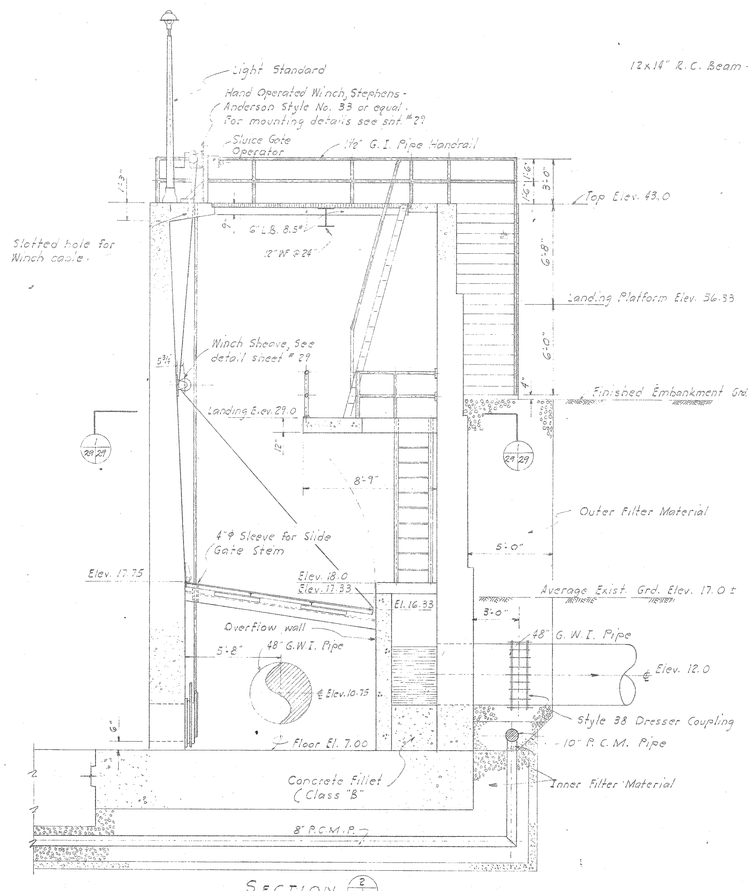
TOP PLAN
Scale: 1/4"=1'-0"

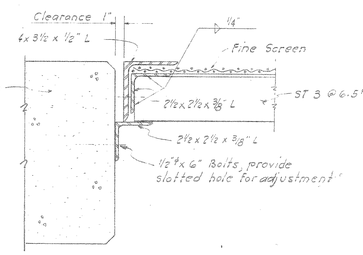


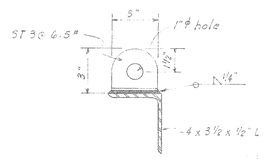
HANDRAIL SETTING
No Scale

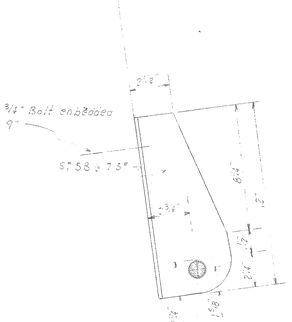


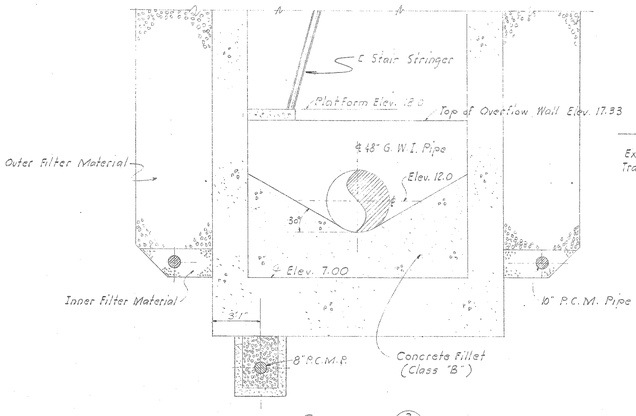


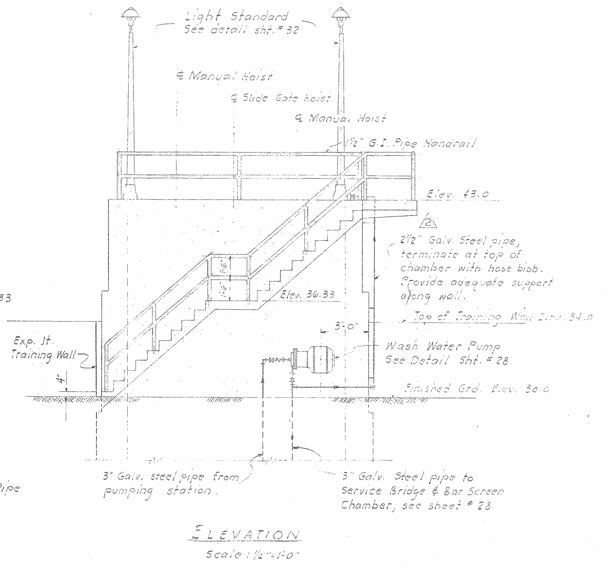












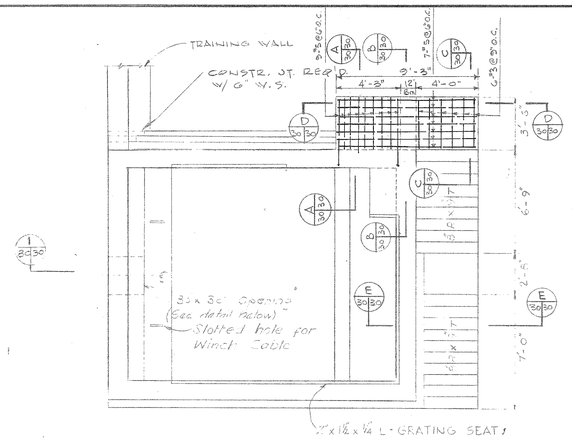
NO.	DATE	DESCRIPTION	BY	CKD.
		REVISIONS		

RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
FINE SCREEN CHAMBER- MECHANICAL
MANATEE COUNTY FLORIDA

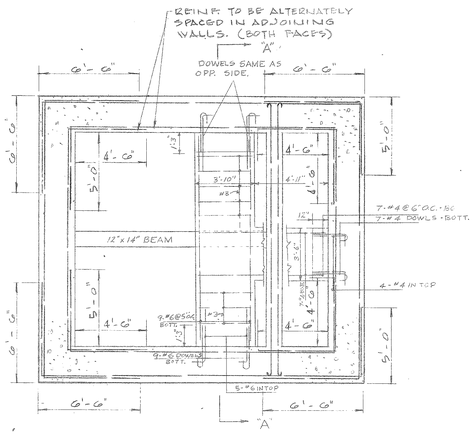
DESIGNED BY	G.W.C.
DRAWN BY	R.L.H.
CHECKED BY	B.G.V.
DATE	MAY 1965
FILE No.	6353-3-31-I-B
SHEET No.	29
OF	35 SHEETS
SCALE:	

SEAL
No. 9079 STATE OF FLORIDA REGISTERED ENGINEER



PLAN AT TOP - EL. 43.0

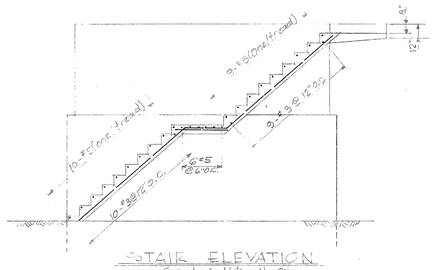
¼" = 1'-0"



SECTION (2 / 30/30)

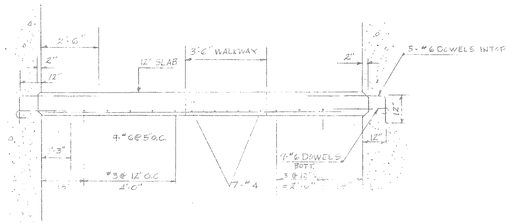
4" = 1'-0"

NOTE: HORIZ. REINF. ARRANGEMENT SHOWN, IS TYPICAL FOR ALL EXTERIOR WALL SECTIONS. VERTICAL REINF. NOT SHOWN.



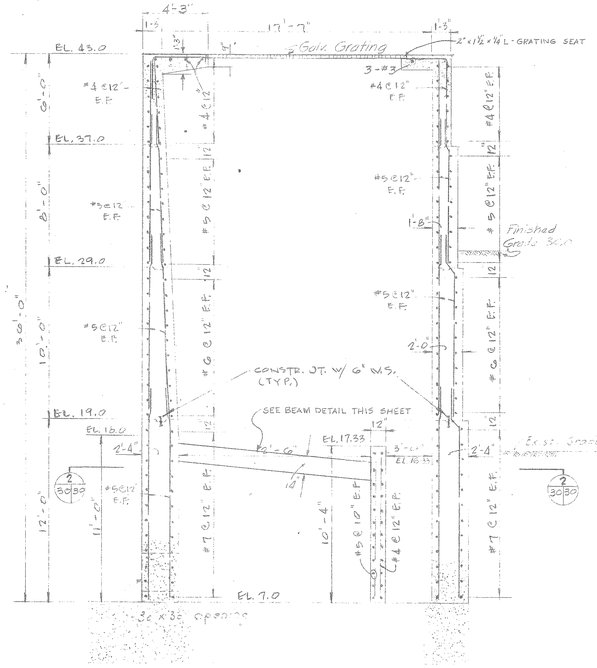
STAIR ELEVATION

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



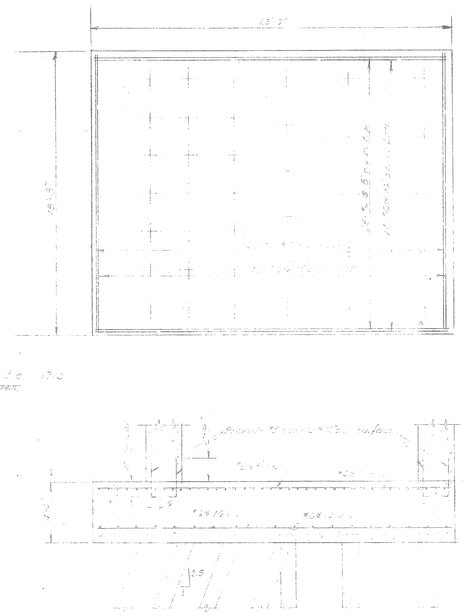
SEC. "A-A" THRU WALKWAY

Scale: 3/8" = 1'-0"



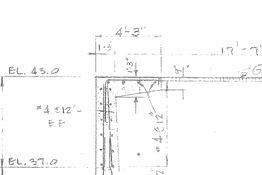
SECTION (1 / 30/30)

¼" = 1'-0"



