

Notes:
 For Fire Hydrants, Utility Poles, Manholes, Valve Boxes and Handholes See Sheets 25 to 31
 For Roadway Drains See Sheets 17, 20+28
 For Sewer and Water Hangers see Sheets 27, 29+30
 For Expansion Joint Details See Sheet 17
 ○ Utility Pole
 A Fire Hydrant

U. S. DEPARTMENT OF THE INTERIOR
 OFFICE OF TERRITORIES
 ALASKA PUBLIC WORKS
 Project No. Aaa 50-A-164 Waterfront Arterial



KETCHIKAN, ALASKA.
 TONGASS AVE. - WATER ST. IMPROVEMENT
 WATERFRONT ARTERIAL
 "B" UNITS 4b, 5 & 6
 PROJECT DIVISION
 PLAN AND ELEVATIONS
 BENTS NO. 9 TO NO. 30

W E Brice Act City Engineer
 Ray M. Murray, Consulting Engr.
 Scale 1" = 20', Date 7-7-54
 SHEET NO. 6 OF 33 SHEETS
 CITY FILE:

Scale 1" = 20'

"As-Built"

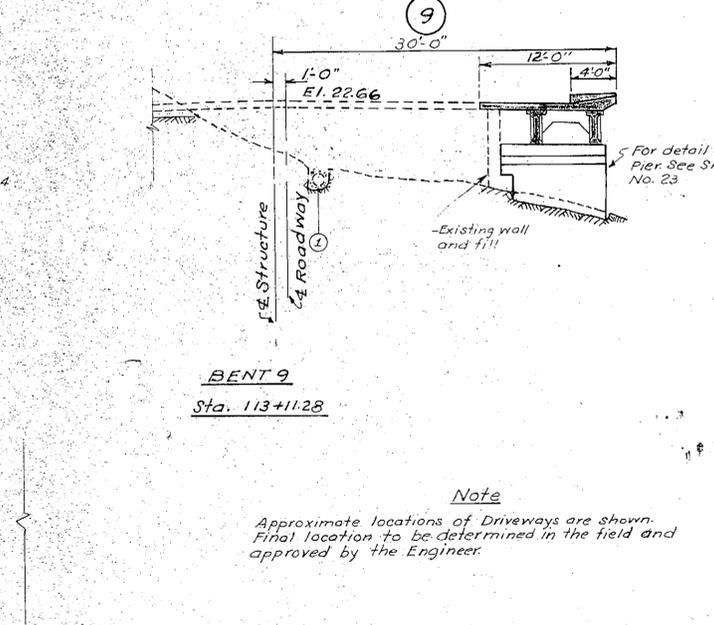
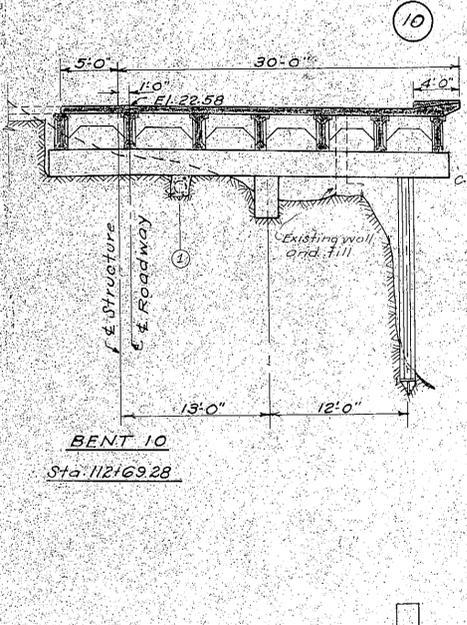
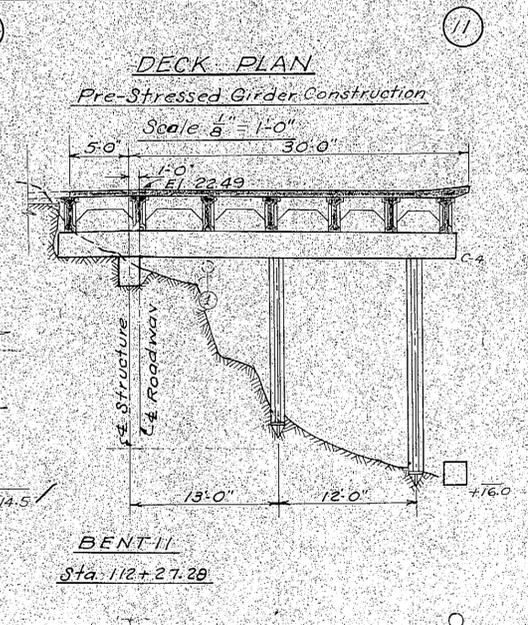
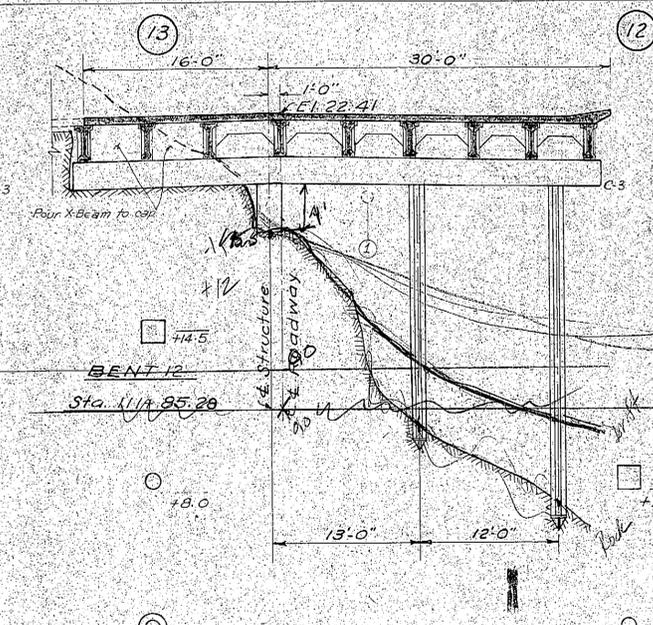
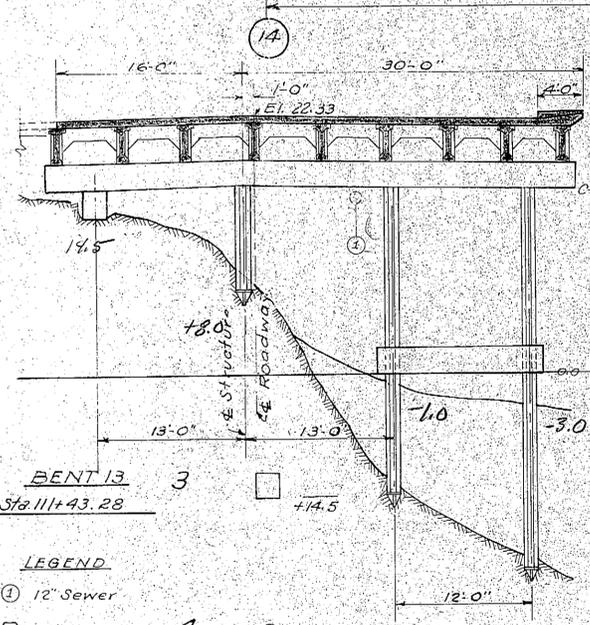
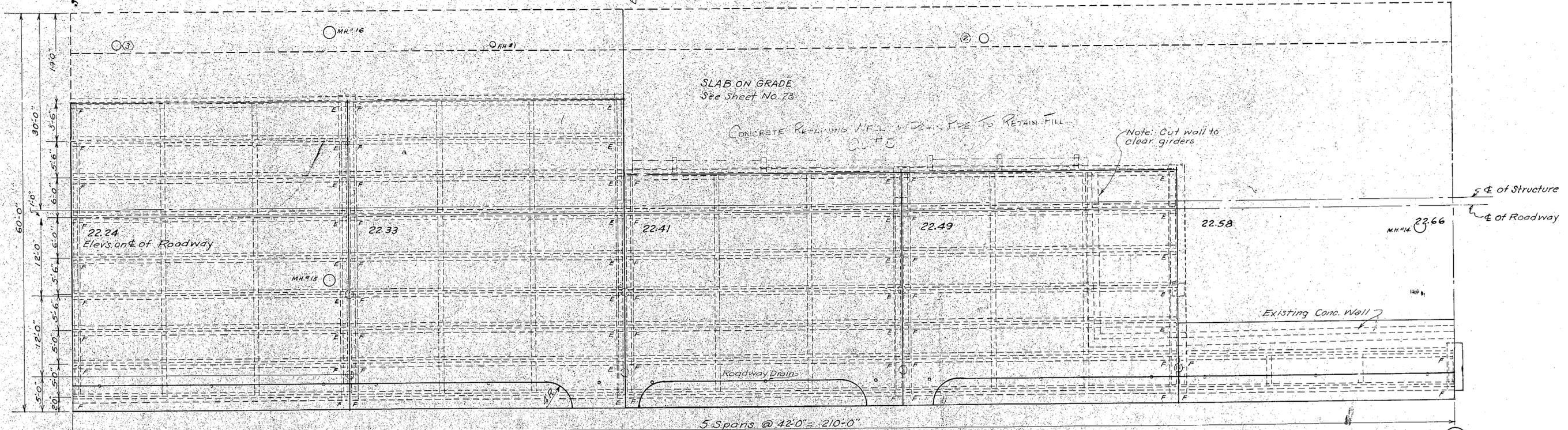
DATE THIS PRINT

