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ANNUAL REPORT, ISTHMIAN CANAL COMMISSION.

MAPS AND DIAGRAMS.

[Frontispiece and half-tones, plates 1 to 68, accompany the text.]

Plate
No.

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- 108 Chagres River drainage basin, curve of discharge duration at Gamboa, 1911.
- 109 Chagres River drainage basin, curve of discharge duration at Gatun, 1911.

Plate
No.

APPENDIX Q.

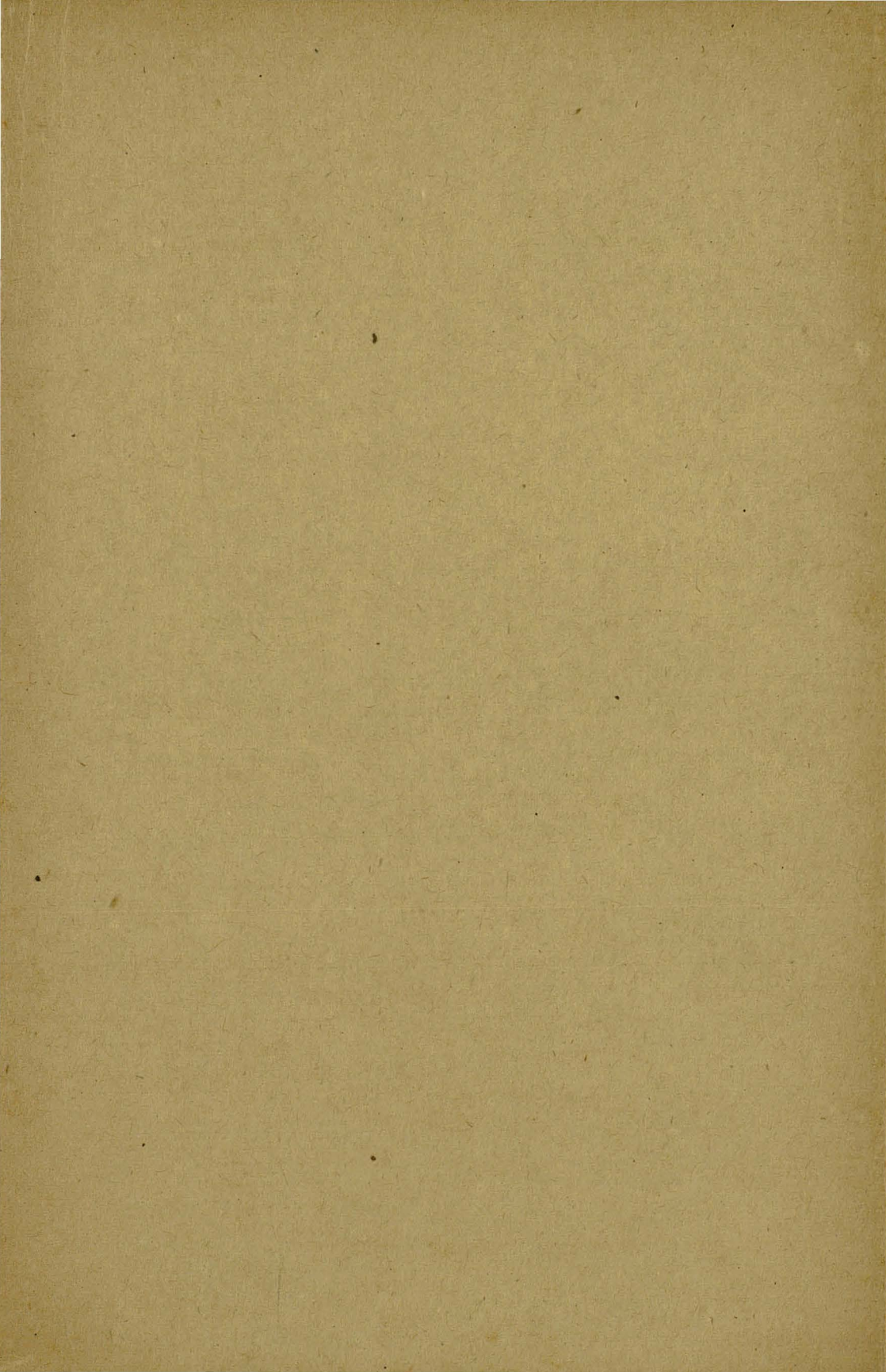
110 Chart showing rise and fall of membership in Young Men's Christian Association.

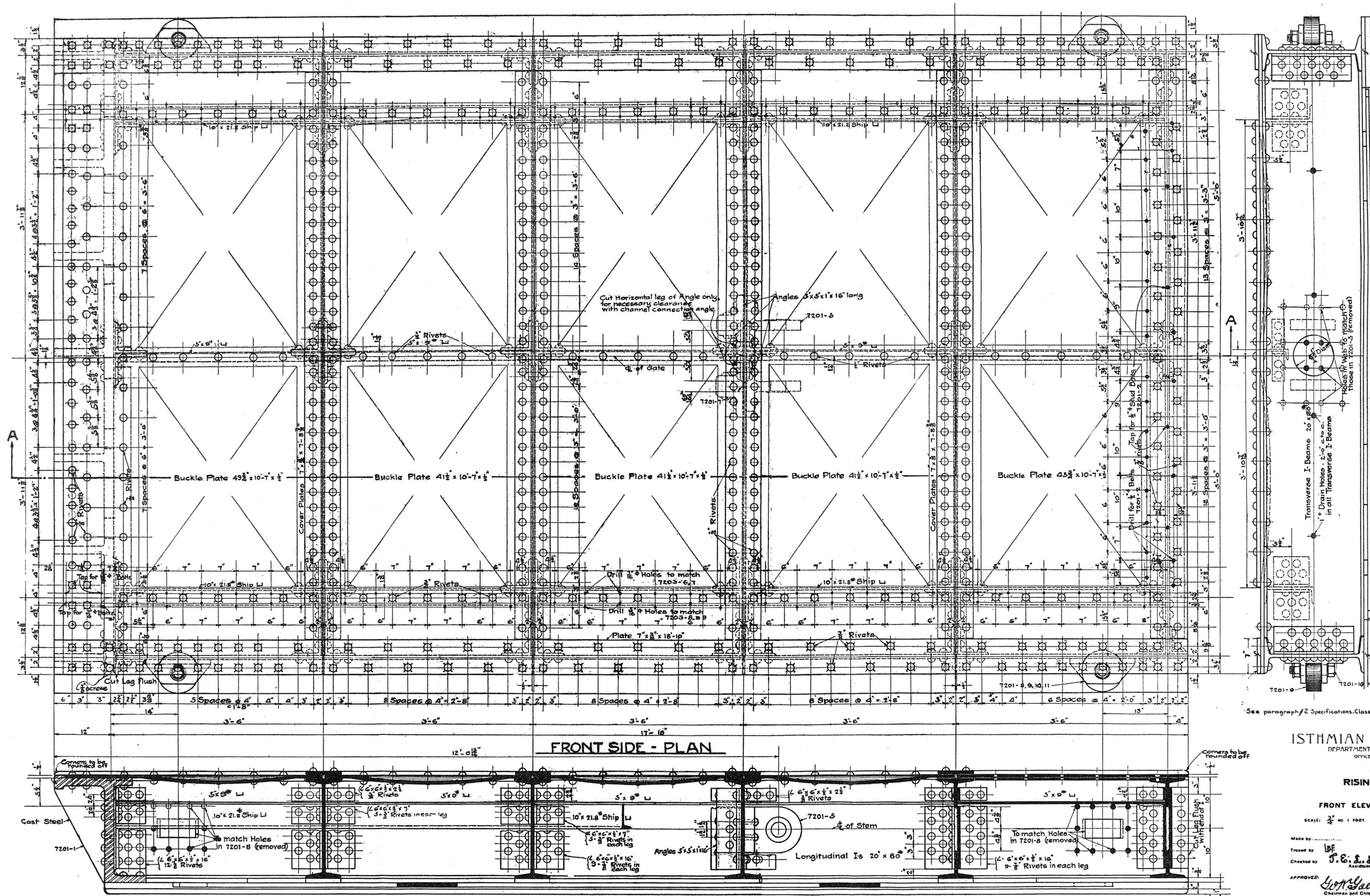
APPENDIX U.

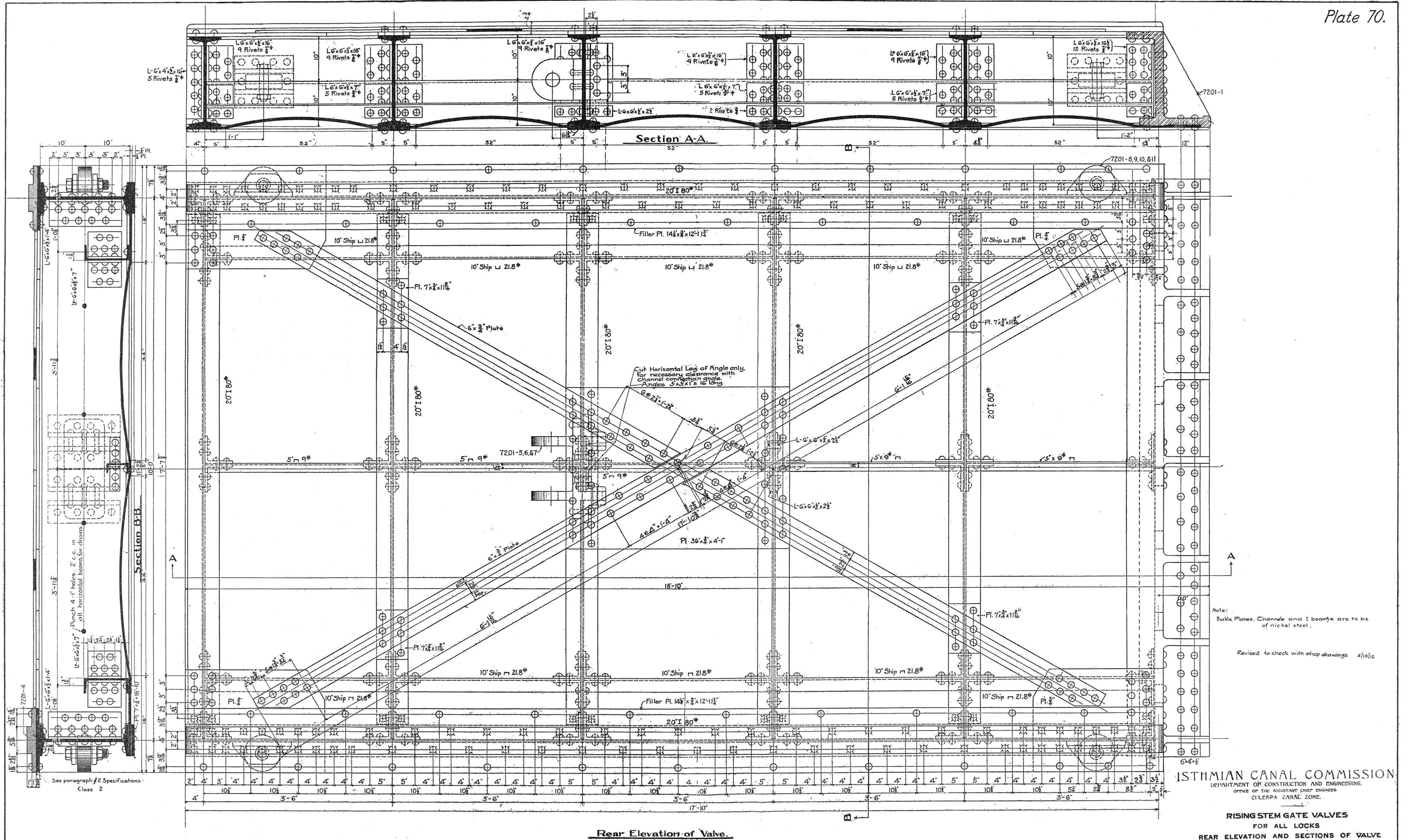
(Organization charts.)

Chart of—

- 111 General organization of the Isthmian Canal Commission.
- 112 Office force of chairman and chief engineer, assistant chief engineer, and assistant to the chief engineer.
- 113 First division of chief engineer's office.
- 114 Central division.
- 115 Atlantic division.
- 116 Pacific division.
- 117 Secretary of the commission.
- 118 Mechanical division.
- 119 Chief quartermaster.
- 120 Subsistence officer.
- 121 Civil administration.
- 122 Chief sanitary officer.
- 123 Disbursing officer, examiner of accounts, and department of law.
- 124 Panama R. R. Co., including New York offices.
- 125 Panama R. R. Co., relocated line.
- 126 General purchasing officer (Washington office).







ISTHMIAN CANAL COMMISSION
DEPARTMENT OF CONSTRUCTION AND ENGINEERING.
OFFICE OF THE ASSISTANT CHIEF ENGINEER
CULEBRA CANAL ZONE.

**RIISING STEM GATE VALVES
FOR ALL LOCKS**

REAR ELEVATION AND SECTIONS OF VALVE

SCALE: $\frac{3''}{4} = 1 \text{ FOOT.}$

MADE BY gfr

TRACED BY HAK

CHECKED BY..... *T. E. L. Lippert*
Assistant Engineer

APPROVED: *G. H. Gieske*
Chairman and Chief Engineer.

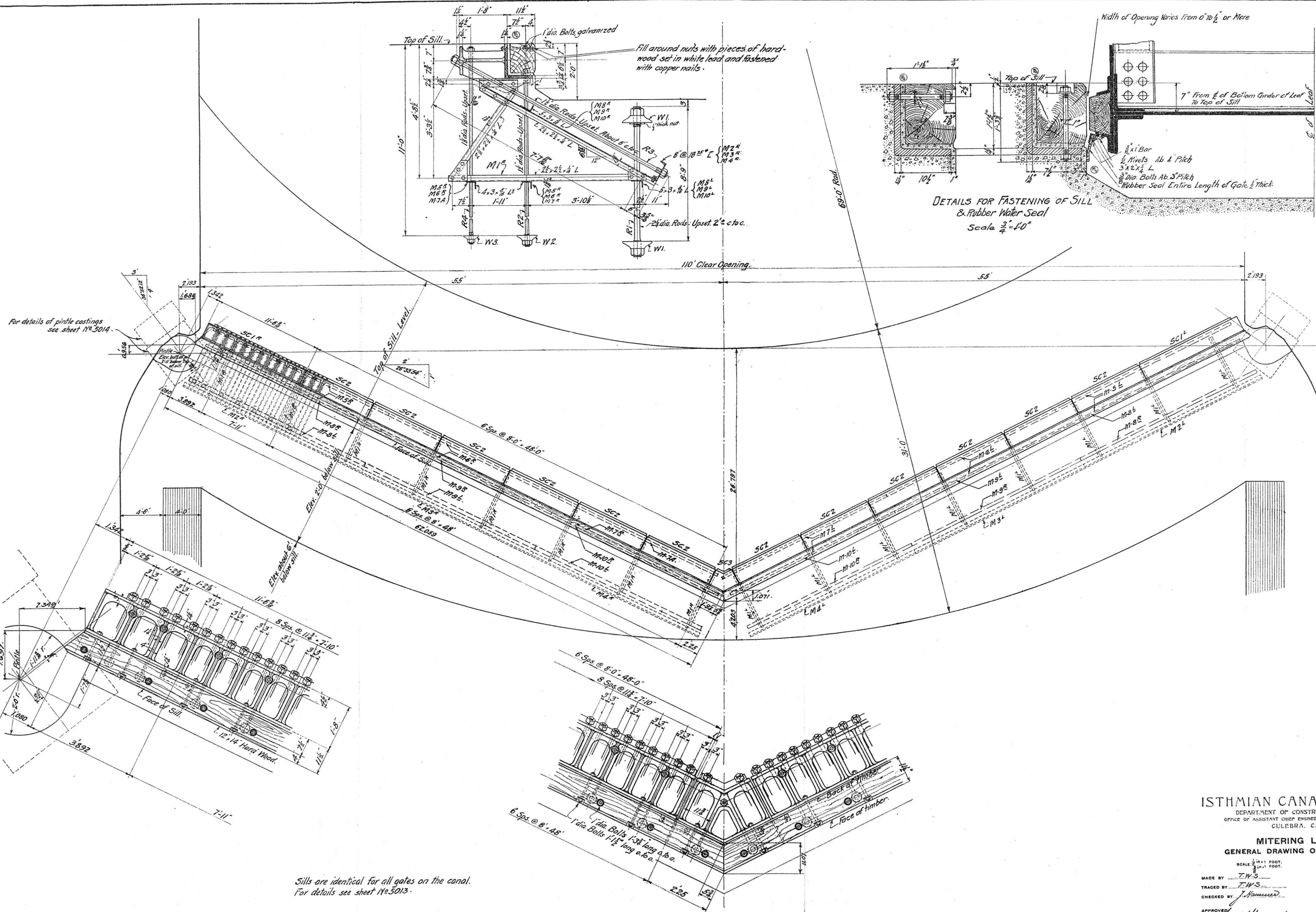
SUBMITTED: L. D. Cornish
Designing Engineer.

RECOMMENDED:
H. F. Howell
Assistant Chief Engineer.

Reviewed -
Edw. Schildhauer,
Electrical & Mechanical Engineer

Edw. Schildhauer,
Electrical & Mechanical Engineer

Electrical & Mechanical Engineer



Sills are identical for all gates on the canal.
For details see sheet No 5013.

DETAILS FOR FASTENING OF SILL
& Rubber Water Seal
Scale 3/4" = 1'-0"

ISTHMIAN CANAL COMMISSION
DEPARTMENT OF CONSTRUCTION AND ENGINEERING
OFFICE OF ASSISTANT CHIEF ENGINEER LIEUT. COL. H. P. HODGES, U. S. A.
CULEBRA, CANAL ZONE.

MITERING LOCK GATES
GENERAL DRAWING OF SILL ON MASONRY.

SCALE: 1/4" = 1' FOOT.
JANUARY 20, 1908.
MADE BY T.W.S.
TRACED BY T.W.S.
CHECKED BY J. H. HODGES.
APPROVED: S. F. Hodges, Assistant Chief Engineer.
APPROVED: Henry Goldmark, Designing Engineer.