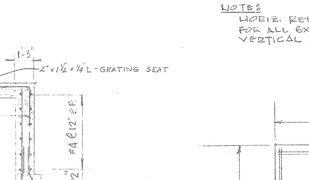
FOUNDATION SLAB - FINE SCREEN CHAMBER

Scale: ¼" = 1'-0"



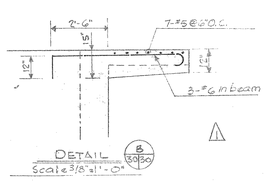
DETAIL (A / 30/30)

Scale: 3/8" = 1'-0"



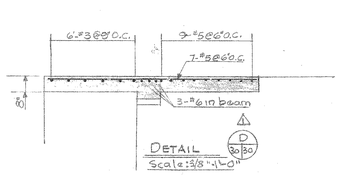
DETAIL (C / 30/30)

Scale: 3/8" = 1'-0"



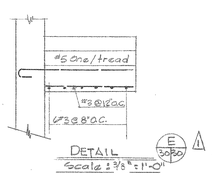
DETAIL (B / 30/30)

Scale: 3/8" = 1'-0"



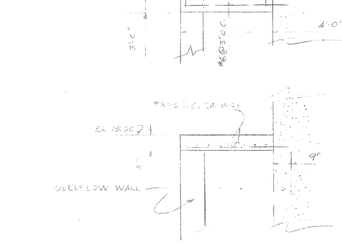
DETAIL (D / 30/30)

Scale: 3/8" = 1'-0"



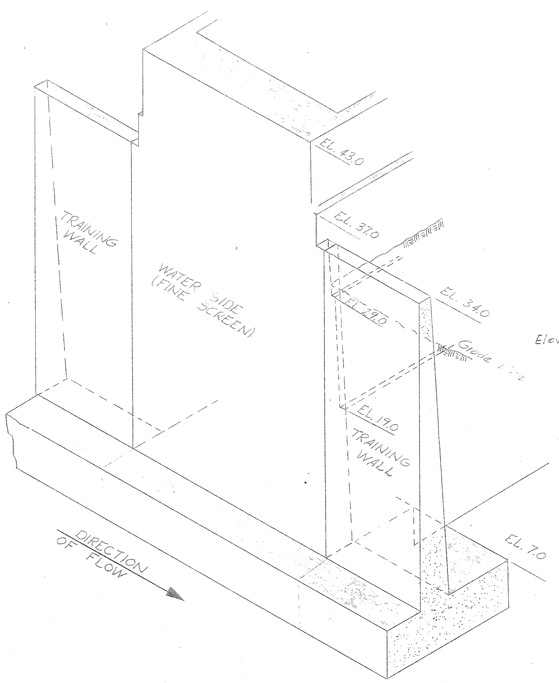
DETAIL (E / 30/30)

Scale: 3/8" = 1'-0"



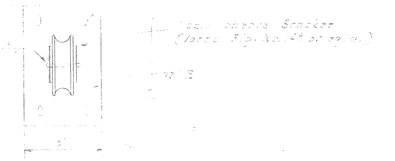
LANDING PLATFORM DETAILS

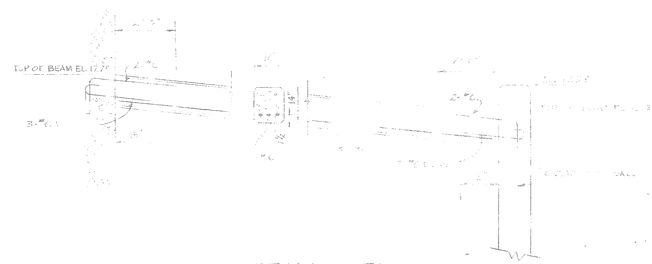
Scale: 3/8" = 1'-0"

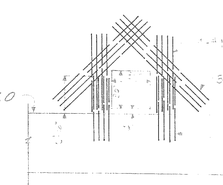


ISOMETRIC OF FINE SCREEN

No Scale







Reinf. Detail at 30" Gate Openings

Scale: 1/8" = 1'-0"

NO.	DATE	DESCRIPTION	BY	CKD.
		REVISIONS		

RUSSELL & AXON

Consulting Engineers, Incorporated

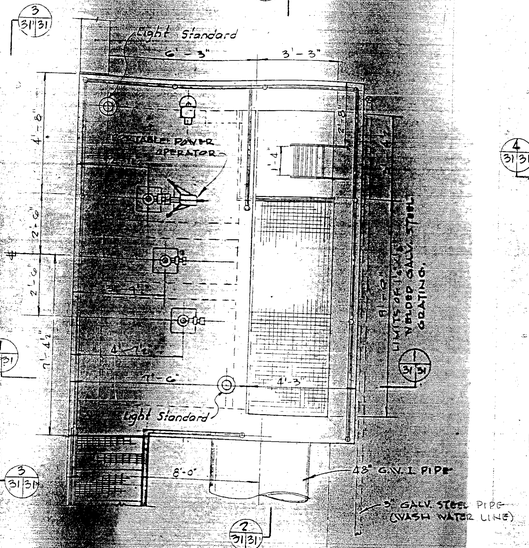
DAYTONA BEACH, FLA. — ST. LOUIS, MO.

