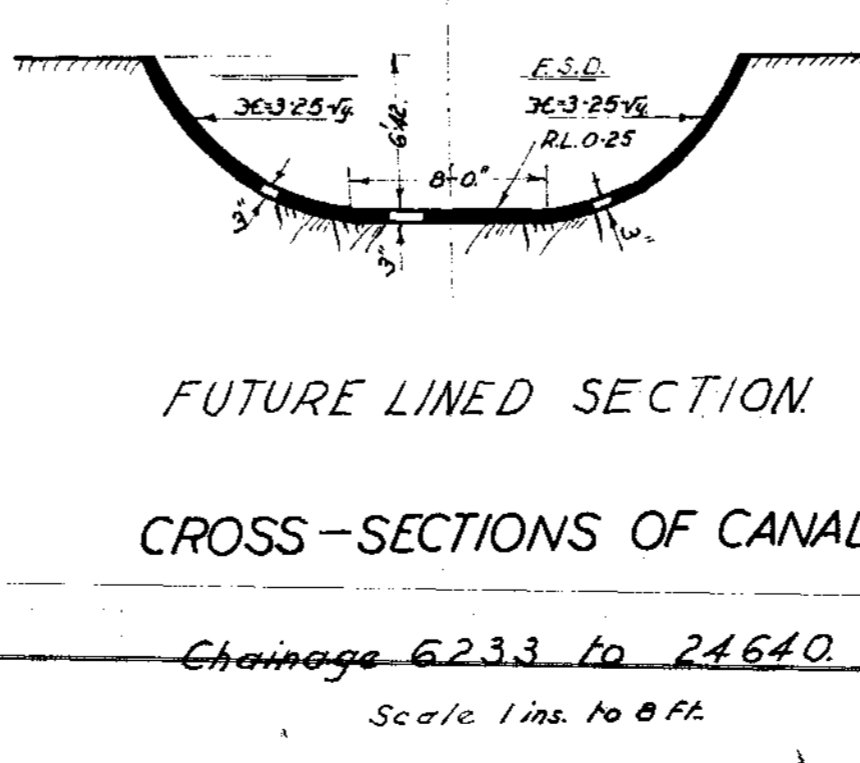
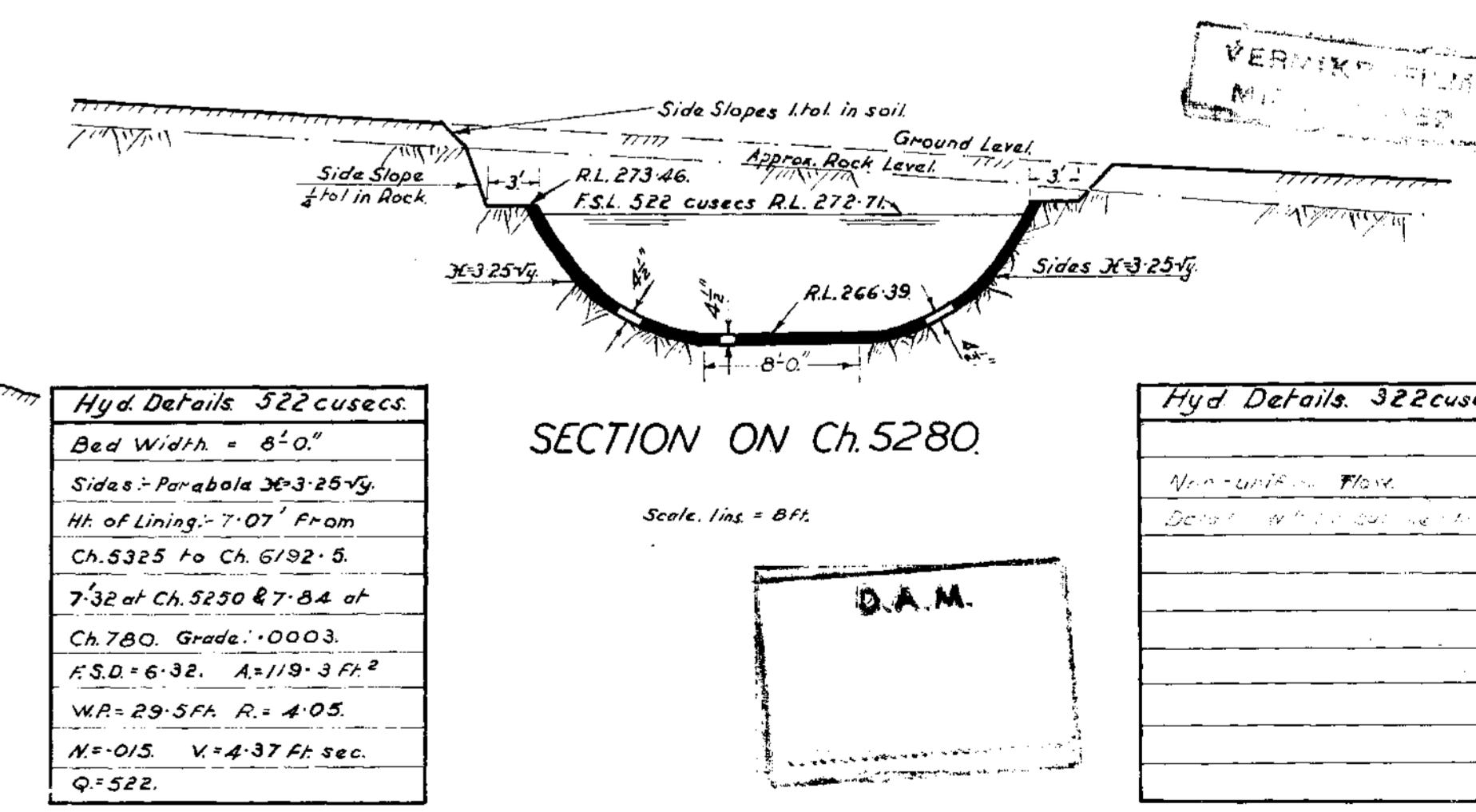
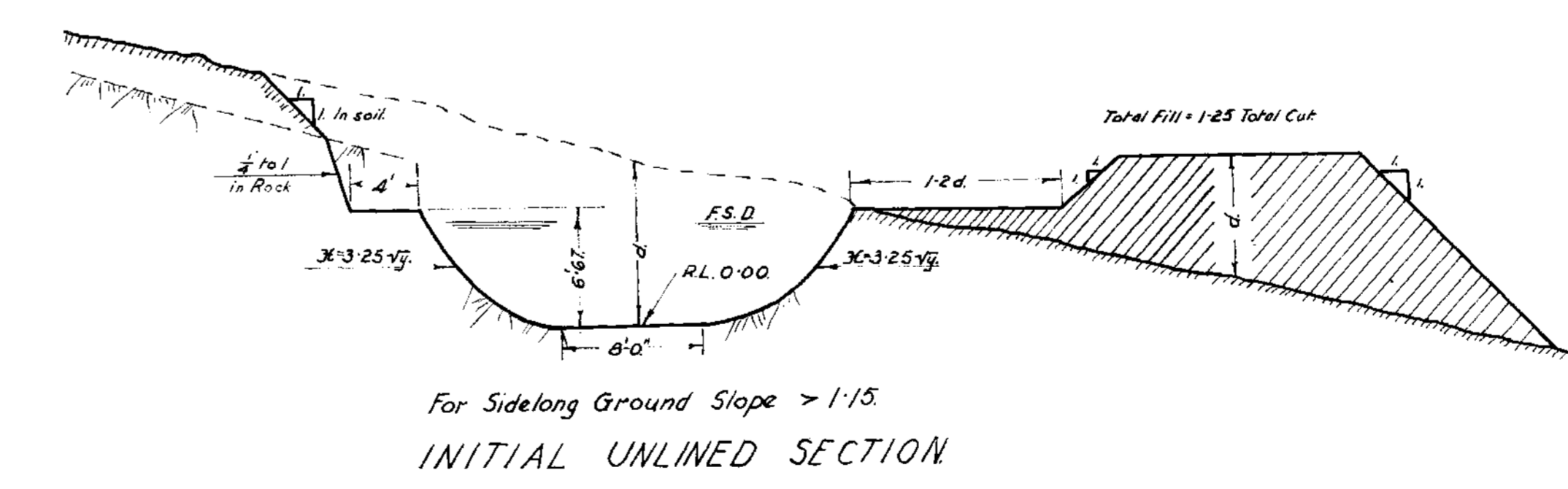
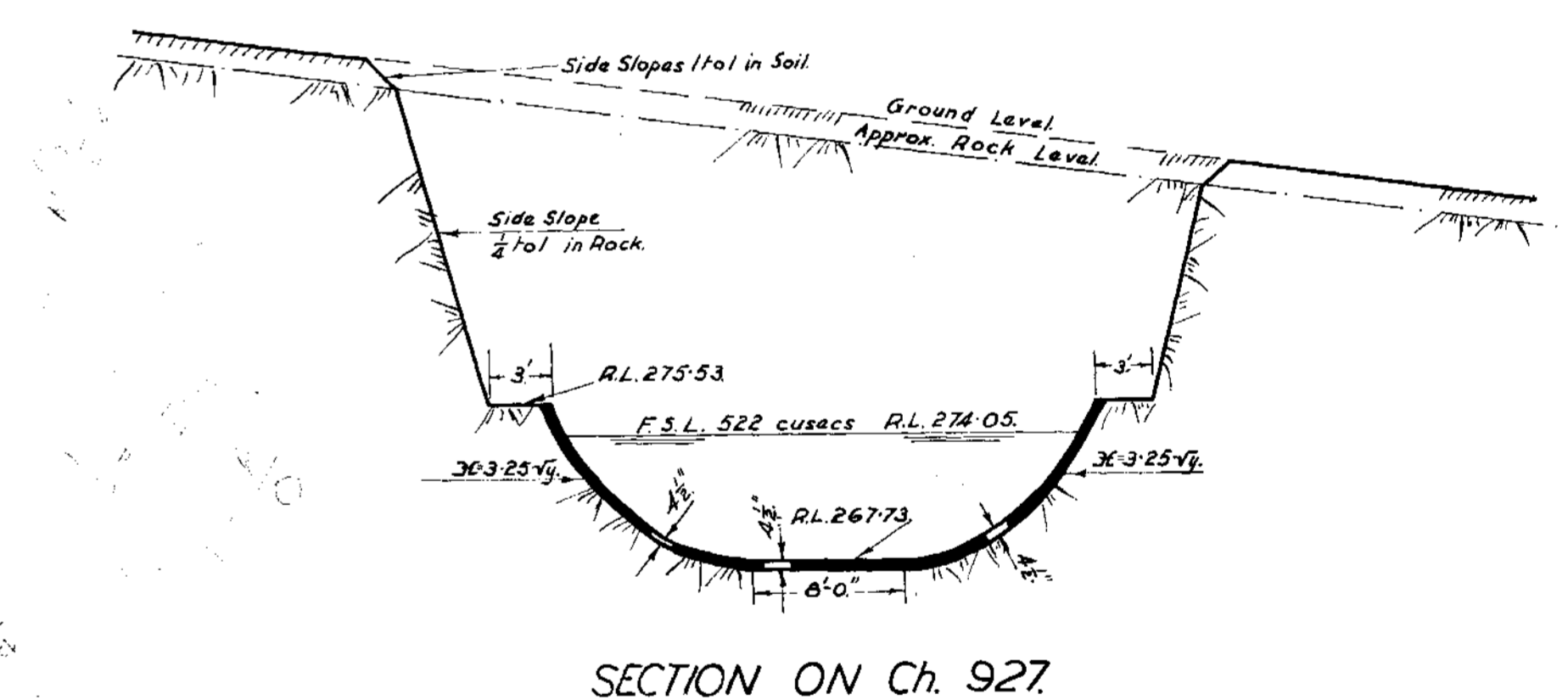
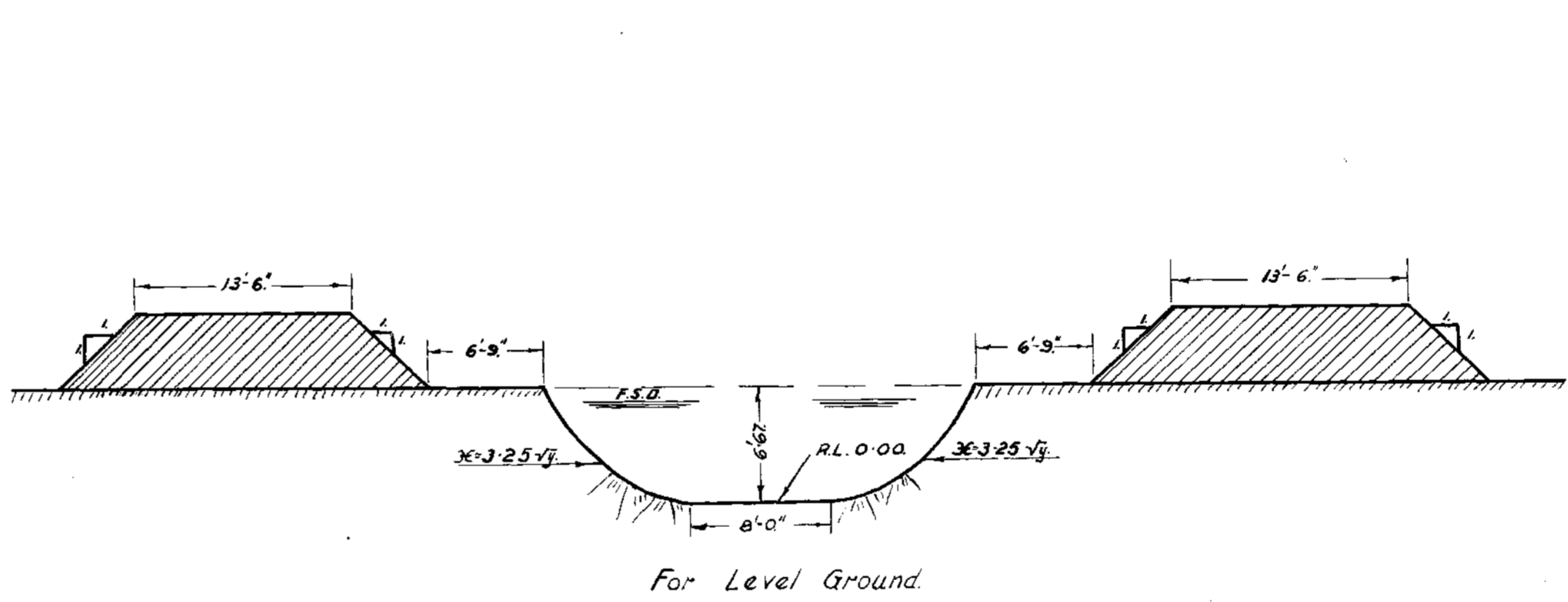
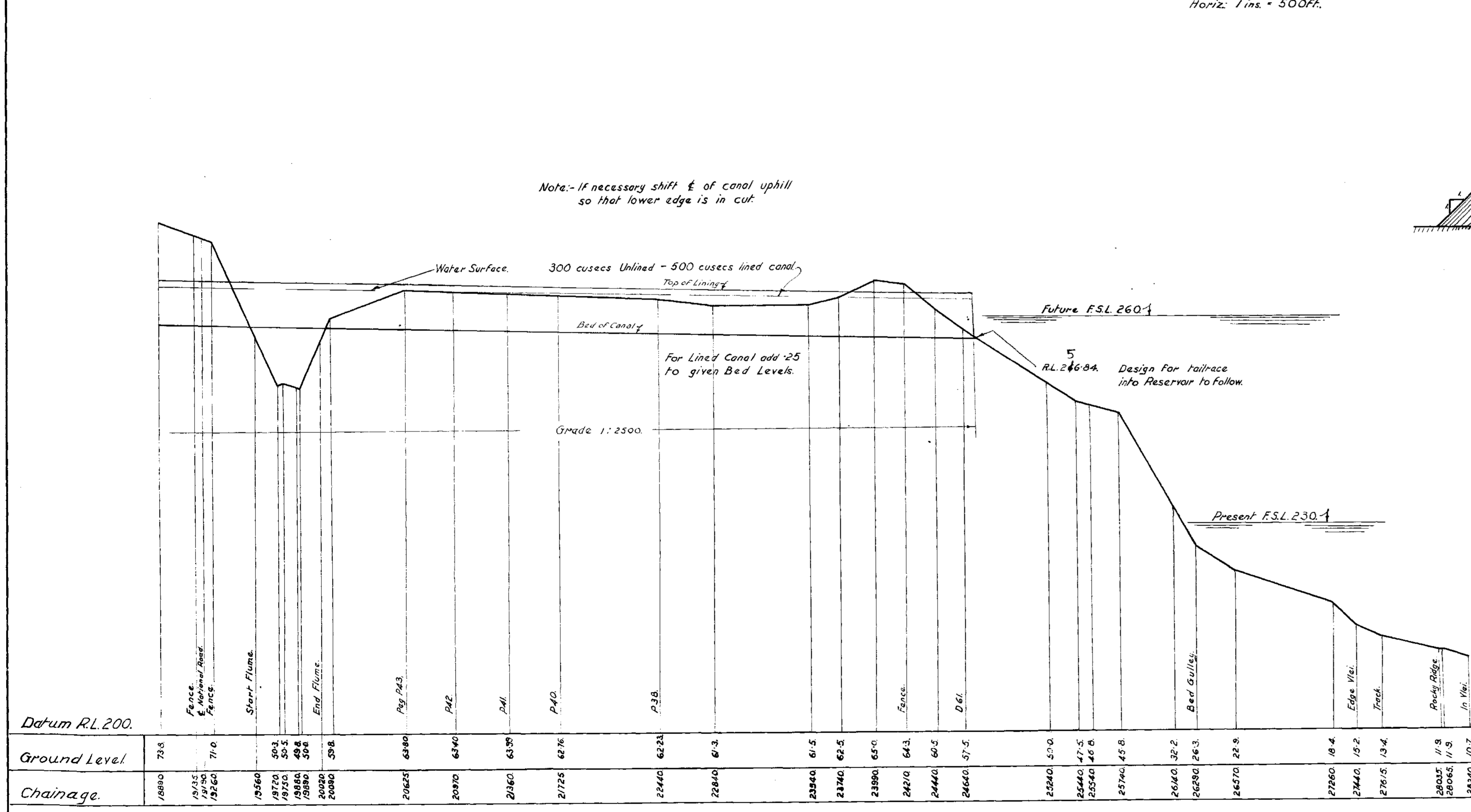
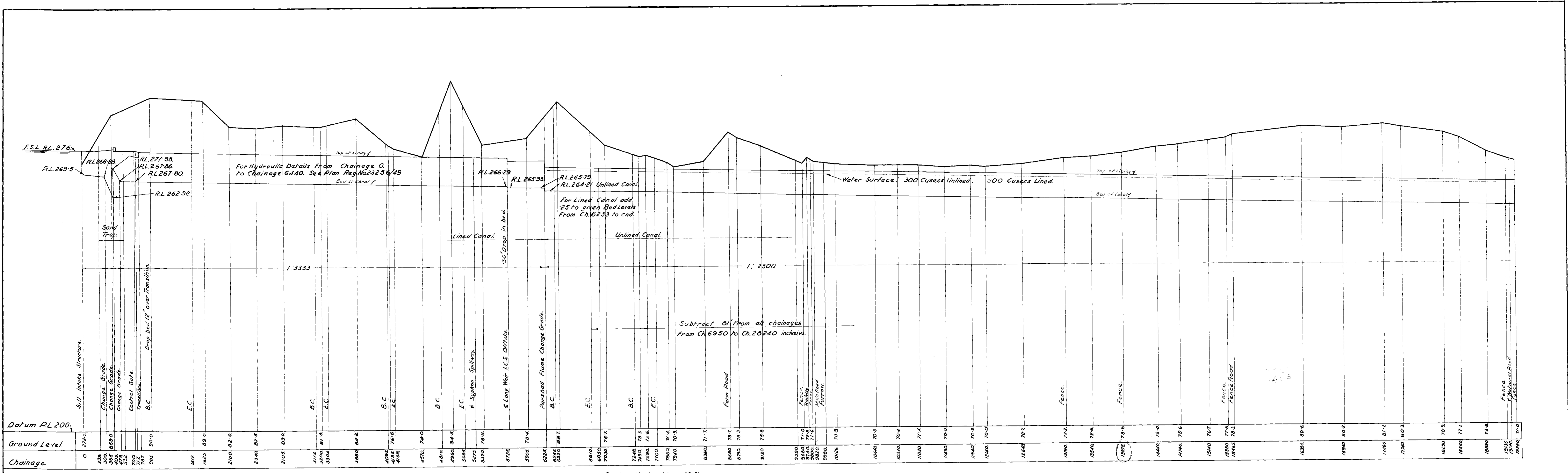


Scales: Horizontal: 1 inch = 500 ft.
Vertical: 1 inch = 5 ft.

CAPE	IRRIGATION DEPARTMENT	TULBAGH
VOGELVLEI CONSERVATION PROJECT.		
LONGITUDINAL SECTION OF FLOOD CANAL.		
Designed by Reviewed by Submitted by Design Engineer	HEAD OFFICE DEAR SOUTH WATER COURT WESTERN VII-10 L.A. MACKENZIE Chief Research Eng	WATER COURT DIST. NO. 1 REG. NO. 21374/47 Director of Irrigation



Hyd. Details Lined Section

Bed Width = 6'-0"

Sides Parabolic 3:1-25%

Ht. of Lining = 6.42 ft.

Grade: 1: 2500

F.S.D. = 5'-6" Feet

Area = 103.8 Sq. Feet

W.P. = 27.8 Feet

R = 3.74 ft. N = 0.05

V = 2.87 ft. per sec.

Q = 500 cusecs.

Hyd. Details Unlined Section

Bed Width = 6'-0"

Sides Parabolic 3:1-25%

Ht. of Lining = 6.42 ft.

Grade: 1: 2500

F.S.D. = 5'-6" Feet

Area = 103.8 Sq. Feet

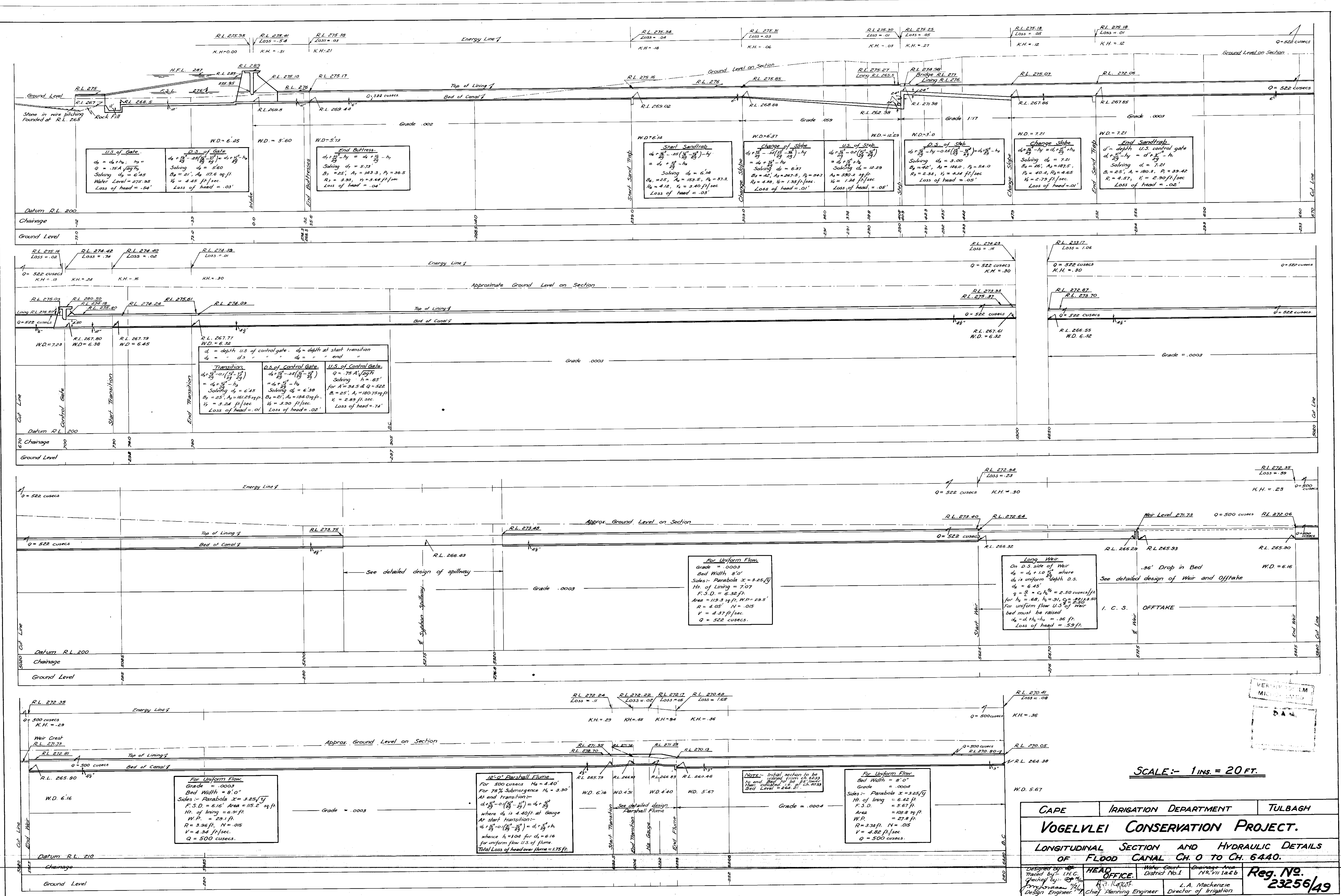
W.P. = 27.8 Feet

R = 3.74 ft. N = 0.05

V = 2.87 ft. per sec.

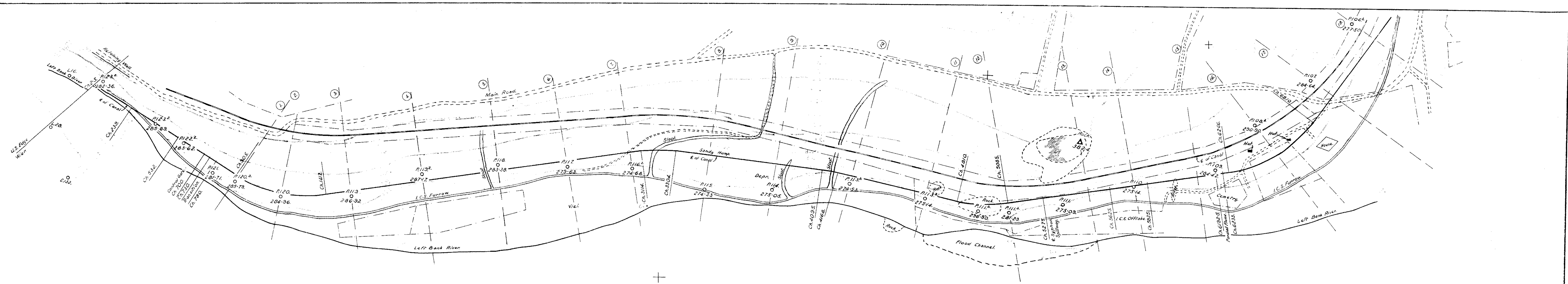
Q = 300 cusecs.