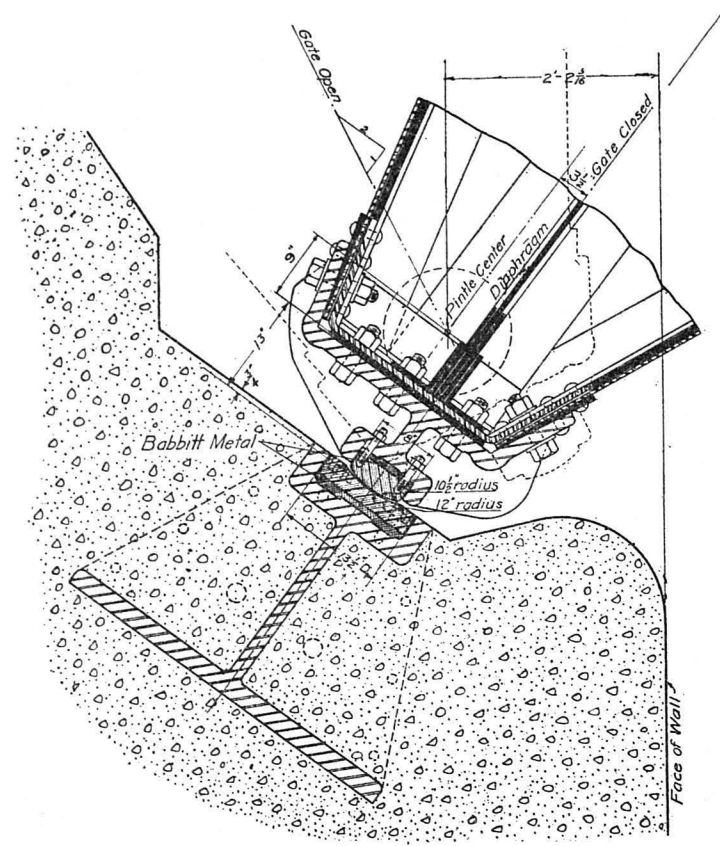


FIG. 8
DETAIL OF BEARINGS AT QUIN END OF LEAF
SCALE $\frac{1}{2}'' = 1'$

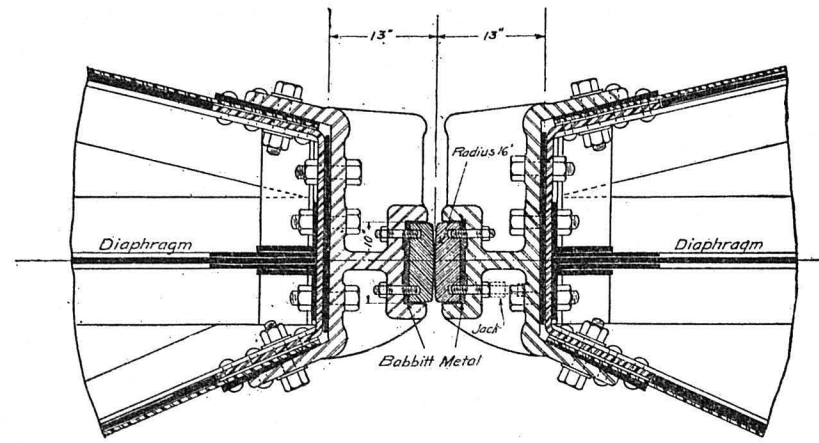


FIG. 9
DETAIL OF BEARINGS AT MITRE END OF LEAF
SCALE $\frac{1}{2}'' = 1'$

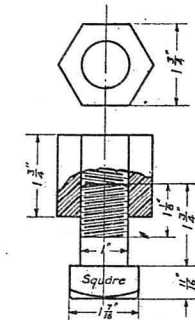


FIG. 10
SMALL JACK FOR ADJUSTING
See Fig. 9
SCALE $\frac{1}{4}'' = 1'$

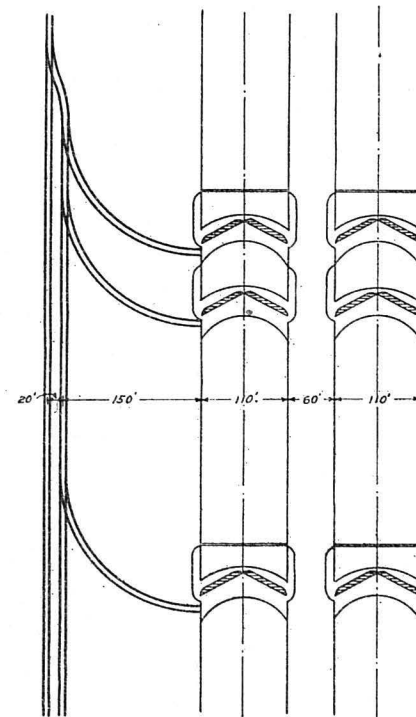


FIG. 1
GENERAL ARRANGEMENT
OF ERECTING TRACKS
SCALE $1'' = 240'$

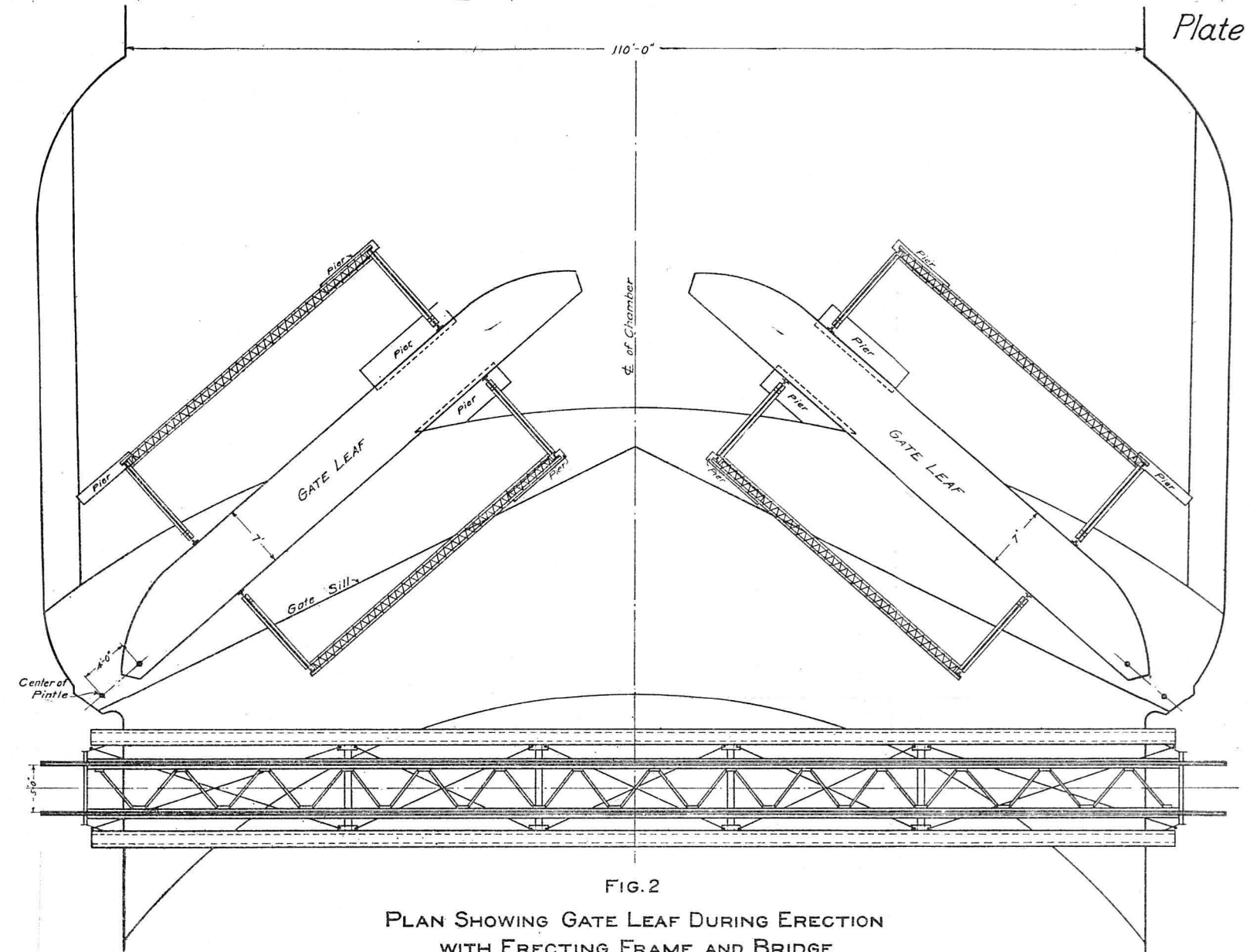


FIG. 2
PLAN SHOWING GATE LEAF DURING ERECTION
WITH ERECTING FRAME AND BRIDGE
SCALE $\frac{1}{16}'' = 1'$

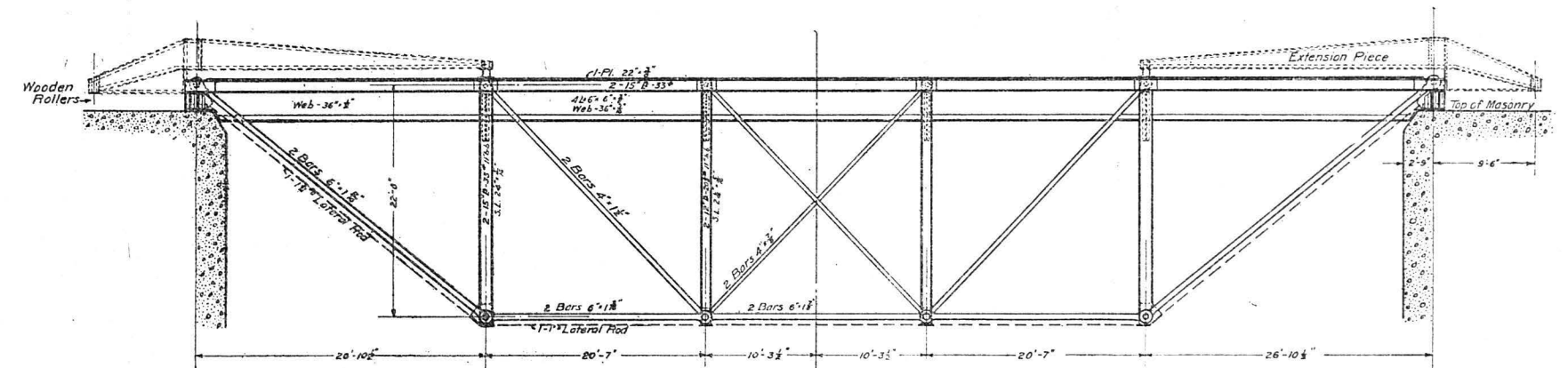


FIG. 3
ELEVATION OF ERECTING BRIDGE
SCALE $\frac{1}{16}'' = 1'$

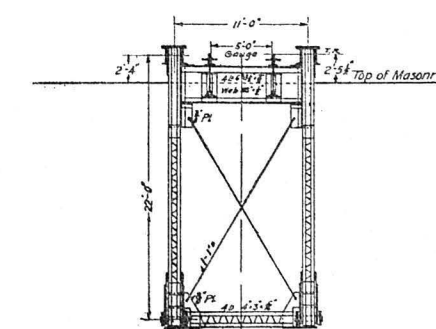


FIG. 4
CROSS SECTION OF ERECTING BRIDGE
SCALE $\frac{1}{16}'' = 1'$

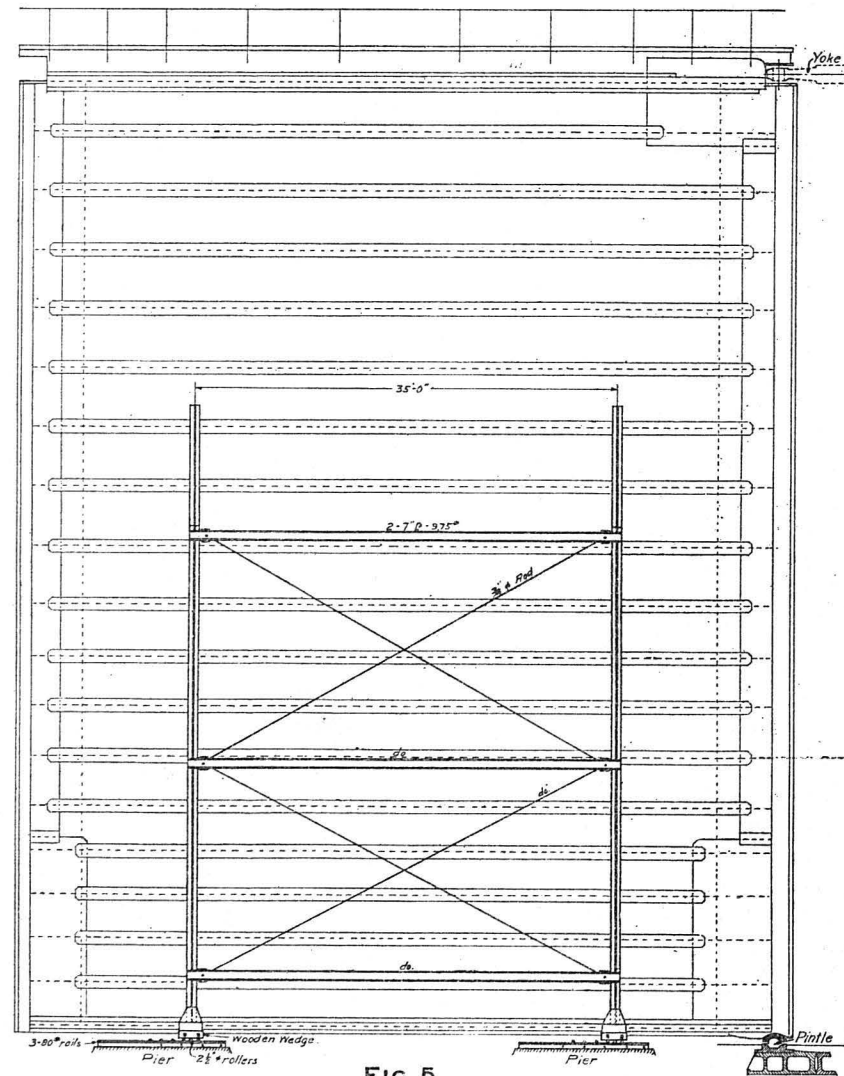


FIG. 5
GATE LEAF WITH ERECTING FRAME IN PLACE
ELEVATION
SCALE $\frac{1}{16}'' = 1'$

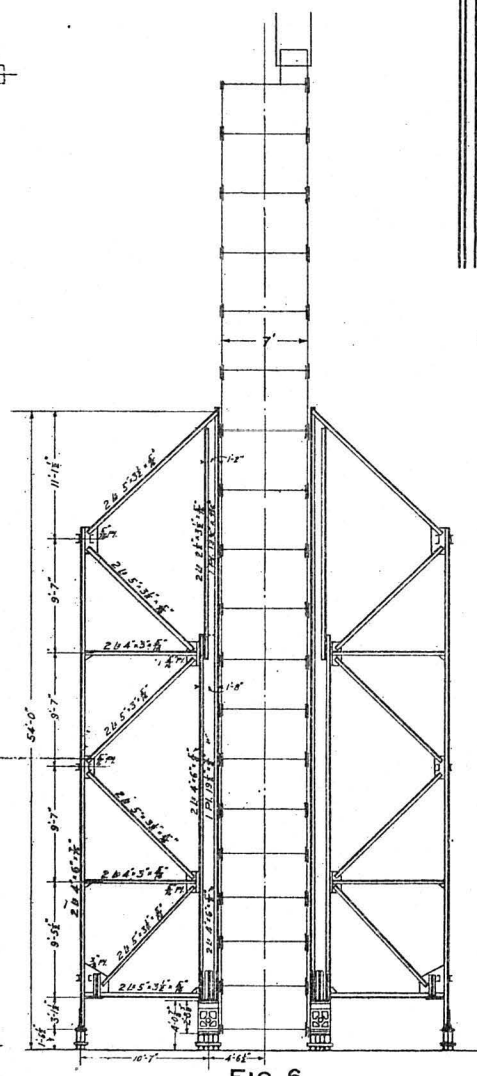


FIG. 6
GATE LEAF WITH ERECTING FRAME IN PLACE
CROSS SECTION
SCALE $\frac{1}{16}'' = 1'$

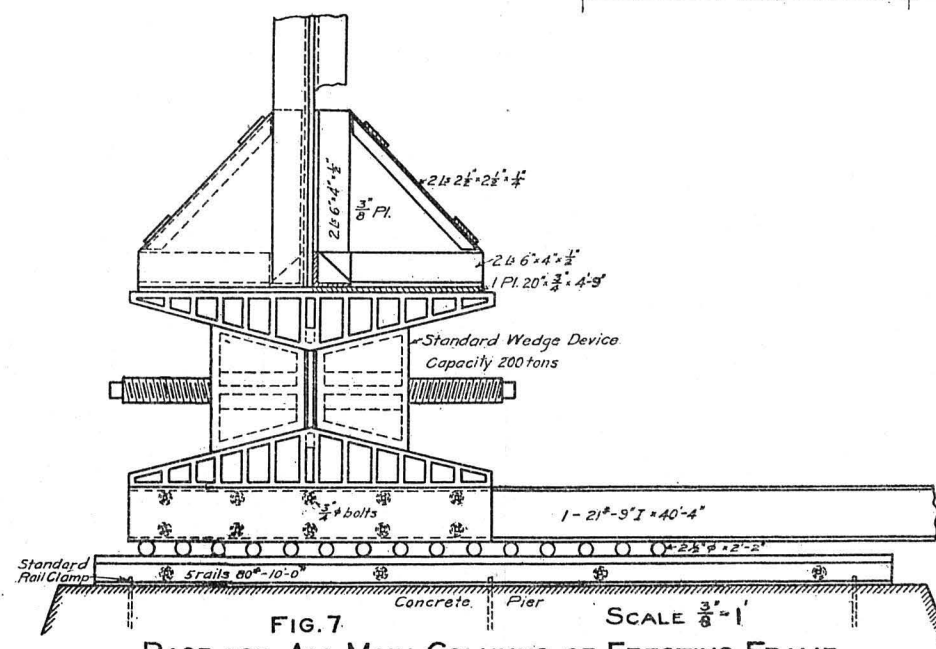
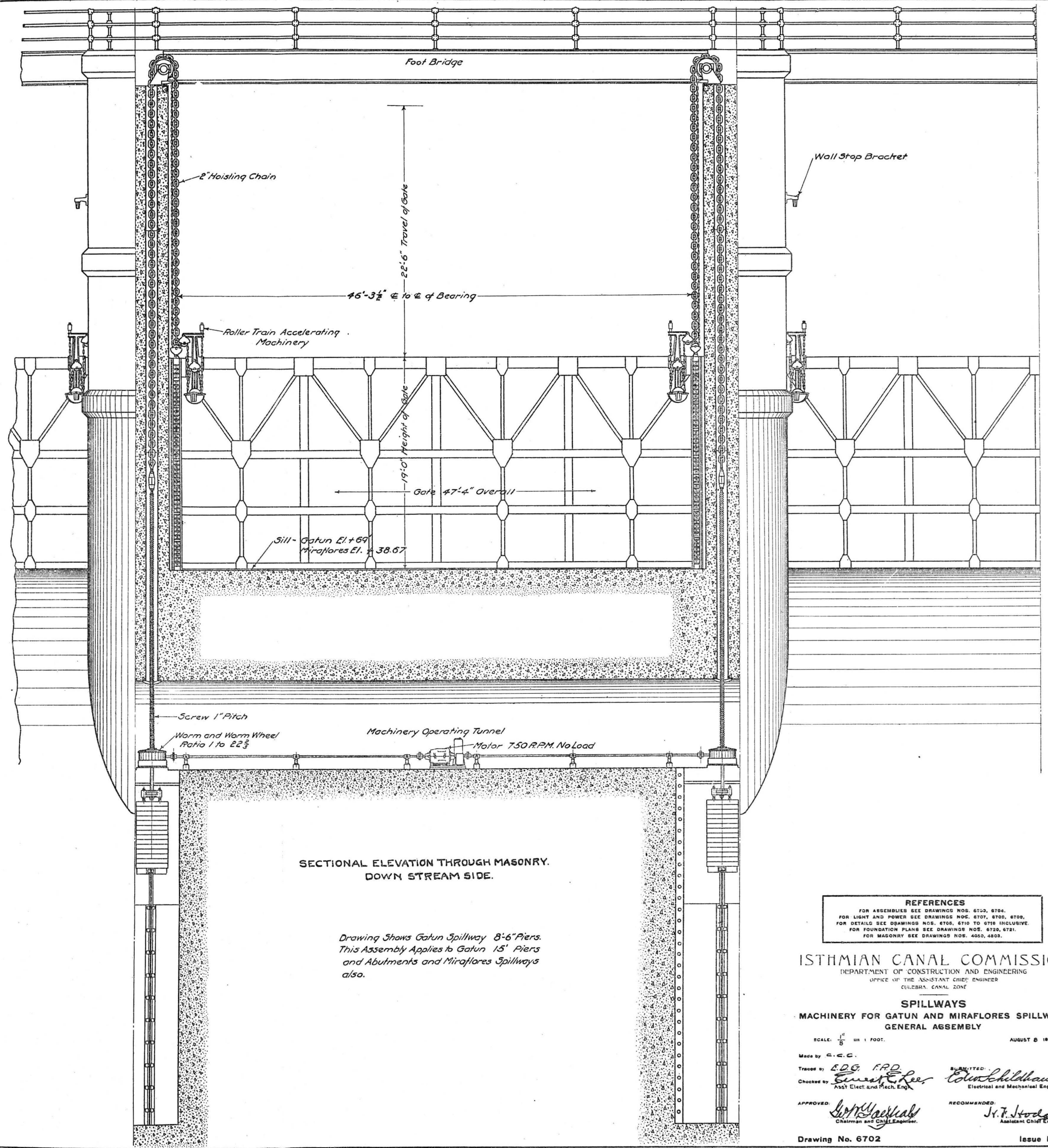
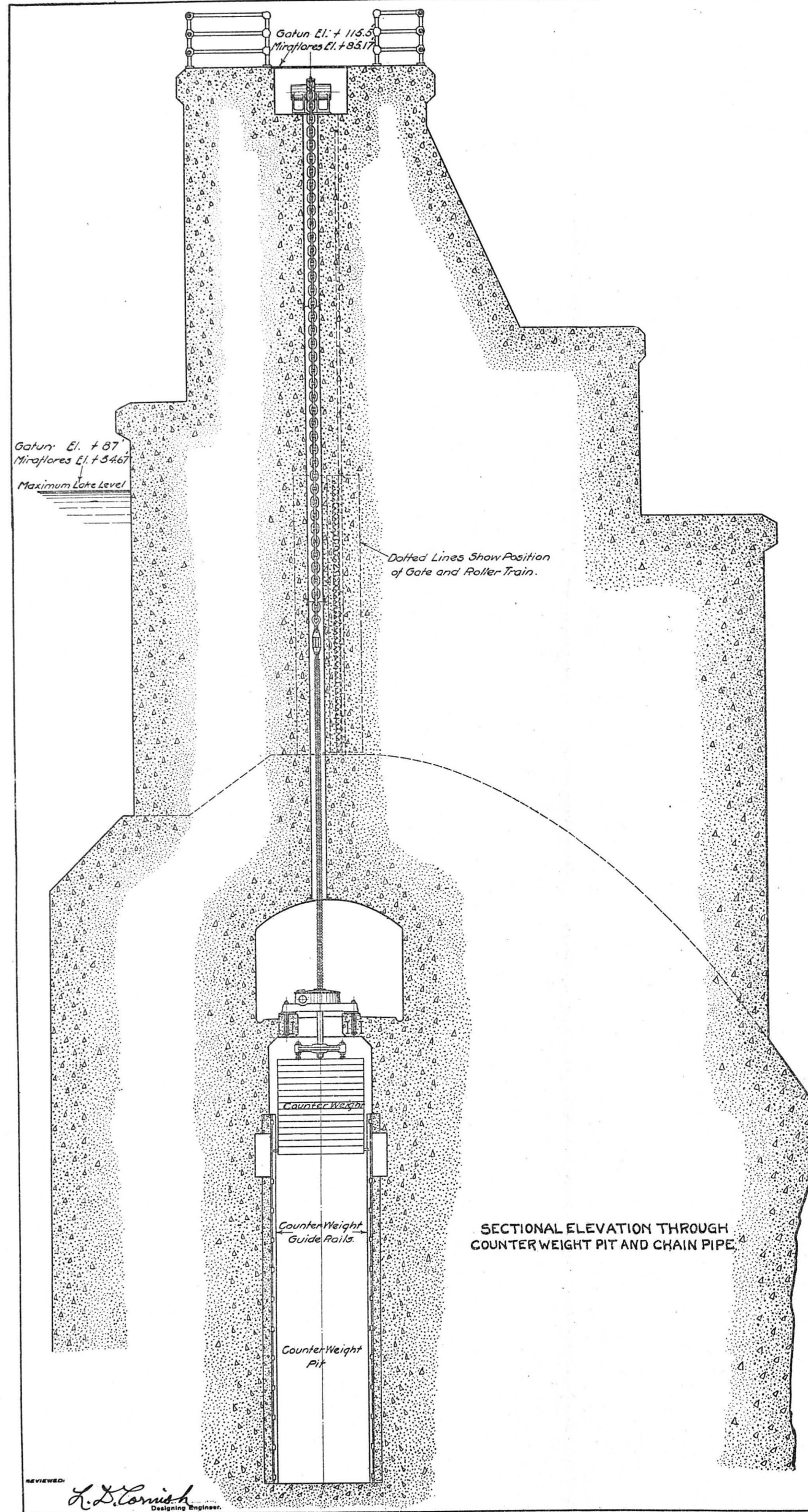


FIG. 7
BASE FOR ALL MAIN COLUMNS OF ERECTING FRAME
WITH WEDGE DEVICE
SCALE $\frac{3}{8}'' = 1'$

ISTHMIAN CANAL COMMISSION
DEPARTMENT OF CONSTRUCTION AND ENGINEERING
OFFICE OF THE ASSISTANT CHIEF ENGINEER
CULEBRA, CANAL ZONE
MITERING LOCK GATES
PLAN SHOWING METHOD OF ERECTION
SCALE: AS SHOWN. JULY 31, 1912



REFERENCES
FOR ASSEMBLIES SEE DRAWINGS NOS. 6703, 6704.
FOR LIGHT AND POWER SEE DRAWINGS NOS. 6707, 6708, 6709.
FOR DETAILS SEE DRAWINGS NOS. 6708, 6710 TO 6719 INCLUSIVE.
FOR FOUNDATION PLANS SEE DRAWINGS NOS. 6720, 6721.
FOR MASONRY SEE DRAWINGS NOS. 4050, 4803.

ISTHMIAN CANAL COMMISSION
DEPARTMENT OF CONSTRUCTION AND ENGINEERING
OFFICE OF THE ASSISTANT CHIEF ENGINEER
CULEBRA, CANAL ZONE

SPILLWAYS
MACHINERY FOR GATUN AND MIRAFLORES SPILLWAYS
GENERAL ASSEMBLY

SCALE: 1/8" = 1 FOOT.

AUGUST 8 1911.

Made by C. E. C.

Traced by E. D. F. R. D.

Checked by E. D. F. R. D.

APPROVED: J. F. H. H. H.

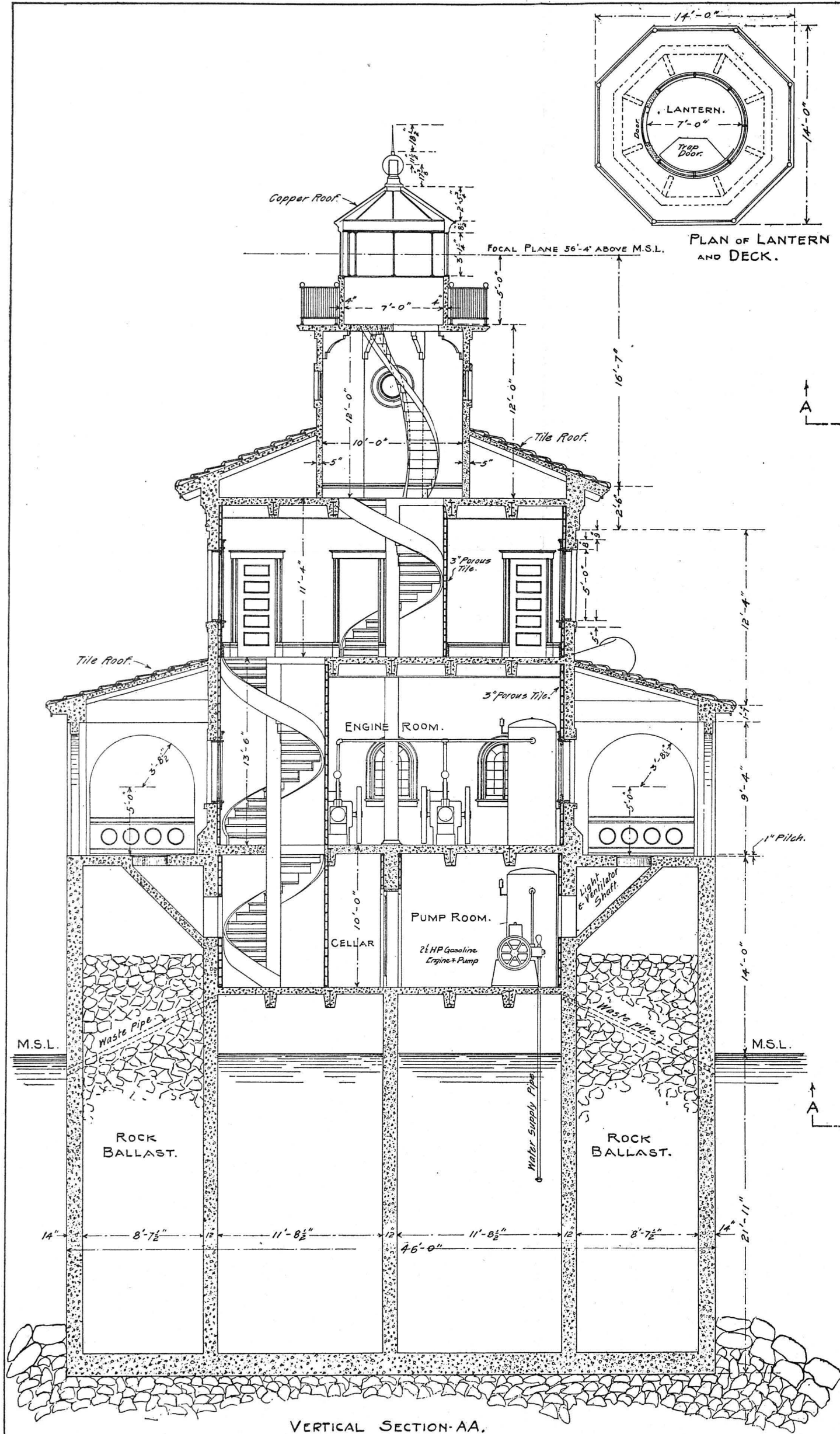
RECOMMENDED: J. F. H. H. H.

Chairman and Chief Engineer.

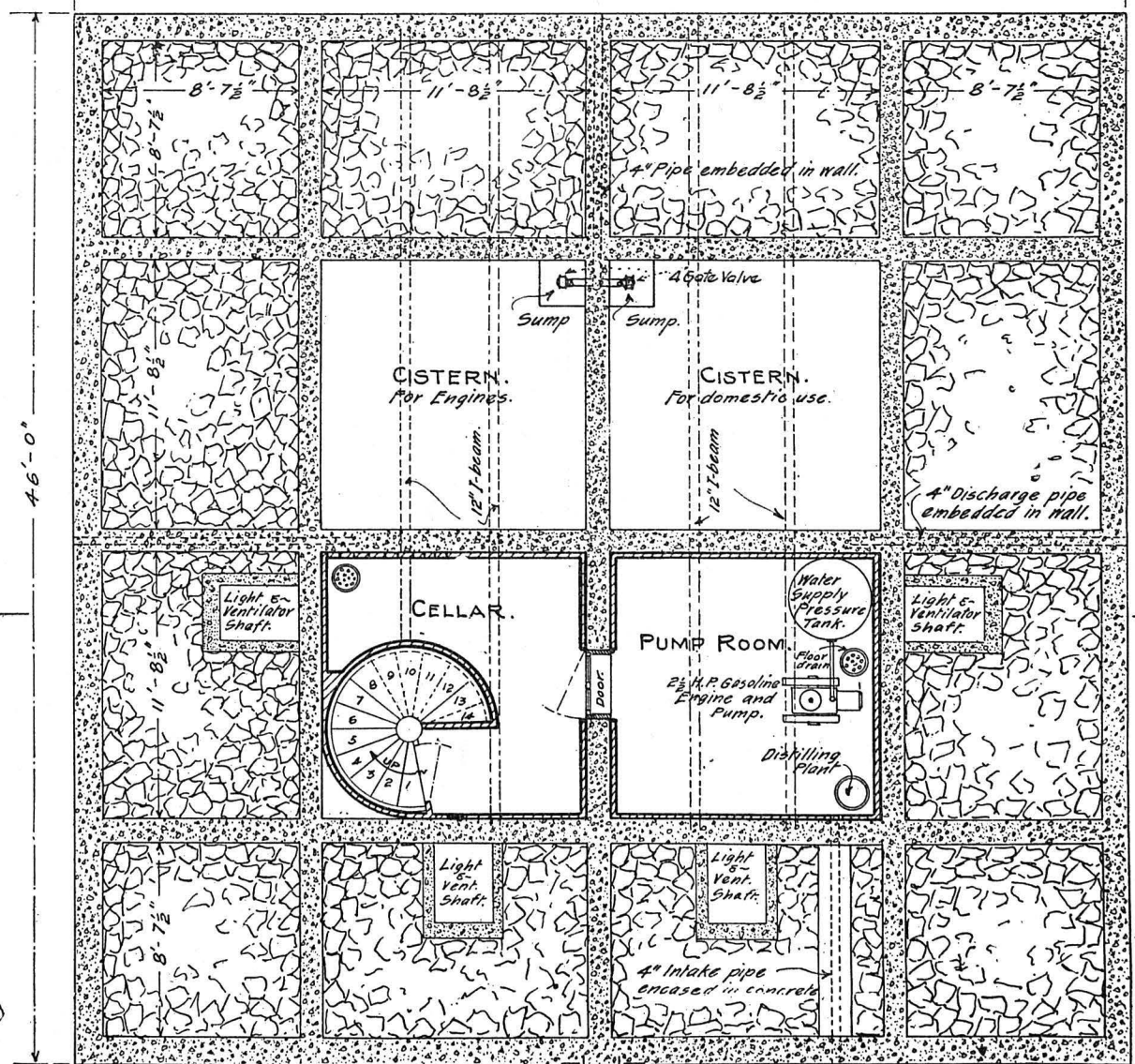
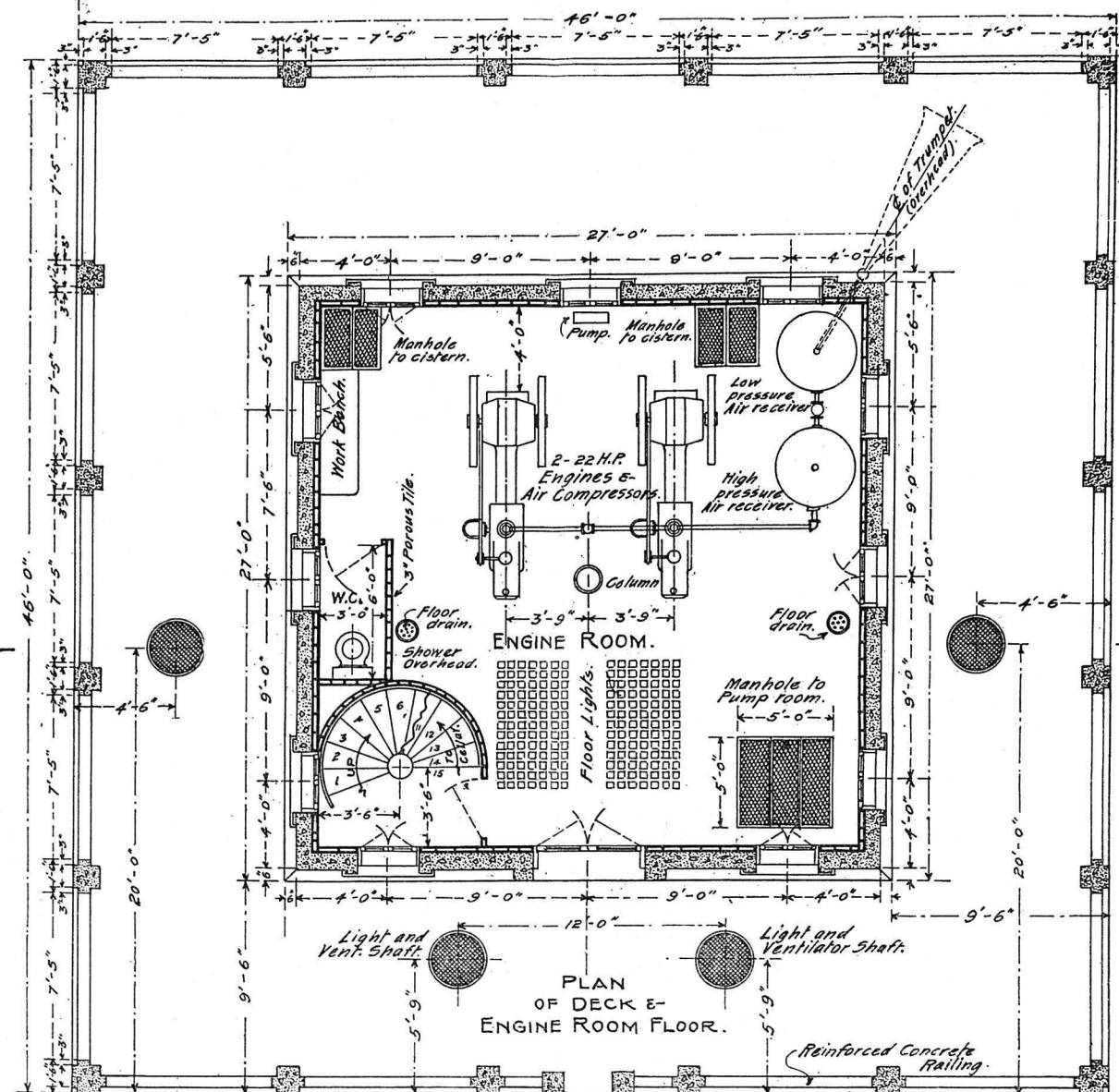
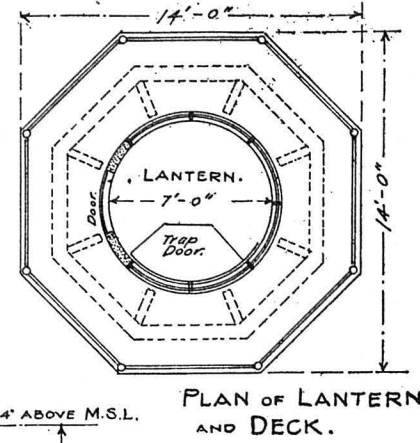
Electrical and Mechanical Engineer.