WATER WORKS PROJECT
EARTH DAM & GATED SPILLWAY
PART B
FINE SCREEN CHAMBER - STRUCTURAL
MANATEE COUNTY, FLORIDA

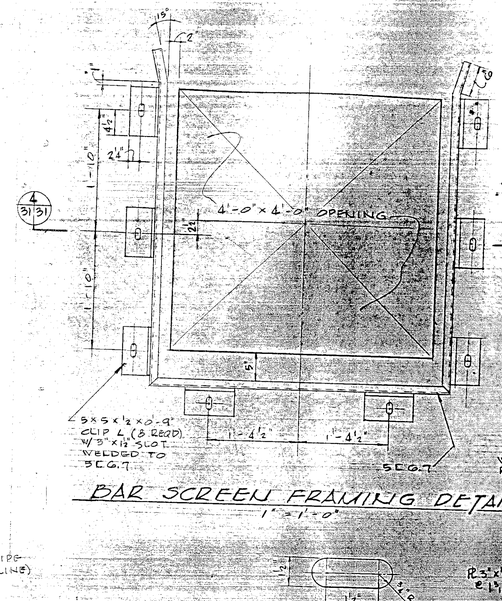
DESIGNED BY	FILE No.
	6353-3-29-I-B
DRAWN BY	SHEET No. 30
CHECKED BY	OF 35 SHEETS
DATE	

SEAL

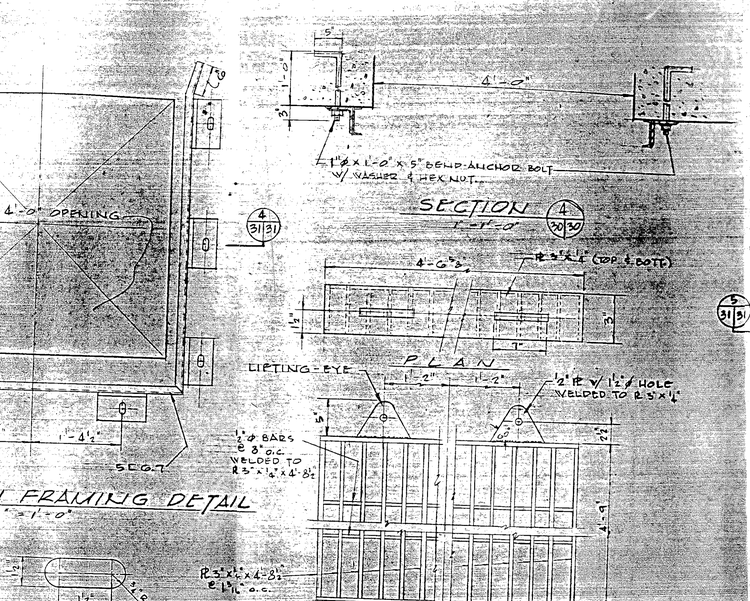
REGISTERED ENGINEER — No. 9078 — STATE OF FLORIDA — REGISTERED



PLAN
3/8" = 1'-0"



BAR SCREEN FRAMING DETAIL
1" = 1'-0"

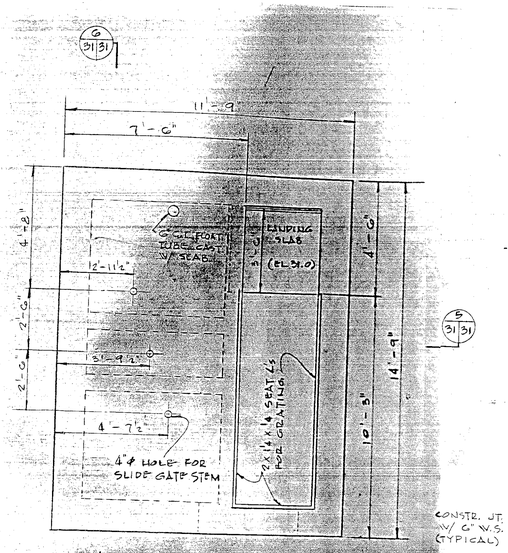


SLOT DETAIL
(N.T.S.)

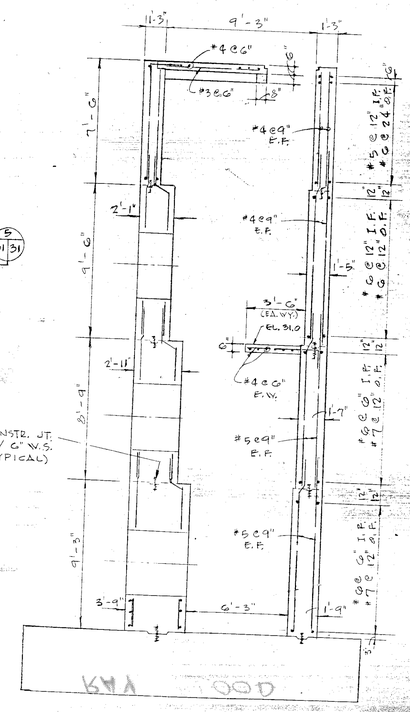
BAR SCREEN DETAIL
(N.T.S.)