Approved Jan 27 1955
Walter P. Gorman City Manager

Adopted by the City Council

Feb 2, 1955, Resolution No. 519
 Account No. 830, Fund Waterfront Arterial
Geo. A. Goss Mayor, Cl. The Murray City Clerk

REVISIONS:
 Detail By Date
 Detail By Date



LEGEND
 ① 12" Sewer
 ○ Utility Pole
 E Expansion Joint
 F Fixed Joint

ESTIMATED PILE LENGTHS - LIN. FT.

BENT NO.	13	12	11	10	9	TOTALS
ROW 3	12.5	*4.0	*2.5	0		
ROW 4	29.5	24.5	17.5	*4.0		
ROW 5	56.0	31.5	21.5	20.5		
TOTALS	78.0	56.0	39.0	20.5		193.5

STRUT PLAN Scale 1" = 1'-0"
 Drift Elevations shown are of drift and rock respectively. Where rock elevations are shown underlined it was not possible to obtain depth of drift by hand methods. Underlined figures are estimated rock elevations.
 For details of struts see Sheet No. 22

Note
 Approximate locations of Driveways are shown. Final location to be determined in the field and approved by the Engineer.

U. S. DEPARTMENT OF THE INTERIOR
 Office of Territories
 ALASKA PUBLIC WORKS
 Project No. Aaa 50-A-164 Waterfront Arterial

KETCHIKAN, ALASKA.
 TONGASS AVE. - WATER ST. IMPROVEMENT
 WATERFRONT ARTERIAL
 "B" - UNITS 4, 5 & 6
 PROJECT DESIGN
STRUCTURE PLAN
ELEVATIONS OF BENTS
9 TO 14 - COLUMNS

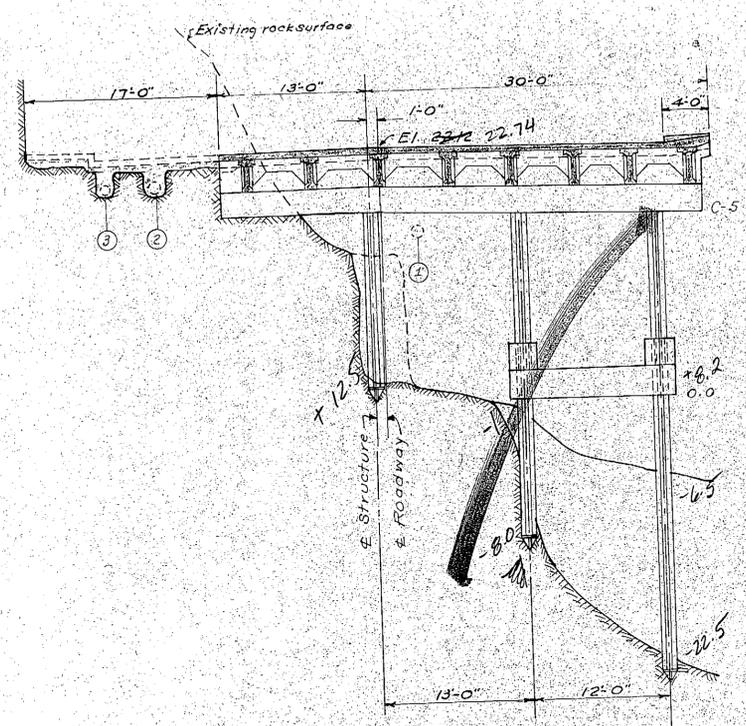


Adopted by the City Council
 Feb 2, 1953, Resolution No. 379
 Account No. 830 Fund Waterfront Arterial
 Approved Jan 27, 1953
 City Manager
 City Clerk