Drawing No. 6702

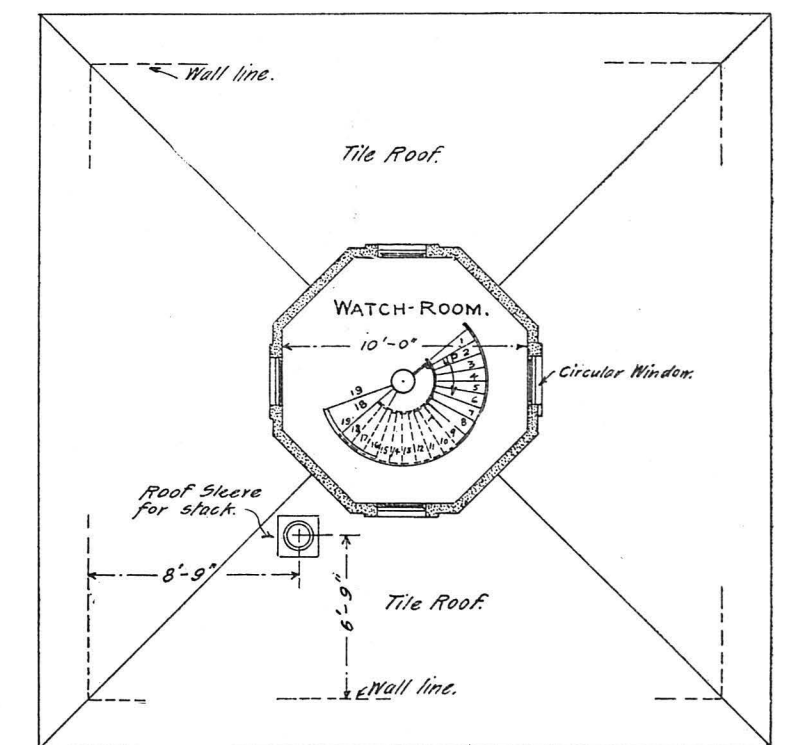
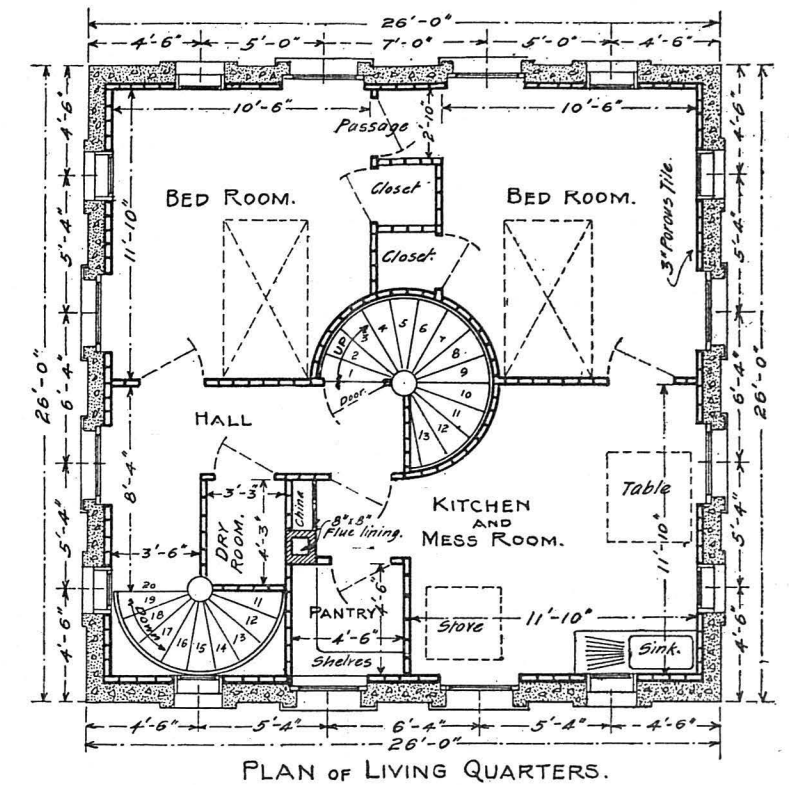
Issue No. 1



VERTICAL SECTION-AA.



PLAN OF PUMP ROOM & CISTERNS.



PLAN OF WATCH ROOM.

ISTHMIAN CANAL COMMISSION
DEPARTMENT OF CONSTRUCTION AND ENGINEERING
OFFICE OF THE ASSISTANT CHIEF ENGINEER
CULEBRA, CANAL ZONE

LIGHTING AND BUOYING CANAL
WEST BREAKWATER LIGHT AND FOG SIGNAL
VERTICAL SECTION AND FLOOR PLANS

SCALE: 1" = 1 FOOT.

JUNE 30, 1912.

Made by E.H.T.

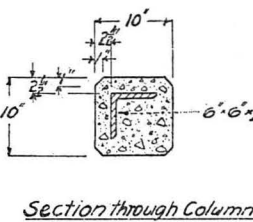
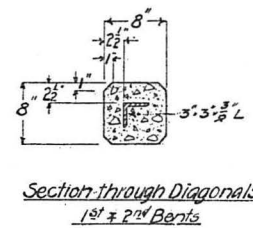
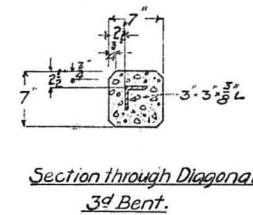
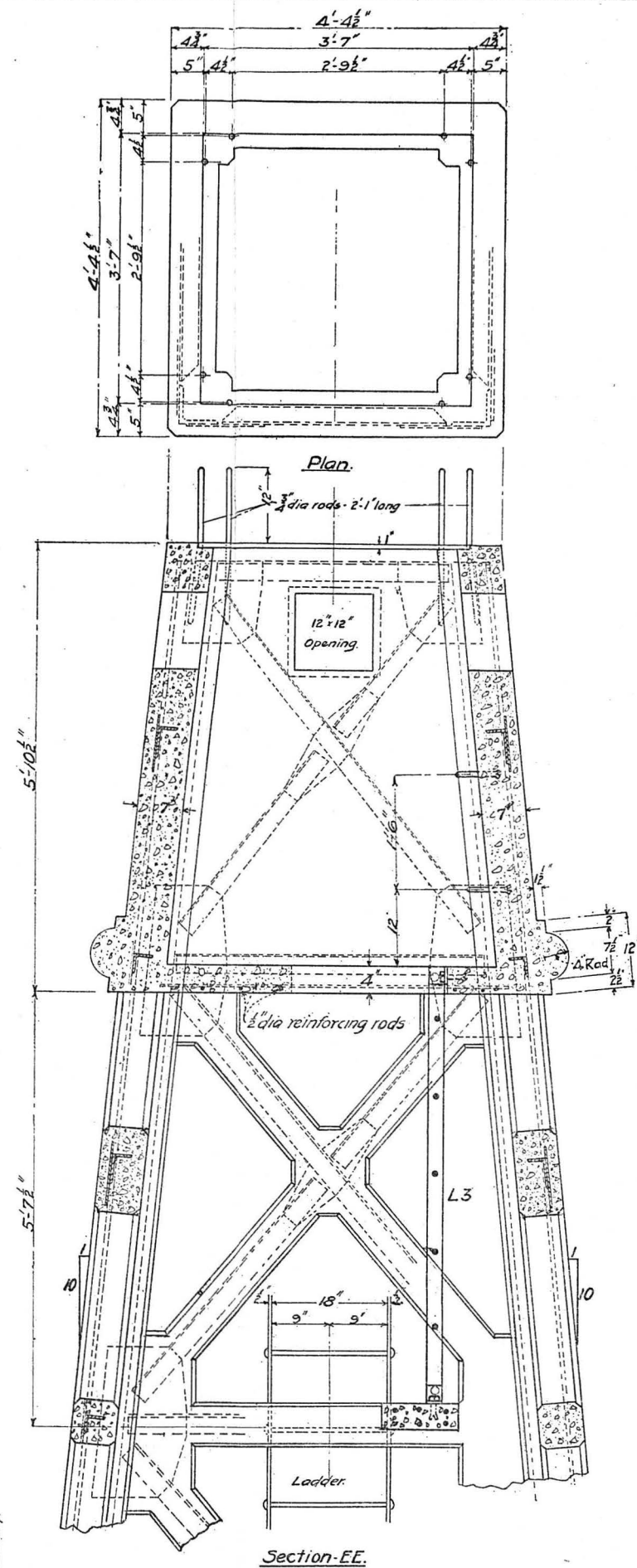
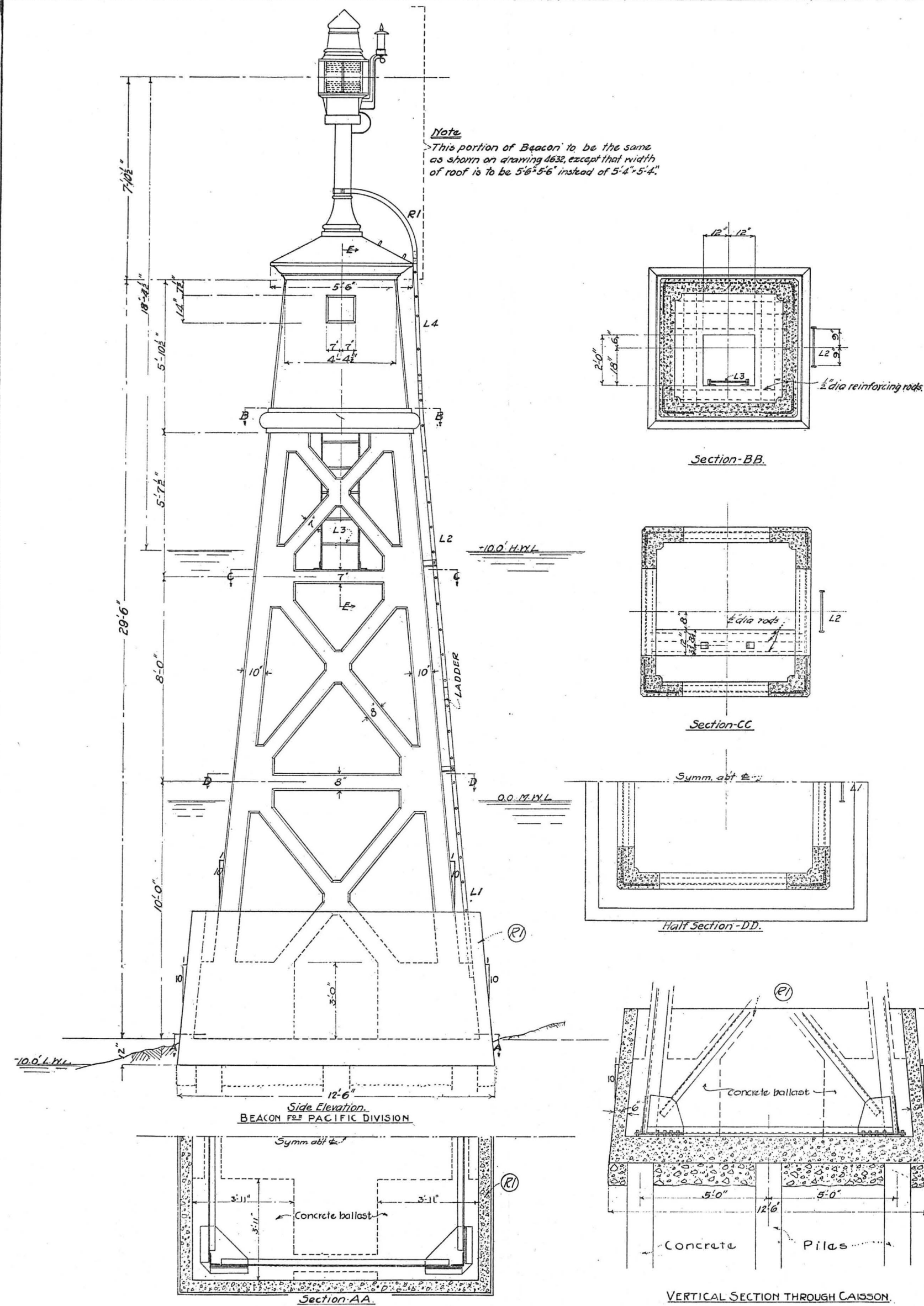
Traced by D. F. E.H.T.

Checked by W.H.B.

APPROVED: *W.H.B.*
Chief Engineer.

SUBMITTED: *W.H.B.*
Assistant Engineer.

RECOMMENDED: *H. P. Hodson*
Assistant Chief Engineer.



NOTE - For details of steel reinforcement see drawings 4639 & 4639A.

ISTHMIAN CANAL COMMISSION
DEPARTMENT OF CONSTRUCTION AND ENGINEERING
OFFICE OF THE ASSISTANT CHIEF ENGINEER
ZULUCCA CANAL ZONE

LIGHTING AND BUOYING CANAL
GENERAL PLAN OF BEACON FOR ACETYLENE GAS
AND ELECTRIC LIGHTS FOR PACIFIC DIVISION

SCALE: 1/4" = 1' AND 1/8" = 1' FOOT.

NOVEMBER 21, 1911.

Made by: E. H. T.

Traced by: E. H. T.

Checked by: E. H. T.

APPROVED: E. H. T.

Chief Engineer

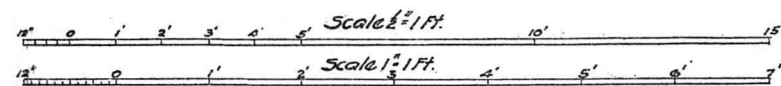
RECOMMENDED: W. F. H. S.

Assistant Chief Engineer

RECOMMENDED: N. F. H. S.

Assistant Chief Engineer

R1	Caisson Foundation	E.H.T.	7/10/12	W.F.H.S.	J.V.F.H.
NO	Revision	Initial	Date	Reviewed	Approved





ISTHMIAN CANAL COMMISSION
ATLANTIC DIVISION
Gatun CZ.

GENERAL MAP

showing location

GATUN LOCKS AND DAM

BREAKWATER IN COLON HARBOR

CHANNEL EXCAVATION TO DATE

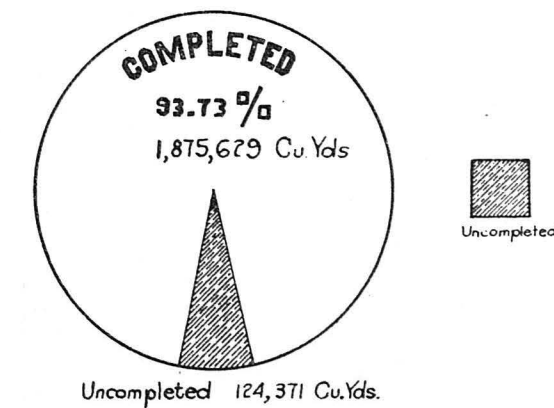
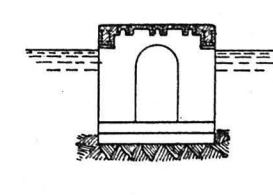
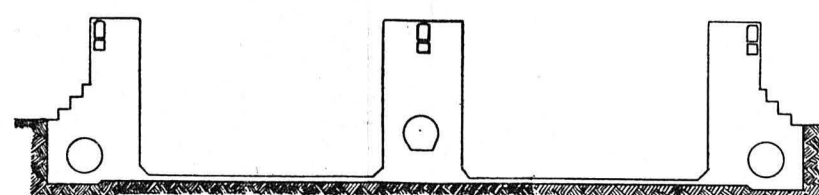
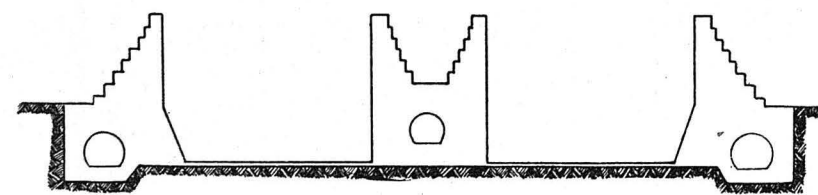
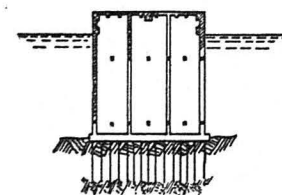
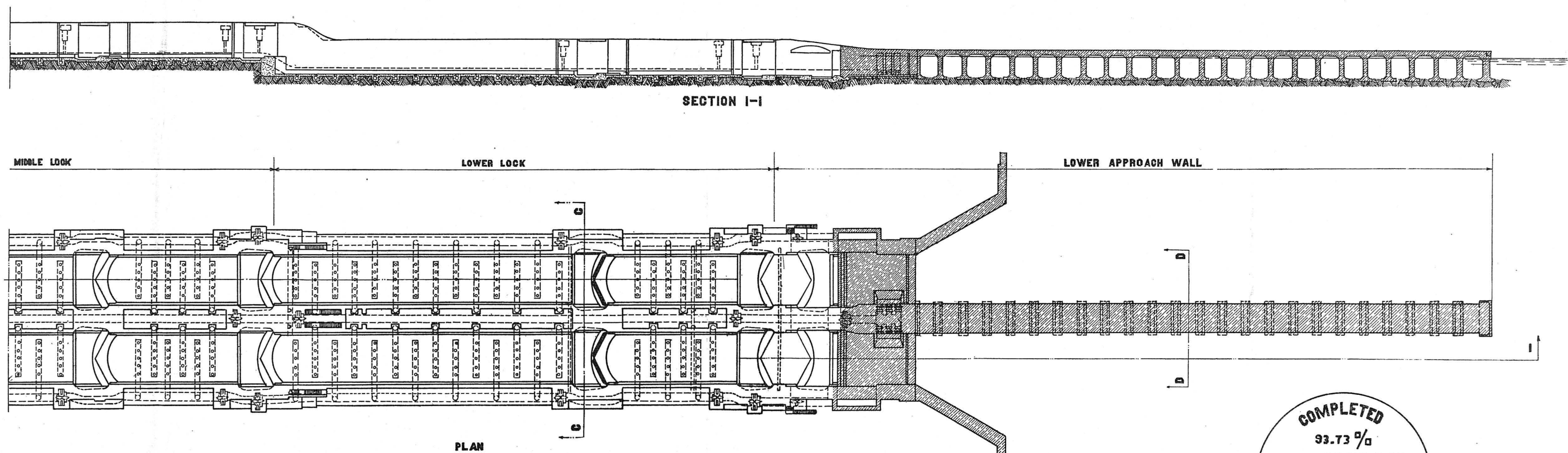
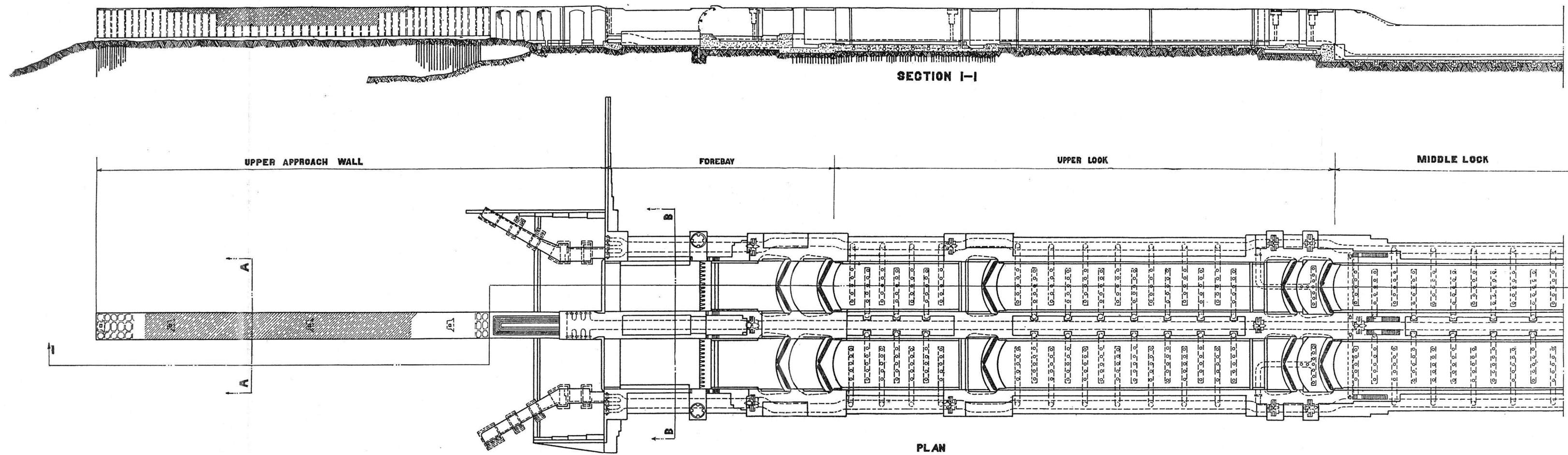
Scale 1:30000

To accompany Annual Report of Division Engineer for
1911-12.

J. L. Whit
Division Engineer

Drawn By	Checked	Scale	Mon	Day	Year	Index
J. L. Whit		1:30000	7	1	12	12-14-34

JULIUS BIEN CO. PHOTO LITH. N.Y.



ISTHMIAN CANAL COMMISSION
ATLANTIC DIVISION
Gatun CZ.

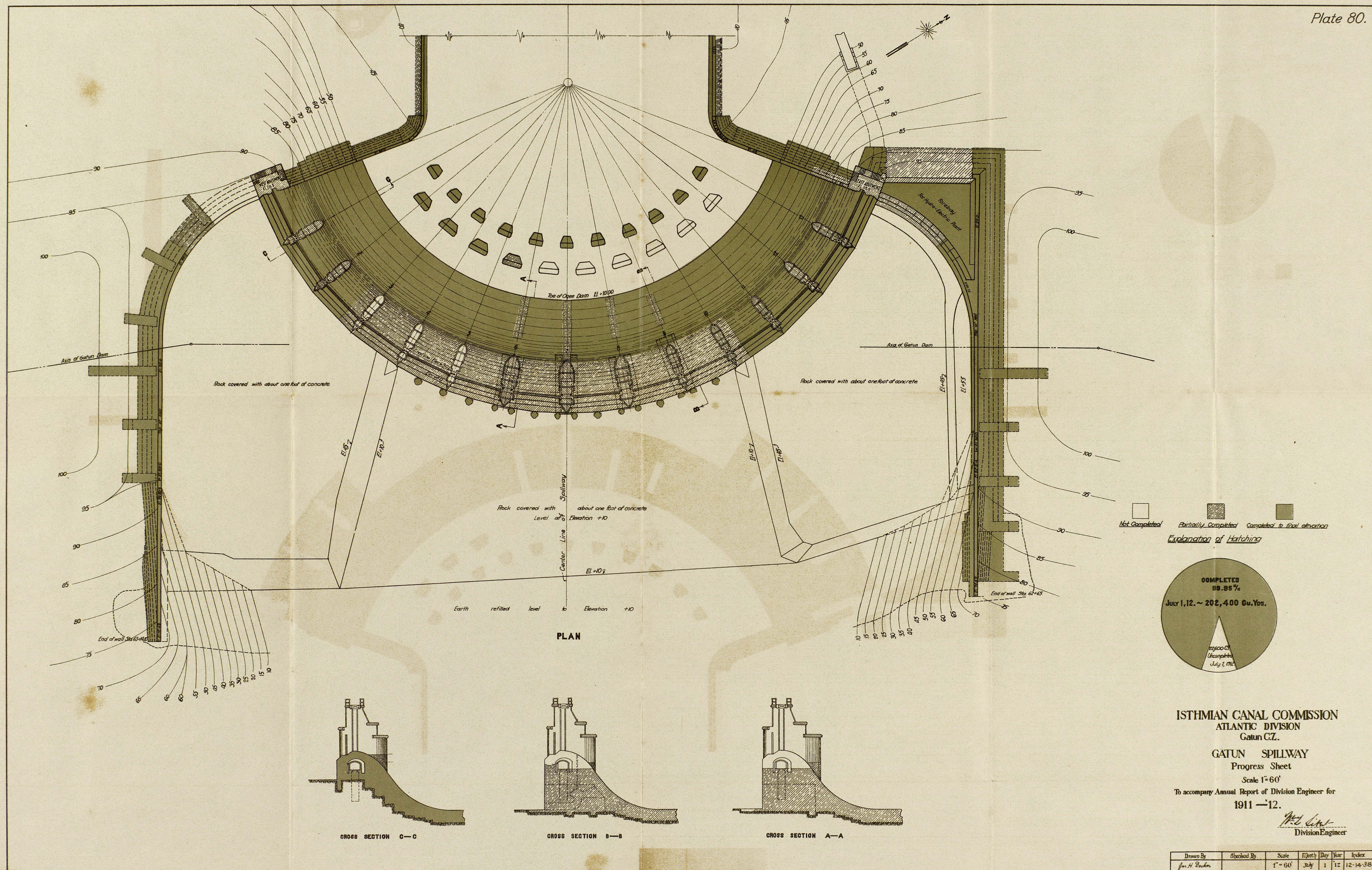
GATUN LOCKS
Progress Sheet

Scale 1"=200'

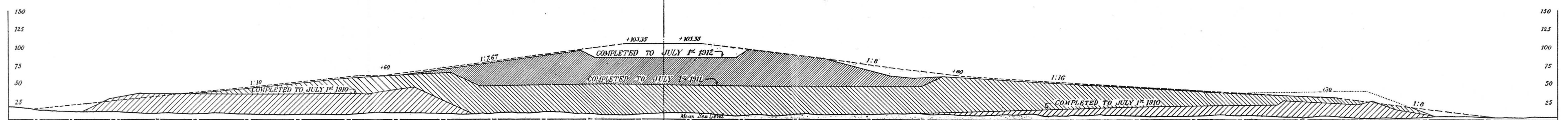
To accompany Annual Report of Division Engineer for
1911-12.