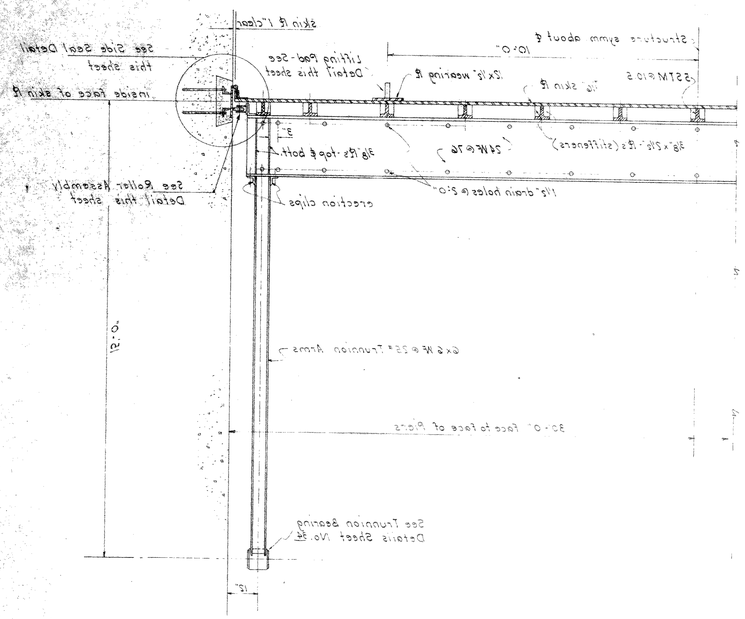
NOTE: BAR SCREEN TO BE GALVANIZED. BAR SCREEN SHOWN IS STANDARD GALV. WELDED STEEL BRIDGE TYPE GRATING LESS ALTERNATE 2" ø CROSS BARS.

NOTE: LIGHT STANDARDS NOT SHOWN IN SECTION



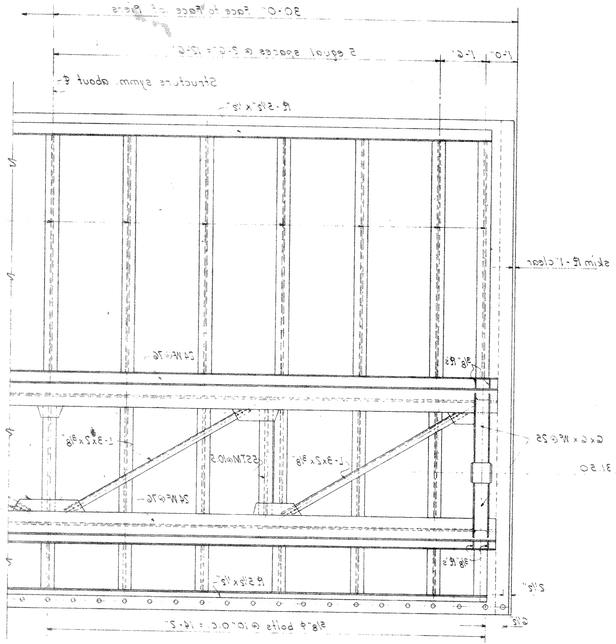
PLAN AT EL 48.0
3/8" = 1'-0"


11'-3"
9'-3"
11'-3"
#4@6"
#3@6"
#4@9" E.F.
#4@9" E.F.
#5@12" I.F.
#6@12" O.F.
#6@12" I.F.
#5@9" E.F.
#5@12" I.F.
#6@12" O.F.
#6@12" I.F.
#5@12" O.F.
#6@12" I.F.
#6@12" O



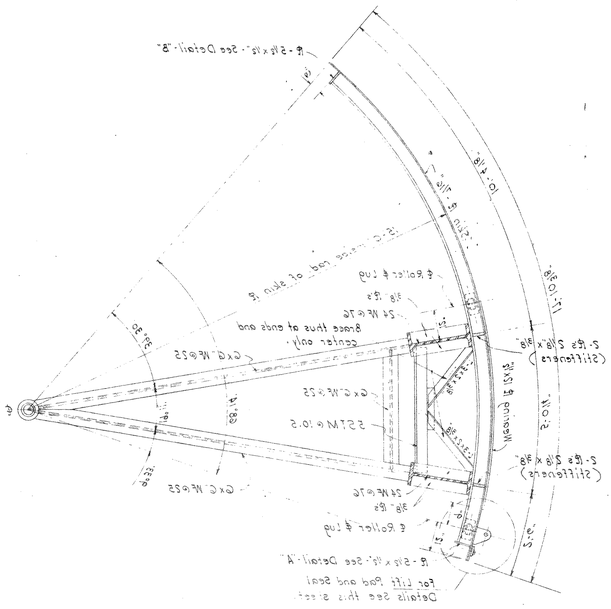
SCALE: 1/2" = 1'-0"