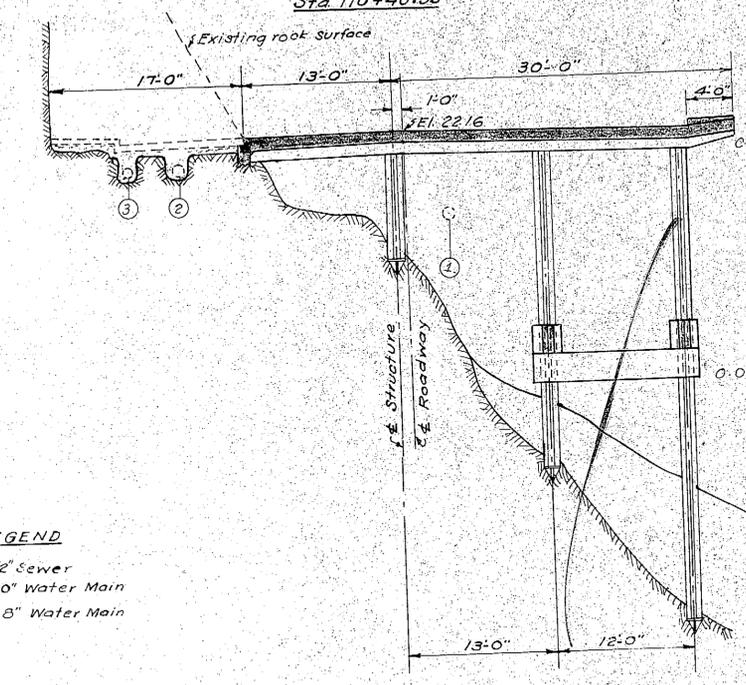
W. E. Brice, Act'g City Engineer
 Ray M. Murray, Consulting Engr.
 Scale As Noted, Date 7-9-54
 SHEET NO. 8 OF 33 SHEETS
CITY FILE

DATE THIS PRINT

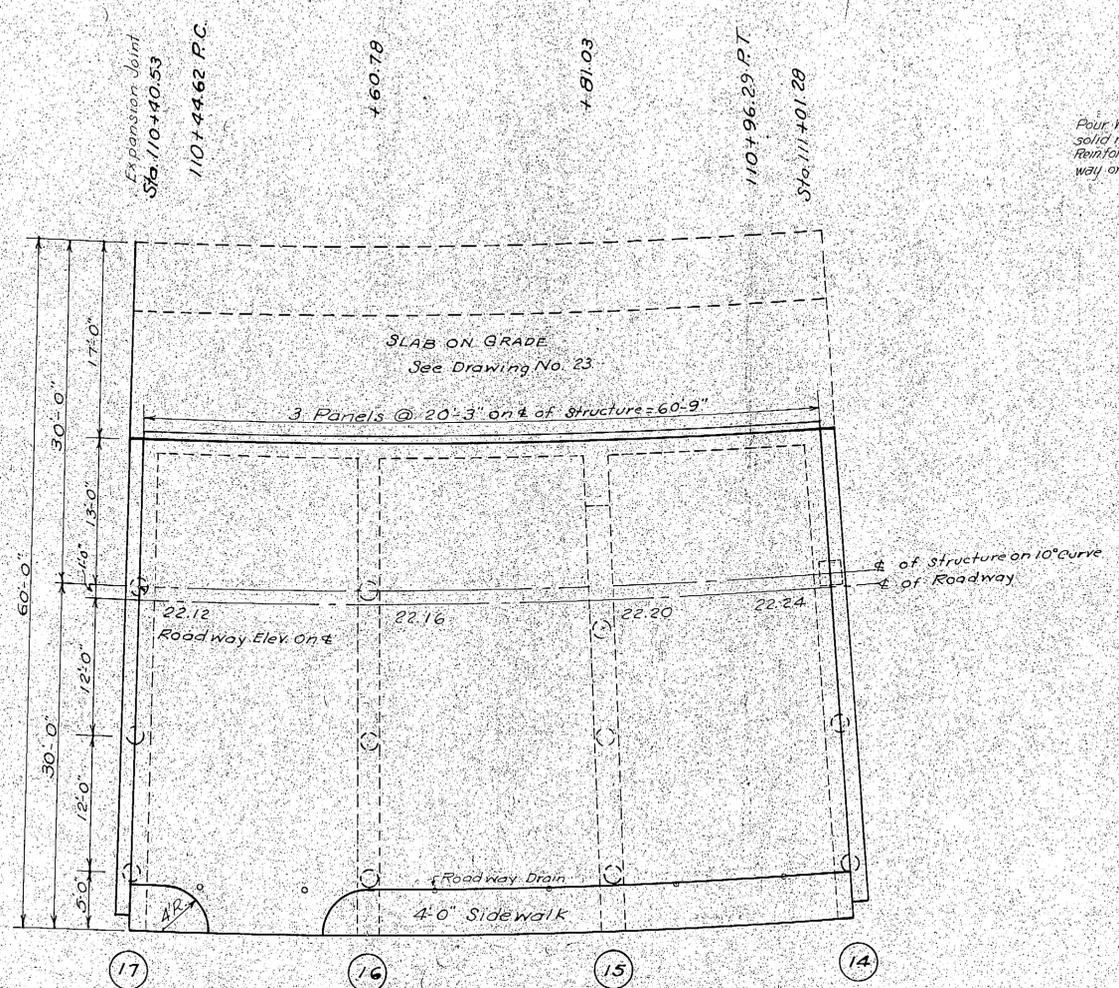
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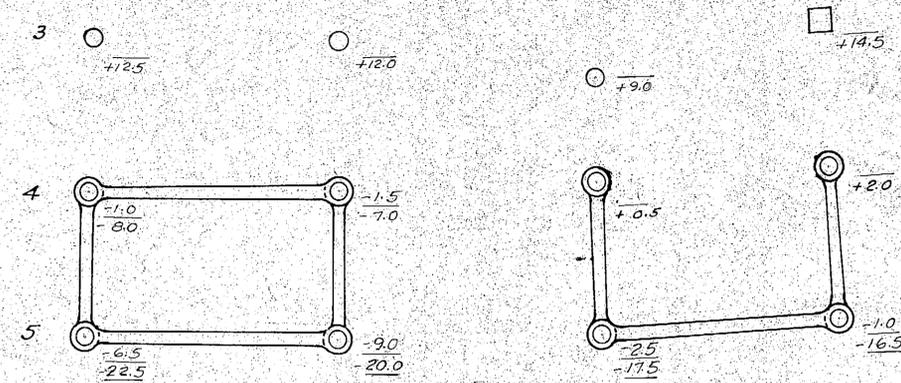
BENT 17
Sta 110+40.53