W. L. Smith
Division Engineer

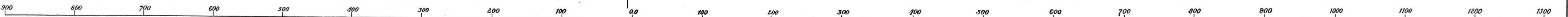
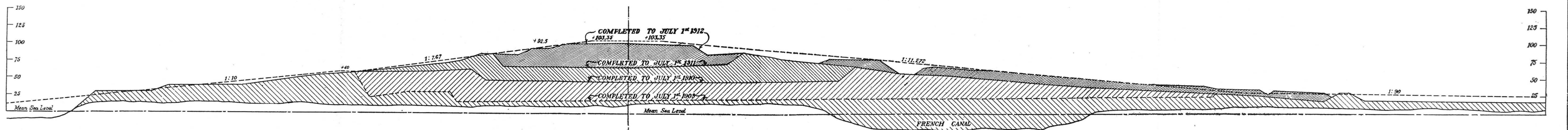
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Geo. H. Decker		1" = 100' 1" = 50'	July	1	1912	12-14-35



WEST VALLEY



EAST VALLEY



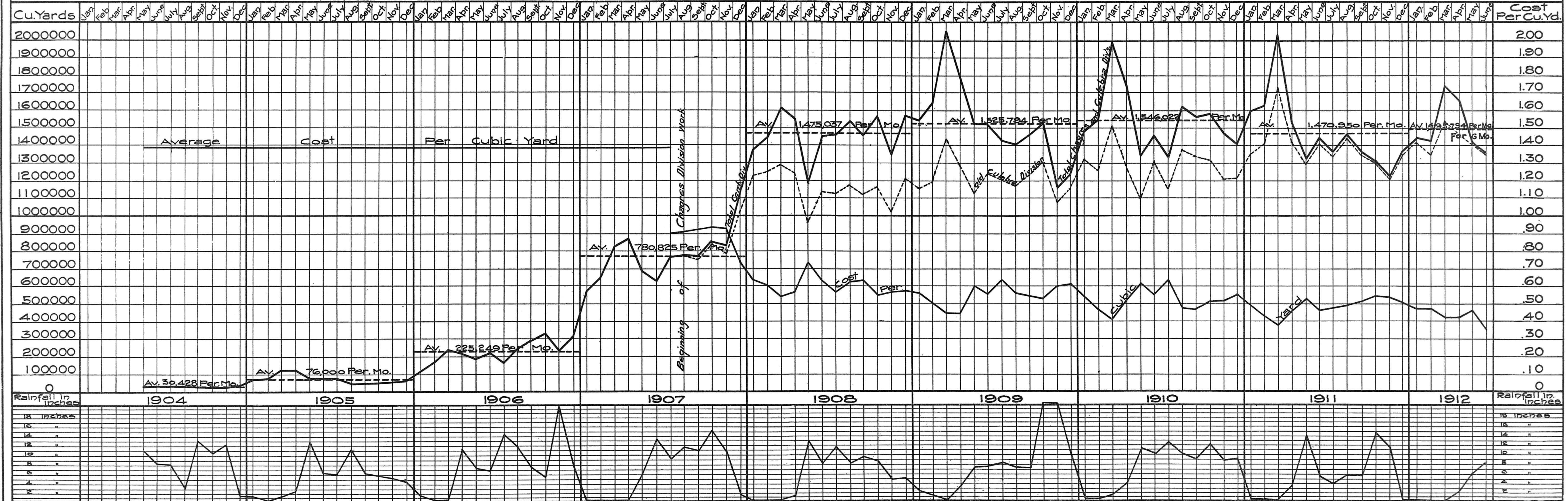
ISTHMIAN CANAL COMMISSION
ATLANTIC DIVISION
Gatun C.Z.
SECTION OF GATUN DAM
Showing
PROGRESS TO JUNE 30, 1912.
To accompany Annual Report of Division Engineer for
1911 — 12.

Wm. H. Dyer
Division Engineer

Drawn By	Checked By	Scale	Month	Day	Year	Index
Wm. H. Dyer		as shown	July	1	1912	12-14-27

Isthmian Canal Commission-**CENTRAL DIVISION**-Diagram of Yardage and Rainfall

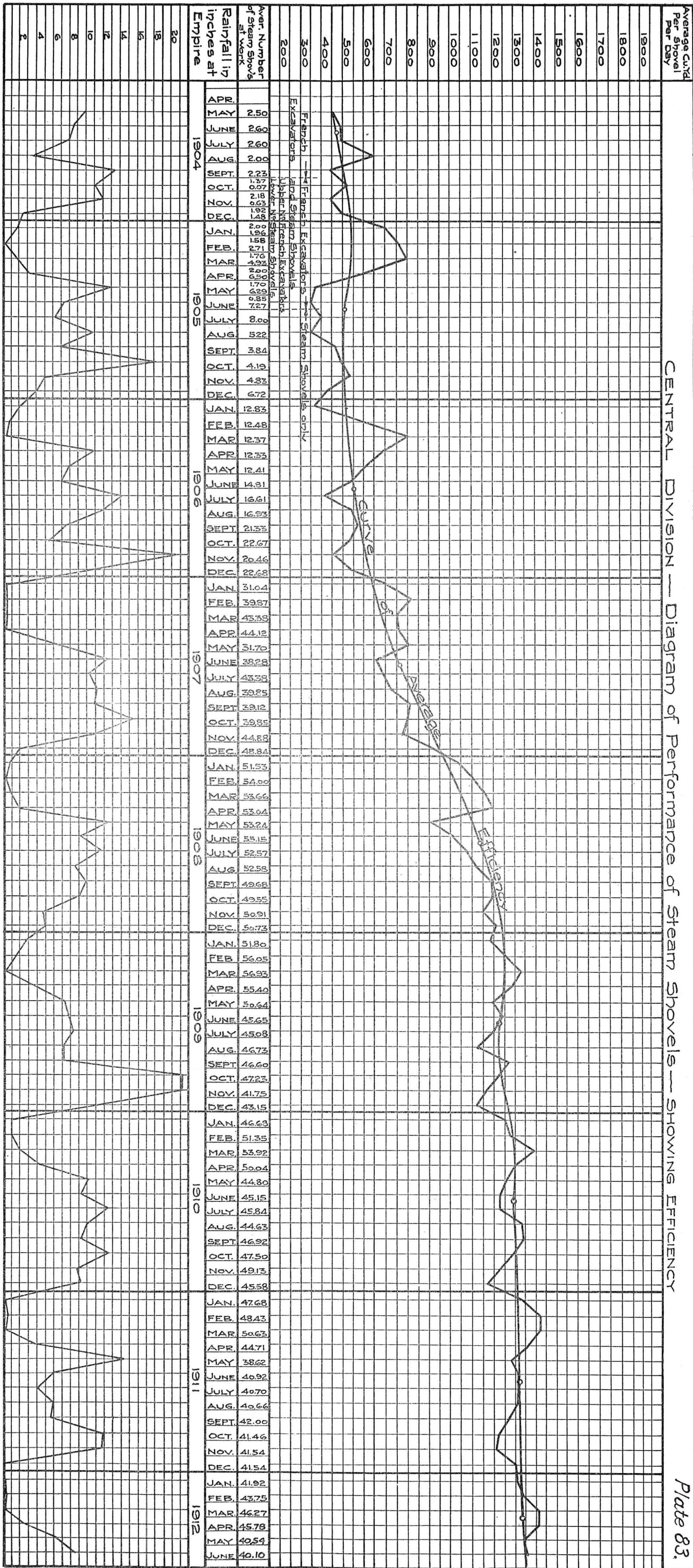
Plate 82.

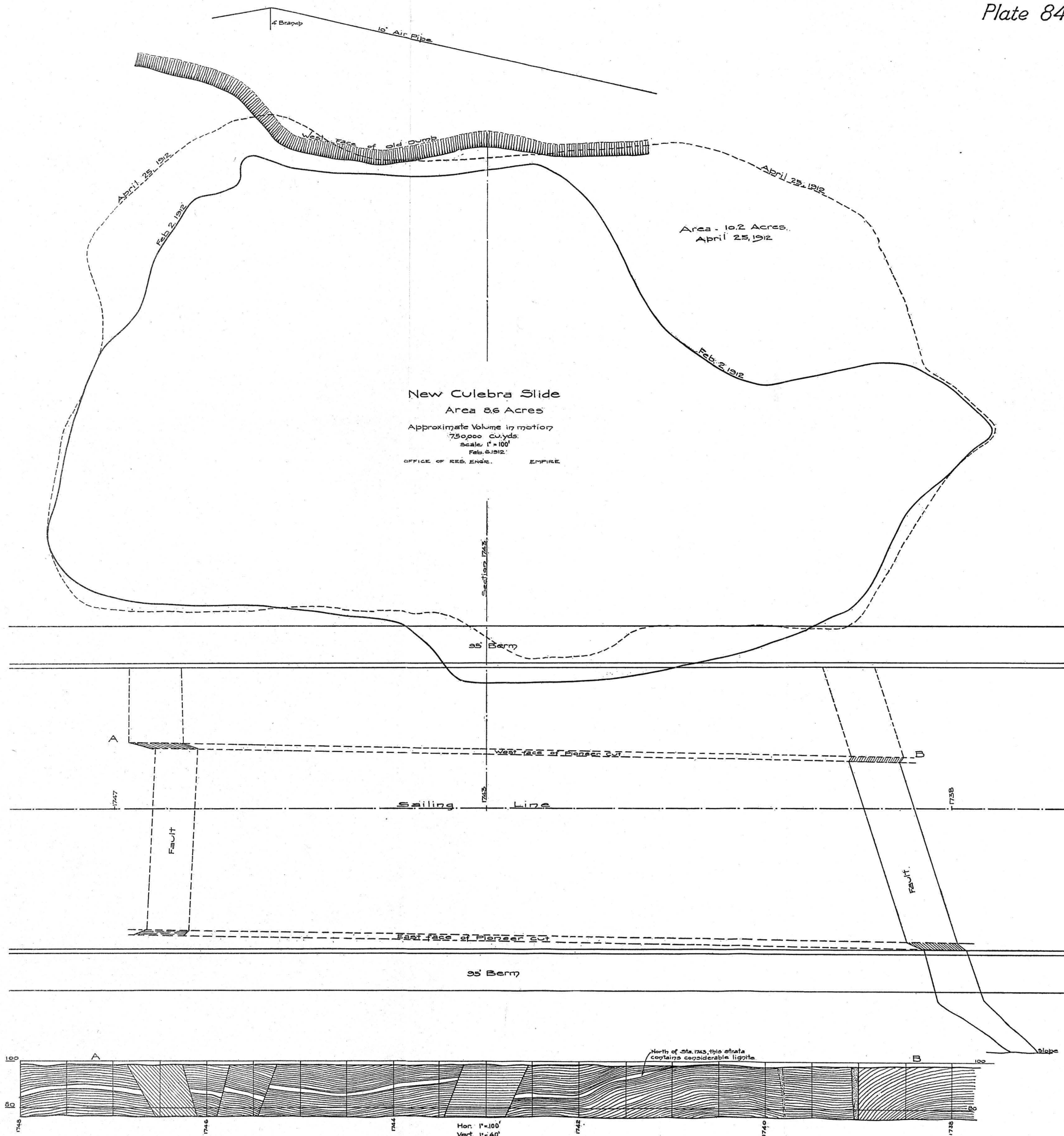


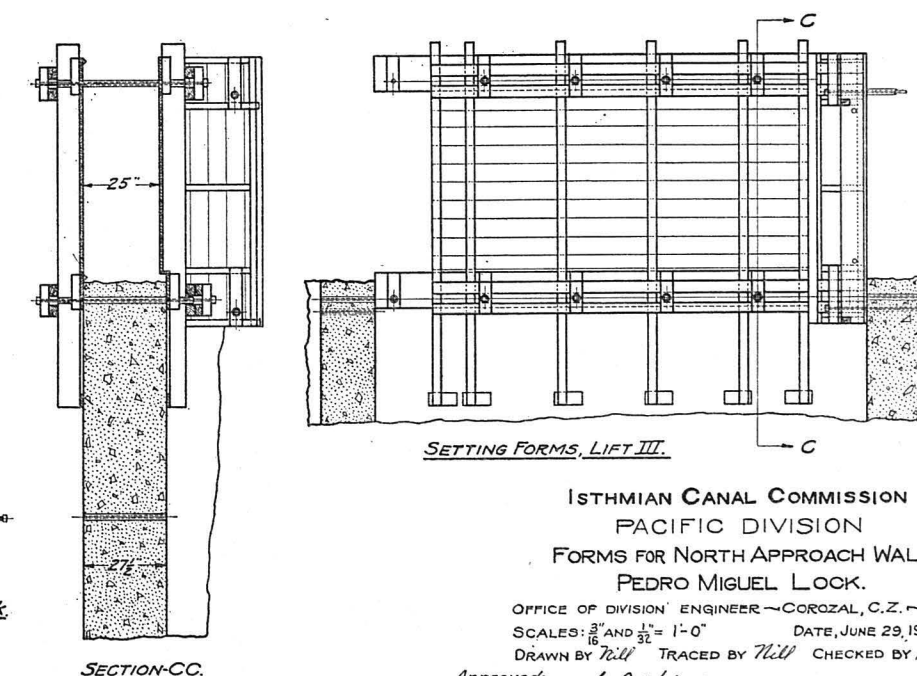
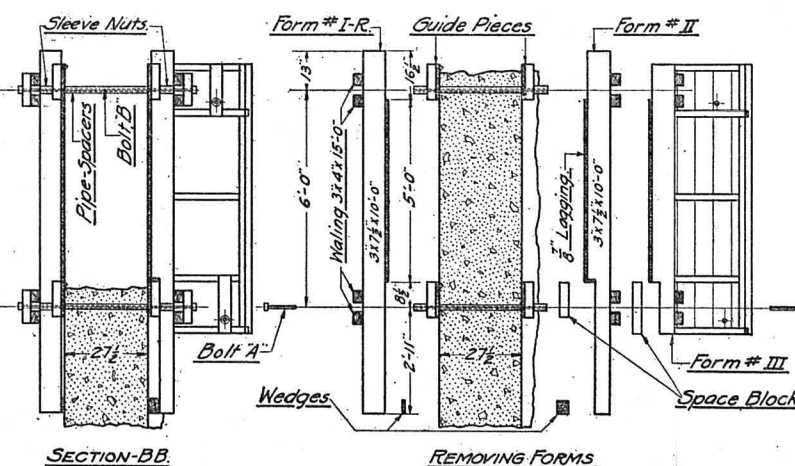
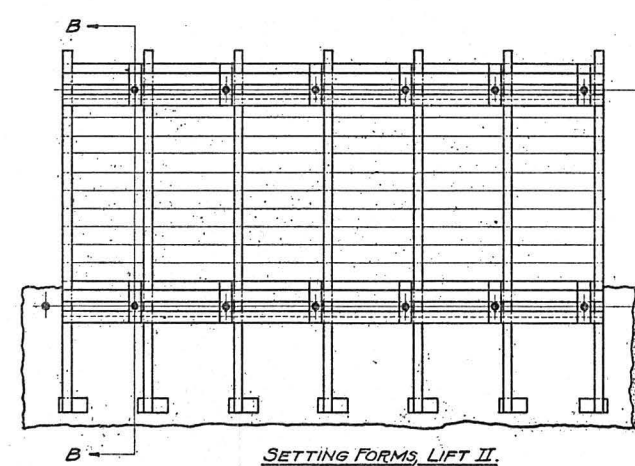
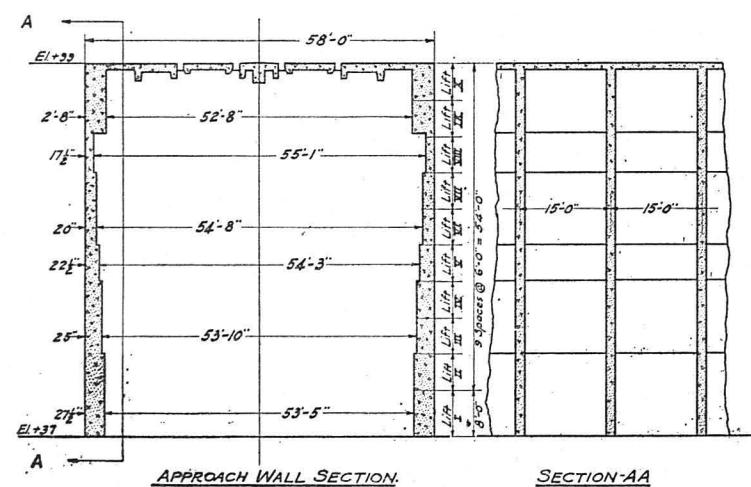
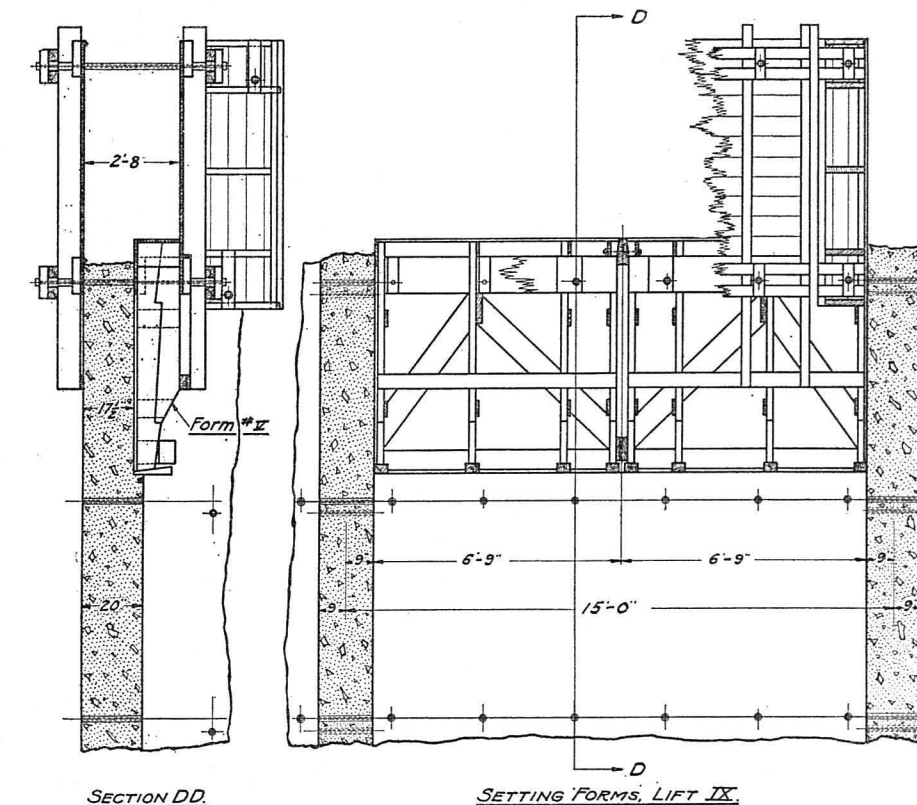
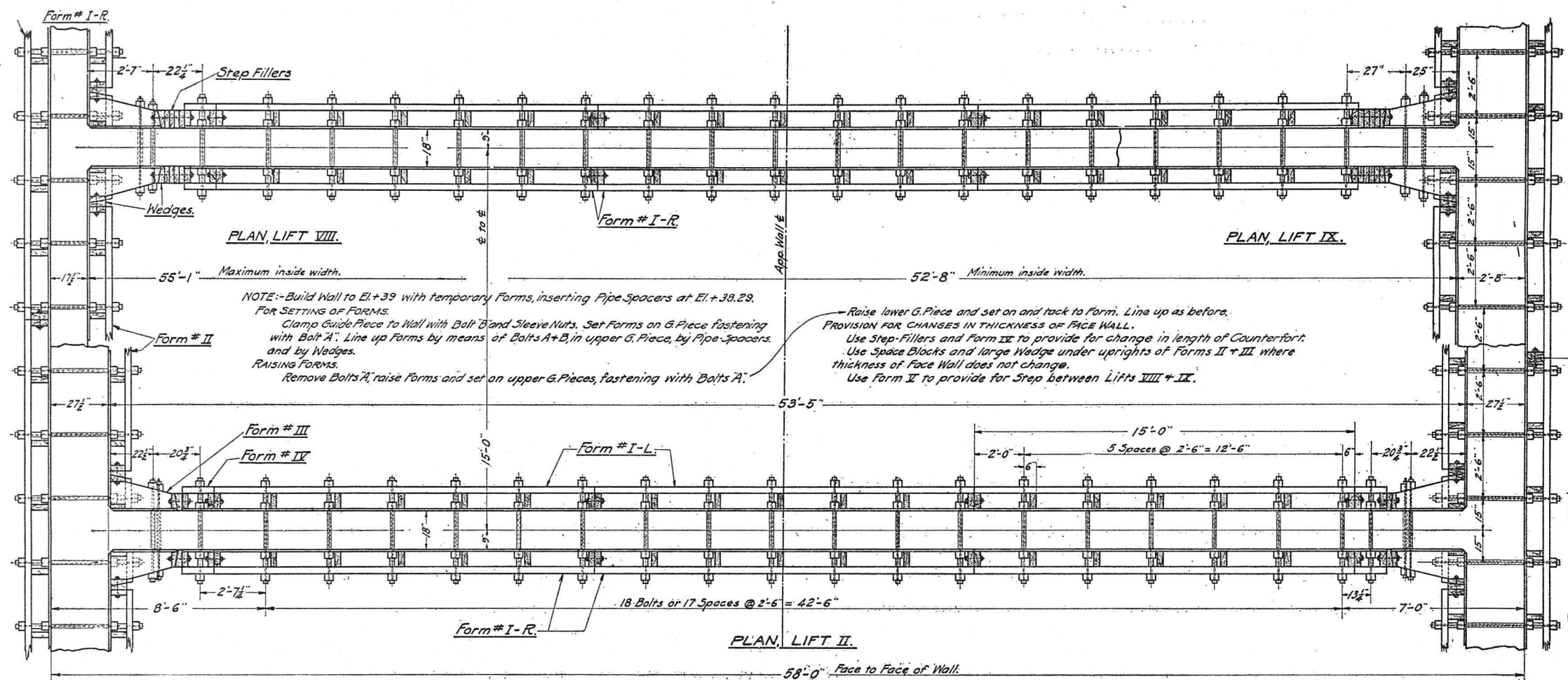
L.T. COL. D. D. GAILLARD, DIVISION ENGINEER

A. S. ZINN, RESIDENT ENGINEER

CENTRAL DIVISION — Diagram of Performance of Steam Shovels — SHOWING EFFICIENCY





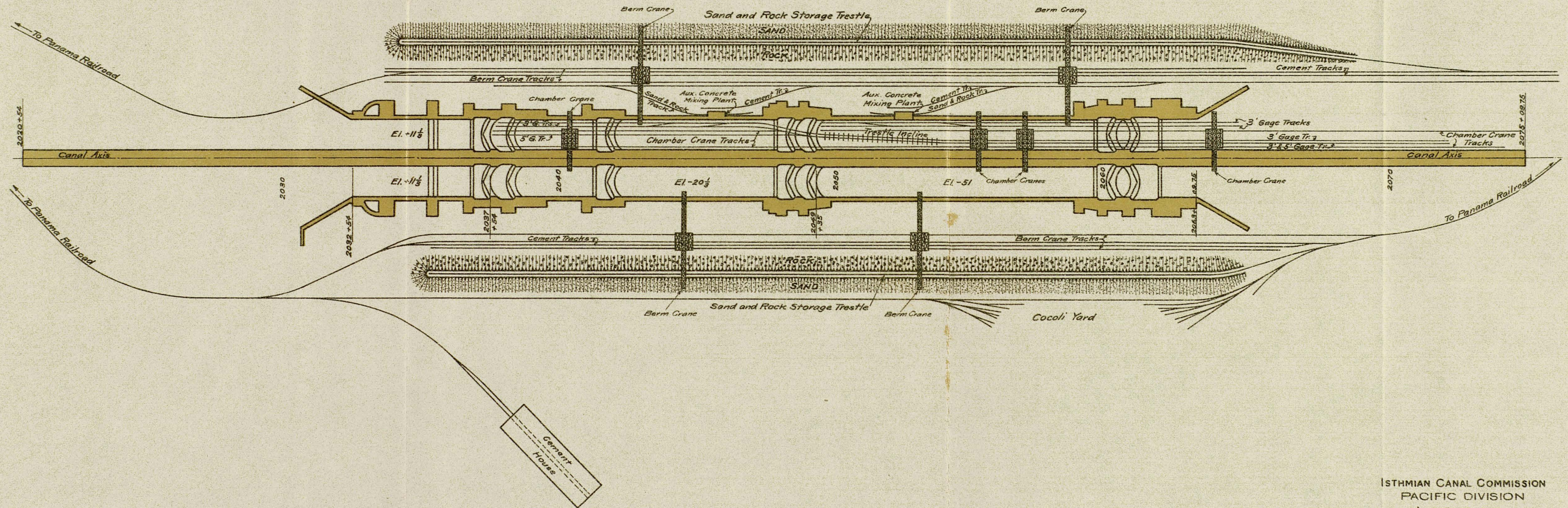
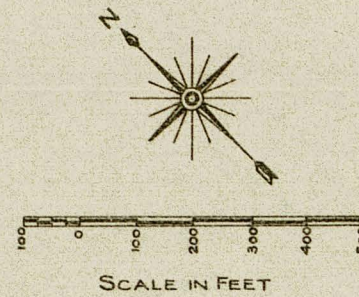


ISTHMIAN CANAL COMMISSION
PACIFIC DIVISION
FORMS FOR NORTH APPROACH WALL
PEDRO MIGUEL LOCK.

OFFICE OF DIVISION ENGINEER - COROZAL, C.Z. -
 SCALES: $\frac{3}{16}$ " AND $\frac{1}{32}$ " = 1'-0" DATE, JUNE 29, 1912.
 DRAWN BY *Will* TRACED BY *Will* CHECKED BY *WSE*

Approved: S. B. Williamson
Division Engineer

To Accompany Annual Report for Fiscal Year Ending June 30, 1912.