CAPE.	IRRIGATION DEPARTMENT.	TULBAGH.
VOGELVEI CONSERVATION PROJECT.		
LONGITUDINAL SECTION OF FLOOD CANAL.		
Designed by: C.M.C.	HEAD OFFICE	Water Court Dist. No. 1
Checked by: C.M.C.	A.T. K. S. J.	Drainage Area No. VII - a & b.
Design Engineer: A.T. K. S. J.	Chief Planning Engineer	L. A. Mochanik Director of Irrigation.
REG. No.		23255/49

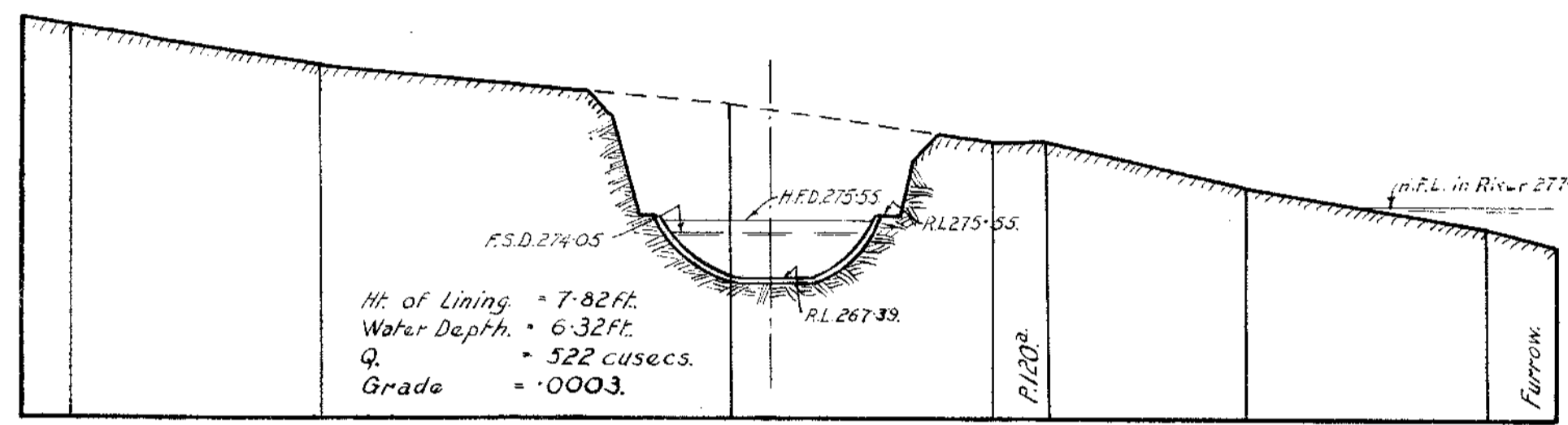


SCALE:- 1 IN. = 20 FT.

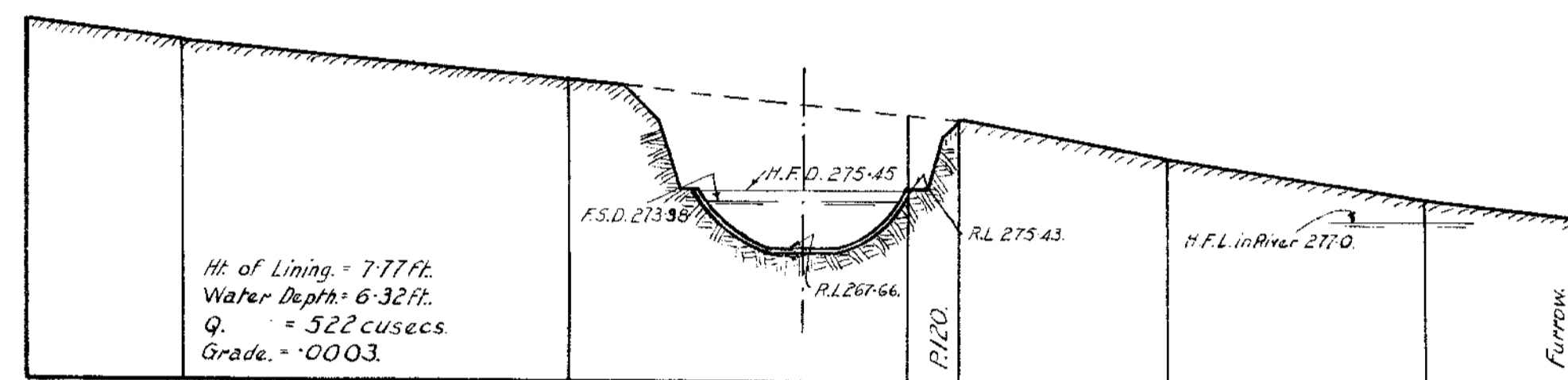
CAPE	IRRIGATION DEPARTMENT	TULBAGH
VOGELVLEI CONSERVATION PROJECT.		
LONGITUDINAL SECTION AND HYDRAULIC DETAILS OF FLOOD CANAL CH. 0 TO CH. 6440.		
Designed by: [Signature]	Checked by: [Signature]	Design Engineer: [Signature]
HEAD OFFICE	Water Court District No. 1	Drainage Area 175,711 a.c.
Chief Planning Engineer	L.A. Mackenzie	Director of Irrigation
		Reg. No. 23256/49



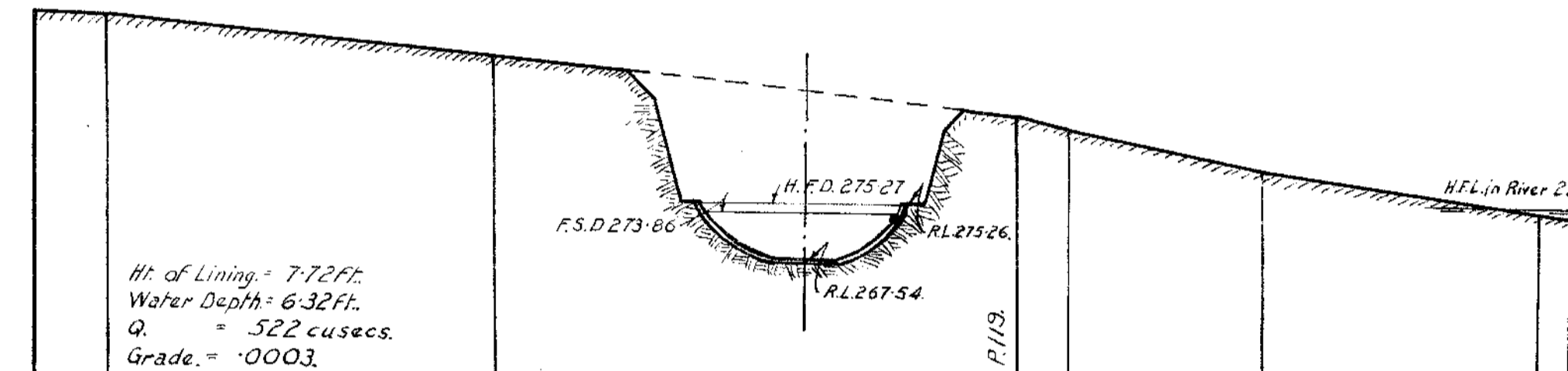
PLAN.
Scale: 1 in. = 200 ft.



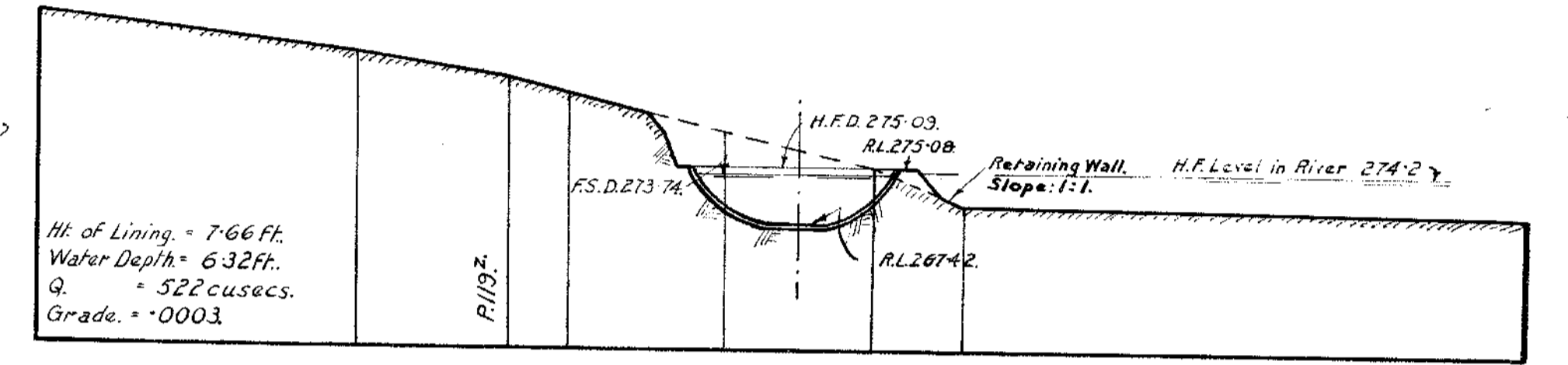
Section 1 Chainage 916.



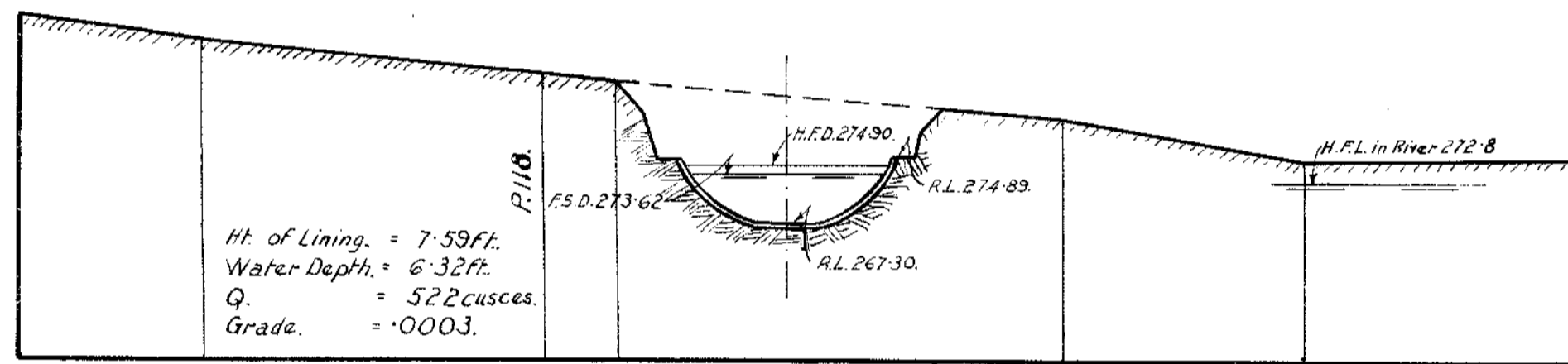
Section 2 Chainage 1163.



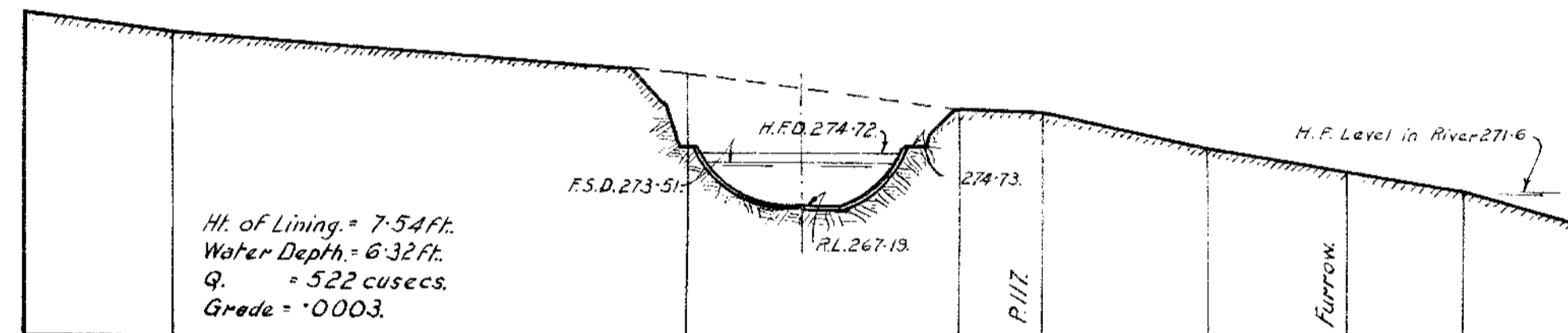
Section 3 Chainage 1548.



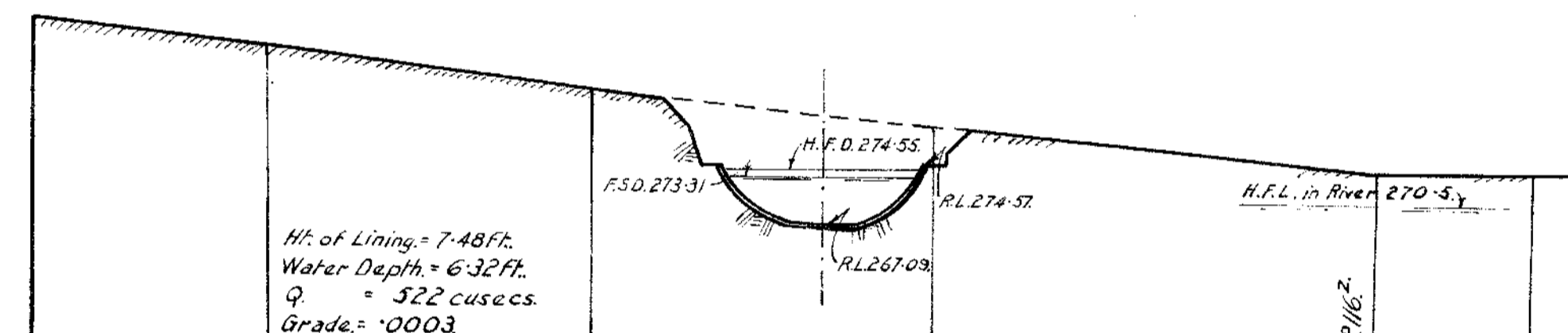
Section 4 Chainage 1940.



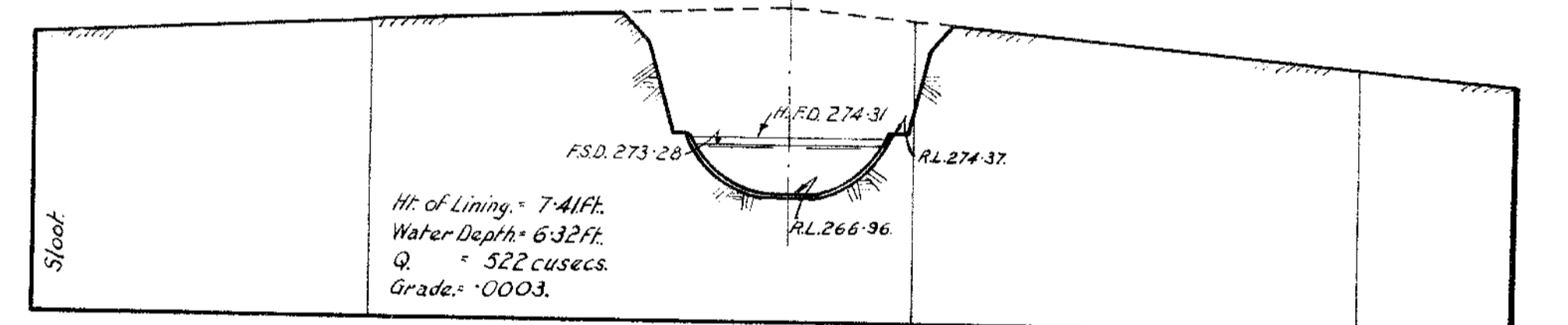
Section 5 Chainage 2350.



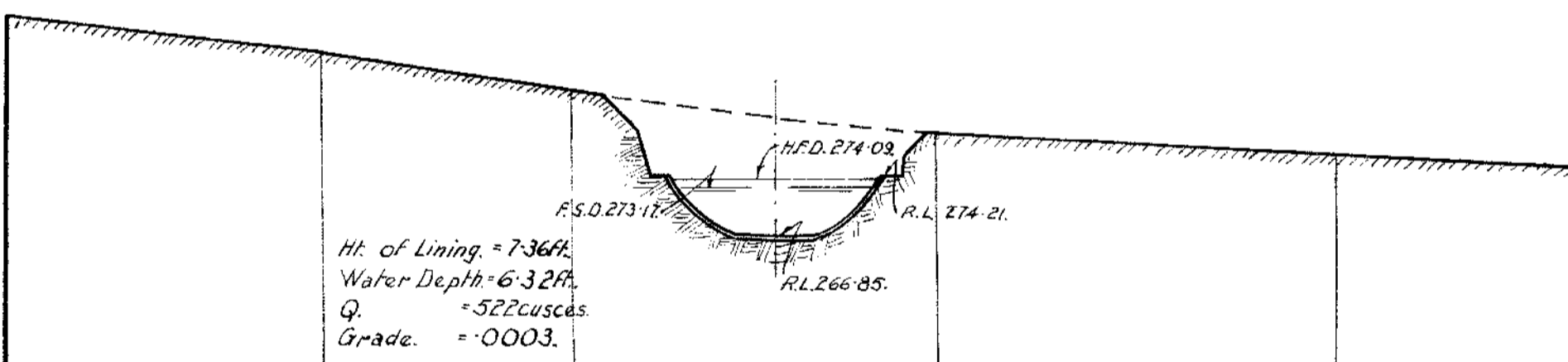
Section 6 Chainage 2710.



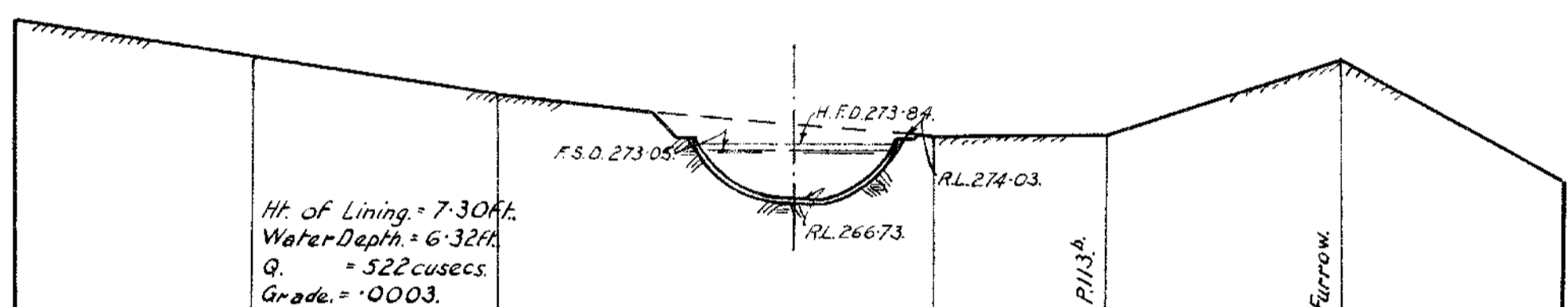
Section 7 Chainage 3058.



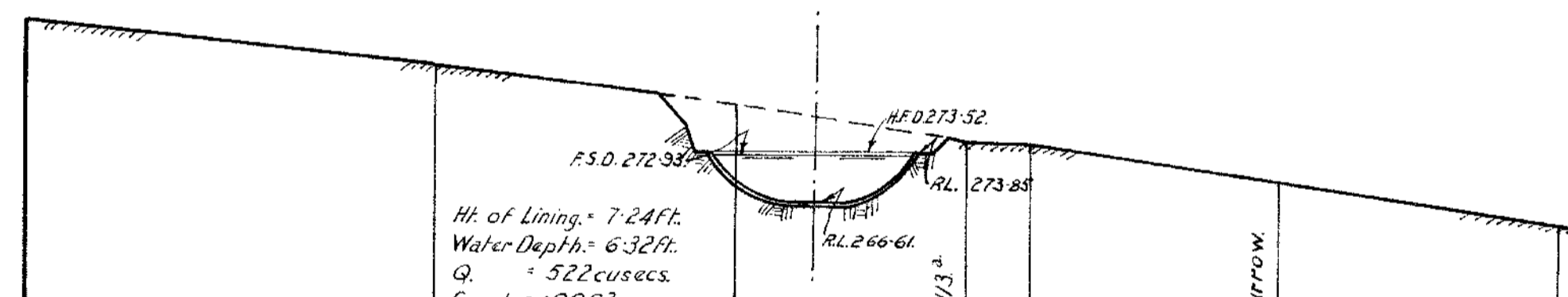
Section 8 Chainage 3485.



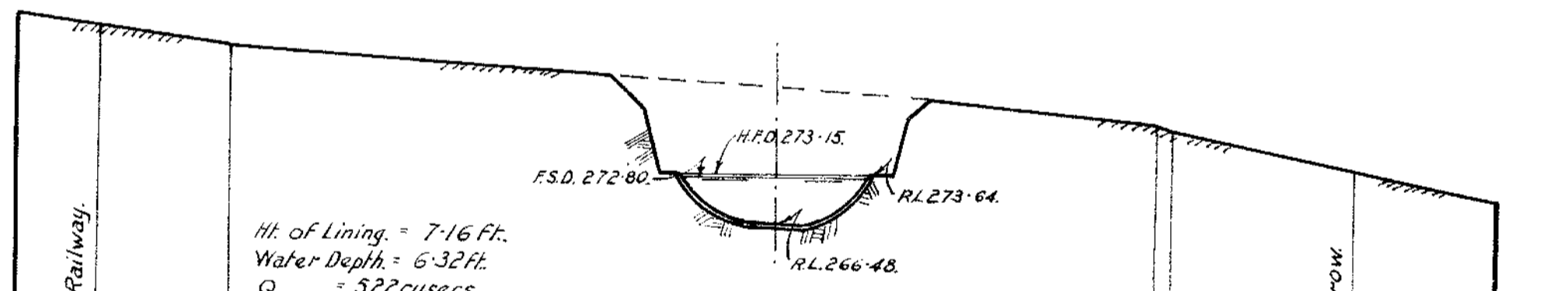
Section 9 Chainage 3845.



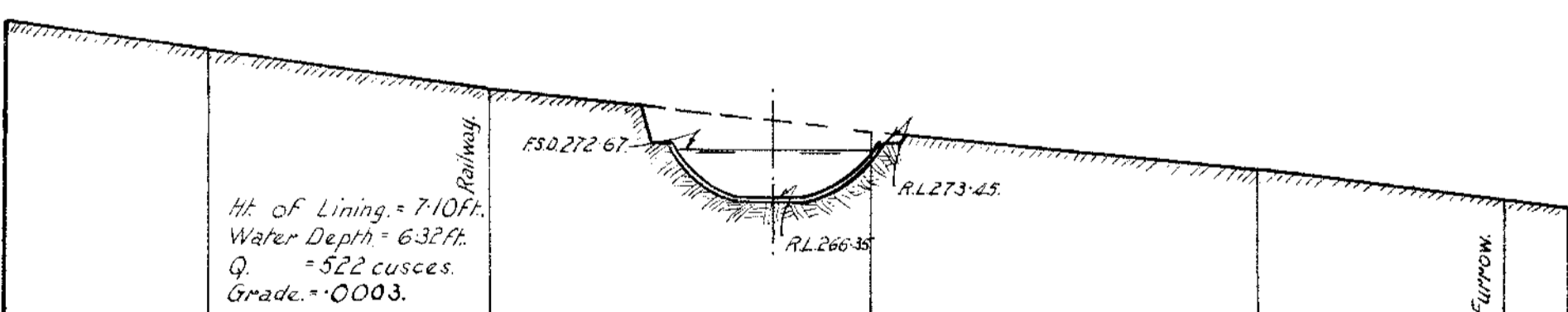
Section 10 Chainage 4240.



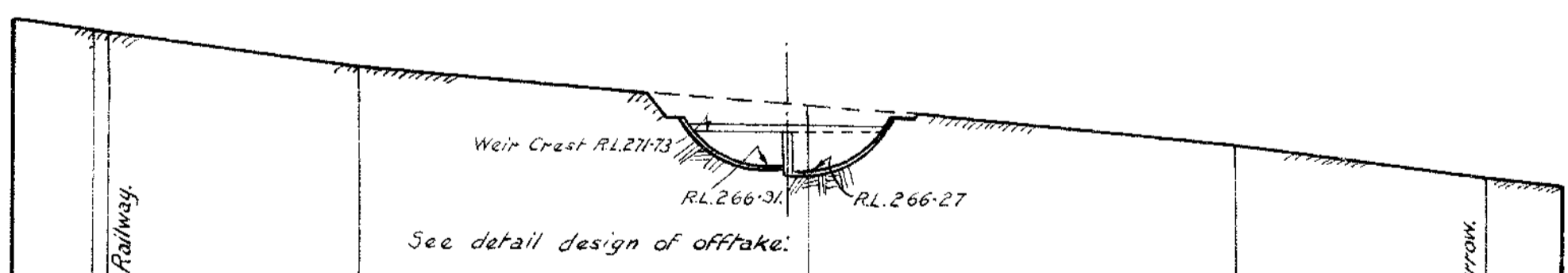
Section 11 Chainage 4640.