PLAN OF GATE

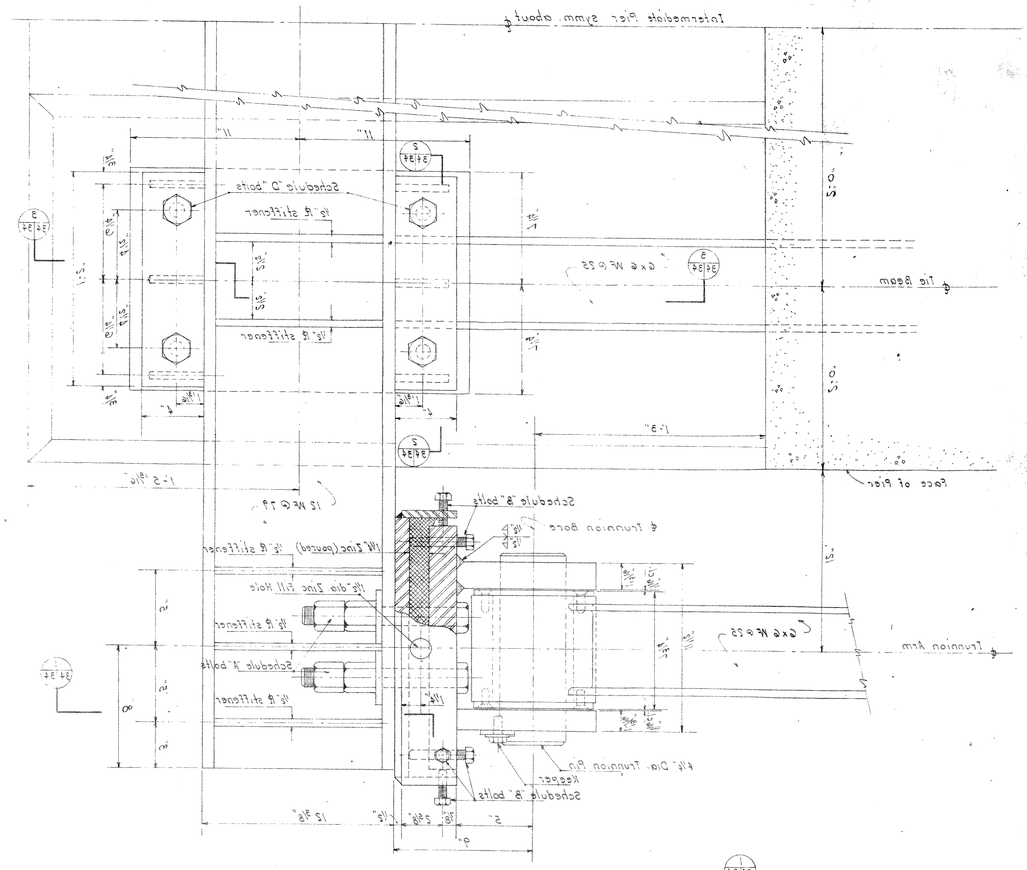


ELEVATION OF GATE

Scale: 1/2" = 1'-0"

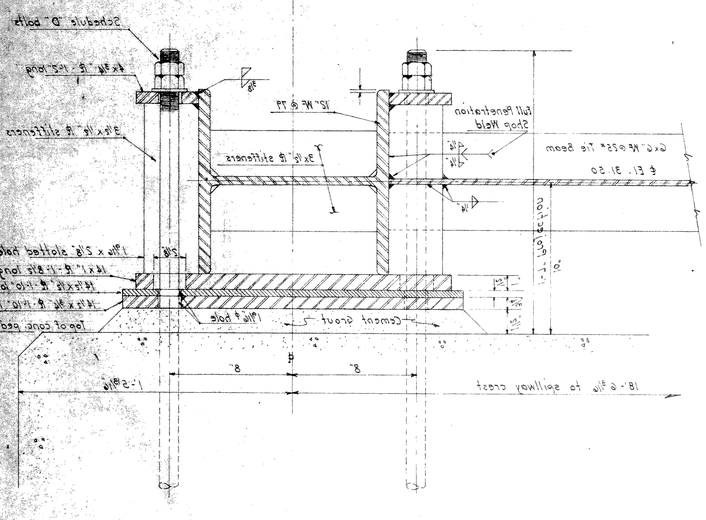


SECTION THRU



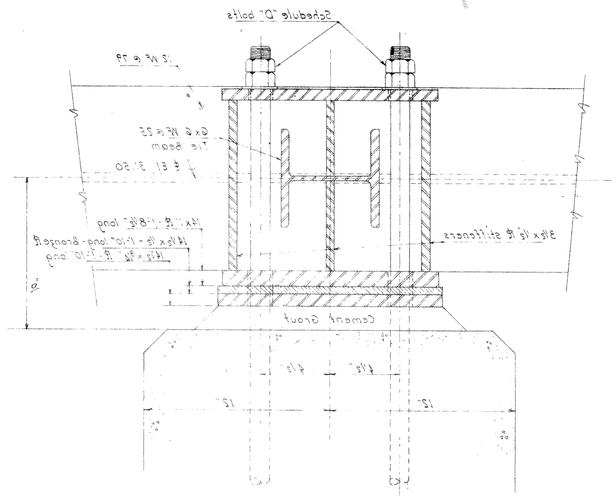
PLAN

Scale: 3/4"=1'-0"



SECTION 3/24 3/24

Scale: 3/4"=1'-0"

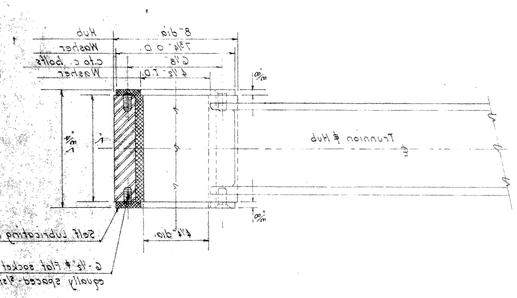


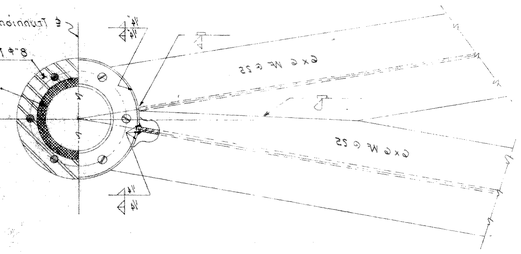
SECTION 3/24 3/24

Scale: 3/4"=1'-0"