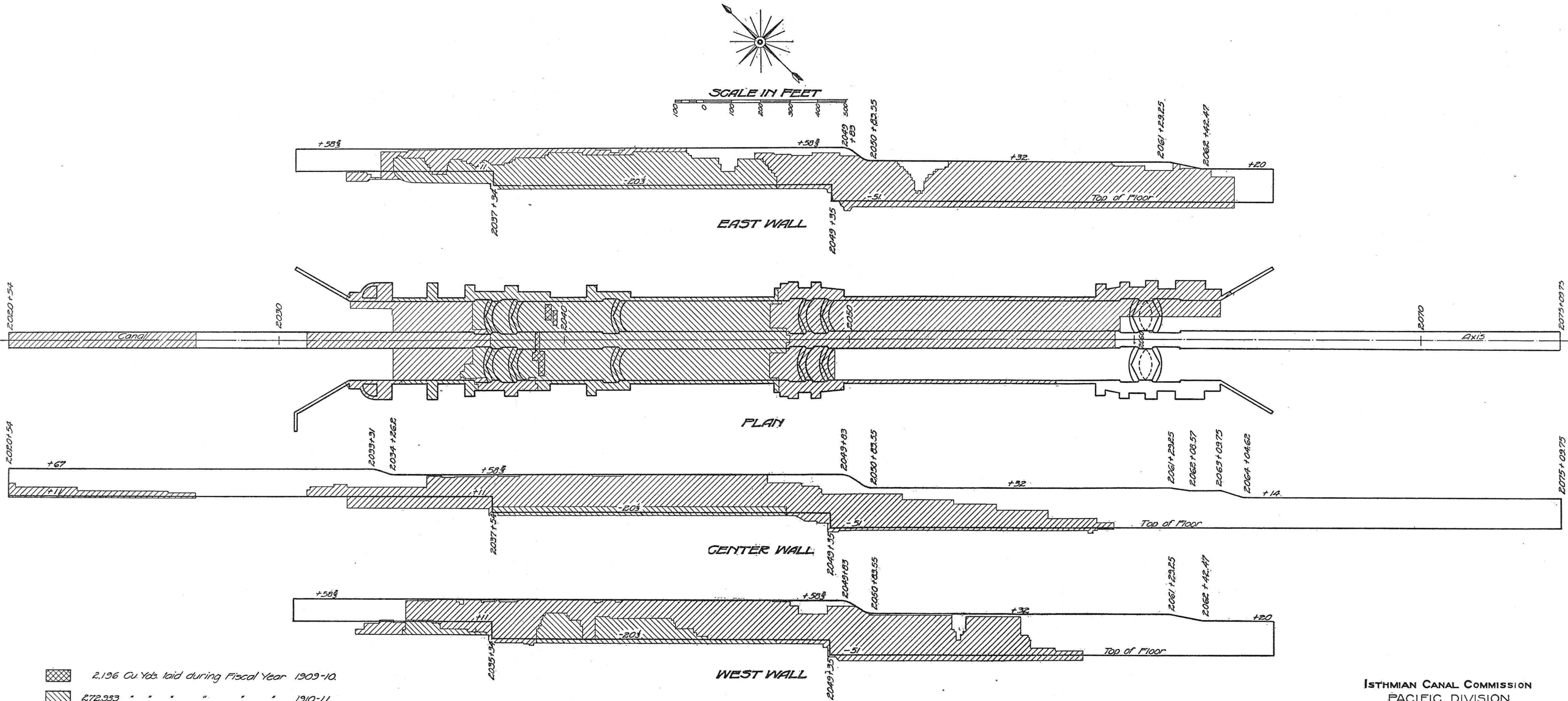


ISTHMIAN CANAL COMMISSION
PACIFIC DIVISION
LAYOUT OF
CONCRETE HANDLING PLANT
MIRAFLORES LOCKS

Approved: *J. B. Williamson*
Division Engineer

OFFICE OF DIVISION ENGINEER - COROZAL
SCALE - As shown - DATE July 5-12.
DRAWN BY *Boyd* TRACED BY *Ryan* CHECKED BY *W.C.*

To Accompany Annual Report for Fiscal Year ending June 30, 1912.



	2,196 Cu. Yds. laid during Fiscal Year 1909-10.
	2,72,333 " " " " " " 1910-11.
	751,640 " " " " " " 1911-12.

Approved: S. B. Williamson
Division Engineer.

ISTHMIAN CANAL COMMISSION
PACIFIC DIVISION
CONCRETE PROGRESS SHEET
MIRAFLORES LOCKS
OFFICE OF DIVISION ENGINEER - COROZAL, C.Z.
SCALES: Hor. 1:4000, Ver. 1:2400 DATE: June 30, 1912.
DRAWN BY P. J. B. TRACED BY P. J. B. CHECKED BY W. R. L.

LEGEND
NEW SEWER AND WATER LINES ————
OLD " " " " ————
IMPROVED STREETS ————

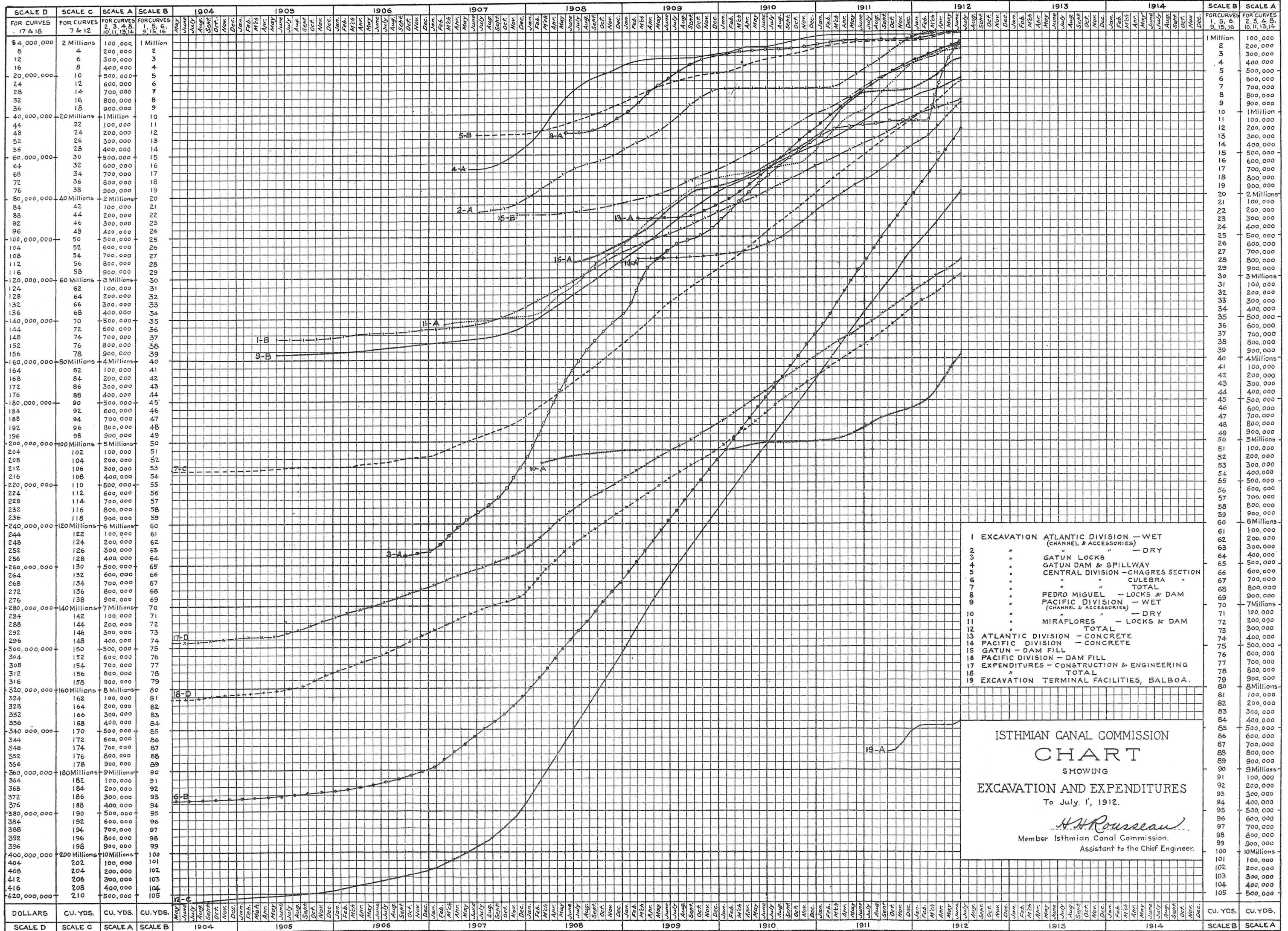


Approved: *S. B. Williamson*
Division Engineer

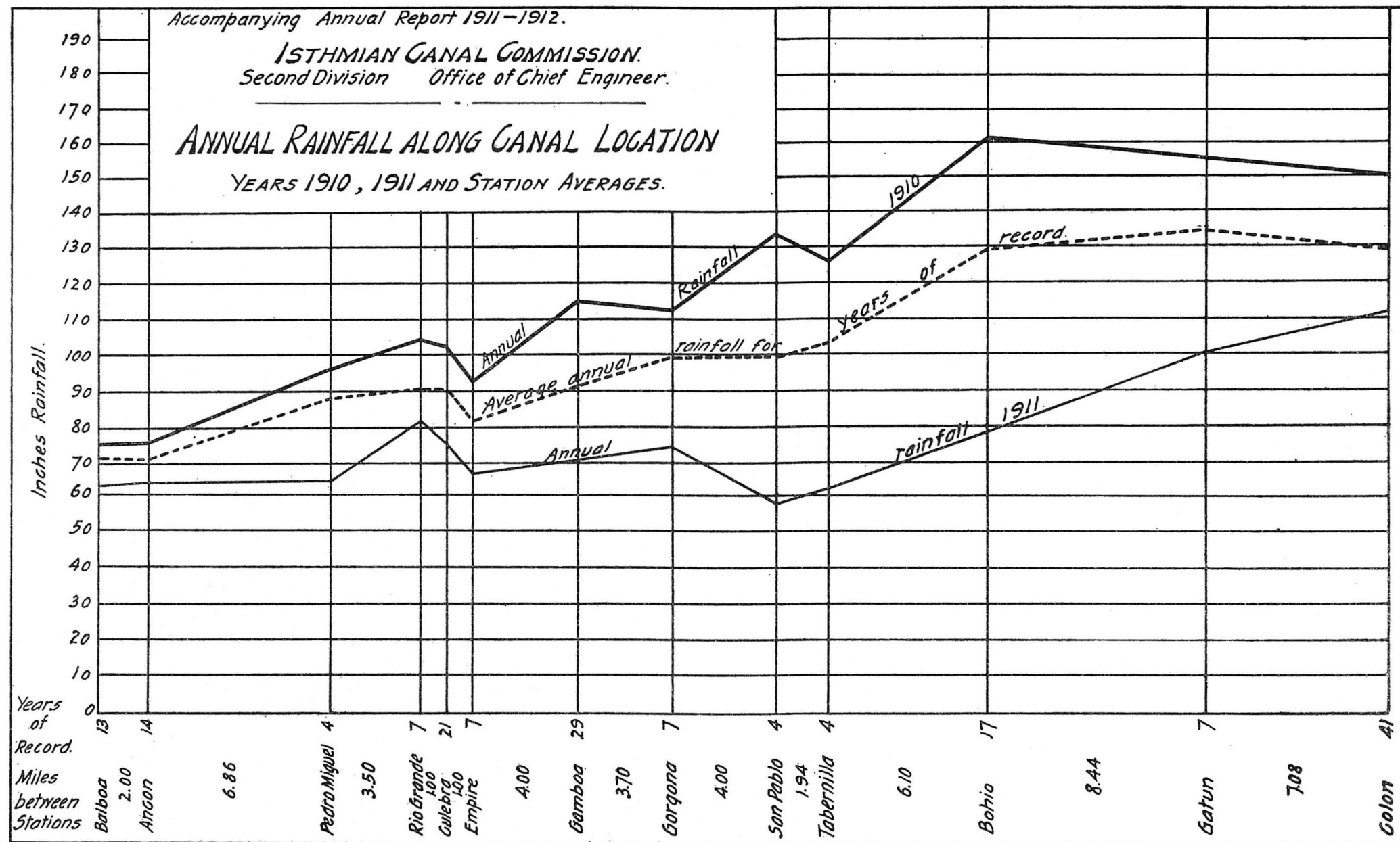
ISTHMIAN CANAL COMMISSION
PACIFIC DIVISION
MAP SHOWING PANAMA IMPROVEMENTS

COMPLETED DURING FISCAL YEAR 1911-1912
OFFICE OF DIVISION ENGINEER - COLON
SCALE 1:6000 DATE - July 9, 1912.
DRAWN BY *[Signature]* TRACED BY *[Signature]* CHECKED BY *[Signature]*

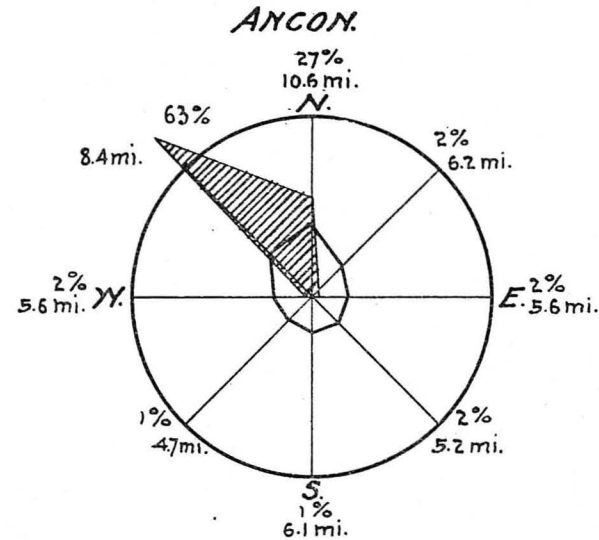
To Accompany Annual Report for Fiscal Year ending June 30, 1912.



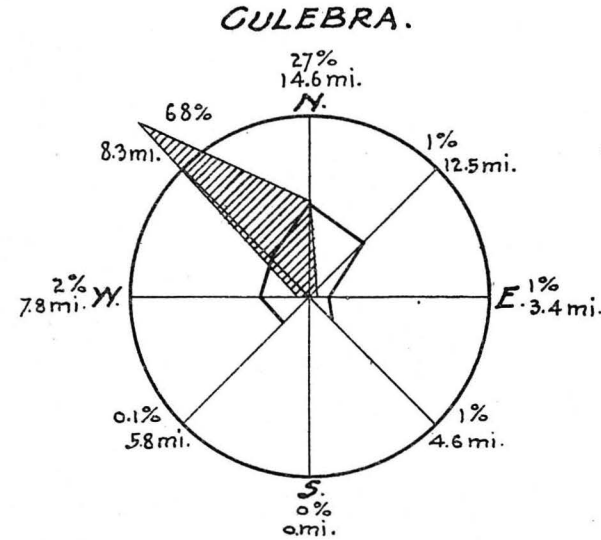
Note: The Curves begin at the point indicating the total amount of work to be done, or the total estimated cost. The Ordinates of the Curves, reading from the zero line, which is at the top, when referred to the proper scale on the left, show the amount of work remaining to be done, or the unexpended balance of the estimated cost. as, for example, if it is desired to find the estimated cost of the work still to be done on June 1, 1909, find this date on the top line, follow the vertical line until Curve N°18 is reached; from this point follow a horizontal line to intersect the proper scale on the left.



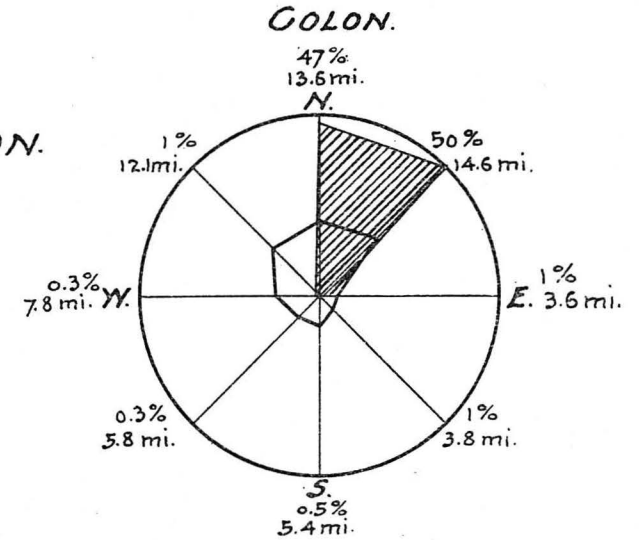
ISTHMIAN CANAL COMMISSION
Second Division—Office of Chief Engineer.
WIND ROSES—YEAR 1911.



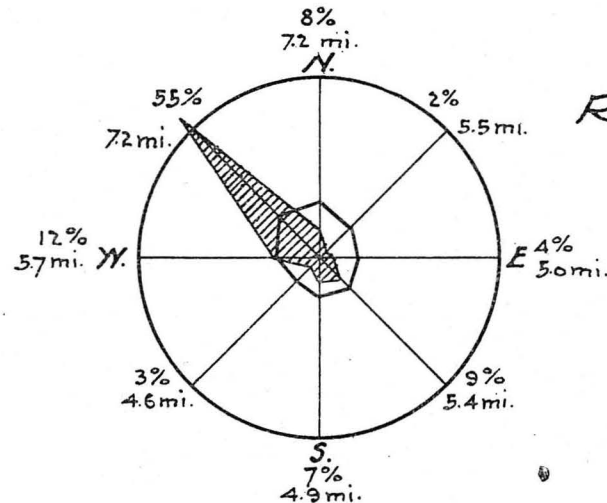
Average Hourly Velocity 8.7 mi.
Hours of Calm 0



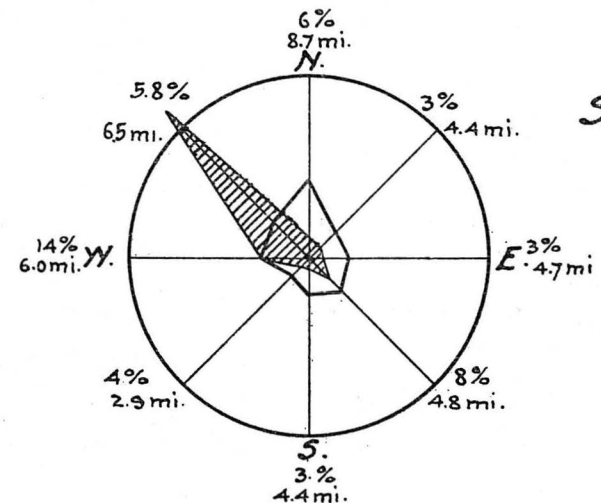
Average Hourly Velocity 10.0 mi.
Hours of Calm 0



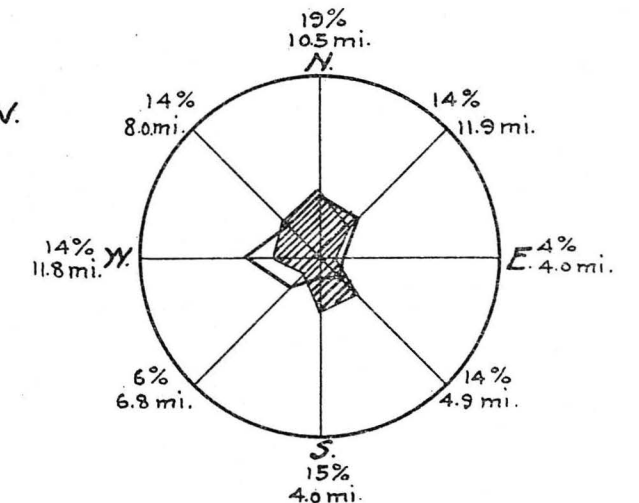
Average Hourly Velocity 13.8 mi.
Hours of Calm 0



Average Hourly Velocity 6.5 mi.
Hours of Calm 14



Average Hourly Velocity 6.1 mi.
Hours of Calm 33



Average Hourly Velocity 8.2 mi.
Hours of Calm 23

—NOTE— Radial lengths from foci within shaded areas represent percentage of hour from any direction. Scale: 2"=100%
Radial lengths from foci within blank areas represent average hourly velocities for corresponding time. Scale: 2"=Sum of average velocities.

Accompanying Annual Report 1911-12

Plate 100.

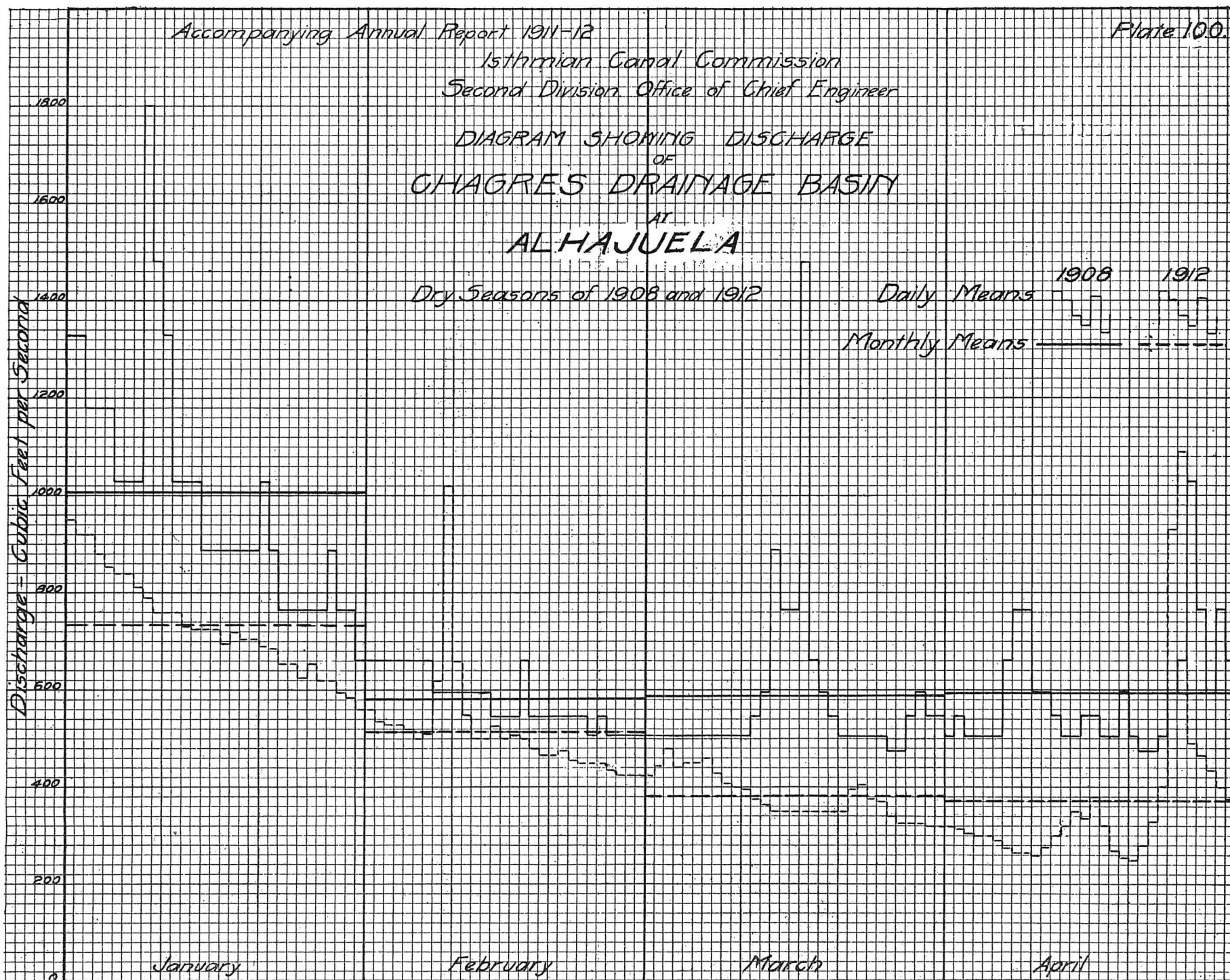
Isthmian Canal Commission
Second Division Office of Chief Engineer

DIAGRAM SHOWING DISCHARGE
OF
CHAGRES DRAINAGE BASIN
AT
ALHAJUELA

Dry Seasons of 1908 and 1912

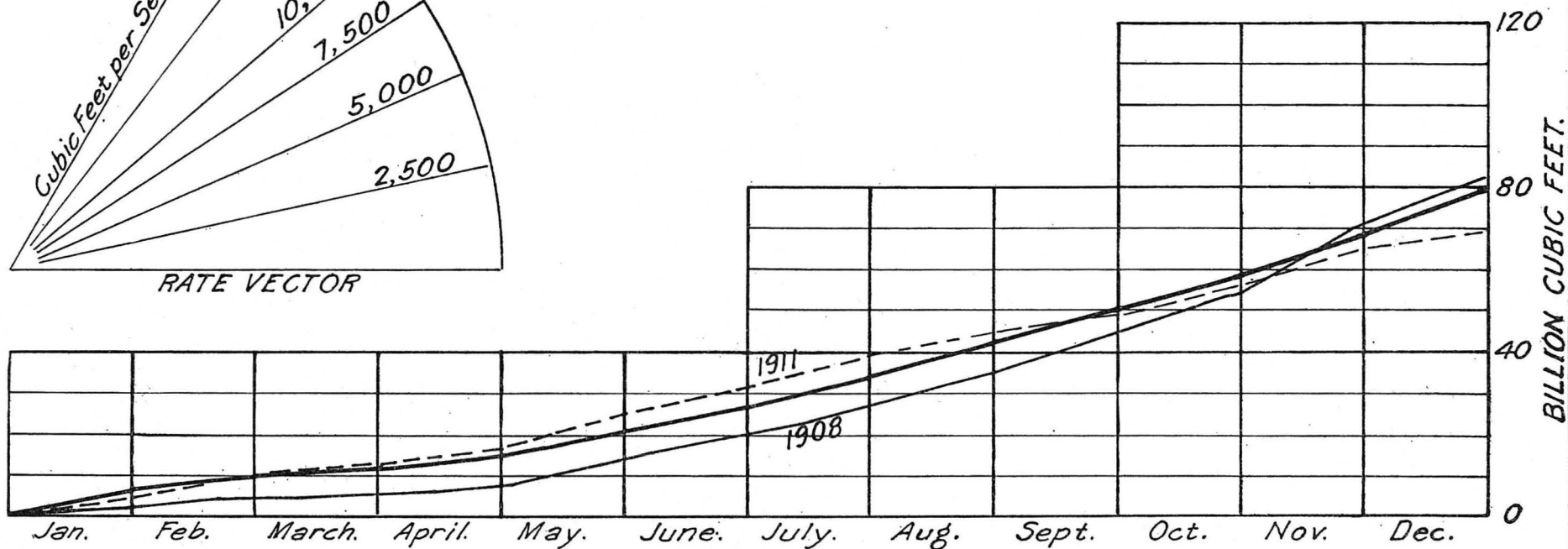
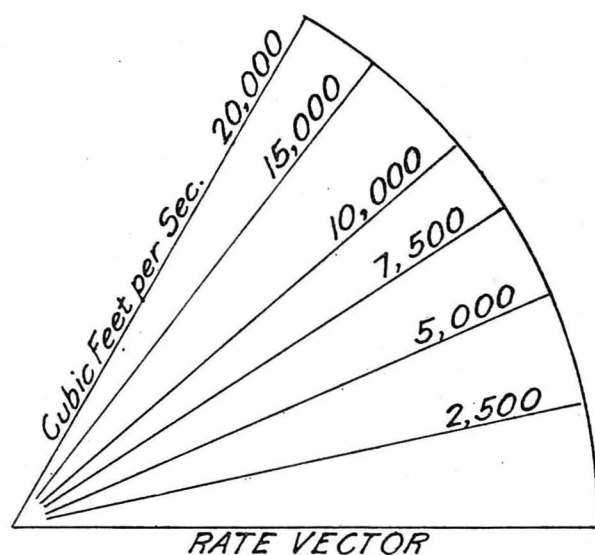
Daily Means 1908 1912

Monthly Means ————



SECOND DIVISION, CHIEF ENGINEER'S OFFICE
CHAGRES RIVER DRAINAGE BASIN
 (427 Square Miles)
MASS CURVES OF DISCHARGE AT ALHAJUELA

———— Year 1908
 - - - - Year 1911
 ———— Mean for
 Period of 22 Years.