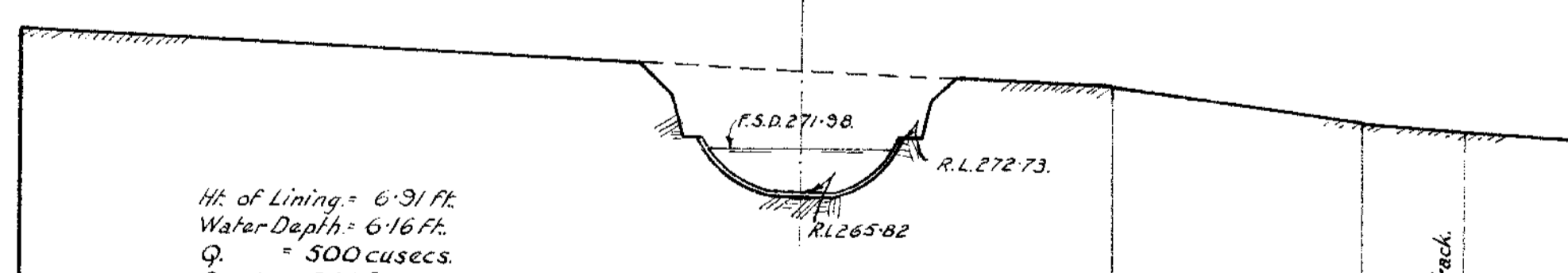
Section 12 Chainage 5085.



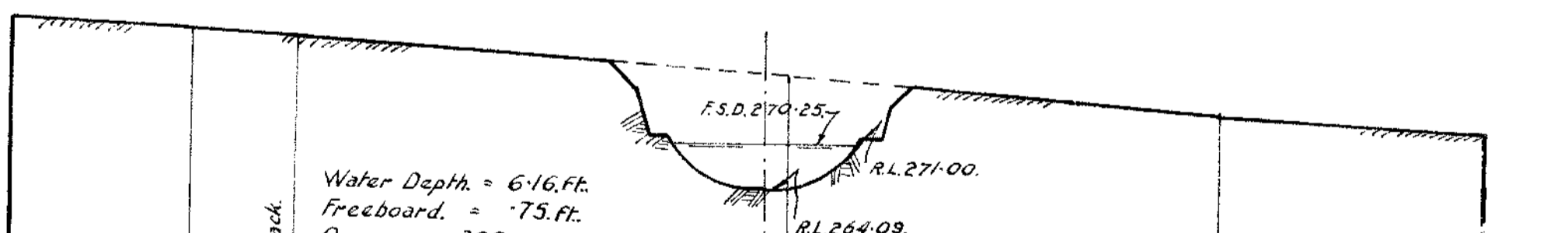
Section 13 Chainage 5510.



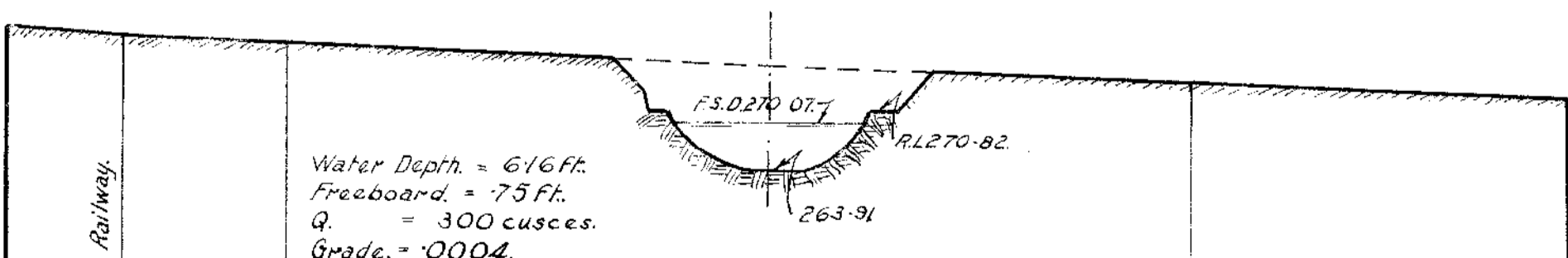
Section 14 Chainage 5776.



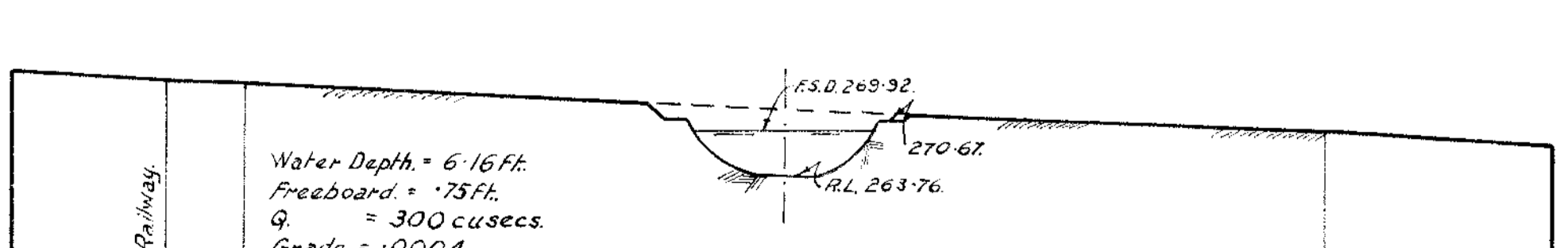
Section 15 Chainage 6098.



Section 16 Chainage 6534.



Section 17 Chainage 6990.

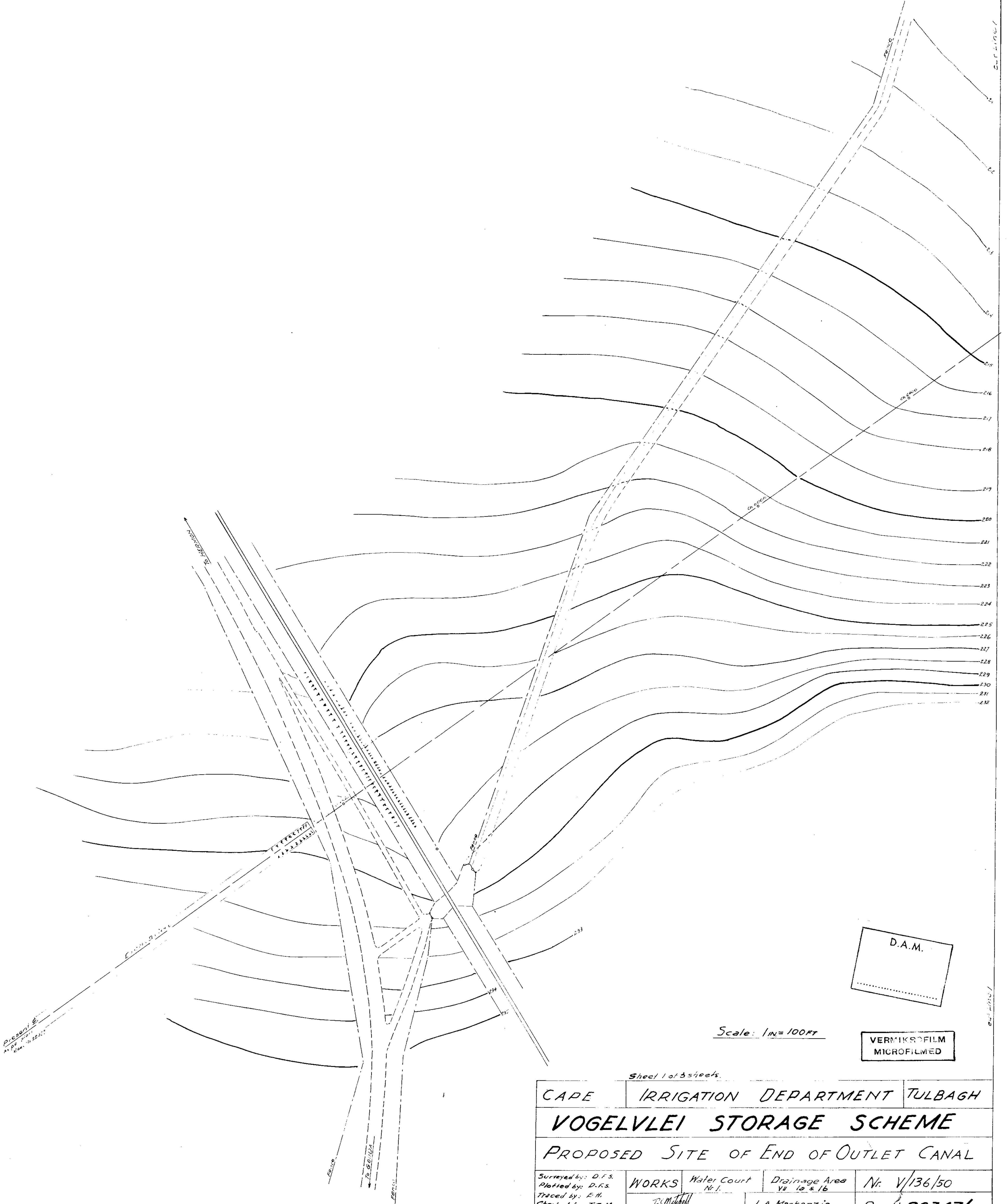


Section 18 Chainage 7370.

Scale: 1 in. = 20 feet.

Note: Bed Width 6'-0". Side Parabolic 2x=3.25%. Thickness of Lining 4" from Ch. 780 to Ch. 6283. Bed Level of Future Lined Canal from Ch. 6233 onwards to be 2.5 ft higher than present unlined level. Side Slopes of cut to be determined by R.E. on site. Max. 1/2 ft in solid, sound rock. Min. 1 ft in soil. Berm 3'-0" on either side of canal.

CAPE	IRRIGATION DEPARTMENT	TULBAGH
VOGELVLEI CONSERVATION PROJECT.		
PLAN & CROSS SECTIONS OF CANAL CHAINAGE 0 TO CHAINAGE 7500		
Designed by: C.M.C.	HEAD OFFICE	Water Court, Drain No. 148 & 149
Checked by: M. V. V. V.	Chief Planning Engineer	L.A. Mackenzie, Director of Irrigation
REG. No. 23324/49.		



Present
at 1/200
Scale 10/20/50

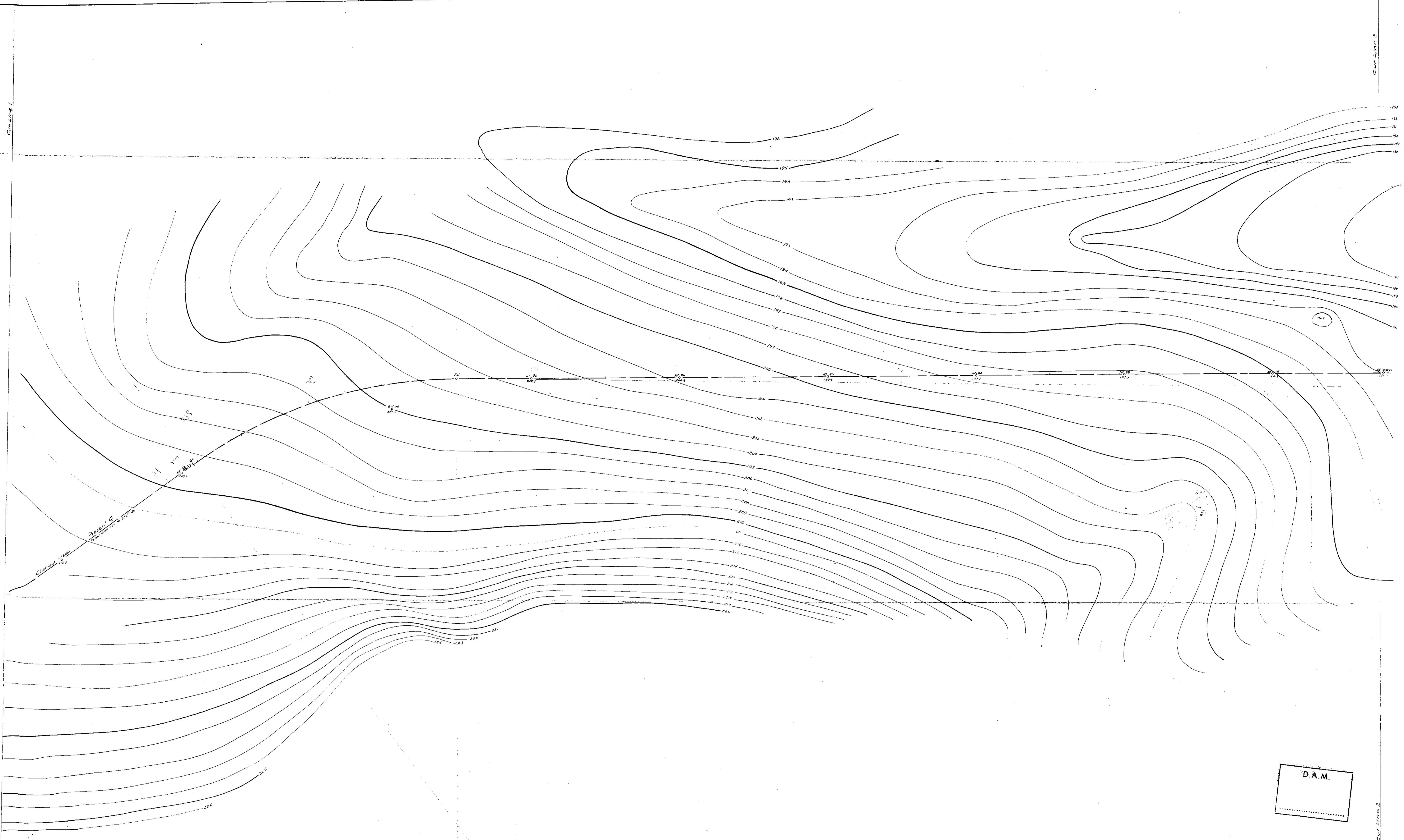
Scale: 1 in = 100 ft

D.A.M.

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MICROFILMED

Sheet 1 of 3 sheets

CAPE	IRRIGATION DEPARTMENT	TULBAGH
VOGELVLEI STORAGE SCHEME		
PROPOSED SITE OF END OF OUTLET CANAL		
Surveyed by: D.F.S. Plotted by: D.F.S. Traced by: E.H. Checked by: T.C.M. Date: 15.8.50	WORKS <i>R. Mitchell</i> RESIDENT ENGINEER	Water Court No. 1 Drainage Area V4 12 & 16 L.A. Mackenzie DIRECTOR OF IRRIG.
		Nr. V/136/50 Reg. Nr. 26347/50



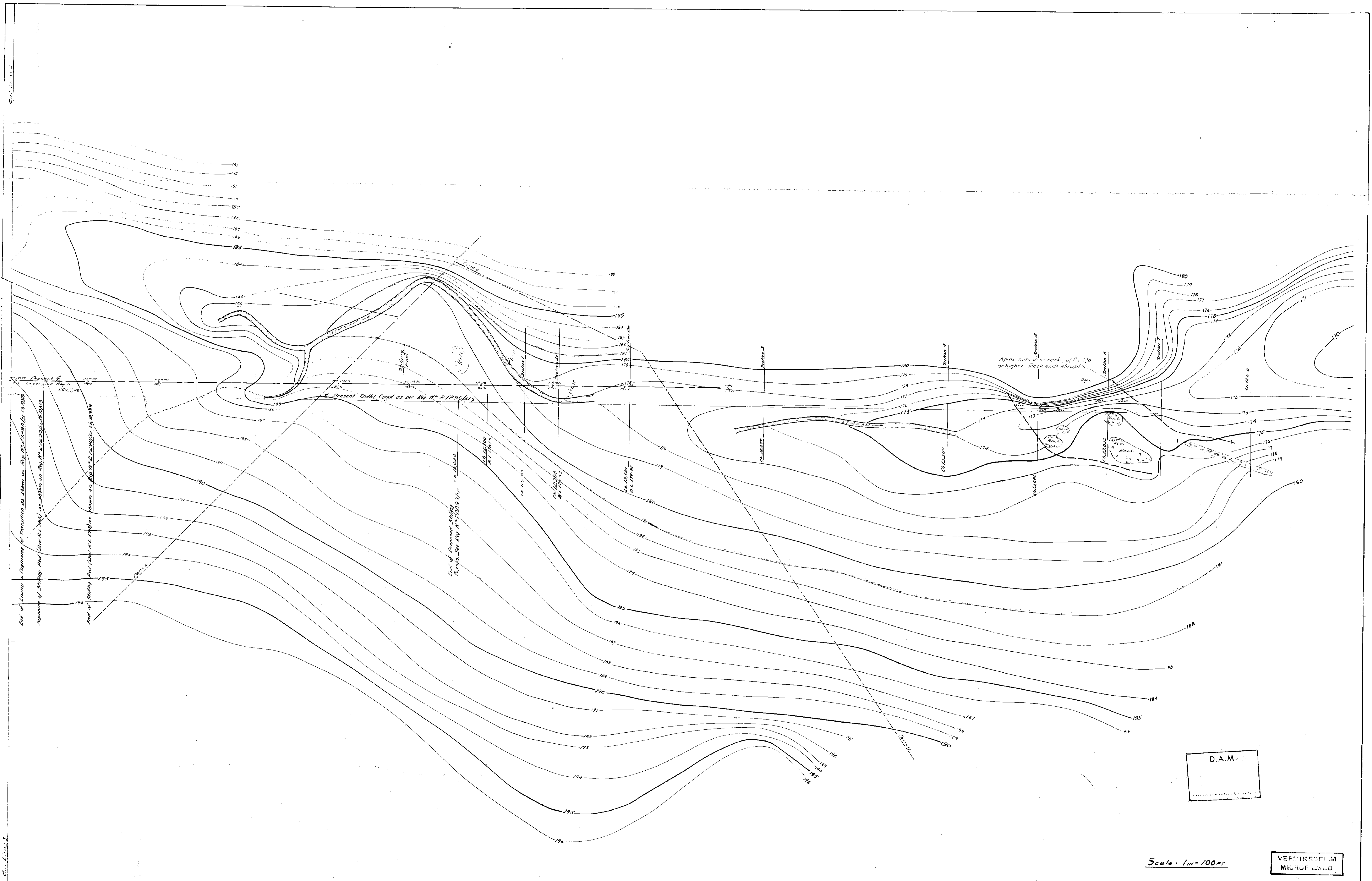
D.A.M.

Scale: 1 in = 100 ft.

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MICROFILMED

Sheet 2 of 3 sheets

CAPE IRRIGATION DEPARTMENT		TULBAGH	
VOGELVLEI STORAGE SCHEME			
PROPOSED SITE OF END OF OUTLET CANAL			
Surveyed by: D.F.S.	WORKS	Water Court No.:	Drainage Area VII 18 A 16
Plotted by: D.F.S.	R. Mitchell RESIDENT ENGINEER	A. Mackenzie DIRECTOR OF I.R.A.I.D.	No. V/136/50
Traced by: E.H.			Reg. No. 26348/50
Checked by: T.C.M.			
Date: 15.8.50			

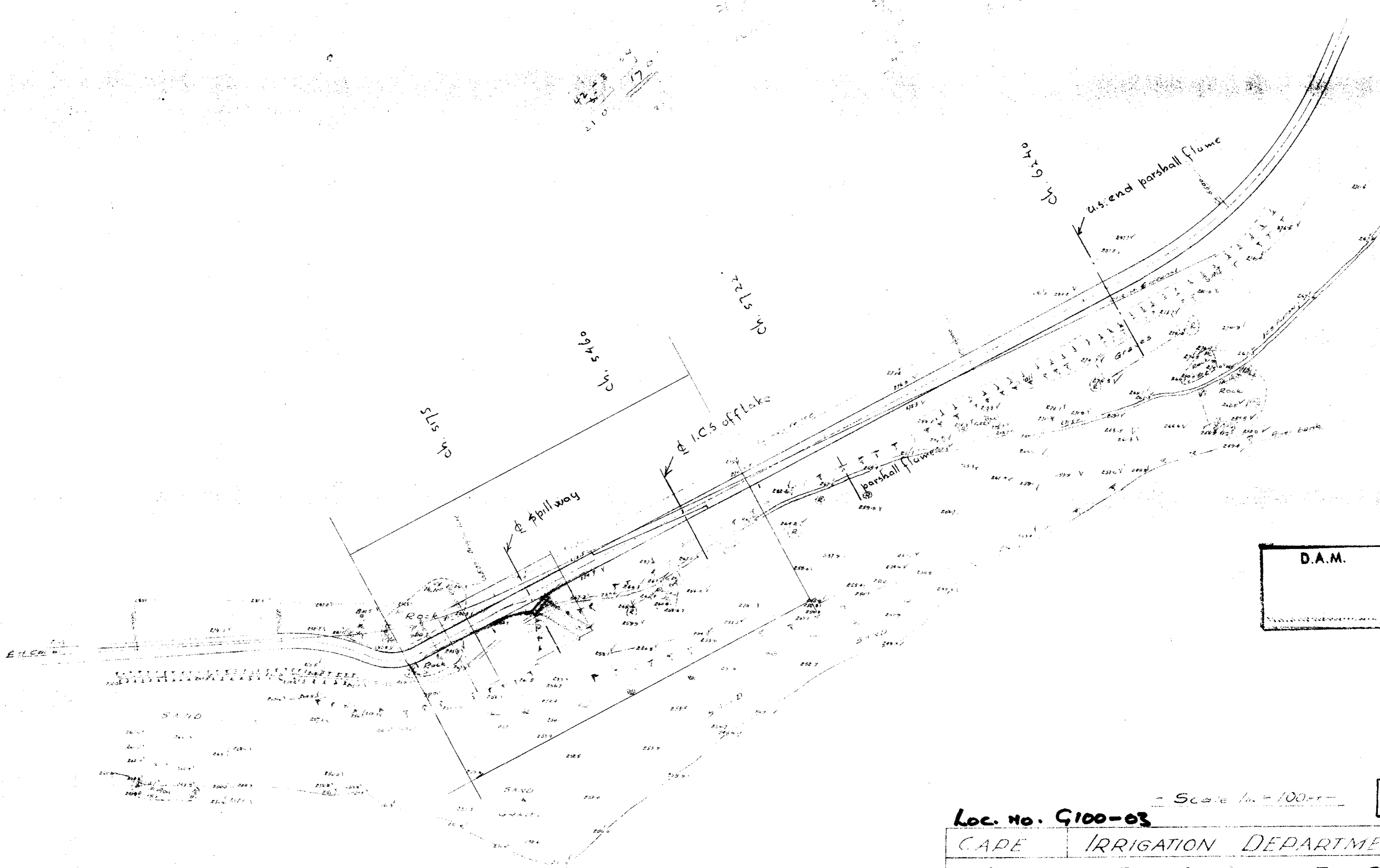


Scale: 1 in = 100 ft

VERMICROFILM
MICROFILMED

Sheet 3 of 3 sheets

CAPE IRRIGATION DEPARTMENT TULBAGH			
VOGELVLEI STORAGE SCHEME			
PROPOSED SITE OF END OF OUTLET CANAL			
Surveyed by: D.F.S. Plotted by: D.F.S. Traced by: E.H. Checked by: T.C.D. Date: 8-8-50	WORKS T. Mackenzie RESIDENT ENGINEER	Water Court No. 1 Drainage Area 111.12 a. 16	No. V/136/50 L.A. Mackenzie DIRECTOR OF IRRIG. Reg. No. 26349/50



D.A.M.

Scale 1 in. = 100 ft.