BOLT SCHEDULE

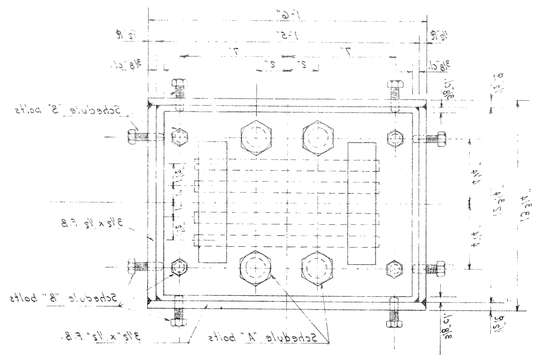
Designation	Size Dia	Material	Treatment	Min. Length	Accessories	Remarks
A	1"	A325	Galvanized	0'-10"	Two Nuts - 1" x 3 1/2" O.D. ℄ washer	none
B	5/8"	4140	none	0'-2"	none	none
C	1/2"	4140	none	0'-2"	Lock Washers (galv.)	none
D	1"	A194	none	3'-0"	Two Nuts - 1" x 3" O.D. ℄ washer with 4" threads per bolt	Provide 6" dia. hook @ end in addition to ind. length
E	3/4"	A194	none	2'-0"	One Nut - 1" x 2" O.D. ℄ washer	





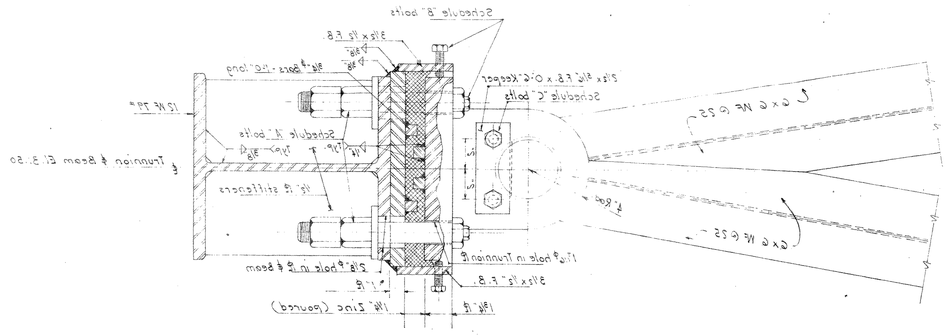
TRUNNION ARM-HUB DETAIL

Scale: 3/4"=1'-0"



TRUNNION PLATE ELEVATION

Scale: 3/4"=1'-0"



SECTION 3/24 3/24

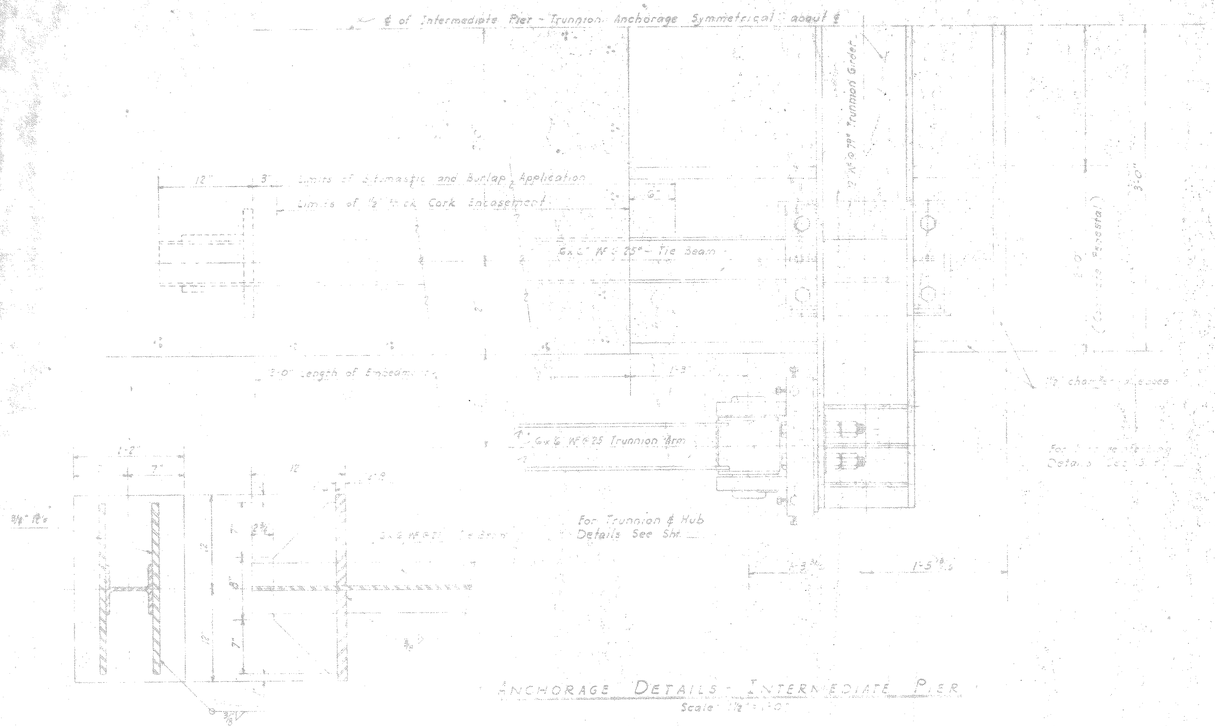
Scale: 3/4"=1'-0"

NO.	DATE	DESCRIPTION	BY	CHK'D
2	10/1/62	Trunnion Pedestal Added, Bushings #2	RLL	DBW
1	10/1/62	As-Built		