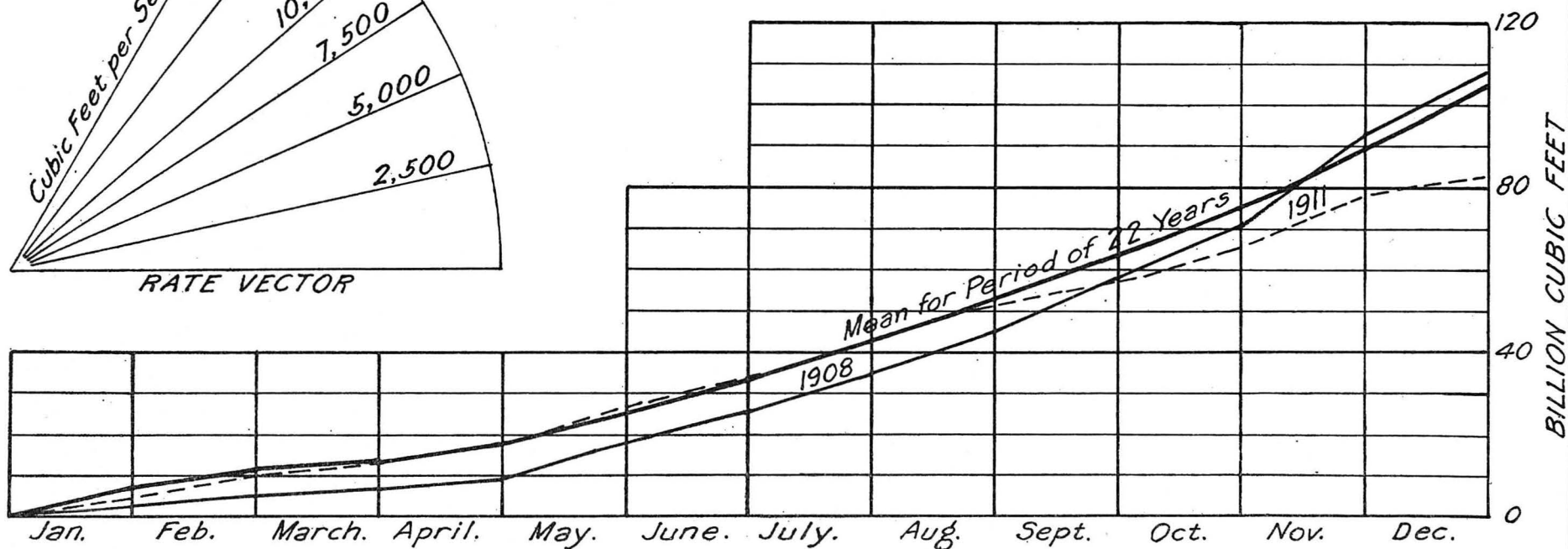
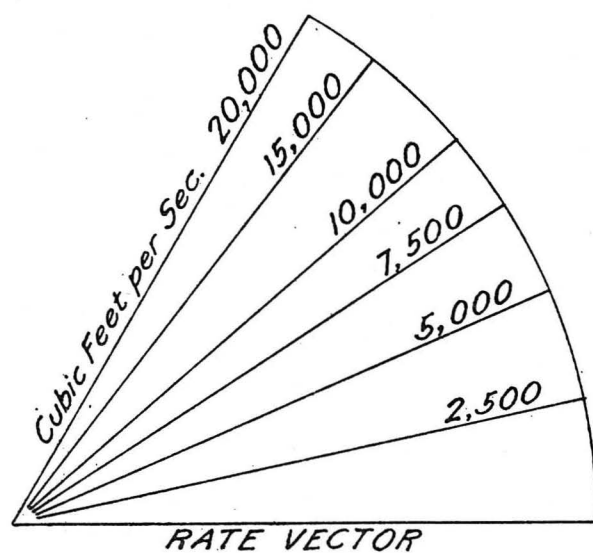
SECOND DIVISION, CHIEF ENGINEER'S OFFICE

CHAGRES RIVER DRAINAGE BASIN

(559 Square Miles)

MASS CURVES OF DISCHARGE AT GAMBOA

———— Year 1908
 - - - - - Year 1911
 ———— Mean for
 Period of 22 Years.



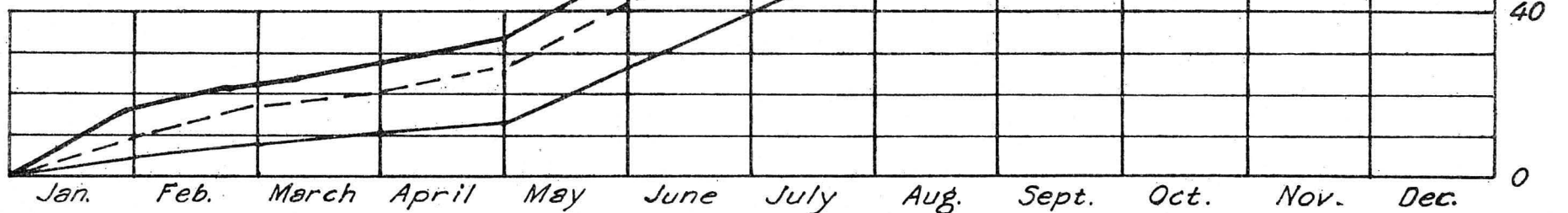
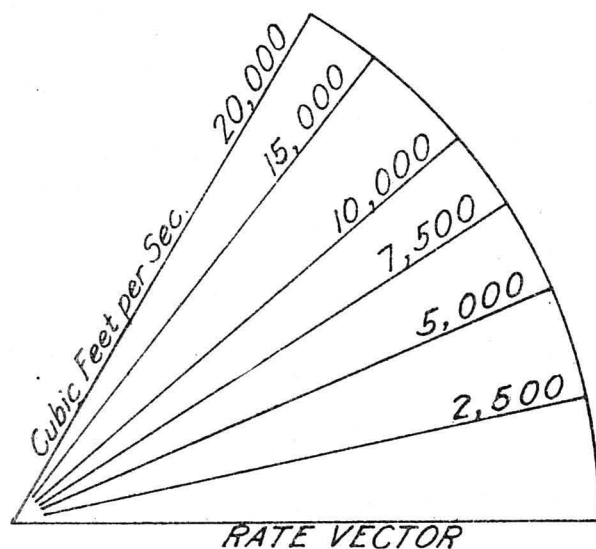
SECOND DIVISION, CHIEF ENGINEER'S OFFICE

CHAGRES RIVER DRAINAGE BASIN

(1320 Square Miles)

MASS CURVES OF DISCHARGE AT THE GATUN SPILLWAY

— Year 1908
 - - - Year 1911
 — Mean for
 Period of 22 Years.



Isthmian Canal Commission
Second Division Office of Chief Engineer

CROSS SECTIONS
CHAGRES RIVER
AT
GAMBOA GAGING STATION

—LEGEND—

— Dec. 14, 1911

--- May 2, 1912

- - - July 3, 1912

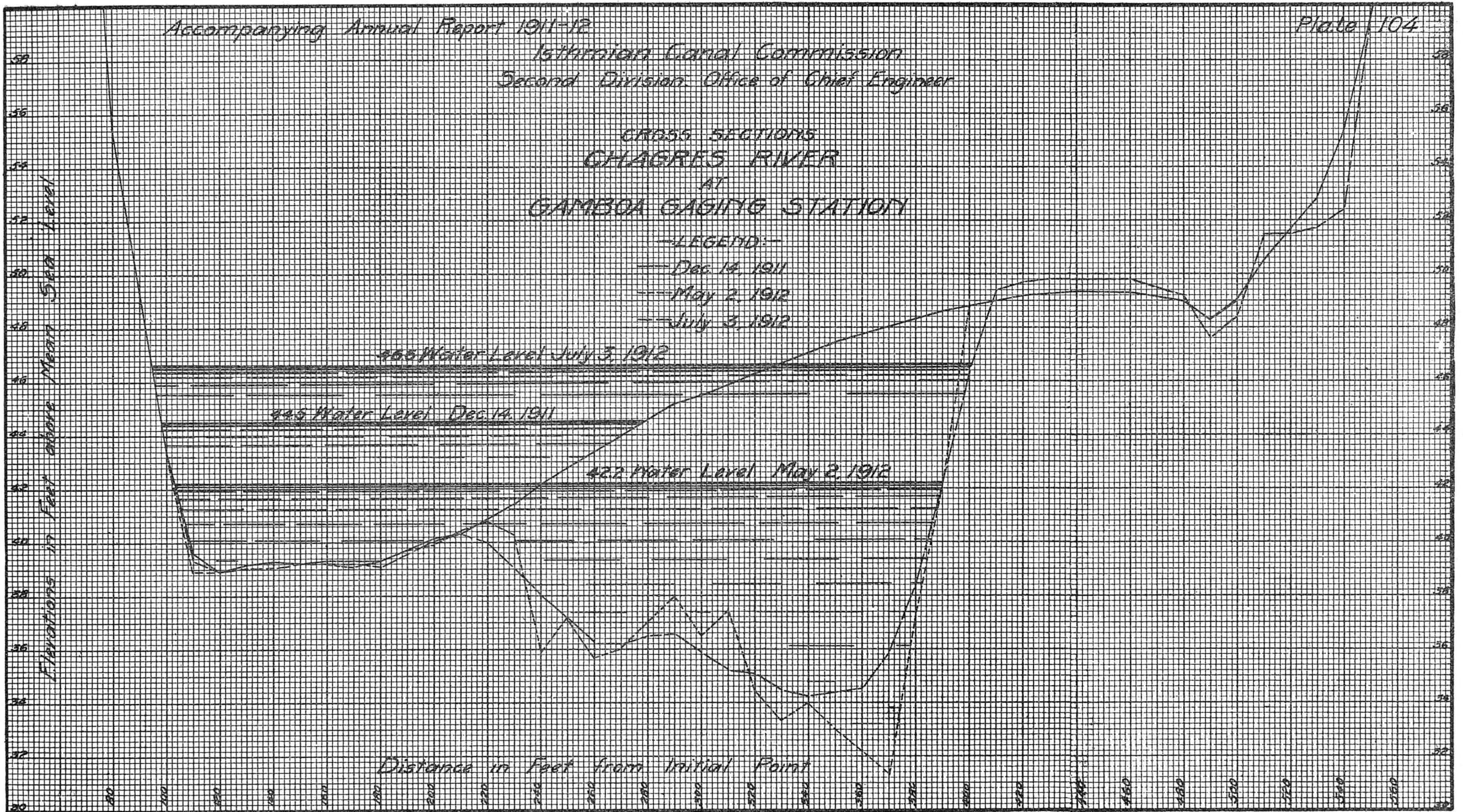
44.5 Water Level July 3, 1912

44.5 Water Level Dec. 14, 1911

42.2 Water Level May 2, 1912

Elevations in Feet above Mean Sea Level

Distance in Feet from Initial Point

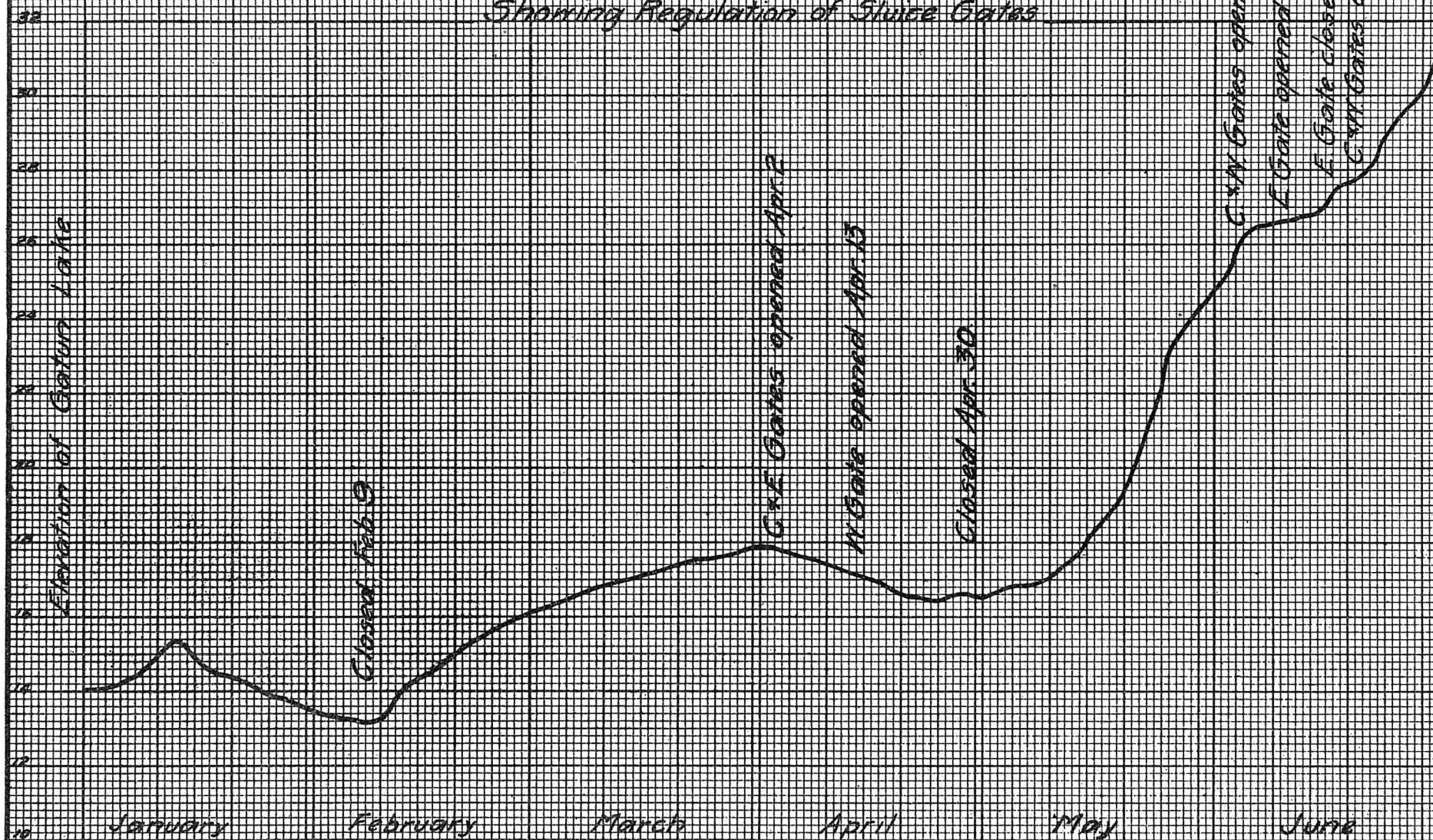


Accompanying Annual Report 1911-12

Plate 105

Isthmian Canal Commission
Second Division, Office of Chief Engineer
HYDROGRAPH
FOR
GATUN LAKE

From Jan. to June 1912
Showing Regulation of Sluice Gates



Accompanying Annual Report 1911-12

15th Annual Canal Commission

Second Division Office of Civil Engineer

RAINFALL - RUNOFF

and

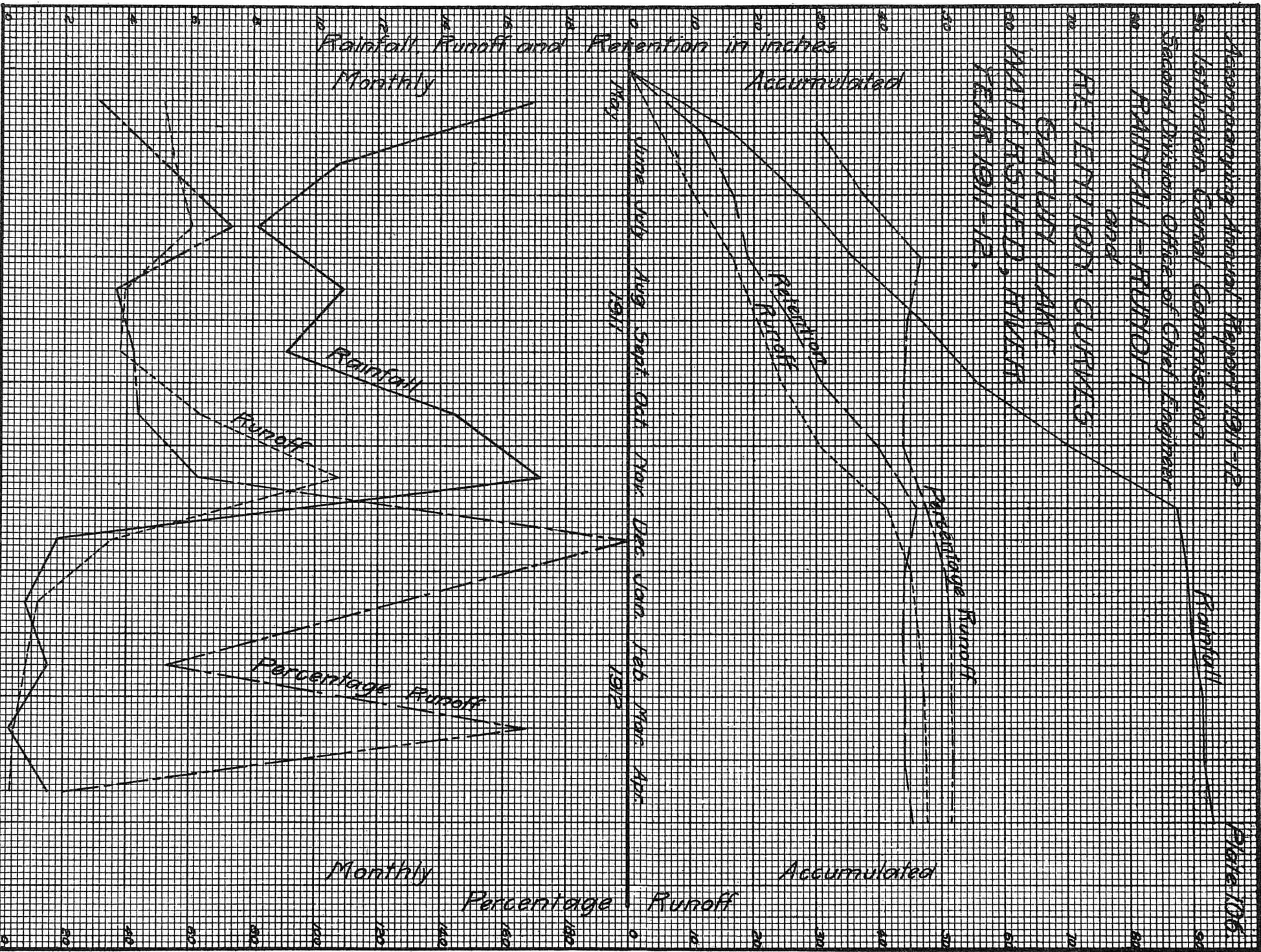
RETENTION CURVES

CAUTION 1 AM

MAINTAINED, WITH

YEAR 1911-12.