VERMICROFILM
MICROFILMED

Loc. No. G100-03

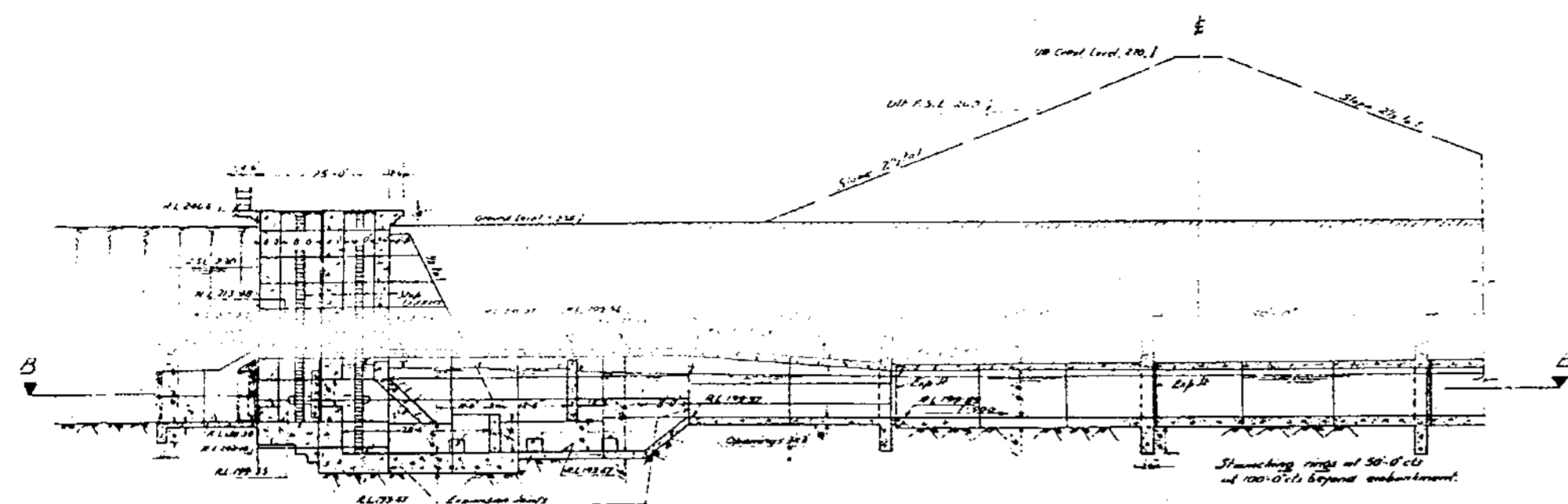
CAPE IRRIGATION DEPARTMENT TULHUGH

VOGELVLEI STORAGE SCHEME

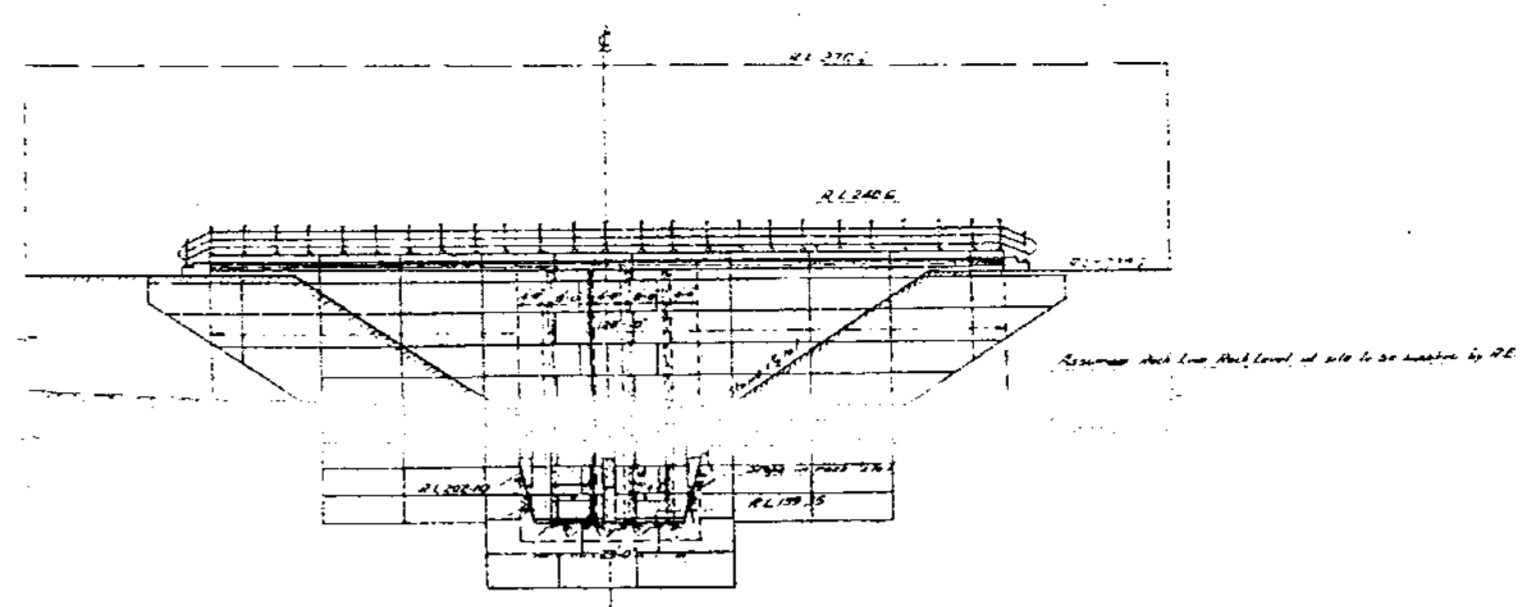
CANAL CHAINAGE 4500-6500

WORKS	Water Court No. 1	Drainage Area VII, 15 & 16	No. V, 140 150
Resident Engineer	L.A. Mackenzie	Director of Irrigation	26350/50

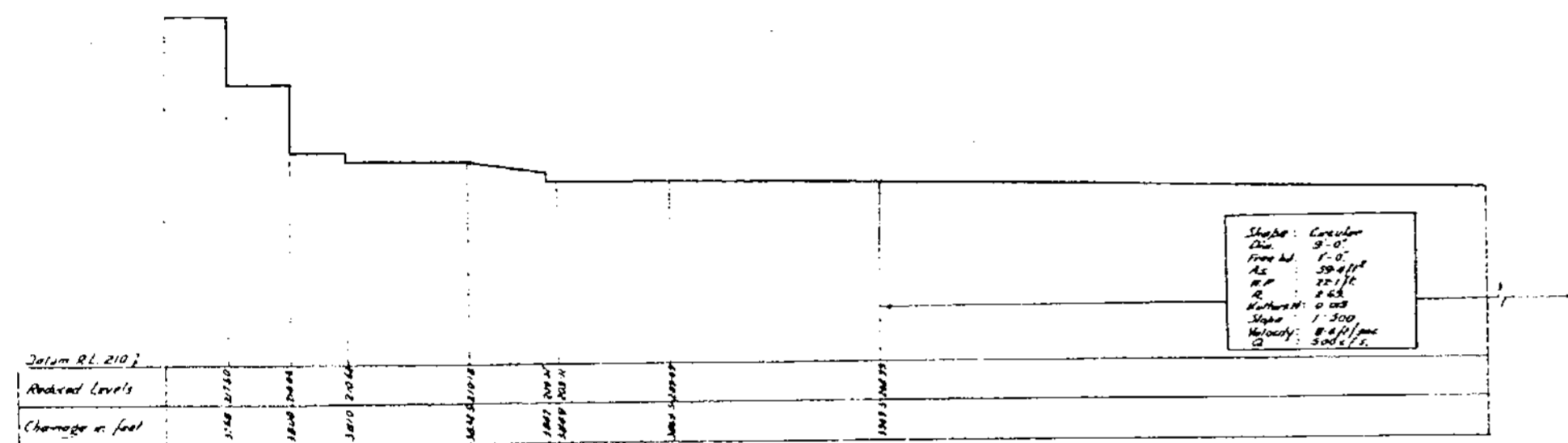
NEGATIVE



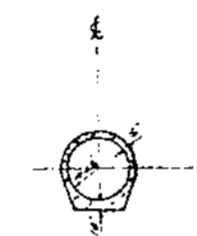
SECTIONAL ELEVATION ON A-A.
Scale: 1" = 15'-0"



FRONT ELEVATION.
Scale: 1" = 15'-0"

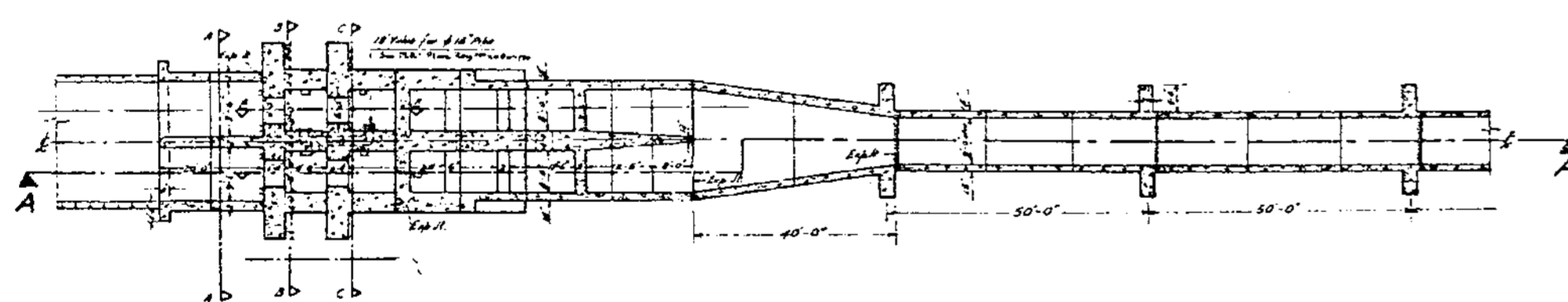


ENERGY LINE.
Hor. Scale: 1" = 15'-0", Vert. Scale: 1" = 4'

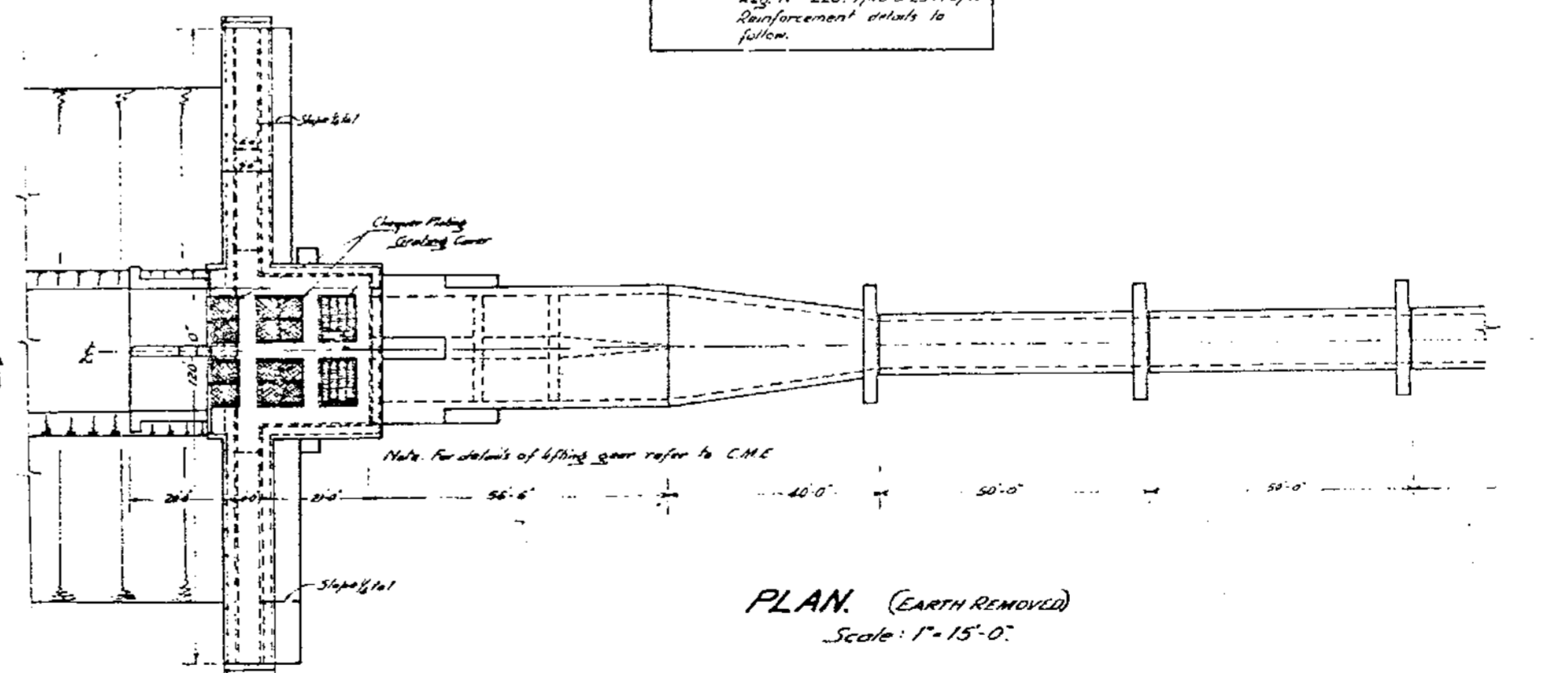


SECTION ON CULVERT.
Scale: 1" = 15'-0"

NOTE: For references see Plans 225, 226, 227, 228 & 23476/50. Reinforcement details to follow.

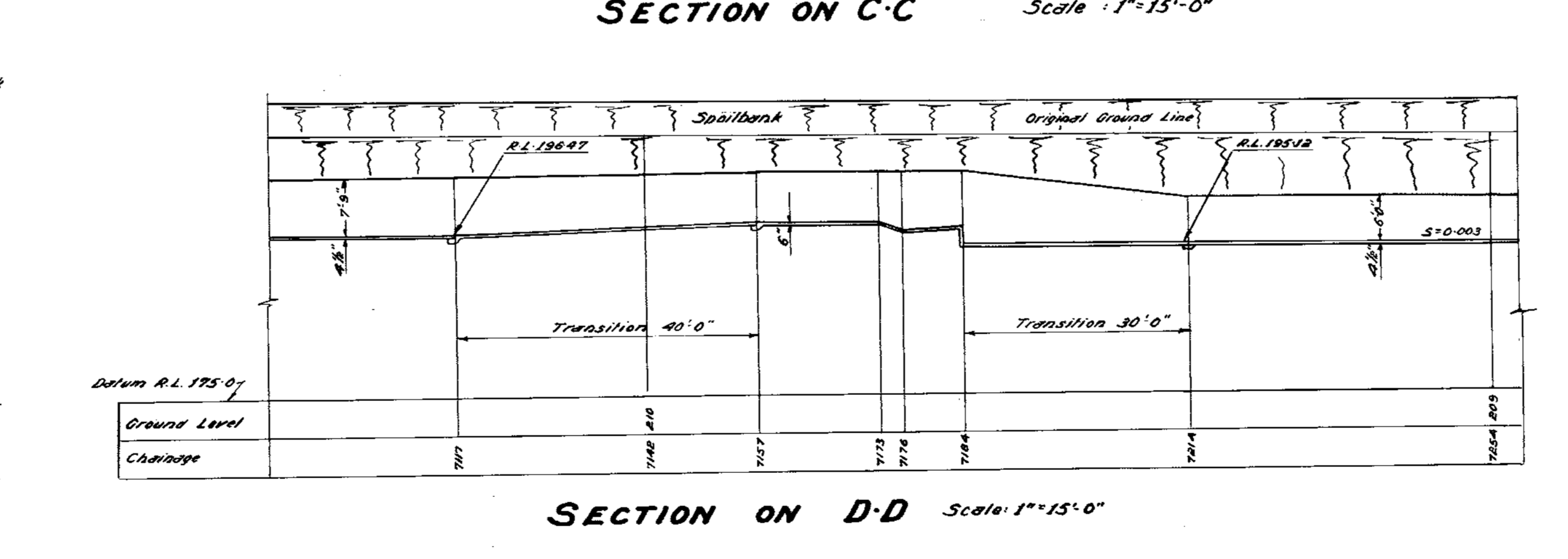
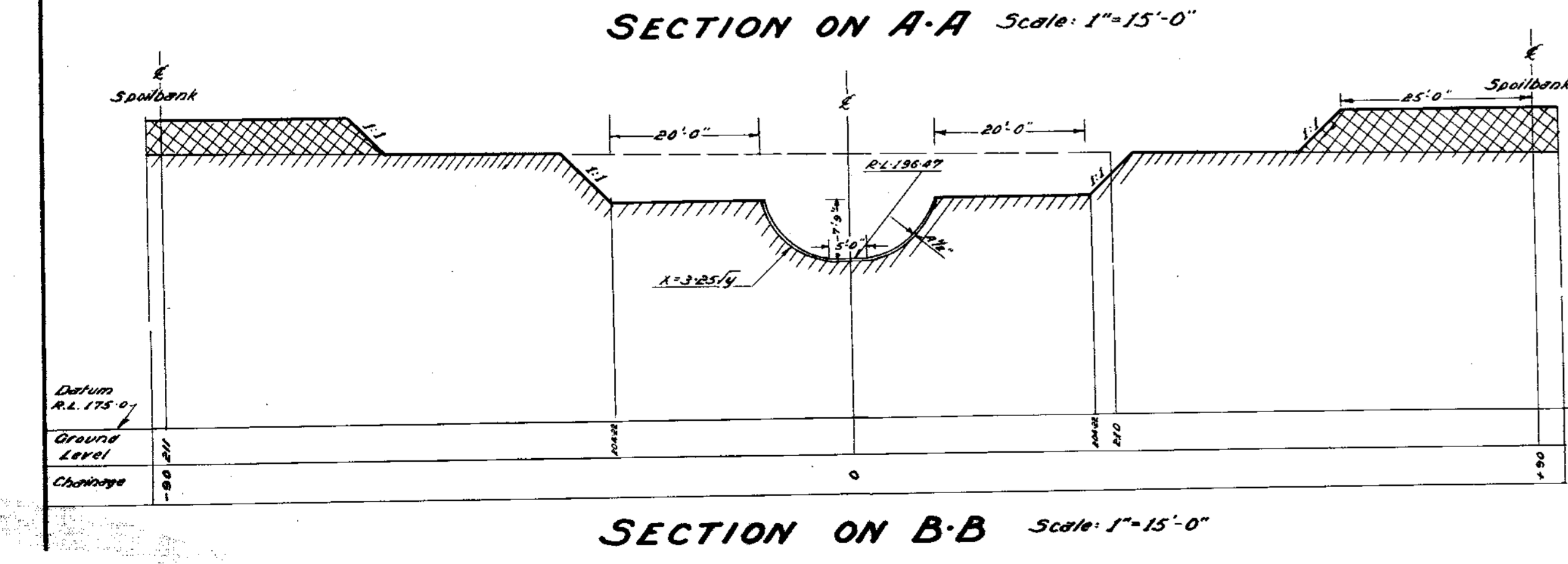
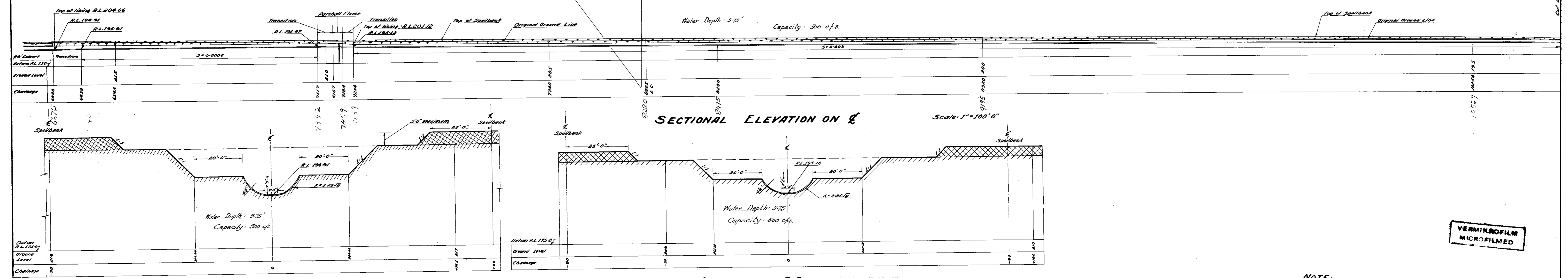
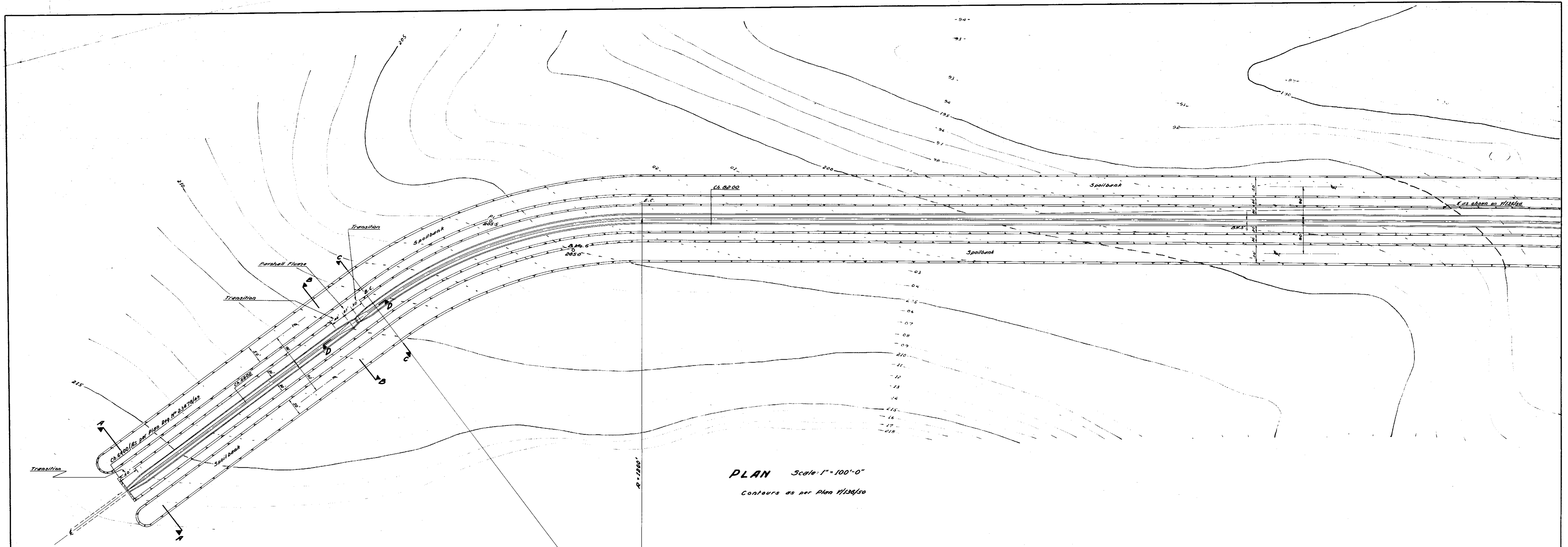


SECTIONAL PLAN ON B-B.
Scale: 1" = 15'-0"



PLAN. (EARTH REMOVED)
Scale: 1" = 15'-0"

Revised on 2/1/51	CAPE IRRIGATION DEPARTMENT.		TULBAGH.
VOGELVLEI CONSERVATION PROJECT.			
PLANS & ELEVATIONS OF OUTLET WORKS AT CH. 3800.			
Drawn by Traced by Checked by	HEAD OFFICE	Water Court 1951	Drainage Area 19.63 to 2.6
D. F. Kukul Design Engineer	D. F. Kukul Chief Planning Engineer	L. A. Mockenzie Director of Irrigation	Res. No. 2673/50.



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D.A.M.

NOTE:
See also Plans Reg. Nos. 27290/51,
23476/50, 22077/50 & W136/50.

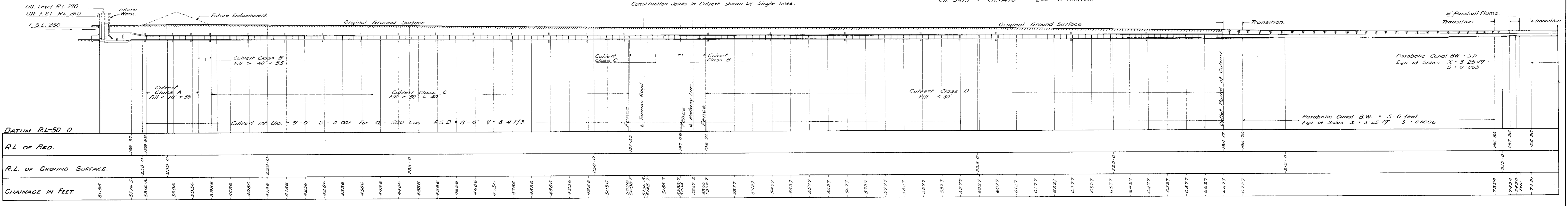
SHEET 1 OF 2 SHEETS.

CAPE	IRRIGATION DEPARTMENT	TULBACH
VOGELVEI CONSERVATION PROJECT		
PROPOSED END OF OUTLET CANAL		
Drawn by: J.F.	HEAD OFFICE	Water Court No. 1
Checked by: D.C.B.	D.F. KOKOT	Drainage Area No. 225-N, Ia & b
Checked by: J.J.	L.A. MACHENZIE	REG. No. 27289/51
Design Engineer	Chief Planning Engineer	Director of Irrigation

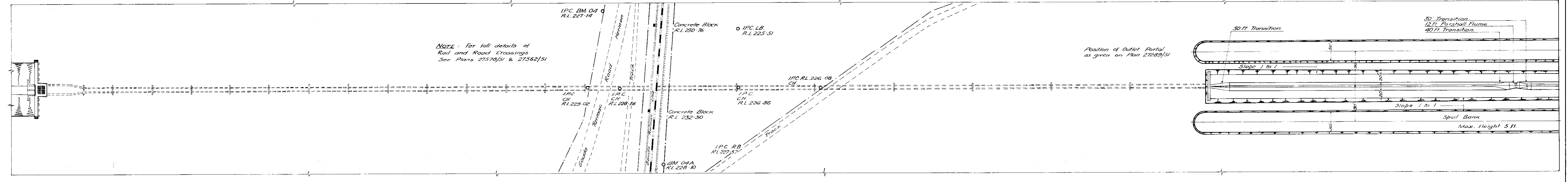
EXPANSION JOINTS:
 CH 3886 - CH 3836 50'-0" Centres
 CH 5088.7 - CH 5233.7 43'-0" Centres
 CH 5577 - CH 6677 50'-0" Centres
 Expansion Joints in Culvert shown by double lines.

CONSTRUCTION JOINTS:
 CH 3816.5 - CH 5886 17'-0" Centres
 CH 5886 - CH 5086 16'-0" Centres
 CH 5086.1 - CH 5233.7 15'-0" Centres
 CH 5233.7 - CH 5395.7 16'-0" Centres
 CH 5310.2 - CH 6677 16'-0" Centres
 Construction Joints in Culvert shown by single lines.