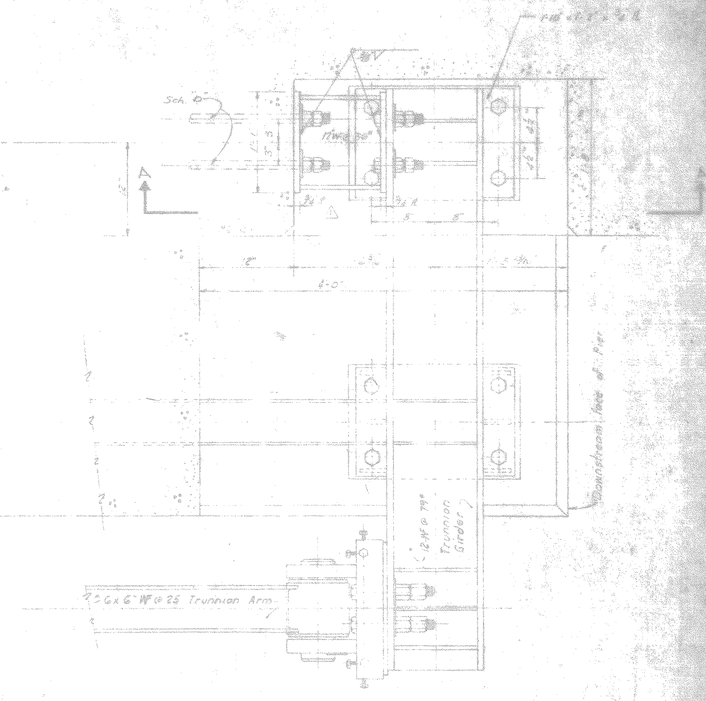
REVISIONS

RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA. ST. LOUIS, MO.

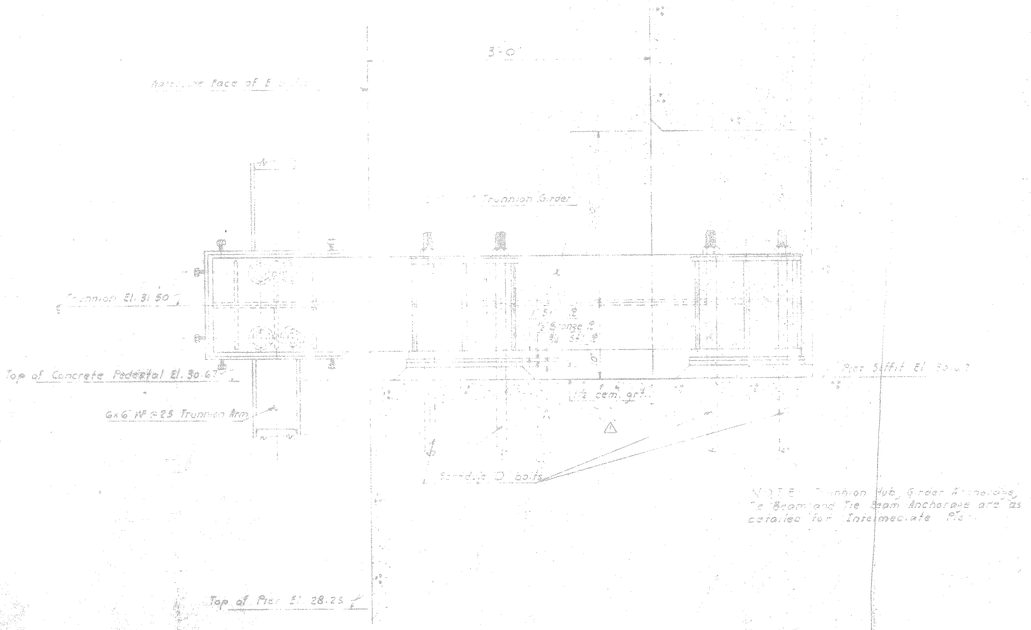
DESIGNED BY	FILE NO.
DRAWN BY J. Lane	6353-3-24-1-B
CHECKED BY B. G. K.	SHEET NO. 24
DATE MAR 62	OF 25 SHEETS
SCALE AS SHOWN	



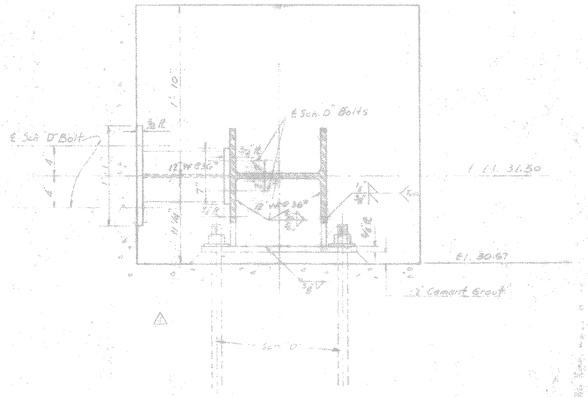
ANCHORAGE DETAILS - INTERMEDIATE PIER
Scale ½"=1'-0"



ANCHORAGE DETAILS - END PIER
Scale ½"=1'-0"



ELEVATION
ANCHORAGE DETAILS - END PIER
Scale ¾"=1'-0"



SECTION A-A
Scale 1"=1'-0"

NO	DATE	DESCRIPTION
1	JAN 47	As-Built
2	9 Dec	Revised Anchorage Det. of Pier #2 to Fit

REVISIONS

RUSSELL & AXON
Consulting Engineers, Incorporated
DAYTONA BEACH, FLA.

DESIGNED BY C. R. W.	FILE NO. 1953-3.35-1-B
DRAWN BY E. L. Lewis	
CHECKED BY C. R. W.	
APPROVED BY	