Plate 106



Isthmian Canal Commission
Second Division Office of Chief Engineer

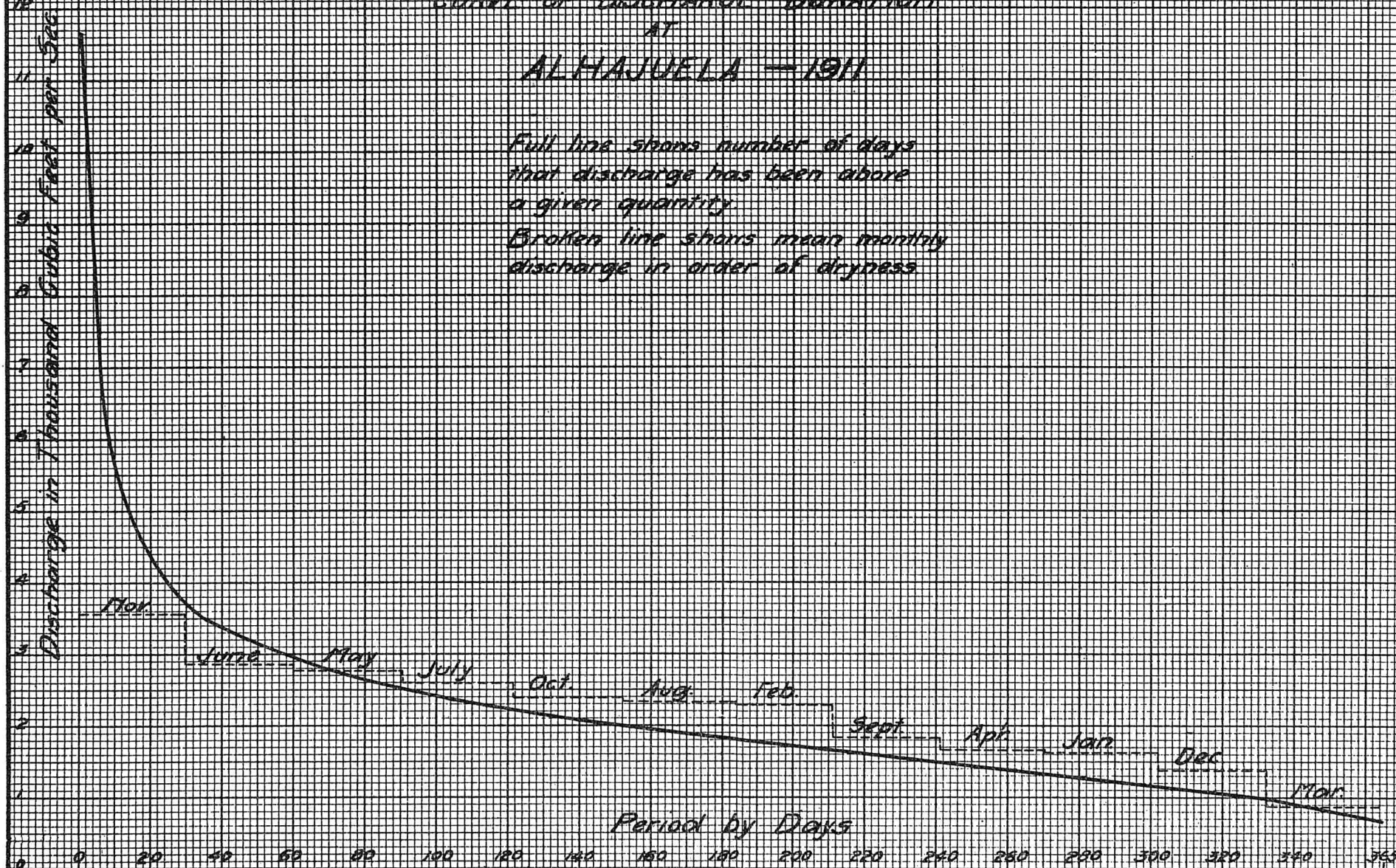
CHAGRES RIVER DRAINAGE BASIN

CURVE OF DISCHARGE DURATION
AT

ALMAJUELA - 1911

Full line shows number of days
that discharge has been above
a given quantity

Broken line shows mean monthly
discharge in order of dryness



Isthmian Canal Commission
Second Division Office of Chief Engineer

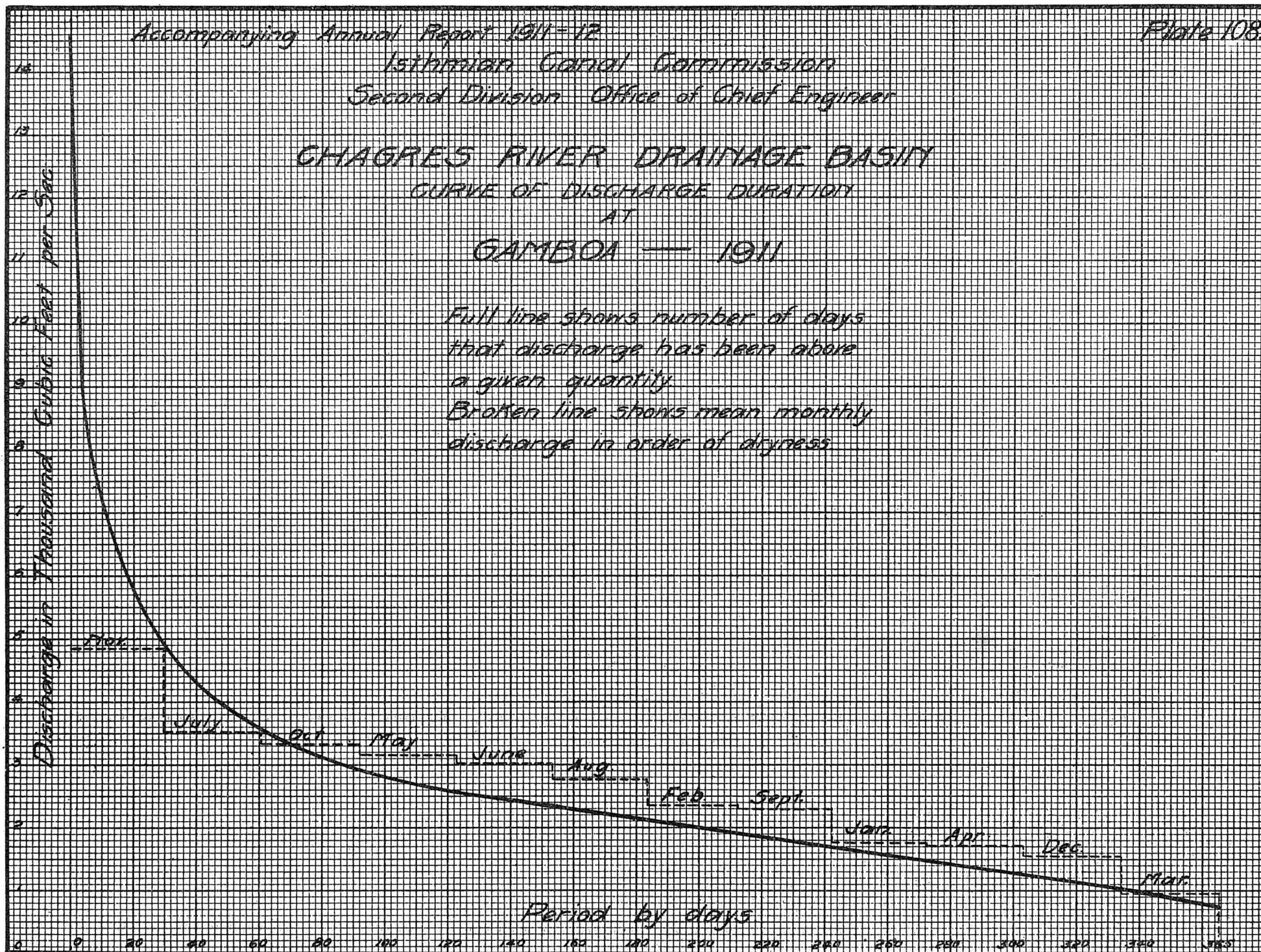
CHAGRES RIVER DRAINAGE BASIN

CURVE OF DISCHARGE DURATION
AT

GAMBOA — 1911

Full line shows number of days
that discharge has been above
a given quantity

Broken line shows mean monthly
discharge in order of dryness



Accompanying Annual Report 1911-12

Isthmian Canal Commission

Second Division Office of Chief Engineer

CHAGRES RIVER DRAINAGE BASIN

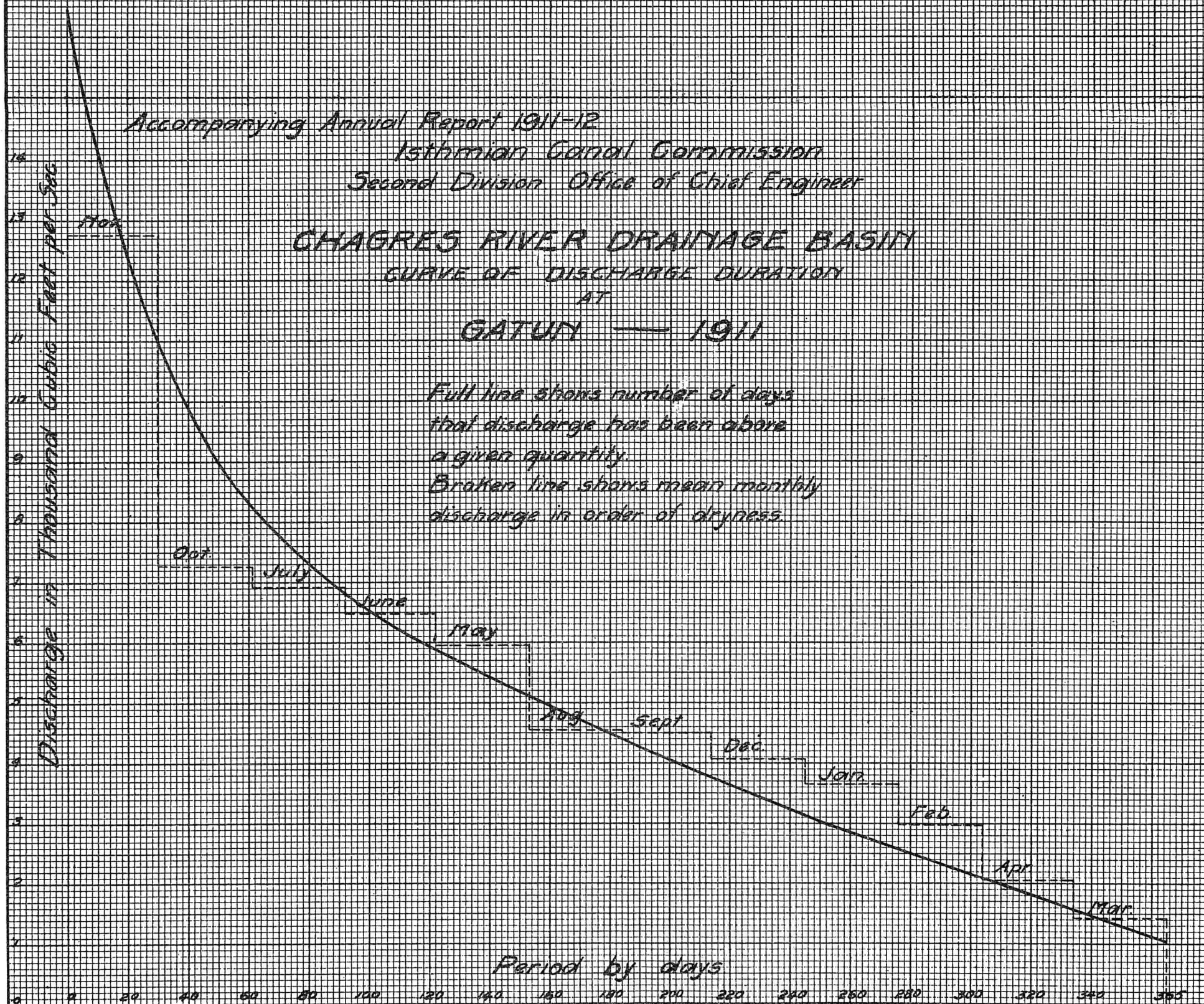
CURVE OF DISCHARGE DURATION

AT

GATUN — 1911

Full line shows number of days
that discharge has been above
a given quantity.

Broken line shows mean monthly
discharge in order of dryness.



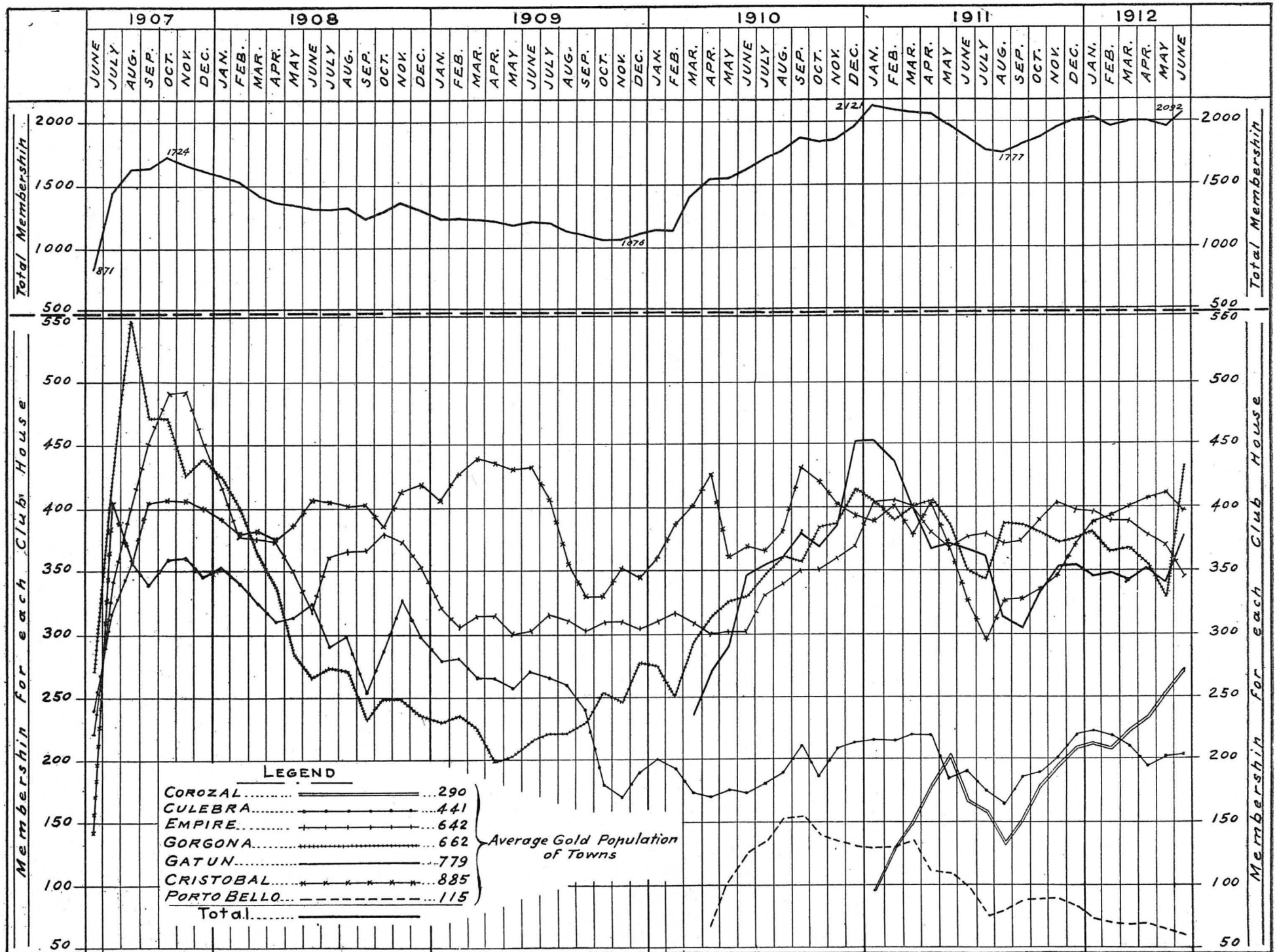
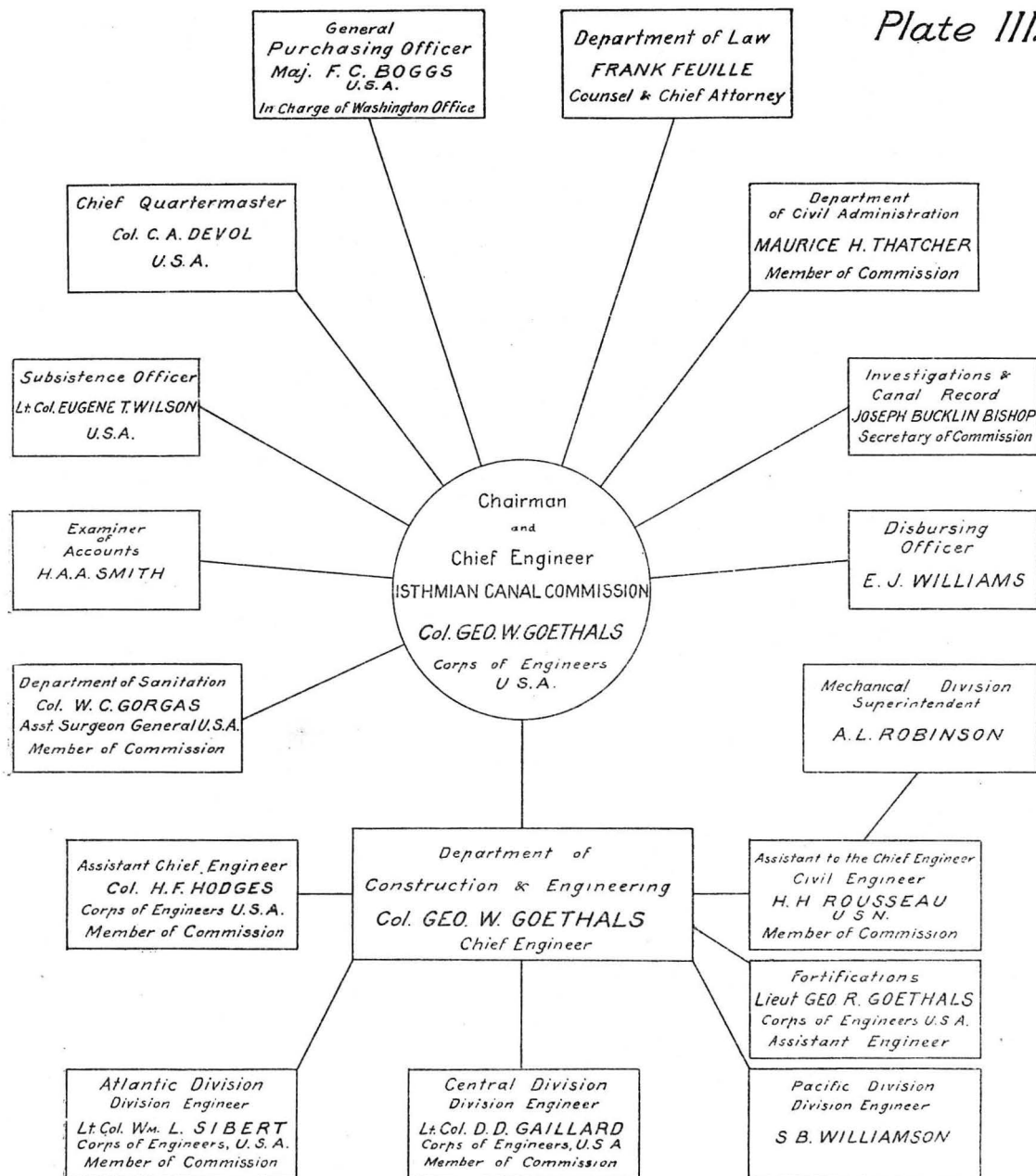


Chart Showing Rise and Fall of Membership in Y.M.C.A. Club Houses, Canal Zone.



ORGANIZATION CHART

OF

ISTHMIAN CANAL COMMISSION

CULEBRA, C.Z.

July 1, 1912.

Chairman & Chief Engineer
Col. GEO. W. GOETHALS
U. S. A.
Secretary to the Chairman
WM. HOWARD MAY
Total 3599 Men

Assistant Chief Engineer
Col. H. F. HODGES
U. S. A.
Member of Commission
C. O. CARLSON, Secretary
1 Messenger
Total 3270 Men

Asst to the Chief Engineer
CIVIL ENG. H. H. ROUSSEAU
U. S. N.
Member of Commission
J. J. CAMPBELL, Secretary
Total 177 Men

Chief Clerk
C. A. McILVAINE
Asst Chief Clerk
W. P. COPELAND
Total 37 Men

Chief Accountant
A. D. FAURE

Supt of Club Houses
A. B. DICKSON
7 Secretaries
4 Asst Secretaries
1 Clerk Y.M.C.A. Funds
10 Night Clerks
6 Bow Alley Night Att^{ts}
6 Pool Room "
7 Barbers "

Silver Employees
43 on I.C.C. Payrolls
21 on Y.M.C.A. Payrolls

Surveying Officer
H. S. FARISH
1 Assistant

3 Inspectors
PETER JOHNSON
W. M. BAXTER JR.
W. P. SMALLWOOD

Geologist
DONALD F. MACDONALD

Meteorology and Hydrology
Supervisor, F. D. WILLSON
3 Meteorologists
4 Hydrographers
1 Observer
1 Computer
6 Foremen
16 Boatmen
Total 32 Men

Surveys
O. E. MALSBRURY
Junior Engineer
R. C. JONES
Junior Engineer
4 Transmitters
4 Levelmen
6 Rodmen
4 Foremen
8 Cooks
8 Boatmen
12 Chainmen
50 Laborers
Total 100 Men

Inspector of Shops
MAJ. T. C. DICKSON
U. S. A.
1 Clerk

Terminal Facilities
CIV. ENG. F. H. COOKE U. S. N.
Designing Engineer
1 Asst Engineer
10 Draftsmen
Total 12 Men

Permanent Shops
G. I. FINLEY
Assistant Engineer
8 Draftsmen
Total 9 Men

JAS. G. CRAIG
Traveling Engineer
J. E. JOHNSON
Inspector of Equipment and Lubricants
1 Clerk (Silver)

Office Engineer
A. B. NICHOLS
Total 17 Men

Assistant Engineer
ARTHUR RAGGI
7 Draftsmen

4 Clerks
2 Messengers (Silver)
2 Pressmen (")

Masonry & Lock Design
L. D. CORNISH
Designing Engineer
2 Asst Engineers
3 Draftsmen

Lock Gates & Protective Devices
HENRY GOLDMARK
Designing Engineer
2 Asst Engineers
3 Draftsmen
1 Clerk

Inspection in U.S.
1 Asst Engineer
47 Inspectors
3 Clerks

Inspection on Isthmus
2 Chief Inspectors
3 Inspectors (Shipfitters)
27 " (Riveters)
3 Messengers

Emergency Dams
Inspection on Isthmus
T. B. MONNICHE
Designing Engineer
5 Inspectors

Inspection in U.S.
15 Inspectors
1 Checker
1 Clerk

Operating Machinery
EDW. SCHILDHAUER
Elec. & Mech. Engineer
4 Asst Engineers
16 Draftsmen
1 Clerk

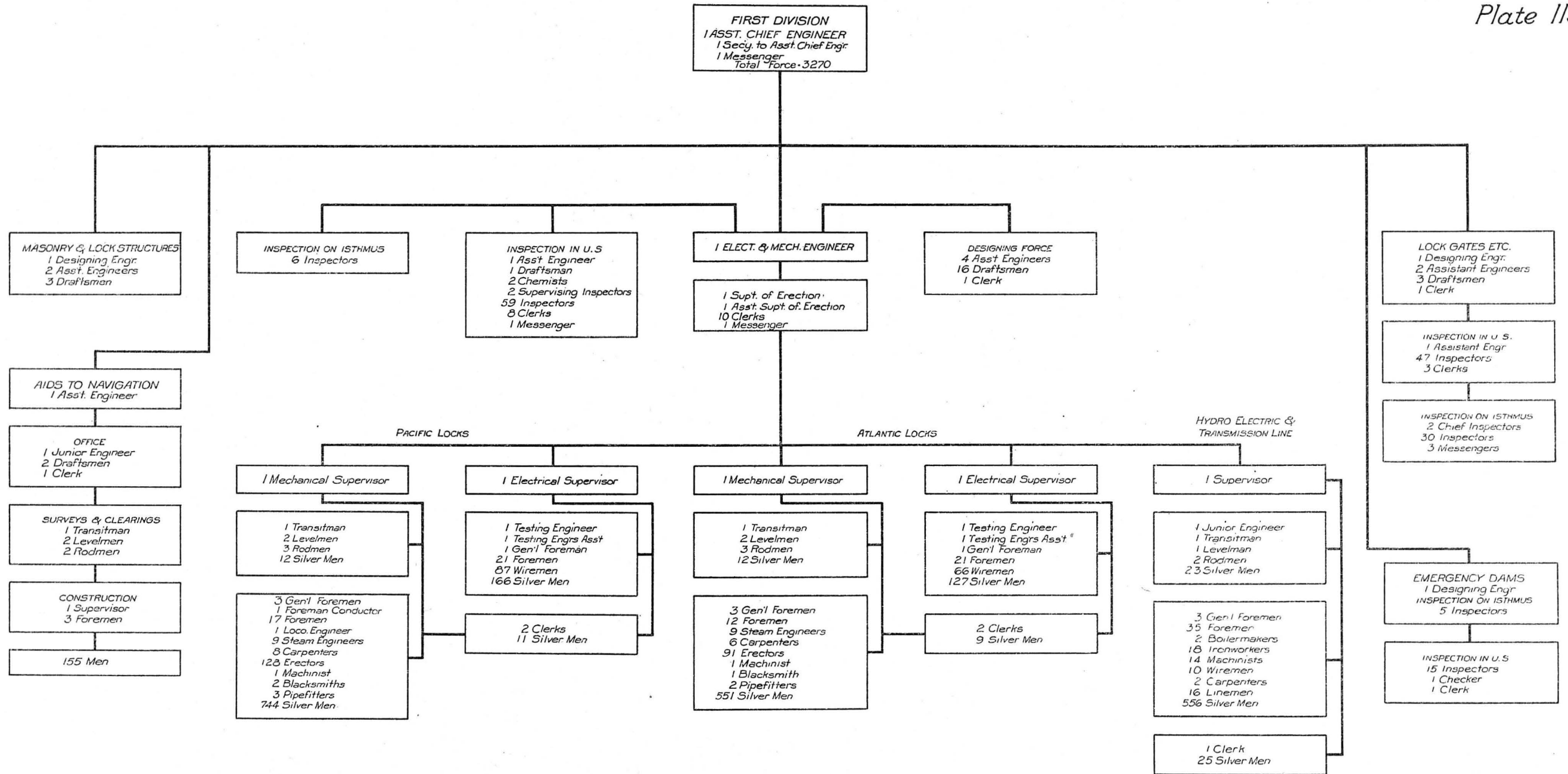
Inspection in U.S.
1 Asst Engineer
8 Clerks
2 Chemists
1 Draftsman
2 Supervisors of Insp'n
59 Inspectors
1 Messenger

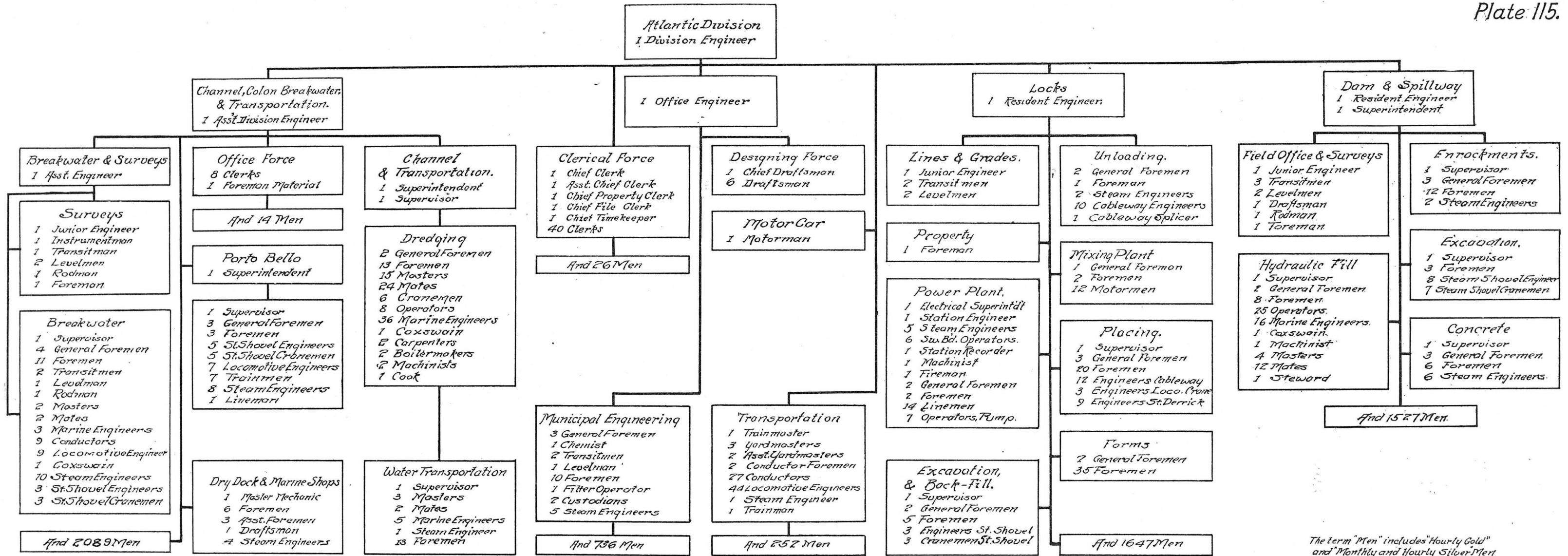
Inspection on Isthmus
6 Inspectors

Erection Force on Isthmus
1 Superintendent
1 Asst Supt
15 Clerks 16 Carpenters
5 Supervisors 1 Loco. Eng'r
11 Gen'l Foremen 1 Condr. For.
4 Testing Eng's 18 Steam Eng's
3 Transmitters 219 Erectors
5 Levelmen 16 Machinists
8 Rodmen 5 Pipefitters
106 Foremen 163 Wiremen
3 Blacksmiths 1 Junior Eng'r
2 Boilermakers 18 Iron Workers
2237 Laborers, etc. 16 Linemen (Silver)

Aids to Navigation
W. F. BEYER
Asst Engineer
1 Junior Engineer
2 Draftsmen
1 Clerk

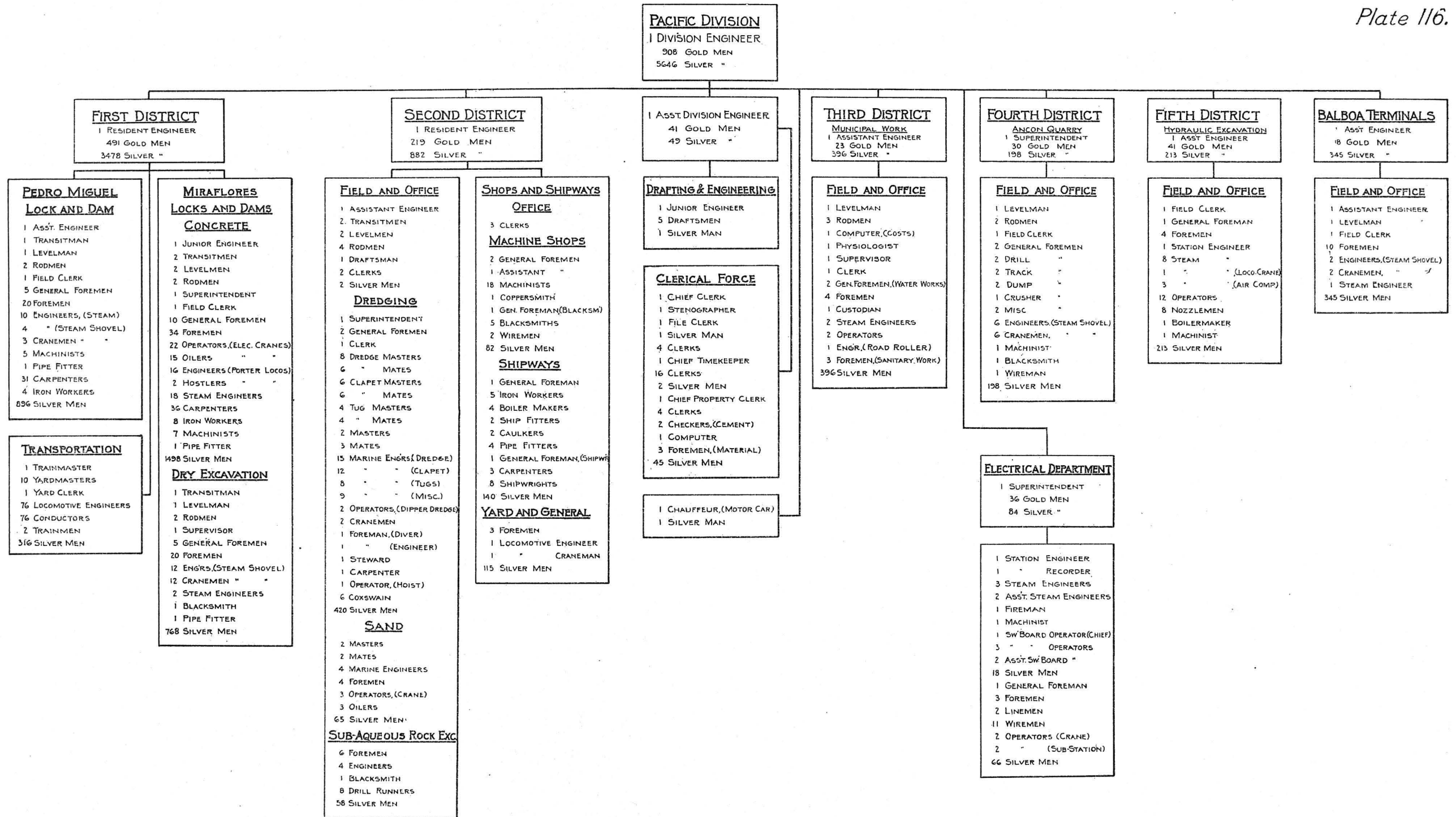
Field Force
1 Supervisor
3 Foremen
1 Transmitter
2 Levelmen
2 Rodmen
1 Foreman (Silver)
154 Laborers, etc. (Silver)



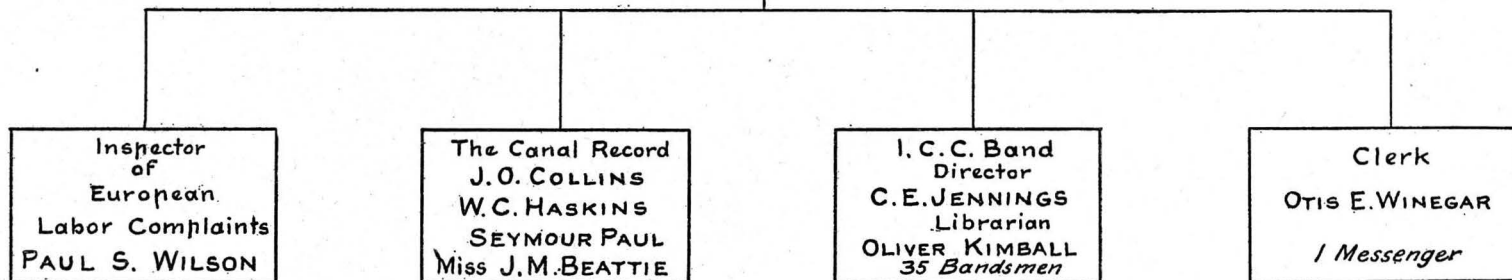


Isthmian Canal Commission
Atlantic Division

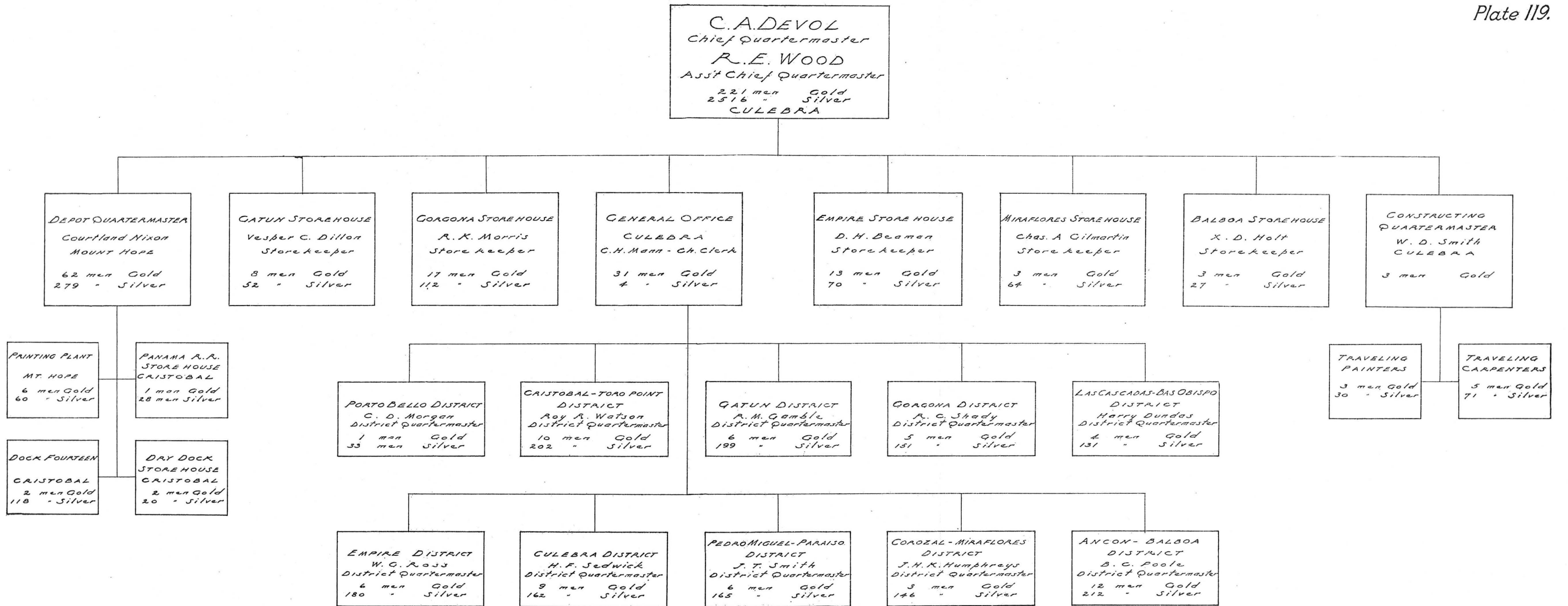
Chart of Organization July 1st 1912



Office of
Secretary of Commission
JOSEPH BUCKLIN BISHOP
/ Secretary and
44 Persons



ORGANIZATION AS OF JULY 1, 1912.