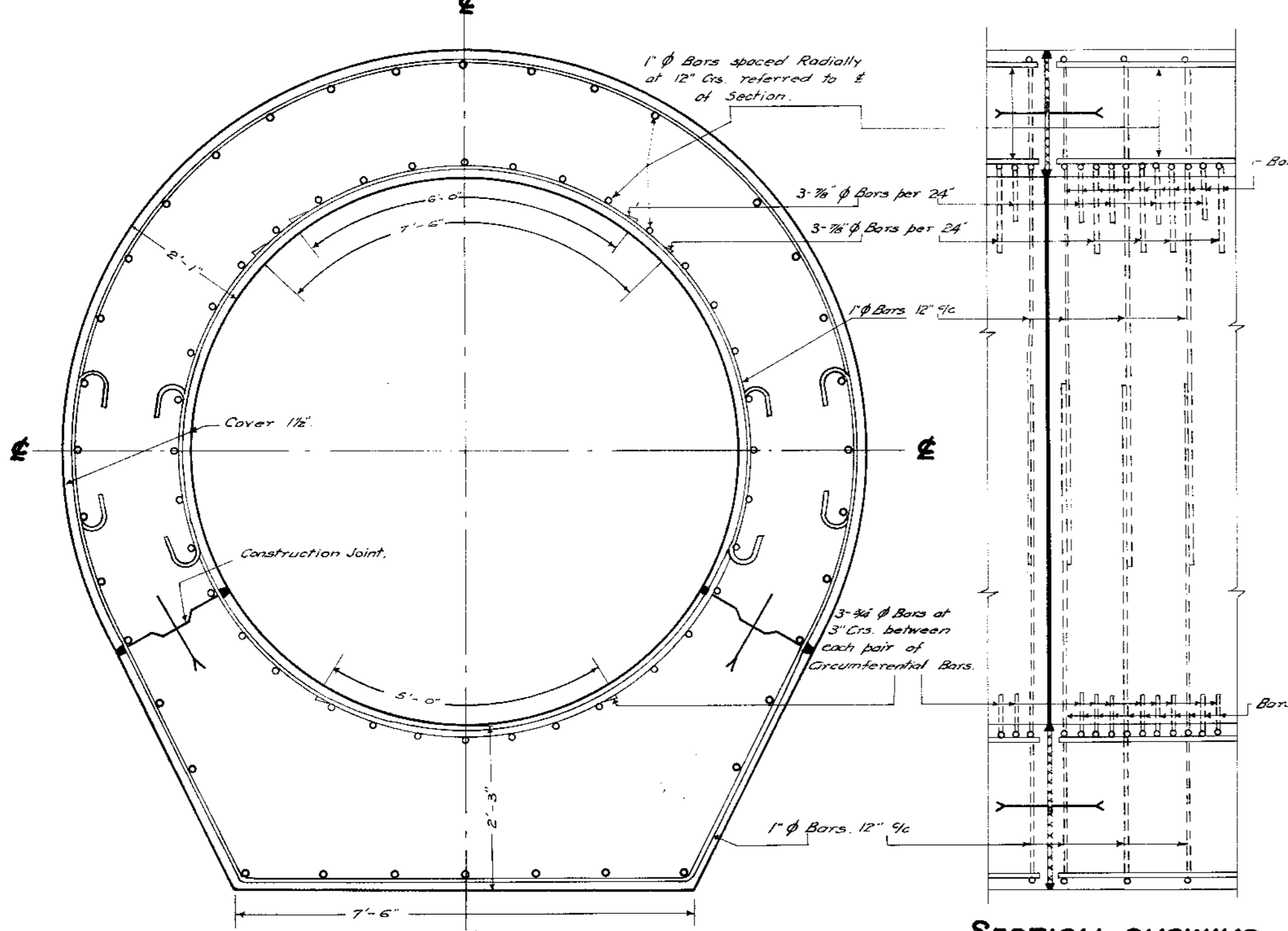
STANCHION RINGS:
 CH 3882 - CH 5282 50'-0" Centres
 CH 5282 - CH 5082 100'-0" Centres
 CH 5475 - CH 6475 200'-0" Centres



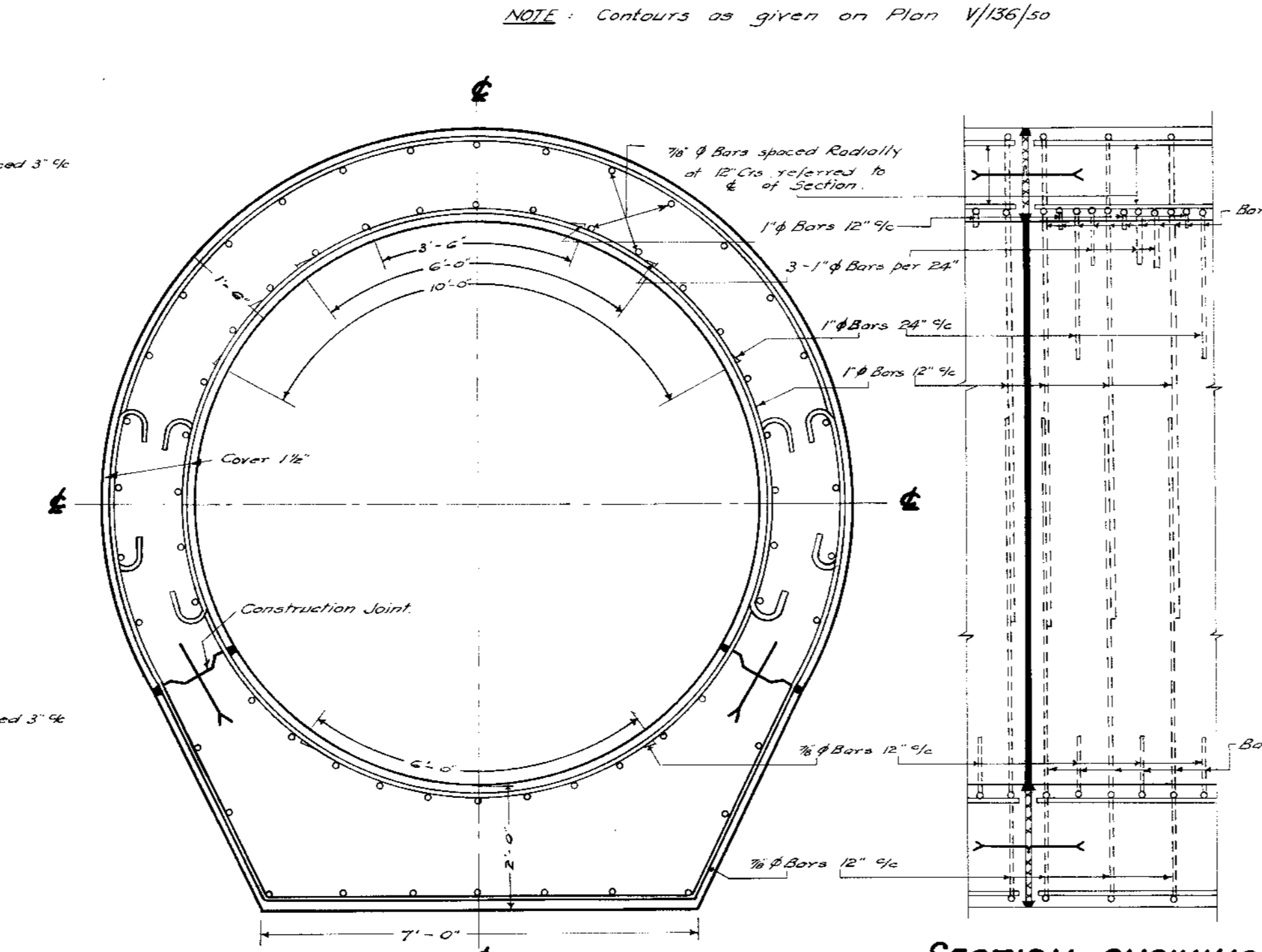
LONGITUDINAL SECTION ALONG 1/2 OF CULVERT
 SCALE: 1 INCH = 100 FEET



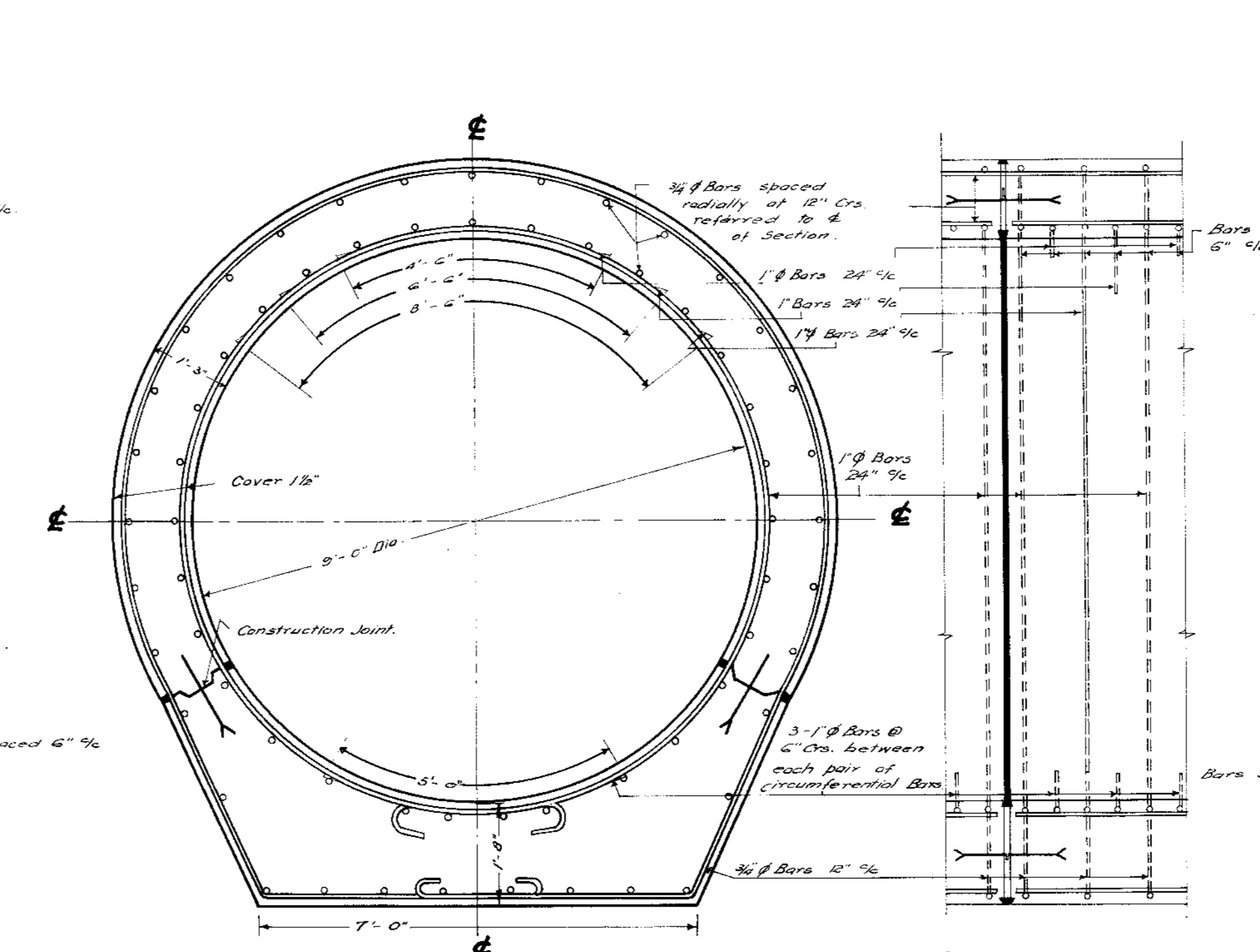
PLAN VIEW OF CULVERT
 SCALE: 1 INCH = 100 FEET



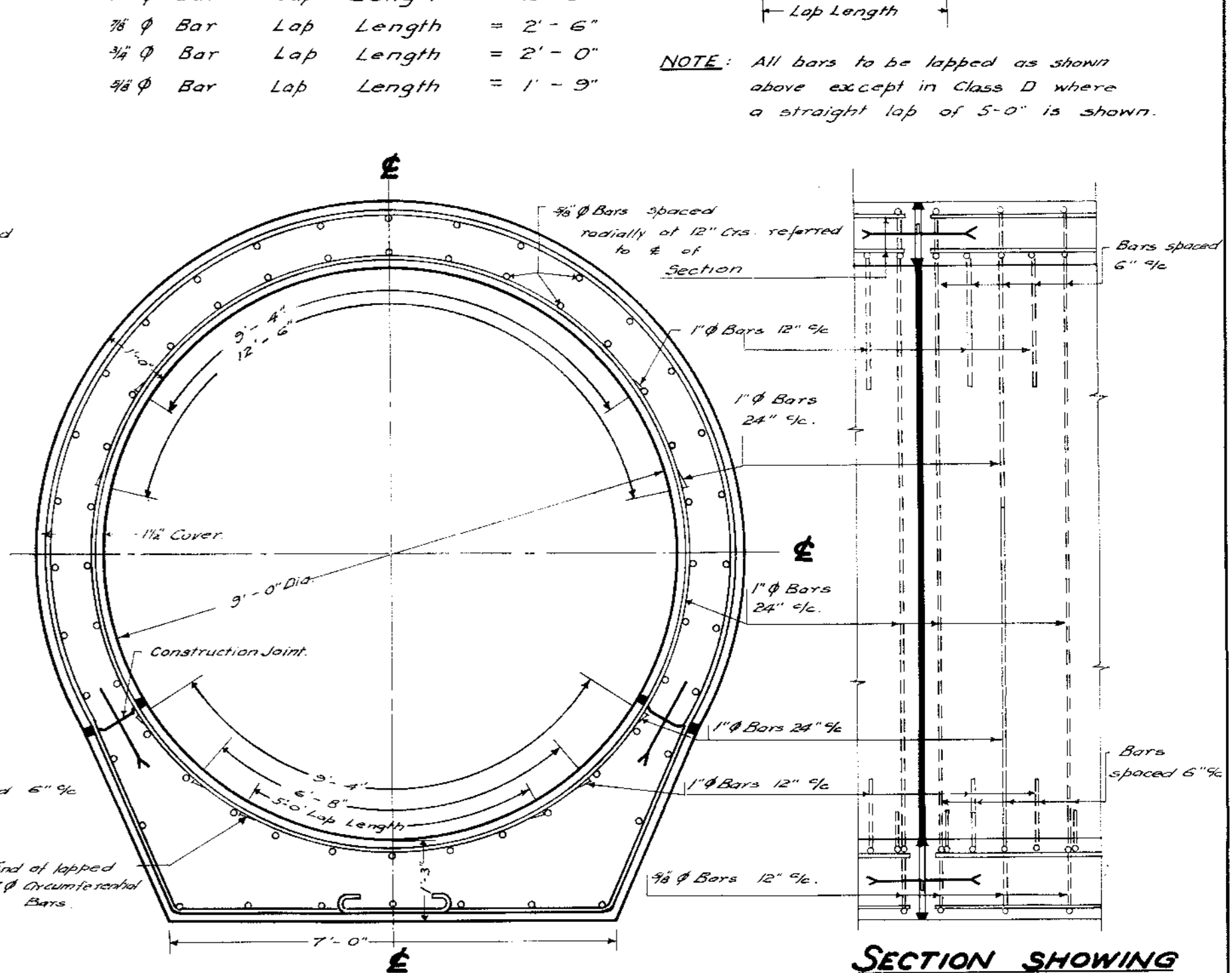
SECTION THRO' CULVERT CLASS A
 SCALE: 1 INCH = 2 FEET



SECTION THRO' CULVERT CLASS B
 SCALE: 1 INCH = 2 FEET



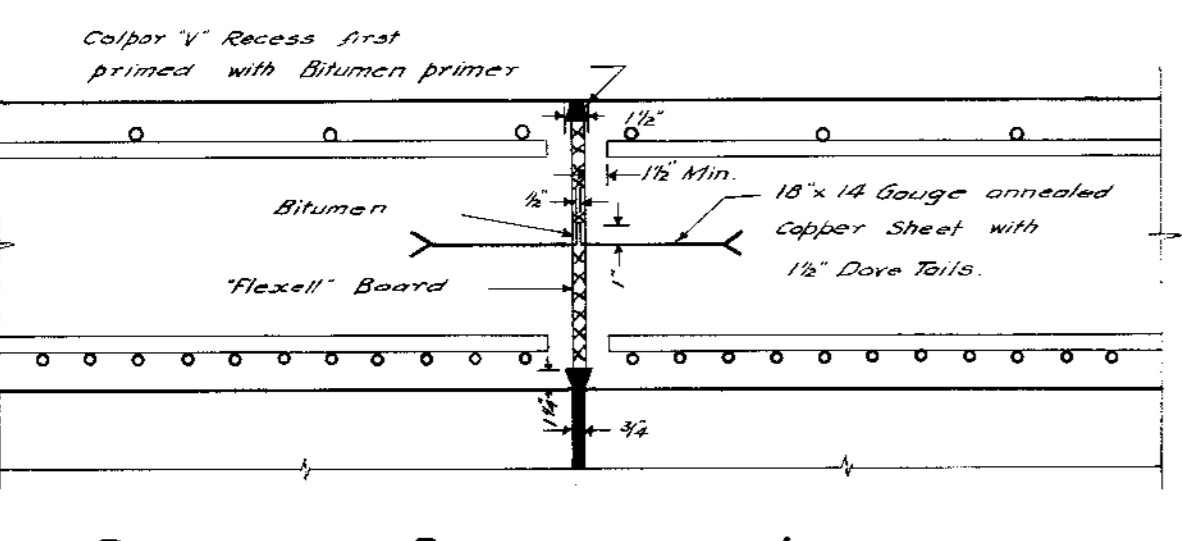
SECTION THRO' CULVERT CLASS C
 SCALE: 1 INCH = 2 FEET



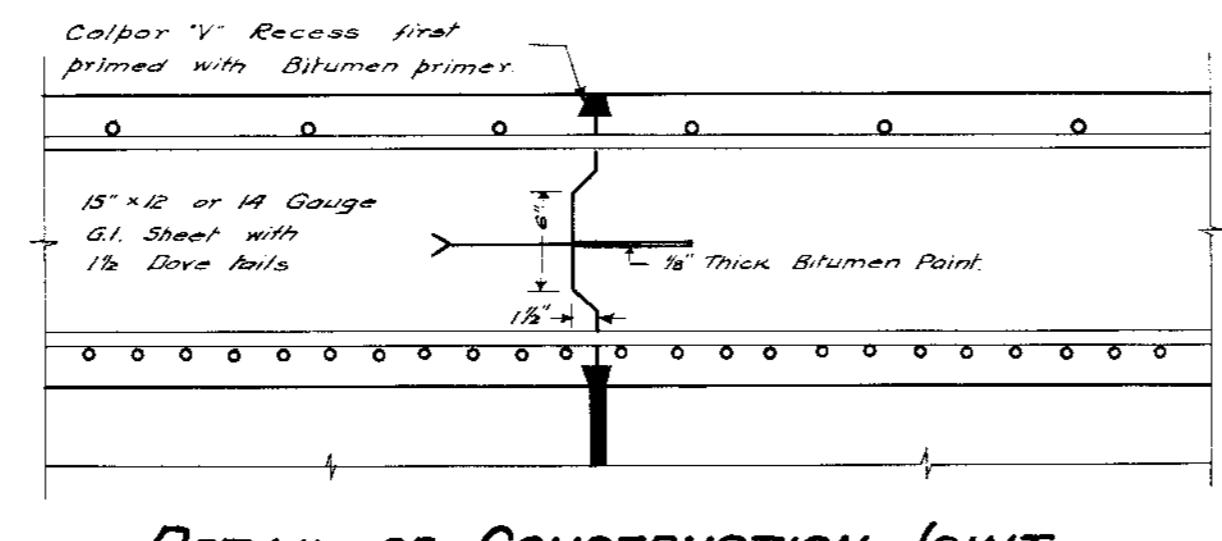
SECTION THRO' CULVERT CLASS D
 SCALE: 1 INCH = 2 FEET

1" ϕ Bar Lap Length = 2'-0"
 1 1/2" ϕ Bar Lap Length = 2'-0"
 1 1/2" ϕ Bar Lap Length = 2'-0"
 1 1/2" ϕ Bar Lap Length = 1'-0"

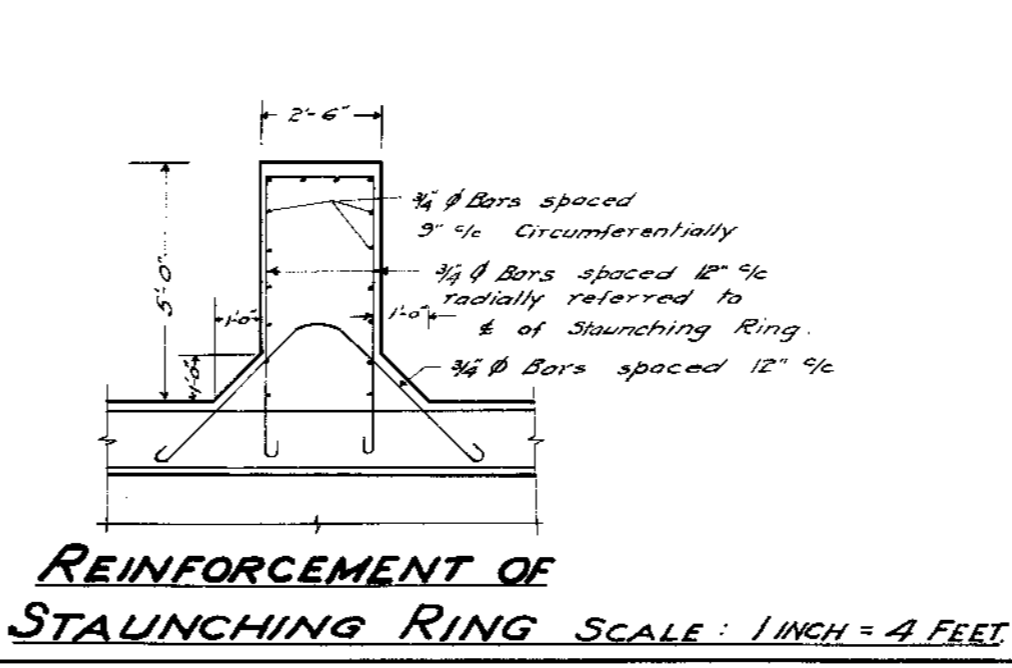
NOTE: All bars to be lapped as shown above except in Class D where a straight lap of 5'-0" is shown.



DETAIL OF EXPANSION JOINT
 SCALE: 1 INCH = 1 FOOT



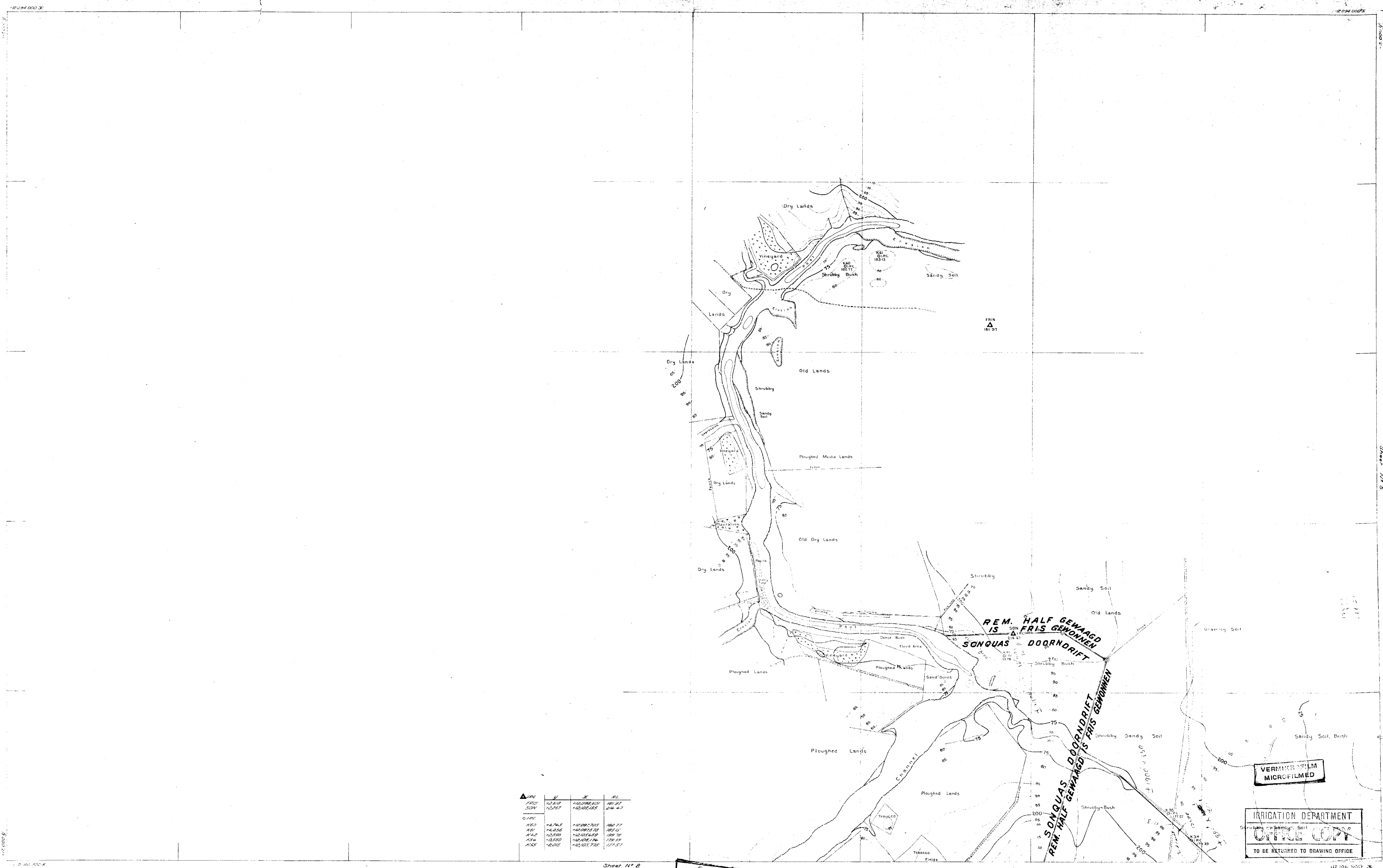
DETAIL OF CONSTRUCTION JOINT
 SCALE: 1 INCH = 1 FOOT



REINFORCEMENT OF STANCHION RING
 SCALE: 1 INCH = 4 FEET

NOTE: Stanchion Ring to extend 3 ft beyond outside face of barrel of conduit. Thickness of Ring to be 2'-0". Reinforcement to consist of 1/2" ϕ bars placed circumferentially at 12" c/c. 1/2" ϕ bars placed radially at 12" c/c. 1/2" ϕ bars placed circumferentially at 12" c/c. 1/2" ϕ bars placed radially at 12" c/c.

CAPE IRRIGATION DEPARTMENT TULBAGH			
VOGELVLEI CONSERVATION PROJECT			
LONGITUDINAL AND CROSS SECTIONS OF OUTLET CULVERT			
DRAWN BY: D.S.B.	HEAD OFFICE	WATER COURT NO.1	DRAINAGE AREA N°VII-1A, B, C
CHECKED BY: J.L.B.	D.F. KOROT	L.A. MACKENZIE	REG. N° 27603/51
DESIGN ENGINEER	CHIEF PLANNING ENGINEER	DIRECTOR OF IRRIGATION	



Point	Easting	Northing	Height
100	142,080.50	481.57	142,080.50
101	142,081.50	481.57	142,081.50
102	142,082.50	481.57	142,082.50
103	142,083.50	481.57	142,083.50
104	142,084.50	481.57	142,084.50
105	142,085.50	481.57	142,085.50

Sheet No 2

D.A.M.

CAPE		IRRIGATION DEPARTMENT		TULBAGH	
VOGEL VLEI SCHEME					
Sheet 4 of 11 Sheets.					
HEAD OFFICE	D. F. ROBERTS Chief Resident Engineer	L. A. MCKENZIE DIRECTOR OF IRRIGATION	WATER COURT NO. 1	SCALE 1" = 300'	REG No 21658/72

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IRRIGATION DEPARTMENT
TO BE RETURNED TO DRAWING OFFICE

NEGATIVE

+12,081,500 X



Point	Y	X	RL
BELL	9690	12,086,665	285.00
ROCK	18210	12,080,908	382.40
CEM	8060	12,082,127	270.38
LPC	8216	12,082,103	269.87
CM	19209	12,083,272	257.96

CAPE		IRRIGATION DEPARTMENT		TULBAGH	
VOGEL VLEI		SCHEME		2798/1/51	
HEAD OFFICE	<i>D. P. ...</i>	L. A. MACKENZIE	WATER COURSE NO. 1	SCALE - 1" = 500'	REG. NO. 21057/1
	Chief Research Engineer	DIRECTOR OF IRRIGATION	DRAINAGE AREA 11 (181)	SHEET 2 OF 11 SHEETS	

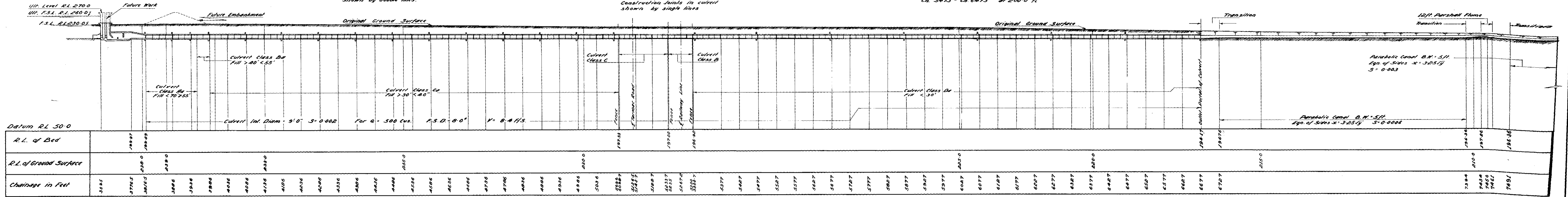
320003
M.F.A. 11/1/51

NOTE: Culvert Classes B and C to be used under Road and Railway Line are as given on plans 27578/51, 27582/51 and 27603/51. Class D is given on plan Reg. No. 27599/51.

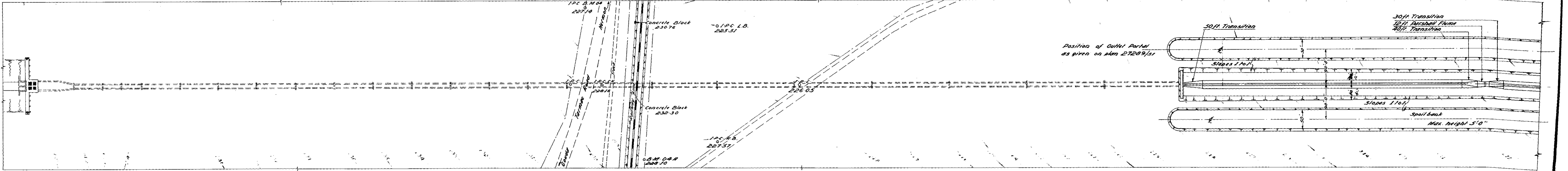
EXPANSION JOINTS
 CA 3888 - CA 3898 at 50'-0" %
 CA 3899 - CA 3937 at 45'-0" %
 CA 3977 - CA 4077 at 50'-0" %
 Expansion joints in culvert shown by double lines.

CONSTRUCTION JOINTS
 CA 3874.5 - CA 3888 at 17'-4 1/2" %
 CA 3888 - CA 3888 at 16'-0" %
 CA 3887 - CA 3837 at 15'-0" %
 CA 3837 - CA 3800.7 at 0'-0" %
 CA 3810.2 - CA 6677 at 16'-0" %
 Construction joints in culvert shown by single lines.

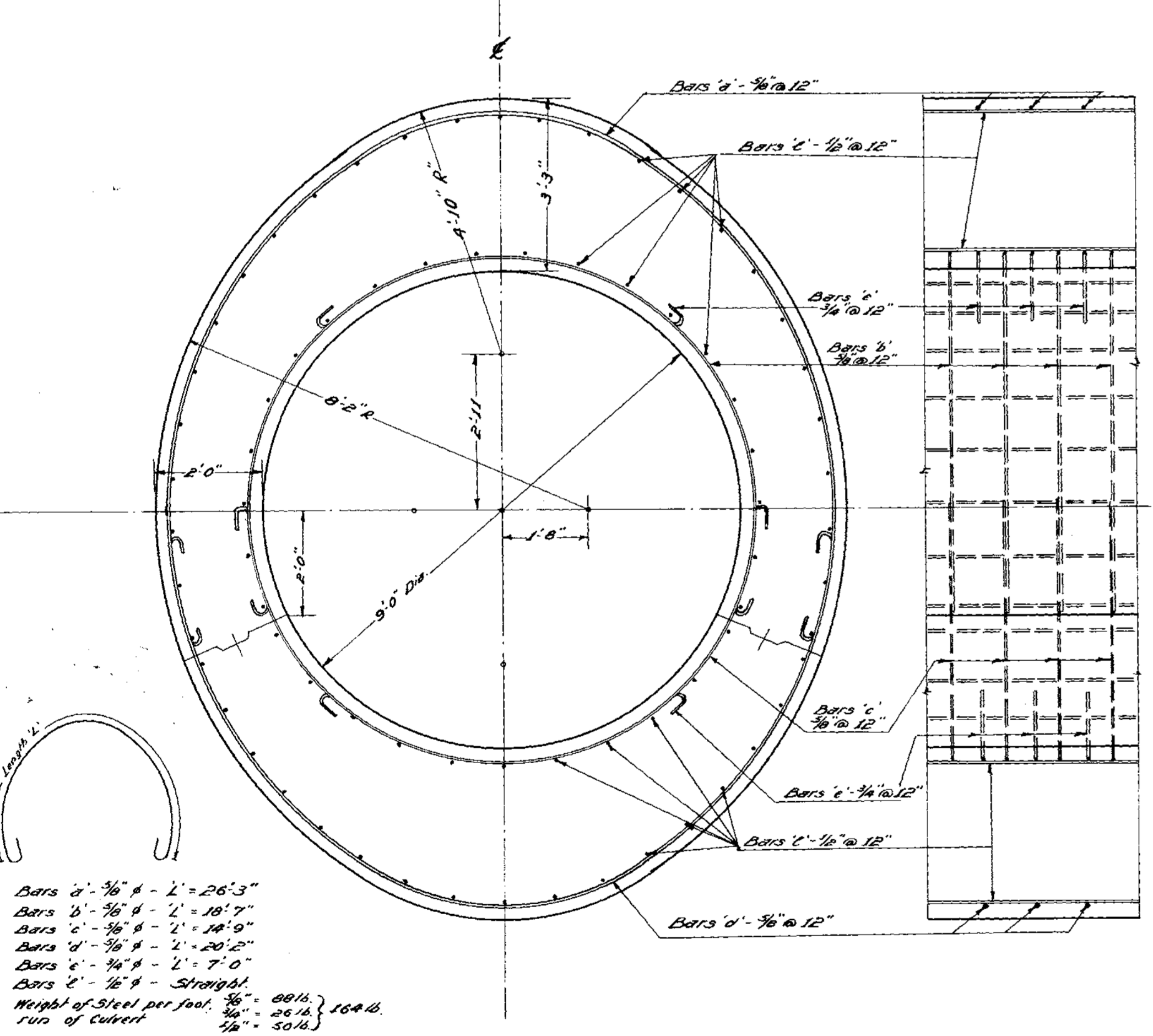
STRENGTHENING RINGS
 CA 3882 - CA 3982 at 50'-0" %
 CA 3982 - CA 3982 at 100'-0" %
 CA 3823 - CA 6823 at 200'-0" %



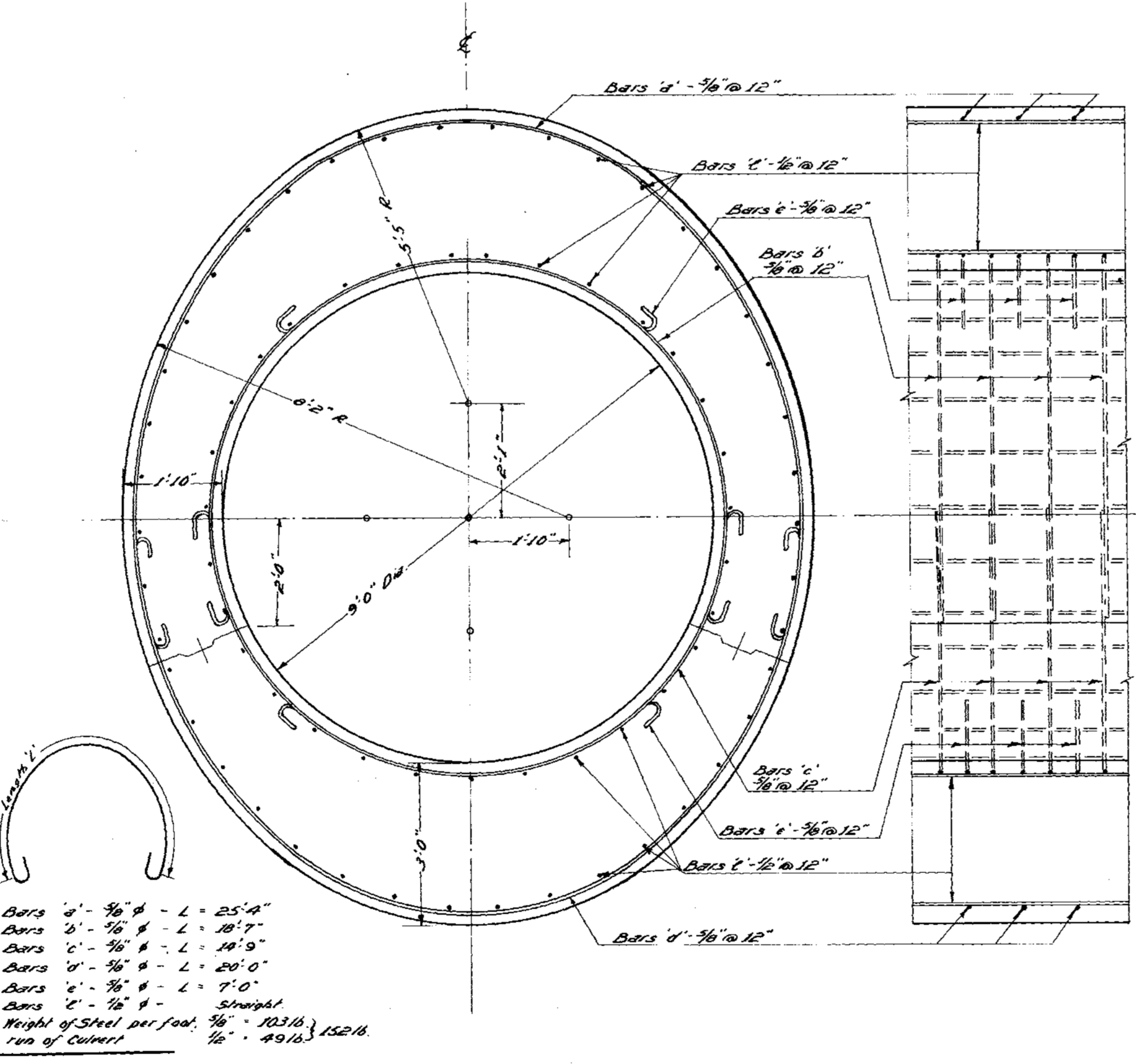
LONGITUDINAL SECTION ALONG E OF CULVERT
 Scale: 1"=100'-0"



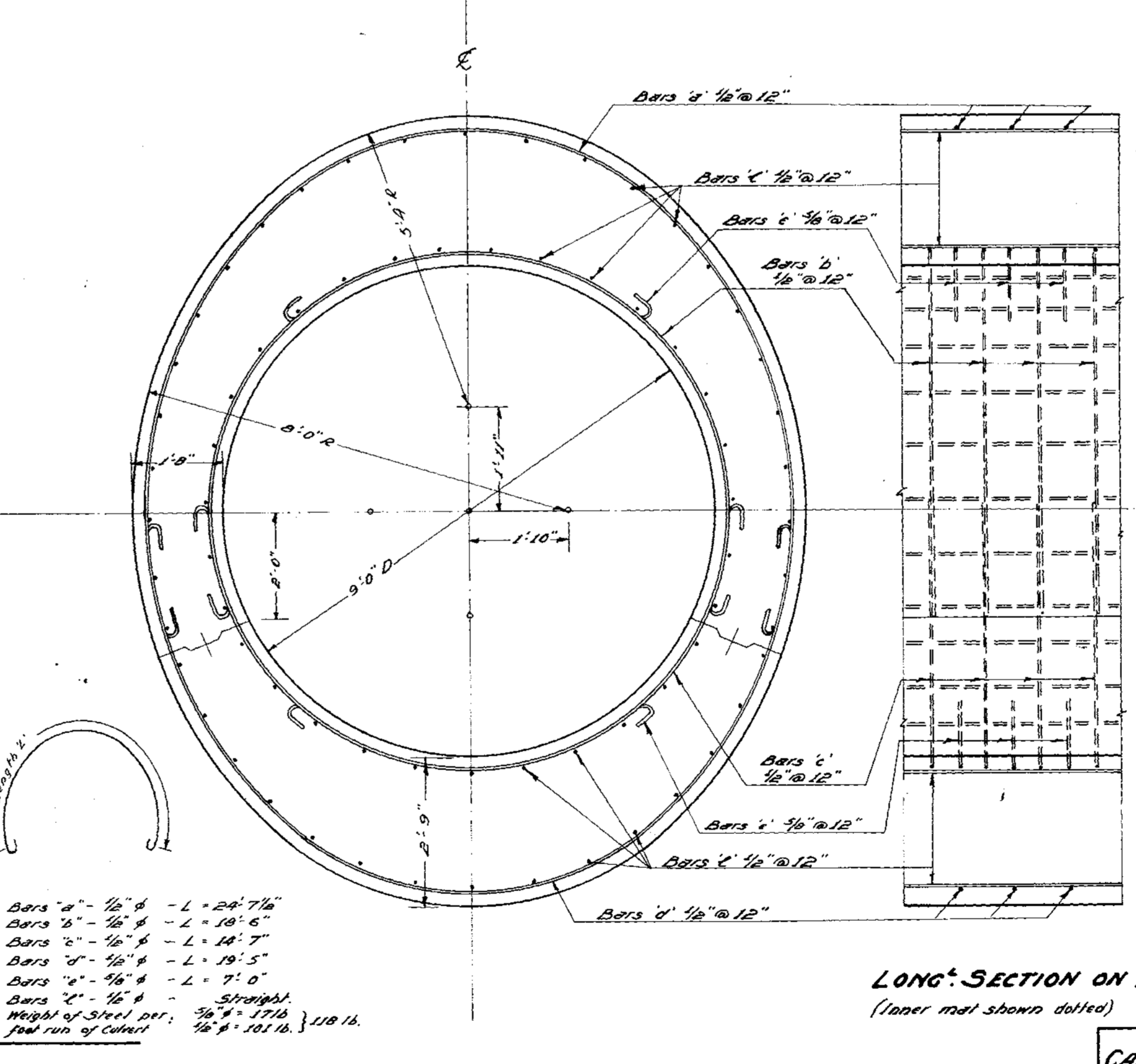
PLAN VIEW OF CULVERT
 Scale: 1"=100'-0"



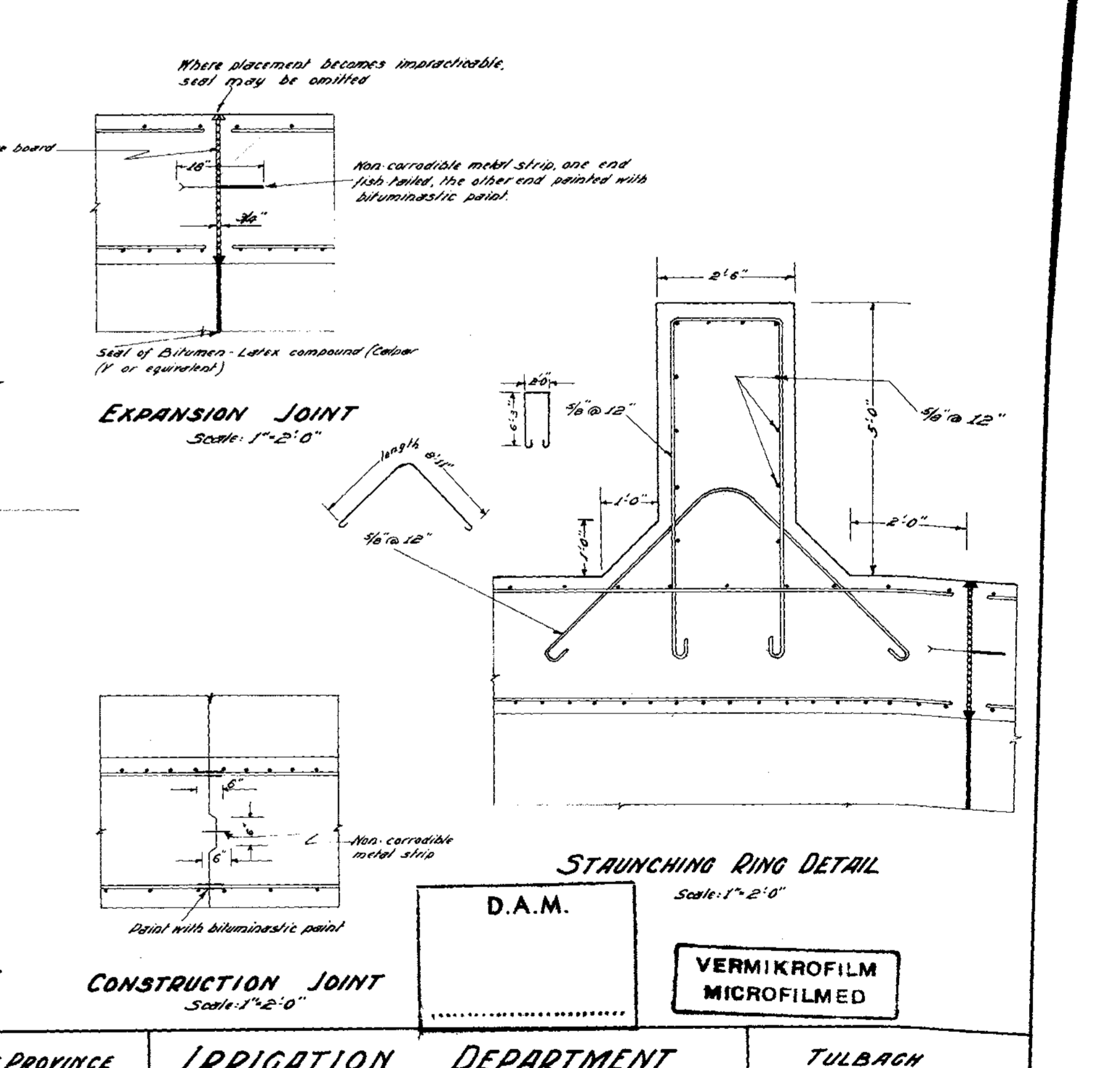
CROSS SECTION - CLASS A
 Scale: 1"=2'-0"



CROSS SECTION - CLASS B
 Scale: 1"=2'-0"



CROSS SECTION - CLASS C
 Scale: 1"=2'-0"



LONG-SECTION ON E
 Scale: 1"=2'-0"

CONCRETE SPECIFICATION
 Nominal Mixture: 1:2:4.
 Aggregates to comply with B.S. 682 and to be well graded.
 Minimum 28 day cube strength 3000 p.s.i. (200 kg/cm²).
 Slump: approximately 700 p.s.i.
 Compression test to be made 1000 p.s.i.
 Slump stress: 100 p.s.i. Storage time: 200 p.s.i.
 Minimum cover on steel: 2 1/2".

GENERAL
 This plan supersedes plans Reg. Nos. 27603/51 & 27611/51.
 For Class D see also Reg. No. 27599/51.
 Classes B & C to be used under road & railway line are as given on plans Reg. Nos. 27578/51, 27582/51 & 27603/51.
 Provided the steel area is not diminished, the size and spacing of the bars may be varied.

Bar	Size	Spacing	Weight
1/2"	12"	12"	21.5
1/4"	12"	12"	5.4

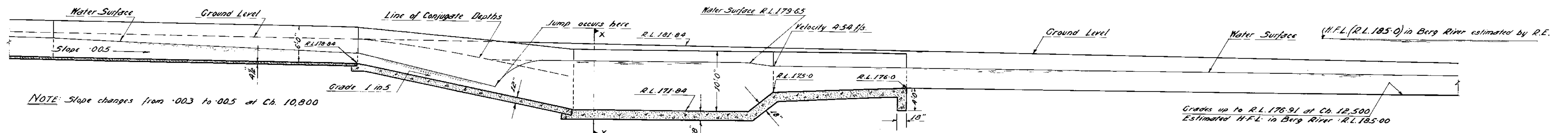
CAPE PROVINCE IRRIGATION DEPARTMENT TULBACH

VOGELVLEI CONSERVATION PROJECT

LONGITUDINAL AND CROSS SECTIONS OF OUTLET CULVERT

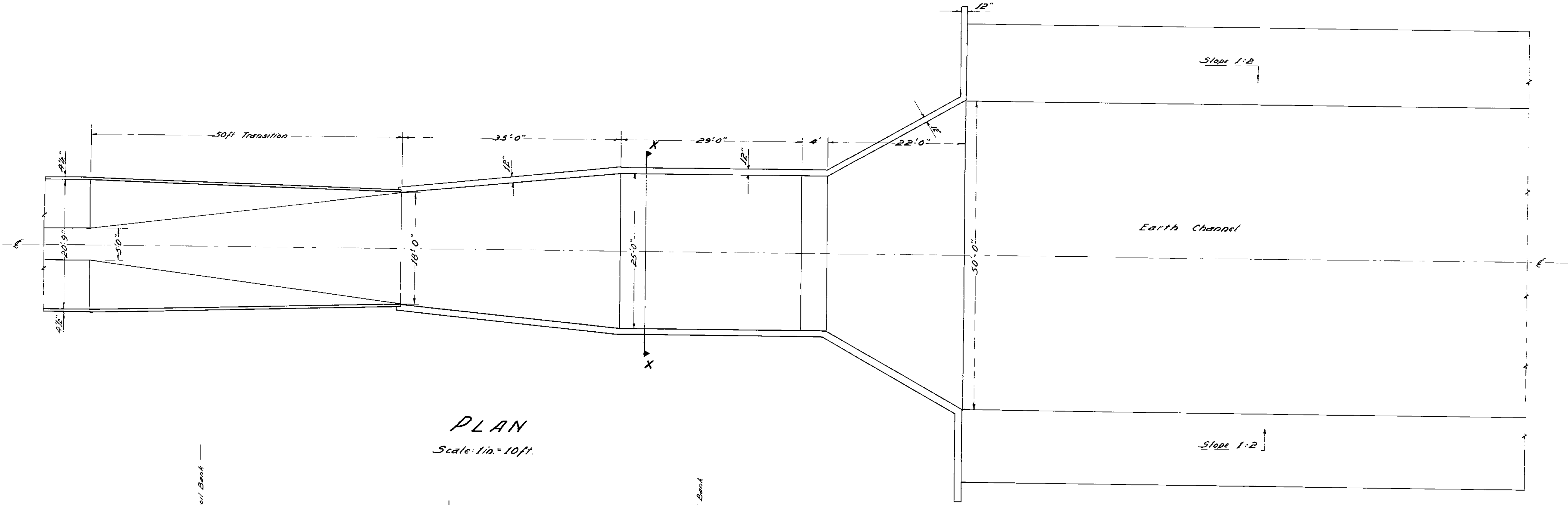
Drawn by: C. and L. ...
 Checked by: ...
 Design Engineer: D.F. Kokot
 Chief Planning Engineer: L.A. Mackenzie
 Director of Irrigation: ...

REG. NO. 28028/51

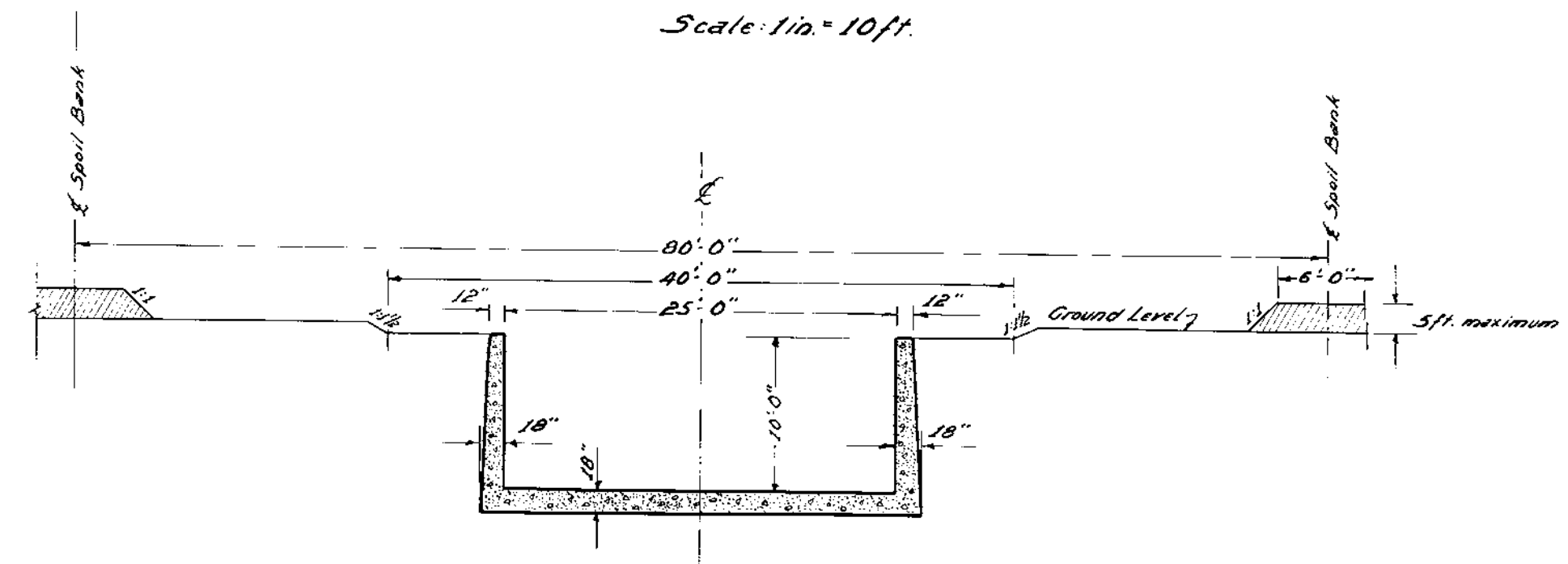


Water Surface Level	11,800	11,900	11,960	11,980	11,985	11,994	11,998	12,000	12,100
Velocity	12.5	15.4	19.2	21.9	2.06	2.56	2.56	2.51	
Chainage	11,800	11,900	11,960	11,980	11,985	11,994	11,998	12,000	12,100

SECTION ON E
Scale: 1 in. = 10 ft.



PLAN
Scale: 1 in. = 10 ft.