ORGANIZATION AS OF JULY 1, 1912.

SUBSISTENCE OFFICER
LIEUT. COL. EUGENE T. WILSON U.S.A.

ASST. SUBSISTENCE OFFICER
CAPT. FRANK O. WHITLOCK U.S.A.

Subsistence Dept. 677 Men
Commissary Dept. 1205 "
Total 1882 "

Chief Clerk W.F. SHIPLEY
Office Force Gold Silver
Subsistence Dept. 14 7
Commissary Dept. 60 9
Total 74 16

PANAMA R.R.
COMMISSARY DEPARTMENT
SUBSISTENCE OFFICER
LIEUT. COL. EUGENE T. WILSON U.S.A.
ASST. SUBSISTENCE OFFICER
CAPT. FRANK O. WHITLOCK U.S.A.
Manager
JOHN BURKE
1205 Men
Chief Clerk W.F. SHIPLEY
Office 69 Men

RETAIL DEPARTMENT
Inspector
FRANK FLOYD
Asst. Inspector (Vacant)
453 Men

Retail Stores in Charge of Storekeepers.
Cristobal Retail Store 66 Men
" Shoe " 2 "
Gajun Retail " 59 "
Borgona " " 43 "
Bas Obispo " " 13 "
Las Cascadas " " 20 "
Empire " " 59 "
Culebra " " 33 "
Rio Grande " " 8 "
Paraiso " " 17 "
Pedro Miguel " " 17 "
Miraflores " " 11 "
Corozal " " 20 "
Balboa " " 41 "
Ancon Meat Market 8 "
Porto Bello Retail Store 7 "
Monte Lirio " " 4 "
Neas Island " " 4 "
Toro Point " " 6 "
Camp Biera " " 14 "
Total 452 "

MANUFACTURING PLANTS
Superintendent
S. M. WHITE
452 Men
Office 16 Men
Wagon Men 14 "

Power Plant
1-Chief Engineer
(Vacant)
123 Men

Coffee Plant
1-Coffee Roaster
3 Men

Ice Plant
1-Chief Engineer
(Vacant)
12 Men

Ice Cream Plant
1-Ice Cream Maker
9 Men

Bakery
1-Head Baker
61 Men

Raw Material Store
1-Storekeeper
48 Men

Laundry
1-Superintendent
147 Men

Line Transportation
1-Foreman
13 Men

WHOLESALE DEPARTMENT
General Storekeeper
(Vacant)
117 Men

Wholesale Stores
Warehouse 75 Men
Drygoods 13 "
Grocery 9 "
Hardware 6 "
Boots and Shoes 4 "
Furniture 8 "
Total 109 "

Women's Dry Goods Store
8 Women

Cold Storage Plant
Storekeeper
C.B. AUSTIN
99 Men

Panama Purchasing Agency
Local Buyer
J.H. KEEFE
3 Men

Chemical and Industrial Laboratories
1-Chemist
11 Men

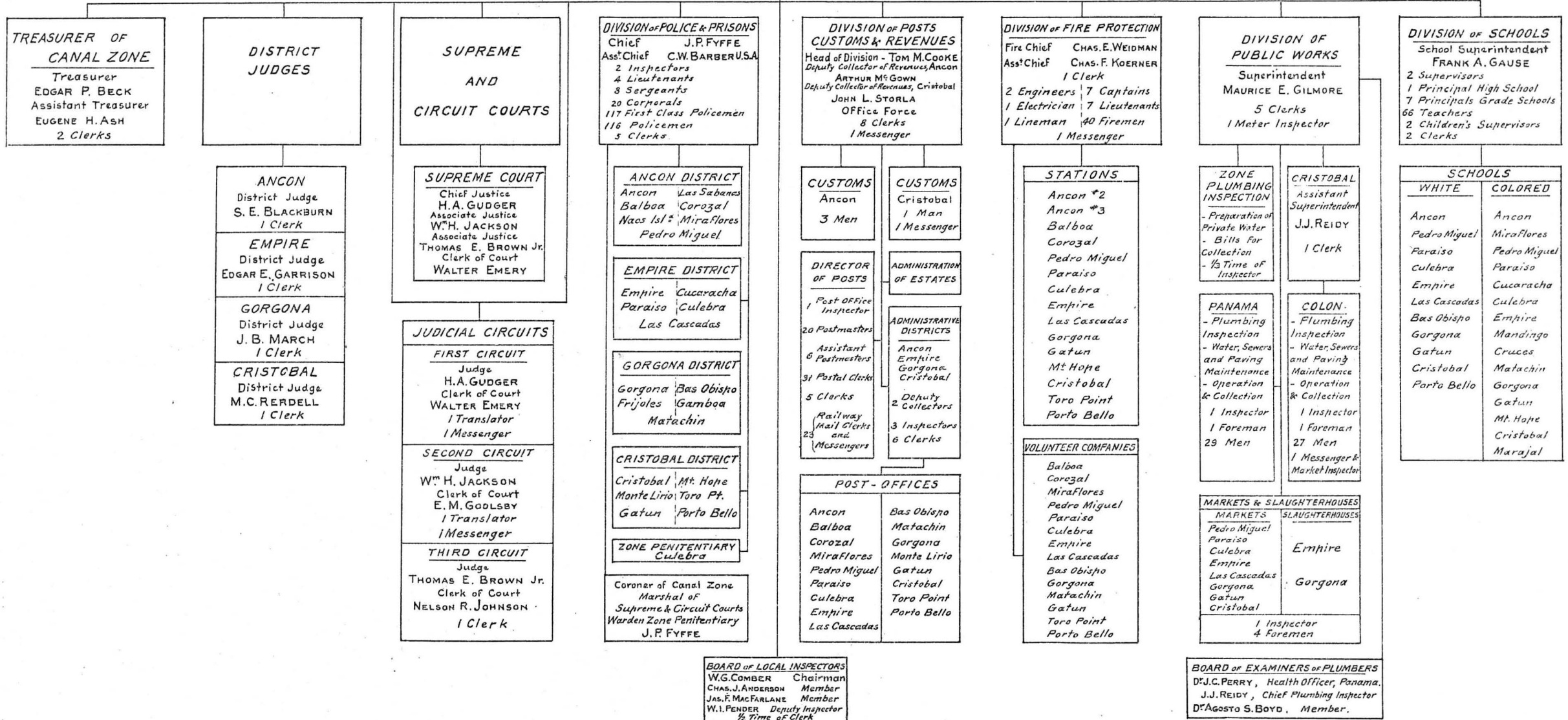
HOTEL TIVOLI
Manager
PETER G. GUYER

Office Force 9 Men
Hotel Force 84 Men
Total 93 "

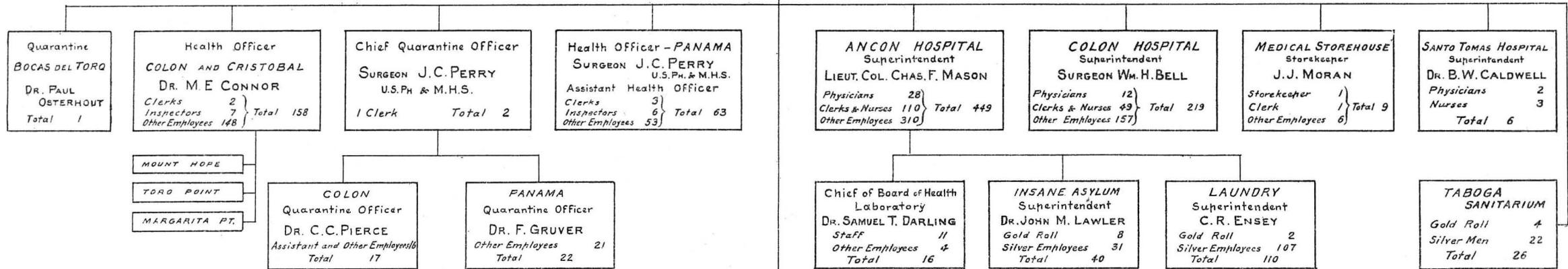
SUBSISTENCE DISTRICTS IN CHARGE OF CHIEF STEWARDS
Cristobal 79 Men
Gajun 102
Borgona 46
Bas Obispo 11
Las Cascadas 26
Empire 37
Culebra 32
Paraiso 26
Pedro Miguel 42
Miraflores 15
Corozal 53
Ancon 16
Balboa 52
Porto Bello 10
Toro Point 15
Total 562

SUBSISTENCE DEPARTMENT
Organization as of June 29, 1912.

DEPARTMENT OF CIVIL ADMINISTRATION
 Head of Department
MAURICE H. THATCHER
 Member of Commission
 Chief Clerk GEO. A. NINAS
 Asst. Chief Clerk CHAS. L. LUEDTKE
 1 Storekeeper 19 Clerks 1 Translator
 2 Messengers
 Total Men 655



CHIEF SANITARY OFFICER
COL. W.C. GORGAS
 Asst. C.S.O. COL. JOHN L. PHILLIPS
 Genl. Insp't. MAJOR ROBERT E. NOBLE
 Chief Clerk, H.A. BOVAY
 18 Clerks 3 Messengers
 Total 25 Men Grand Total, 1639

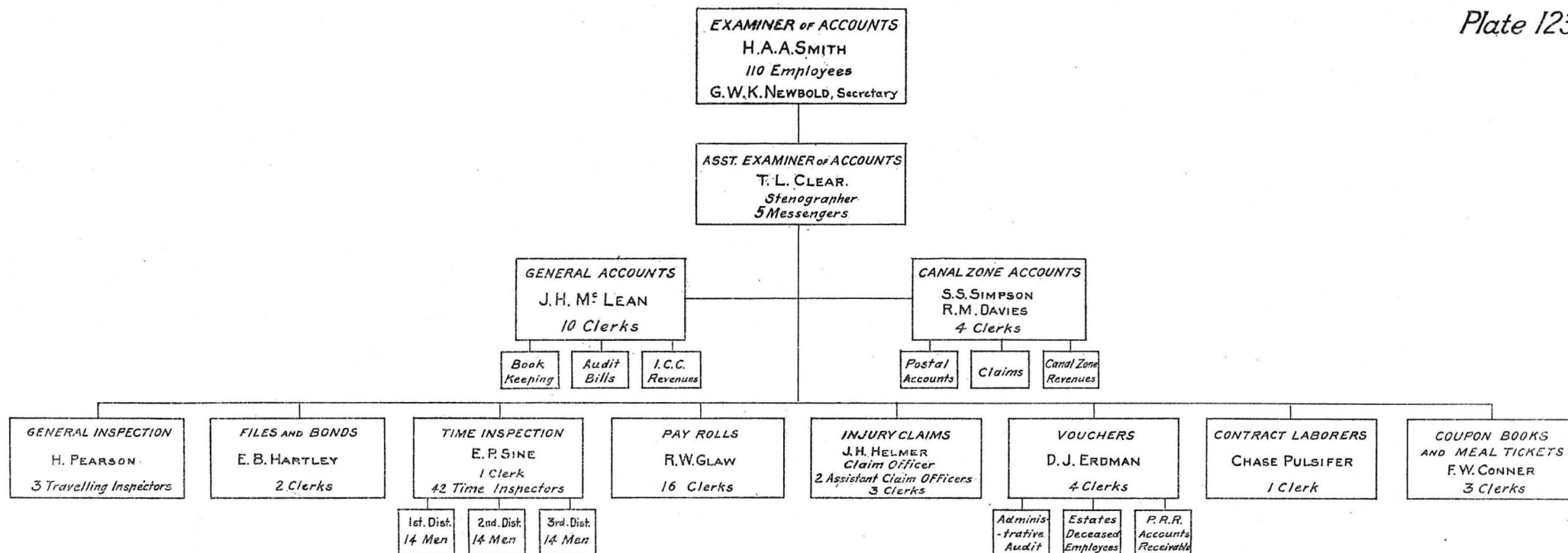


LINE STATIONS	Employees		
	Gold	Silver	Total
PORTO BELLO	2	5	7
TORO POINT	2	3	5
MARGARITA POINT	2	1	3
CRISTOBAL	6	5	11
GATUN	14	14	28
GORGONA	8	5	13
BAS OBISPO	3	5	8
LAS CASCADAS	6	5	11
EMPIRE	7	6	13
CULEBRA	7	10	17
PARAIRO	2	4	6
PEDRO MIGUEL	3	3	6
MIRAFLORES	3	4	7
COROZAL	2	3	5
TIVOLI	2	2	4
BALBOA	2	2	4
NAOS ISLAND	2	1	3
Total	73	78	151

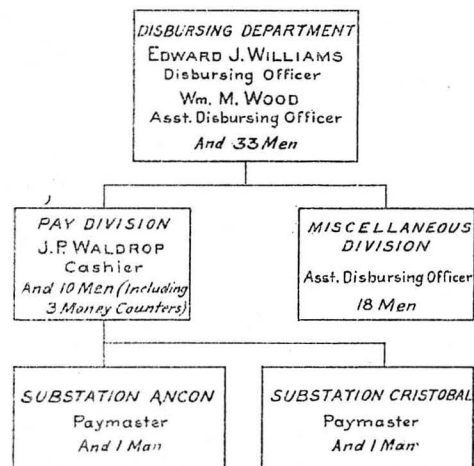
PALO SECO Gold Men 1 Silver Men 15 Total 16	Chaplains 8	HOSPITAL CAR Gold Men 2 Silver Men 2 Total 4	LAUNCH Gold Men 2 Silver Men 5 Total 7	Dentists 5
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DIVISIONS	Employees												
	Gold	Silver	Total										
PORTO BELLO	1	4	5	I.C.C. Camp	Native Village								
GATUN	6	35	41	White Quar.	Batch. Quar.	White Camp	Colored Camp	Colored Married Quar.	New Gatun	Spillway	Settlement Near Dam		
P. R. R. RELOCATION	1	16	17	Mitchellville	Habichvies								
GORGONA	1	12	13	Am. Camp #1	Am. Camp #2	Native Town	Mamei						
MATACHIN	1	10	11	Native Town	Hato	Bas Matachin	Jamaica town	North Gamboa					
BAS OBISPO	1	9	10	Russian Camp	Chagres-Palmate	Haut Obispo	I.C.C. Camp	Santa Cruz	Gamboa				
LAS CASCADAS	1	12	13	Martiniqua Camp	Native Town	White House	Am. Quarters	Italian Camp	Buena Vista				
EMPIRE	2	26	28	Sabanas	Cunetta	Camacho Dam	Empire Hill	Cerro	Lirio	Old Empire	Golden Green		
CULEBRA	2	14	16	Gold Hill	Iron Hill	Rio Grande	Powder House	Enterprise	Cow Pens	Santa Cruz	New Culebra	Banana Walk	
PARAIRO	1	15	16	White Quar.	Lab. Quar.	Cucaracha	Native Town	Cartagenita					
PEDRO MIGUEL	2	25	27	Am. Quarters	Native Sett.	40 Mile Camp	Tank Camp						
MIRAFLORES	2	30	32	Lab. Camp	Native Village	Cocoli							
COROZAL	1	16	17	Lab. Camp	White Mar. Quar.	Diablo	White Bank Quar.						
ANCON	1	20	21	Santa Rosa	Tivoli	Laborers European Camp	W. Indian Camp	San Miguel					
BALBOA	1	11	12	Native Village	Oil Camp	I.C.C. Quarters	Spanish Camp East Balboa	Naos Island					
Total	24	255	279										

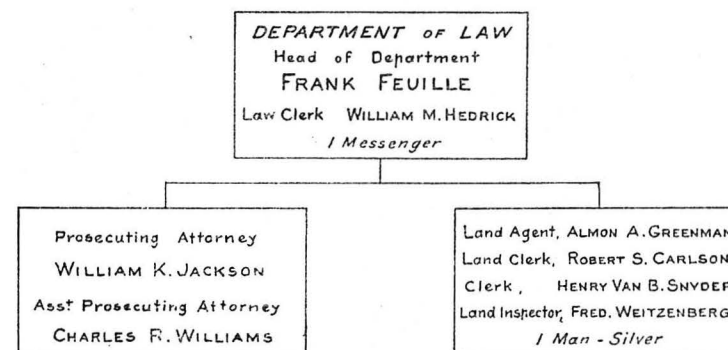
ORGANIZATION AS OF JULY 1, 1912.



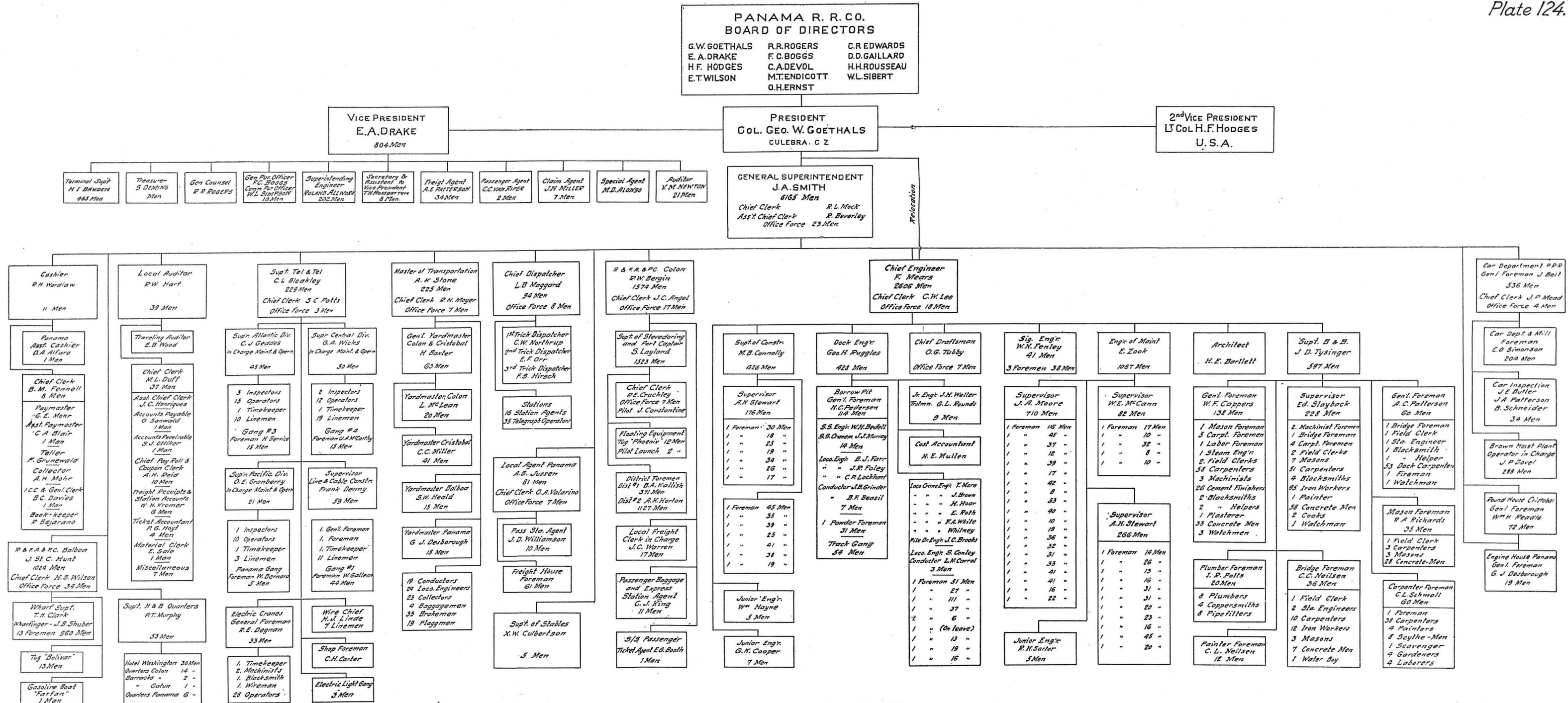
ORGANIZATION AS OF JULY 1, 1912.



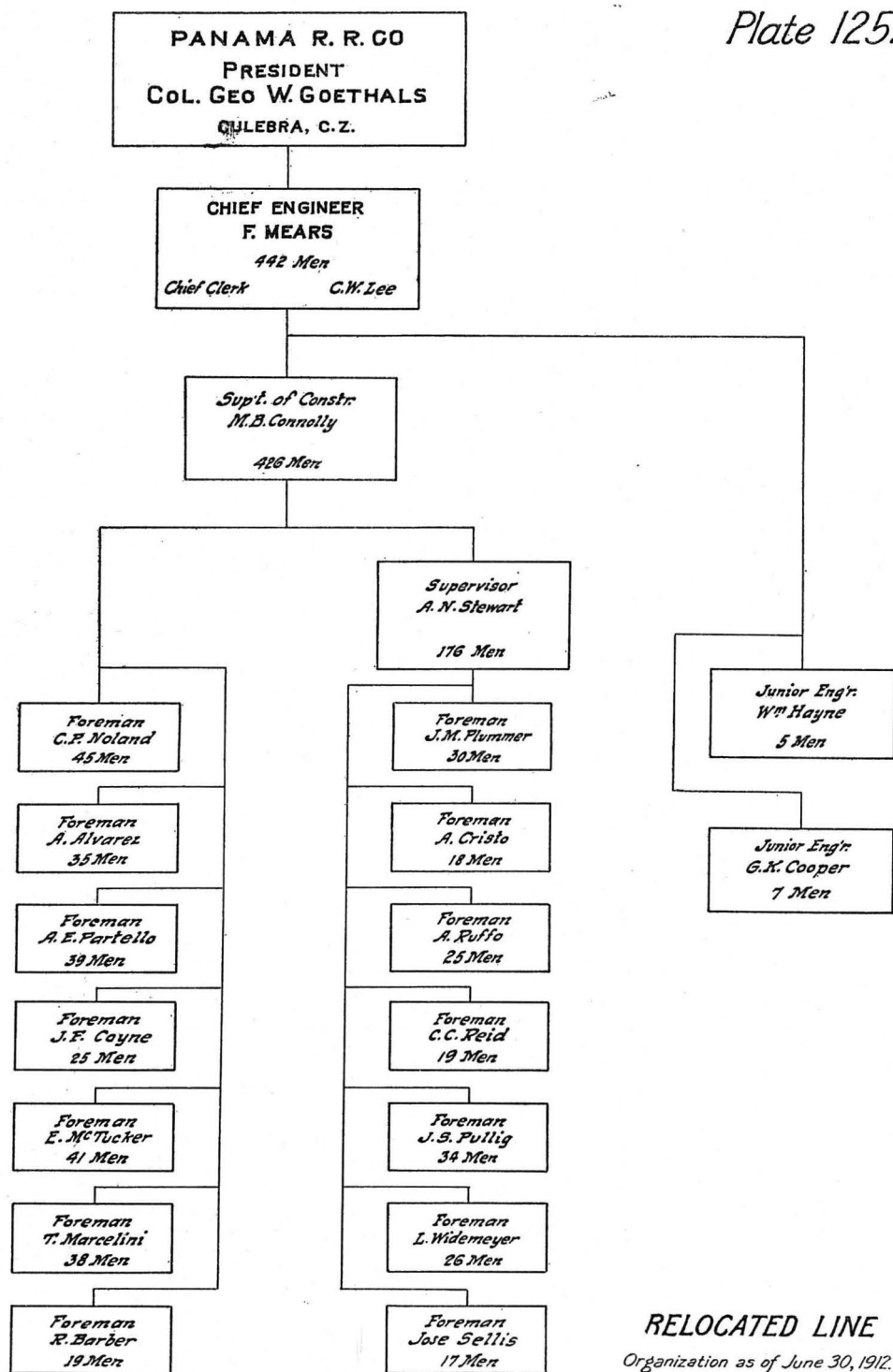
ORGANIZATION AS OF JULY 1, 1912.



ORGANIZATION AS OF JULY 1, 1912.



Organization as of June 30 1912



RELOCATED LINE
Organization as of June 30, 1912.