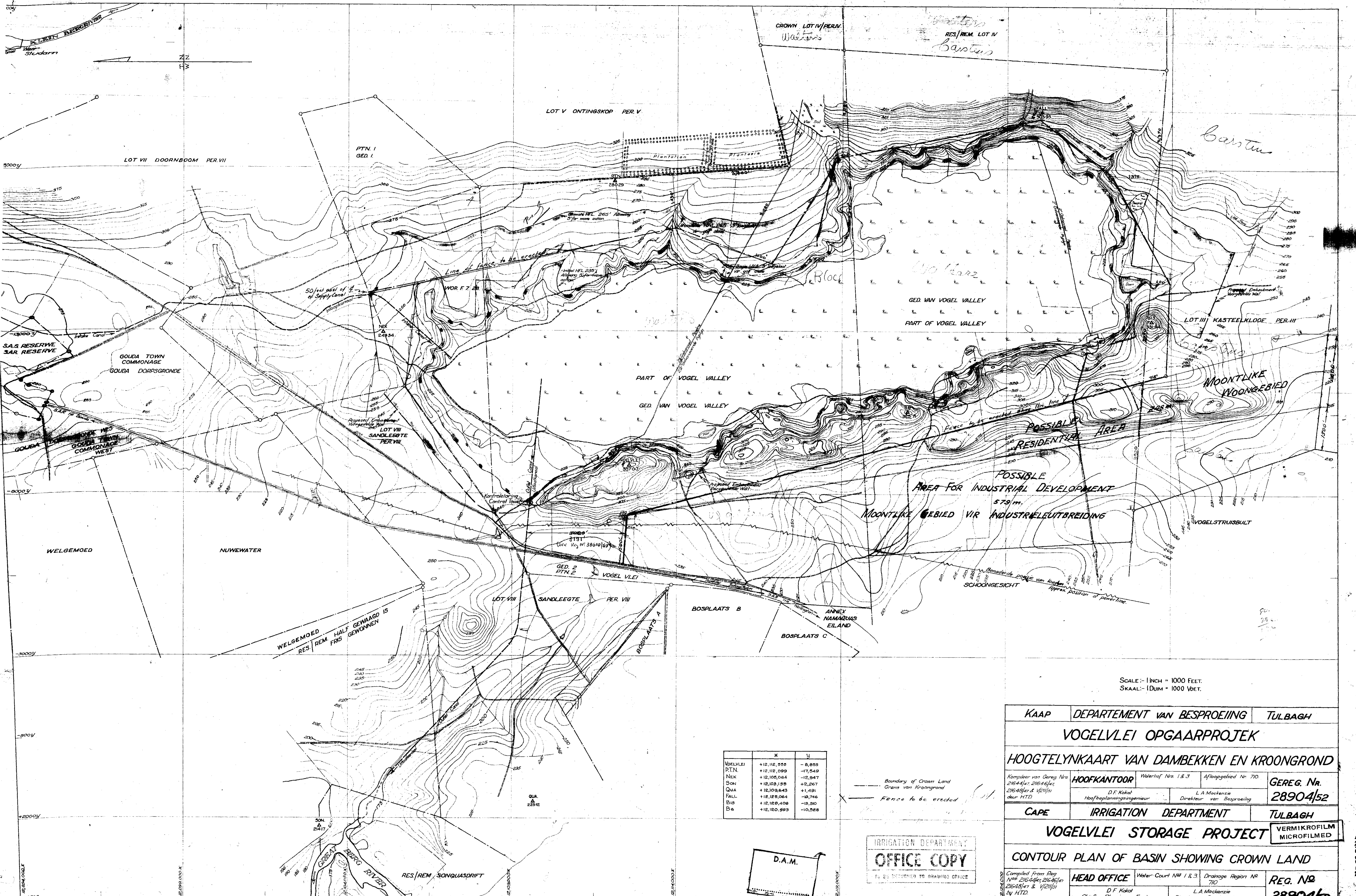
SECTION THROUGH X-X
Scale: 1 in. = 10 ft.

DESIGN DATA
Q = 500 c.f.s.
n for concrete = .014
n for excavated channel = .0275
n for natural channel = .035

NOTE: 1: Chainages agree with those shown on Reg. N° 28689/51 (N° V/21/51)
2: This Stilling Basin Design supersedes that shown on Reg. N° 27290/51.

CAPE	IRRIGATION DEPARTMENT	TULBAGH
VOGELVLEI CONSERVATION PROJECT		
PROPOSED OUTLET CANAL STILLING BASIN		
Drawn by: F. Duncan Traced by: D.L. Buisson Checked by: C. Duncan J. Jordan 12/1/52 Design Engineer	HEAD OFFICE D. R. V. K. S. F. Chief Planning Engineer	Water Court Dist. N° 1 Drainage Area N° III: 1 a & b L. A. Mackenzie Director of Irrigation
		REG. N° 28893/52

P. E. C. A.



SCALE: 1 INCH = 1000 FEET.
 SKAAL: 1 DUIM = 1000 VET.

KAAP	DEPARTEMENT VAN BESPROEING	TULBAGH
VOGELVLEI OPGAARPROJEK		
HOOGTELYNKAART VAN DAMBEKKEN EN KROONGROND		
Kompleer van Gereg. Nrs. 21644/47, 21646/47, 21648/47 & 1/2/1/1/1 deur HTD.	HOOFKANTOOR D.F. Kokot Hoofbeplanningingenieur	Waterhof Nrs. 1 & 3 Aftoepgebied Nr. 710 L.A. Mackenzie Direkteur van Besproeiing
GEREG. Nr. 28904/52		
CAPE	IRRIGATION DEPARTMENT	TULBAGH
VOGELVLEI STORAGE PROJECT		
CONTOUR PLAN OF BASIN SHOWING CROWN LAND		
Compiled from Reg. Nrs. 21644/47, 21646/47, 21648/47 & 1/2/1/1/1 by HTD.	HEAD OFFICE D.F. Kokot Chief Planning Engineer	Water Court Nrs. 1 & 3 Drainage Region Nr. 710 L.A. Mackenzie Director of Irrigation
REG. NR. 28904/52		

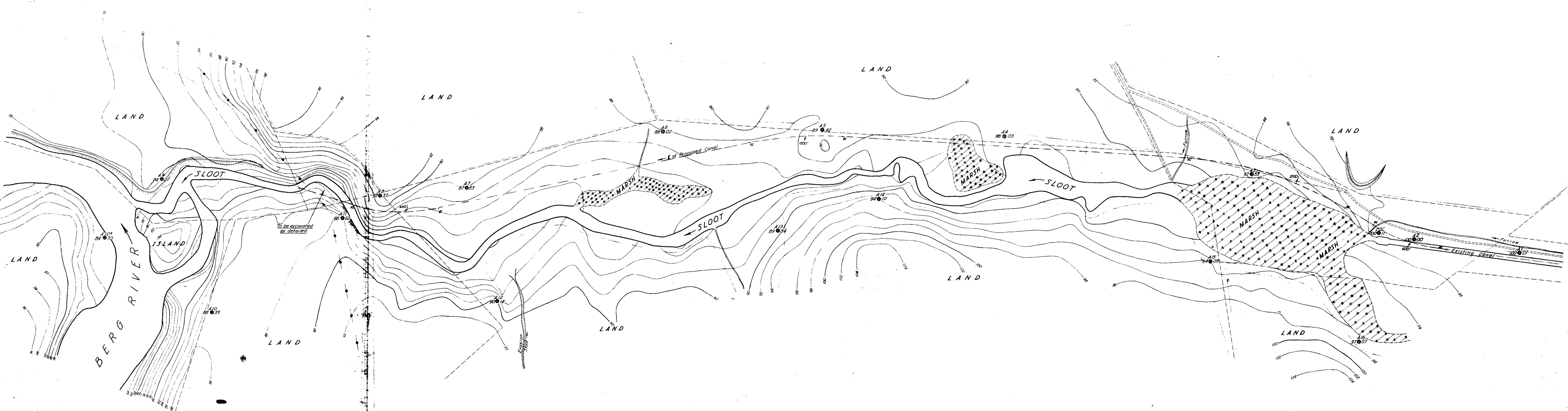
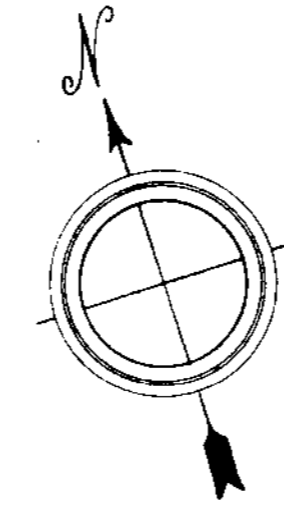
	X	Y
VOGELVLEI	+12.112.255	-8.855
PTN.	+12.112.089	-17.542
NEK	+12.105.064	-12.947
SON	+12.103.195	+2.267
QUA	+12.109.643	+1.491
FALL	+12.125.064	-9.746
EBB	+12.110.408	-3.330
Ba	+12.110.993	-10.528

Boundary of Crown Land
 Grans van Kroongrond
 Fence to be erected

IRRIGATION DEPARTMENT
OFFICE COPY
 TO BE RETURNED TO DRAWING OFFICE

D.A.M.

NEGATIVE

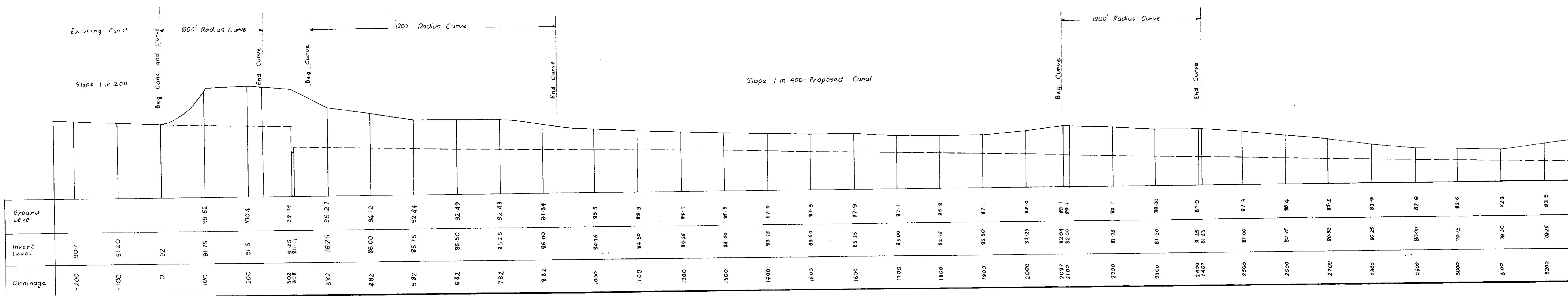


63056/76

Scale: 1" = 100'

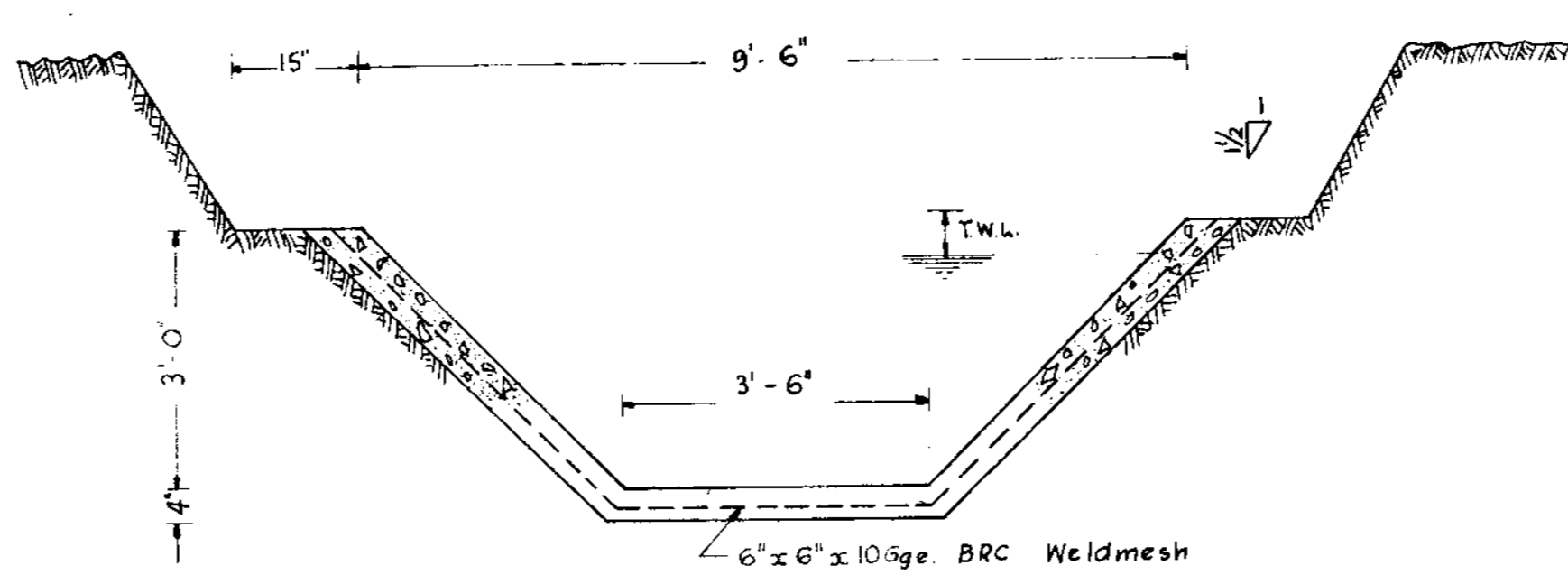
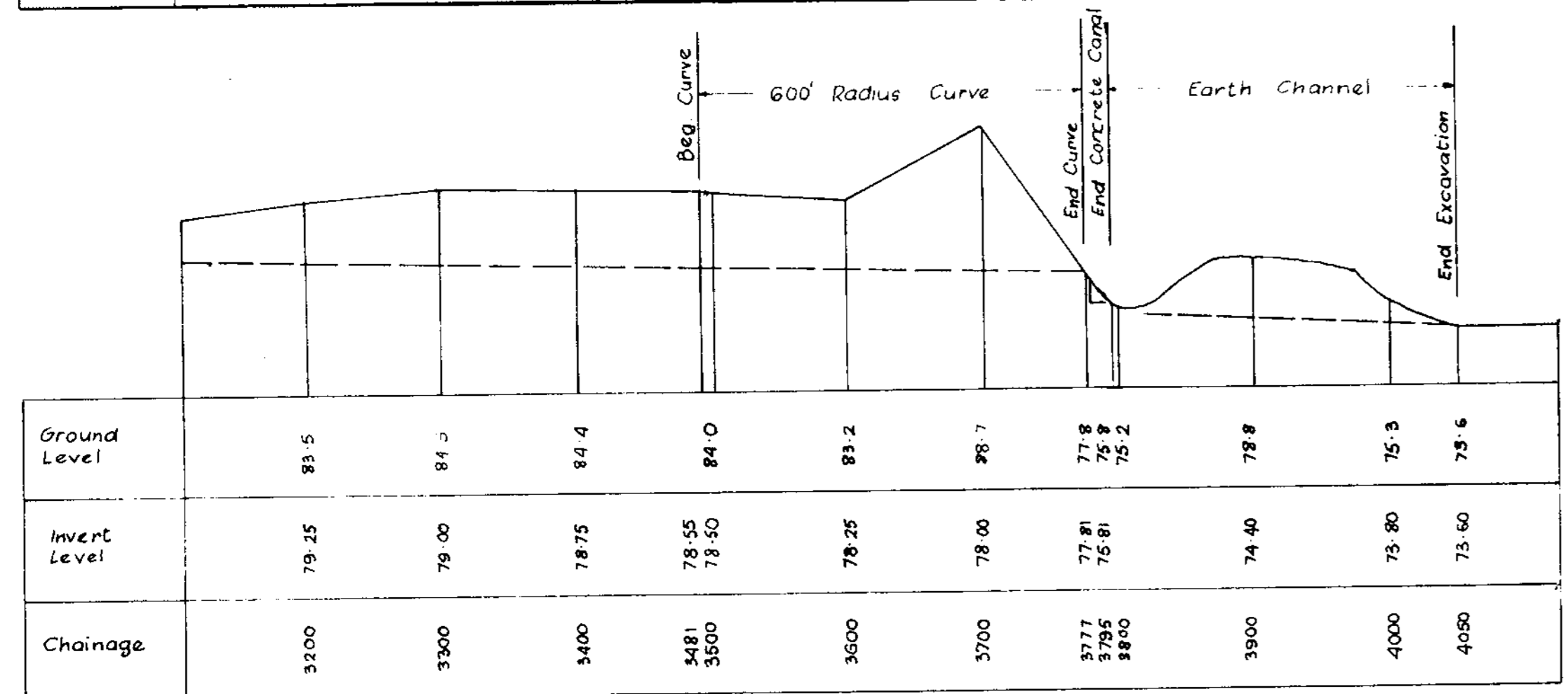
VERMIKROFILM
MICROFILMED

CAPE	DEPT. OF WATER AFFAIRS	TULBAGH
VOGELVLEI G.W.S.		
EXTENSION OF VOELVLEI OUTLET CANAL		
Designed - S.W.M. Checked - J.B. Drawn - M.P.	Case No./Date 11/2/76	File No. 11/2/76
Circle Engineer	J. J. H. RIEDEL Secretary for Water Affairs	Drainage Area CNC/11/2/76
		63056/76



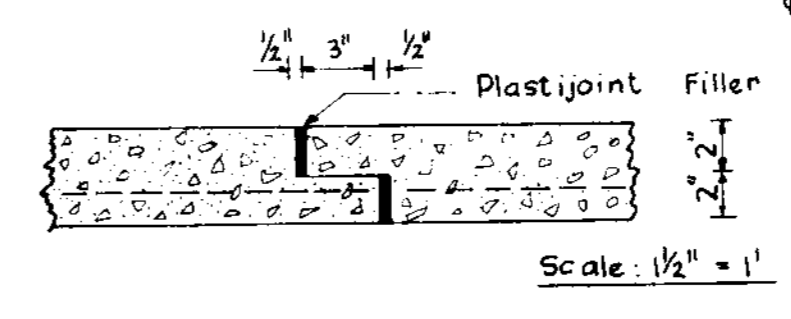
LONGITUDINAL SECTION ALONG PROPOSED CANAL

Scale: Hor. 1" = 100'
Vert. 1" = 10'

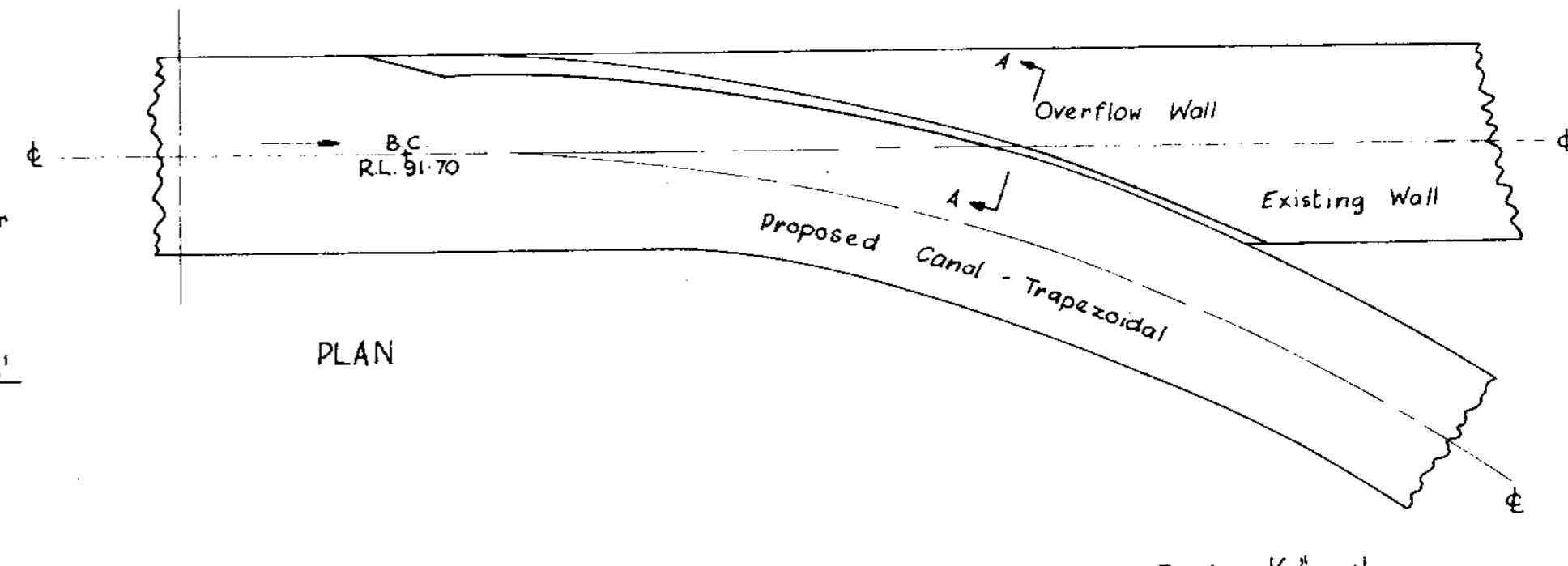


TYPICAL CROSS SECTION OF CANAL

Scale: 1/2" = 1'

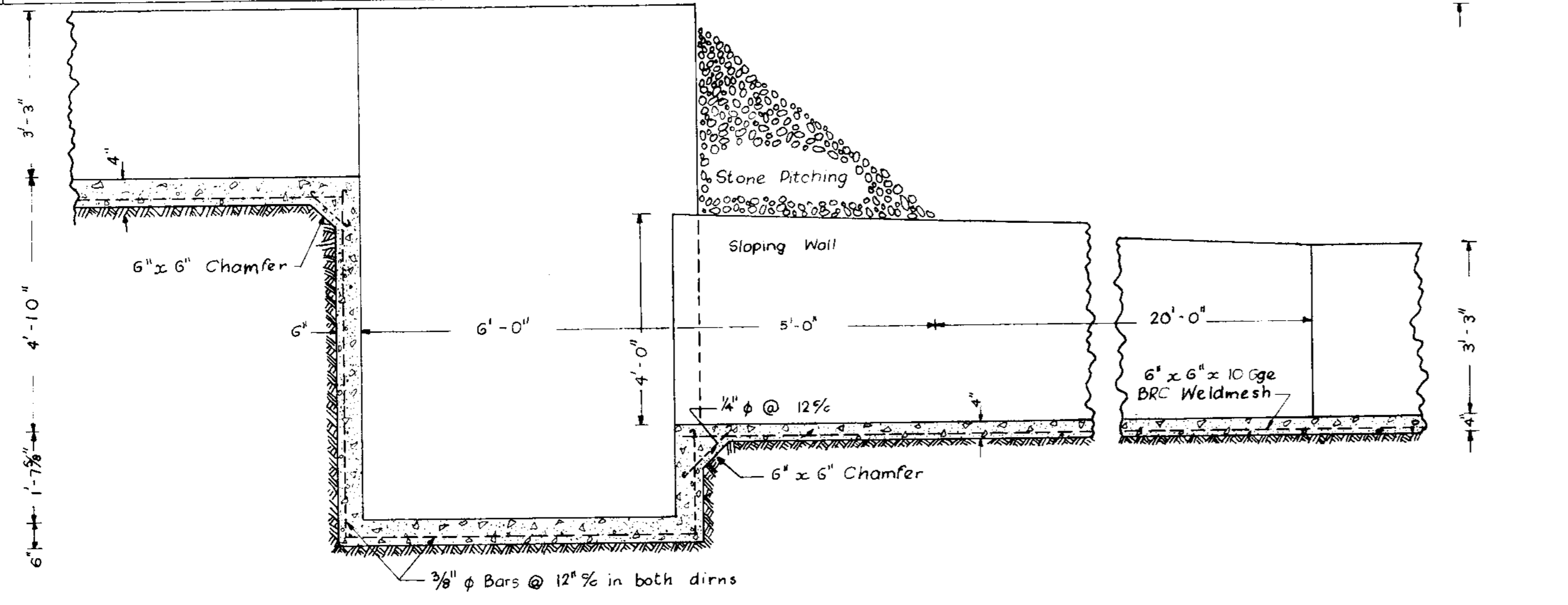


EXPANSION JOINT
Canal to be constructed in 10 foot long sections. Every 50 feet an expansion joint is to be used.

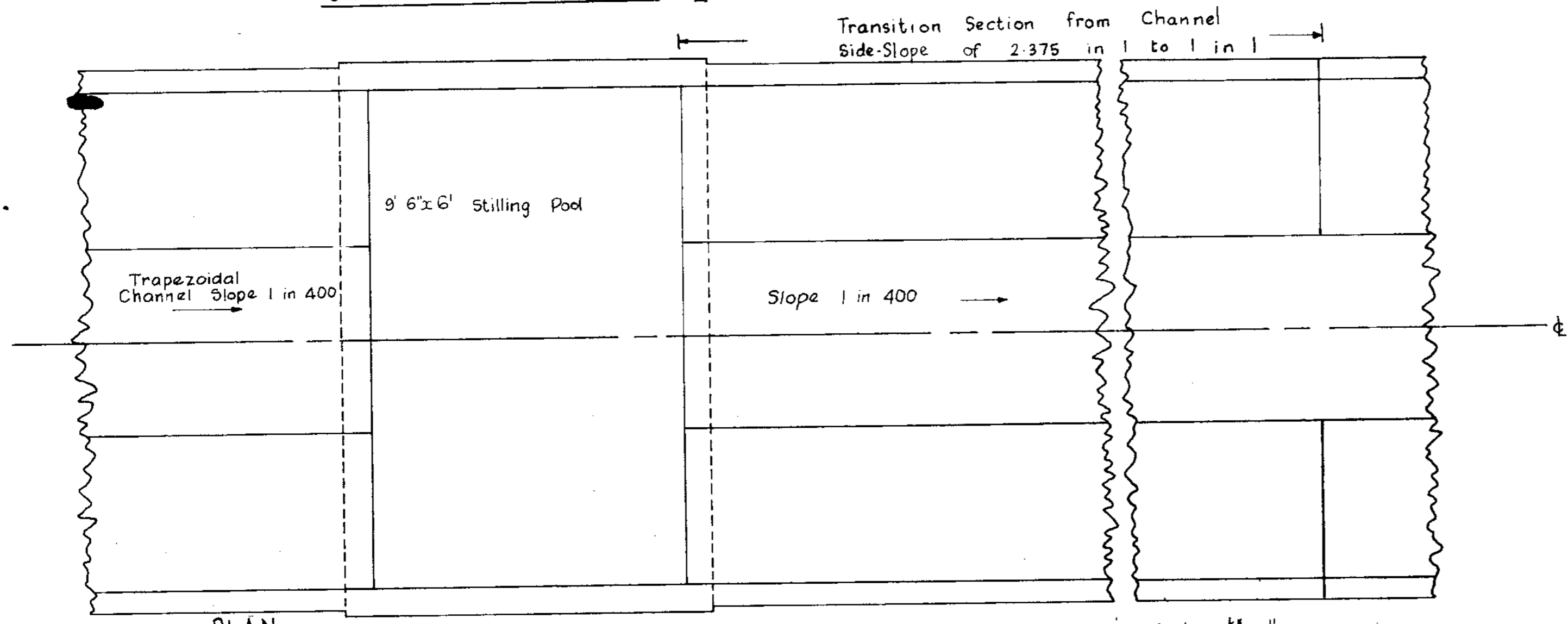


DETAIL - PROPOSED CANAL INLET - Ch. 0

Scale: 1/2" = 1'

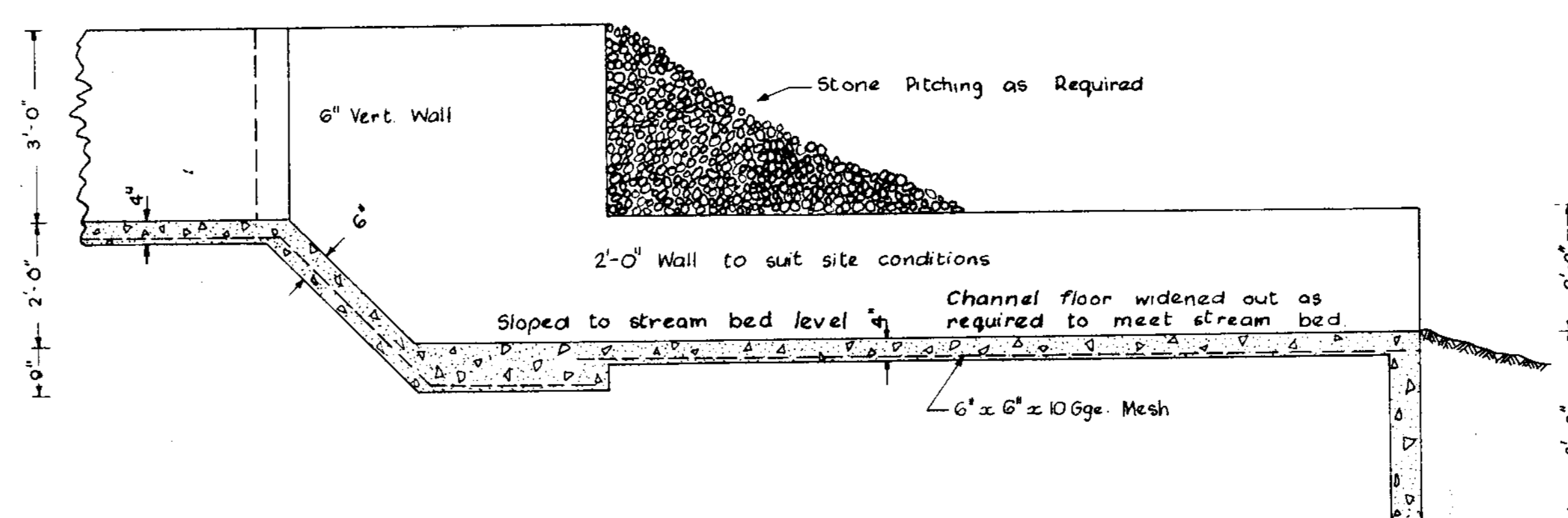


SECTION THROUGH



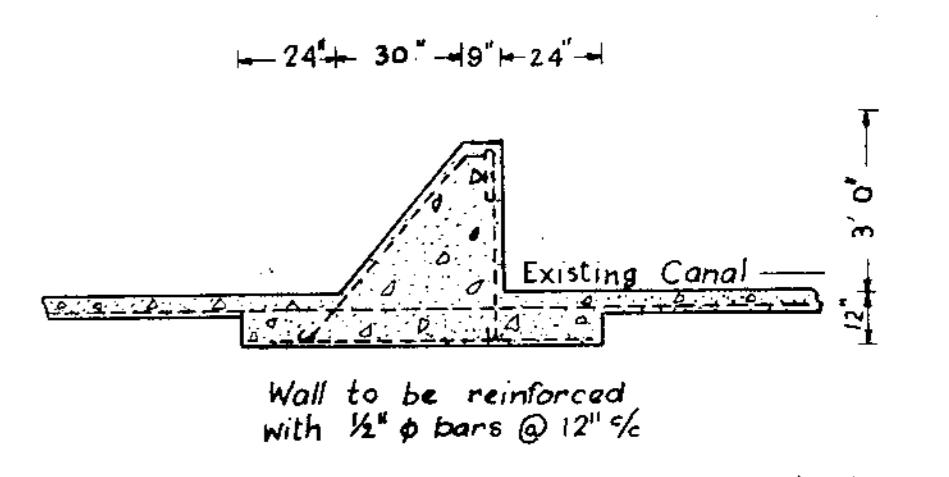
DETAIL - DROP AND STILLING POOL - CH 302

Scale: 1" = 1'



DETAIL - END OF CONCRETE CANAL - Ch. 3795

Scale: 1/2" = 1'



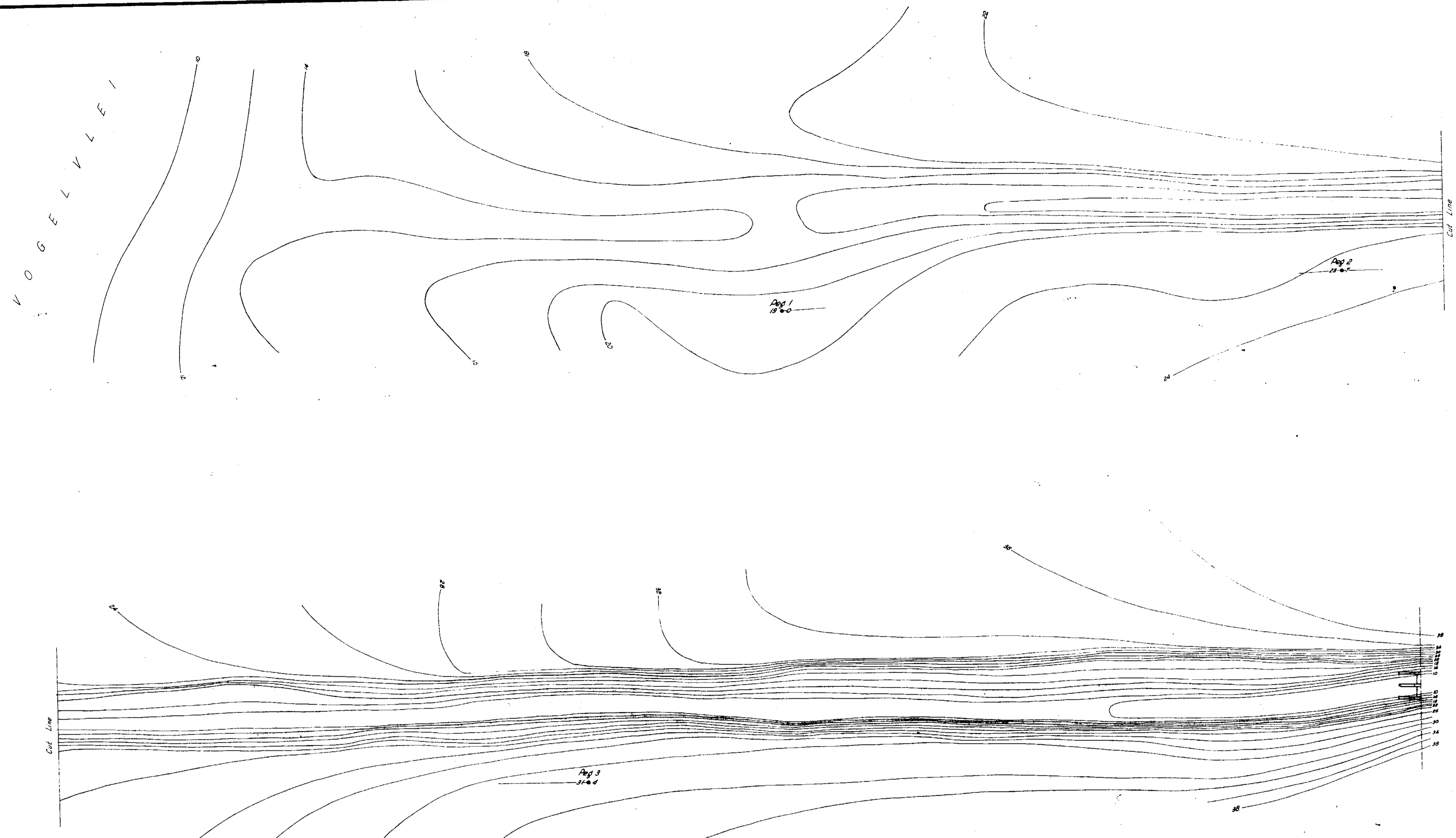
SECTION A-A OVERFLOW WALL

Scale: 1/4" = 1'

NOTE: THIS DRAWING SUPERCEDES
CWC 11087/69 and CWC 11241/69

VERMIKROFILM
MICROFILMED

CAPE	DEPT. OF WATER AFFAIRS	TULBAGH
VOELVLEI GOVERNMENT WATER SCHEME		
EXTENSIONS OF VOELVLEI OUTLET CANAL		
Designed by: S.N.	Capl. Western Circle	Drainage Area
Drawn by: S.N.		File Number
Traced by: B.N.	J.P. KRIEL Sec. for Water Affairs	CWC 11296/69
	Circle Engineer	65/037



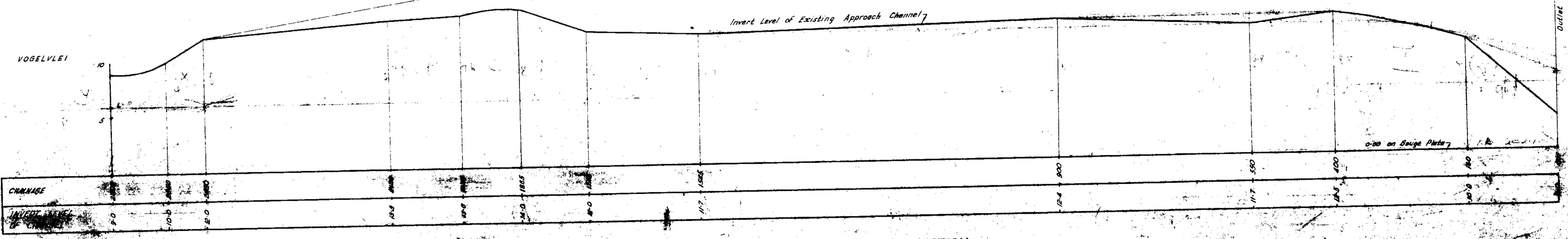
PLAN

Scale: 1" = 50'

FSL 30.0 Note: Future FSL 40.0

Approx. Ground Level 7

Invert Level of Existing Approach Channel

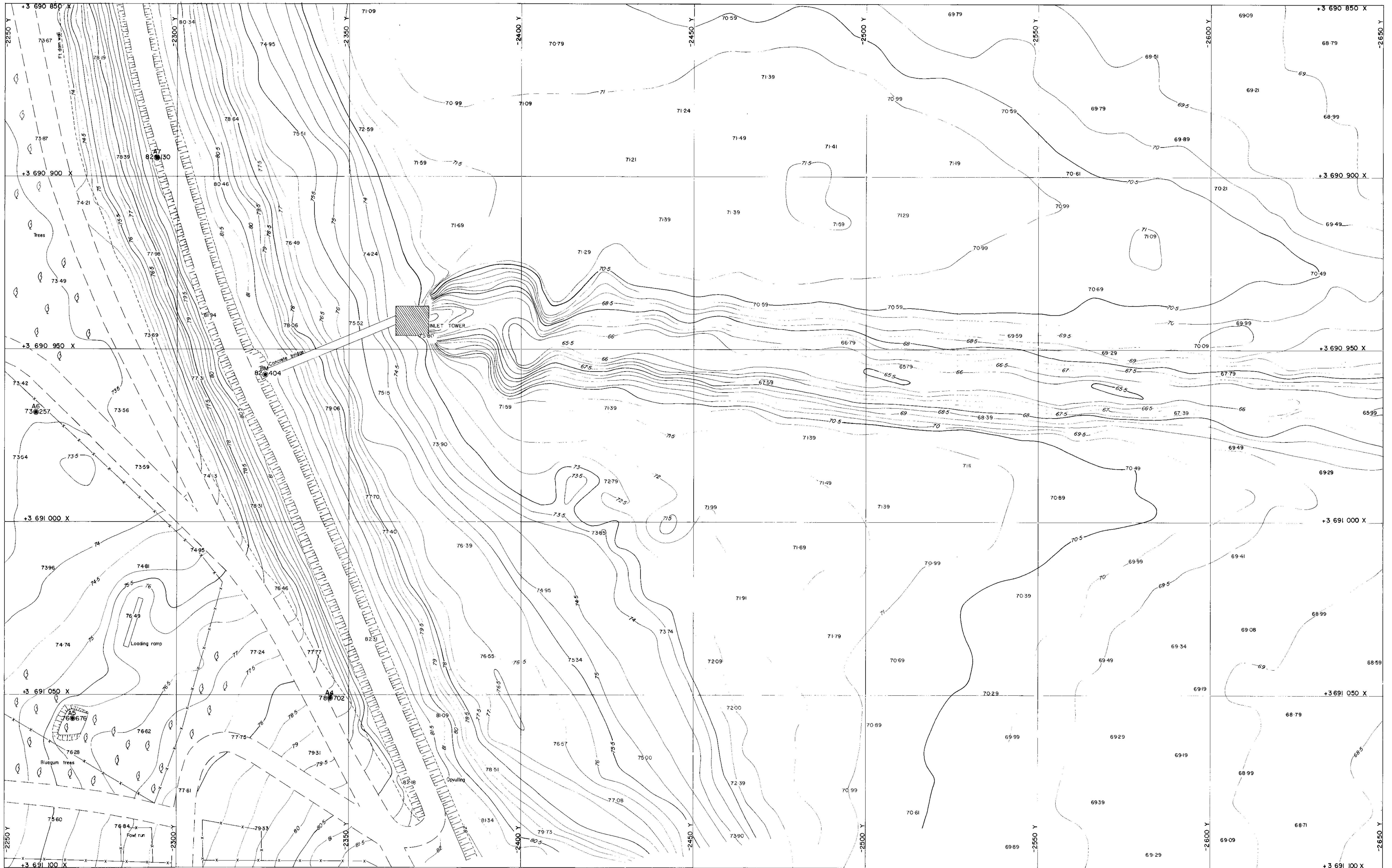


LONGITUDINAL SECTION

SCALE: HORIZ. 1" = 100' VERT. 1" = 5'

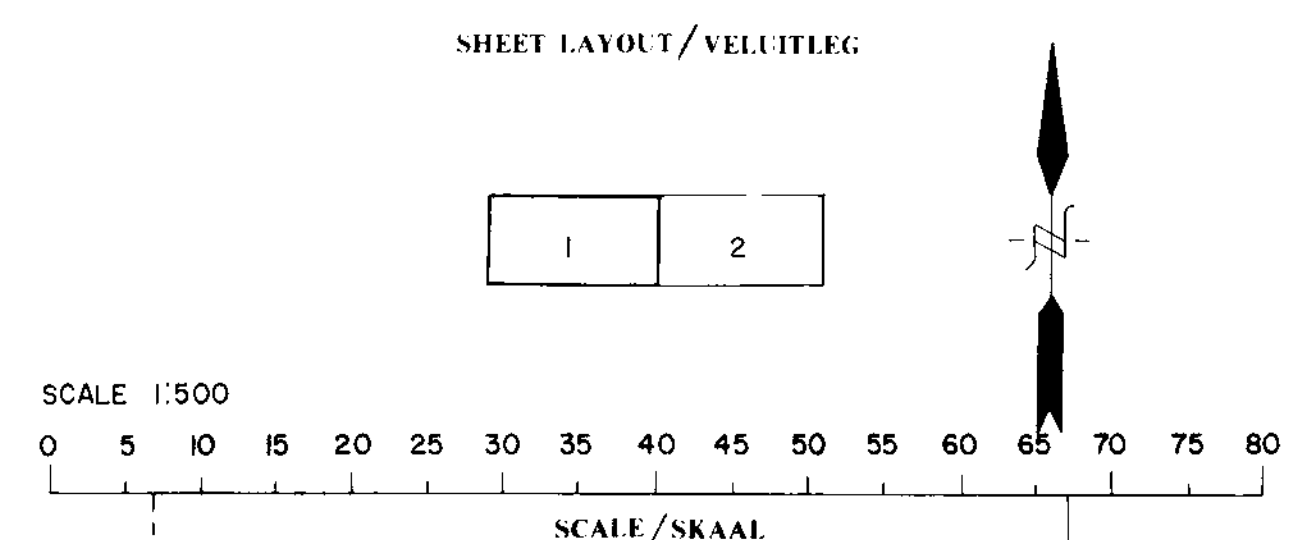
VERMIKROFILM MICROFILMED

CAPE	DEPT. OF WATER AFFAIRS	SWARTZLAND
BERG RIVER GOVT. WATER SCHEME		
DETAILS OF OUTLET CHANNEL FROM VOGELVILLE		
Drawn: M.B.S.	Checked: M.ROOPE	Water Council
Scale: 1" = 50'	Scale: 1" = 50'	Scale: 1" = 50'
By: M.B.S.	By: M.ROOPE	By: M.ROOPE
Checked: M.ROOPE	Checked: M.ROOPE	Checked: M.ROOPE
Approved: M.ROOPE	Approved: M.ROOPE	Approved: M.ROOPE
Director of Water Affairs	Director of Water Affairs	Director of Water Affairs
63058	76	



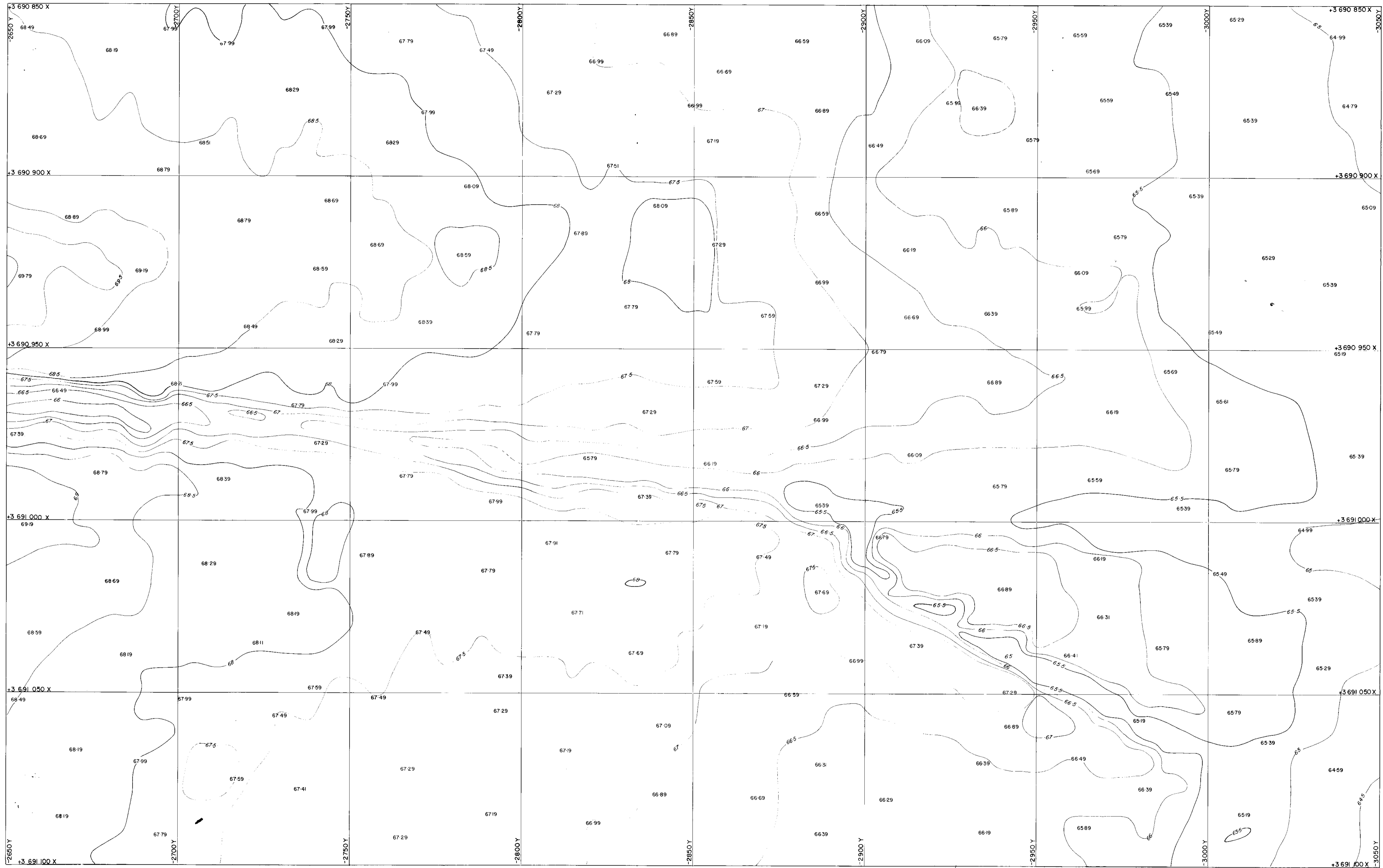
CO-ORDINATE SYSTEM LO.			
R.L.S. FROM	METRES ABOVE M.S.L.		R.L.
STATION	- Y	+ X	
A4	2344.39	3 691 051.62	78.702
A5	2270.05	3 691 057.79	76.676
A6	2259.91	3 690 968.22	73.257
A7	2294.35	3 690 894.56	82.130
BM	2325.41	3 690 957.93	82.404

KOORDINAATSTELSEL I.O.			
H.H. VANAF	METERS BO SEENPEL		H.H.
STASIE	Y	X	



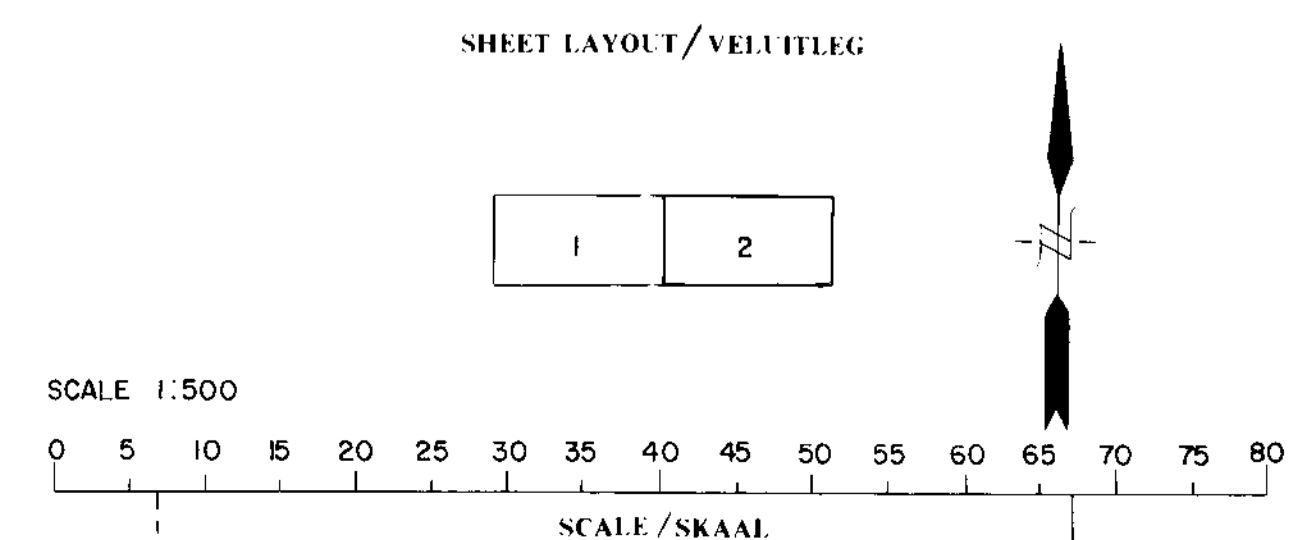
VOORSIEN DEUR DIE OPMETINGSAFDELING VIR DIE ADJUNK DIREKTUR-GENERAAL VAN DIE DIREKTORAAT WATERWESE PROVIDED BY THE SURVEY DIVISION FOR THE DEPUTY DIRECTOR GENERAL OF DIRECTORATE OF WATER AFFAIRS	DATE
OPGEMEET SURVEYED L.J. BOTHMA	
SAAMGESTEL COMPILED M.M. DU TOIT	
GETEKEN DRAWN N. NIXON	AUG 81
NAGESIEN CHECKED <i>[Signature]</i>	AUG 81
FOTOGRAFIE PHOTOGRAPHY	

REPUBLIC OF SOUTH AFRICA DEPARTMENT OF WATER AFFAIRS, FORESTRY AND ENVIRONMENTAL CONSERVATION		REPUBLIEK VAN SUID-AFRIKA DEPARTEMENT VAN WATERWESE, BOSBOU EN OMGEWINGSBEWARING	
VOGELVLEI G.W.S.		VOGELVLEI S.W.S.	
VOGELVLEI OUTLET		VOGELVLEI UITLAAT	
DISTRIK GOUDA	VEL SHEET Ivan2	LOK. NR. / LOC. NO.	GEREG. NR./REG. NO.
OPMETINGSBOEKE W 2209		0710 / 03	81002/81



CO-ORDINATE SYSTEM I.O.			
R.L.S. FROM STATION	Y	X	METERS ABOVE M.S.L. R.L.

KOORDINAATSTELSEL I.O.			
H.H. VANAF STASIE	Y	X	METERS BO SEENPIEL H.H.



VOORSIEN DEUR DIE OPMETINGSAFDELING VIR DIE ADJUNK DIREKTUR-GENERAAL VAN DIE DIREKTORAAT WATERWESE PROVIDED BY THE SURVEY DIVISION FOR THE DEPUTY DIRECTOR GENERAL OF DIRECTORATE OF WATER AFFAIRS

OPGEMEET SURVEYED L.J. BOTHMA
 SAAMGESTEL COMPILED M.M. DU TOIT
 GETEKEN DRAWN N. NIXON
 NAGESIEN CHECKED [Signature]
 FOTOGRAFIE PHOTOGRAPHY

DATUM DATE
 AUG 81
 JUL 81

REPUBLIC OF SOUTH AFRICA DEPARTMENT OF WATER AFFAIRS FORESTRY AND ENVIRONMENTAL CONSERVATION		REPUBLIEK VAN SUID-AFRIKA DEPARTEMENT VAN WATERWESE. BOSBOU EN OMGEWINGSBEWARING	
VOGELVLEI G.W.S.		VOGELVLEI S.W.S.	
VOGELVLEI OUTLET		VOGELVLEI UITLAAT	
DISTRIK GOUDA	VEL SHEET 2 van 2	LOK. NR. / LOC. NO. 0710 / 03	GEREG. NR. / REG. NO. 81003/81

William Barker 1131