BENT 16
Sta 110+60.78

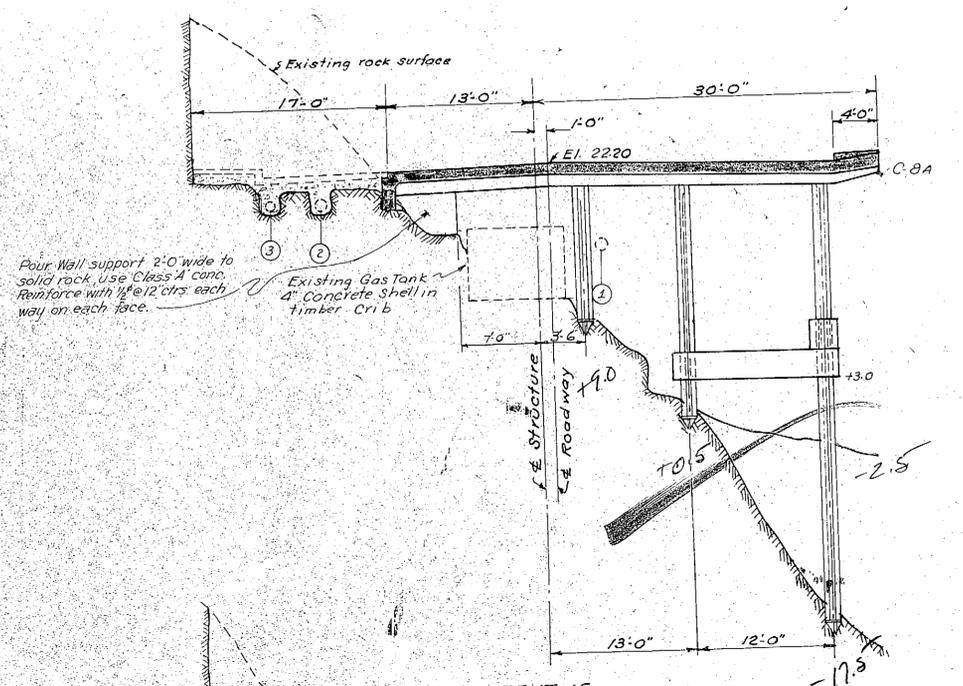


DECK PLAN
Flat Slab Construction on 10° Curve
Scale 1/8" = 1'-0"



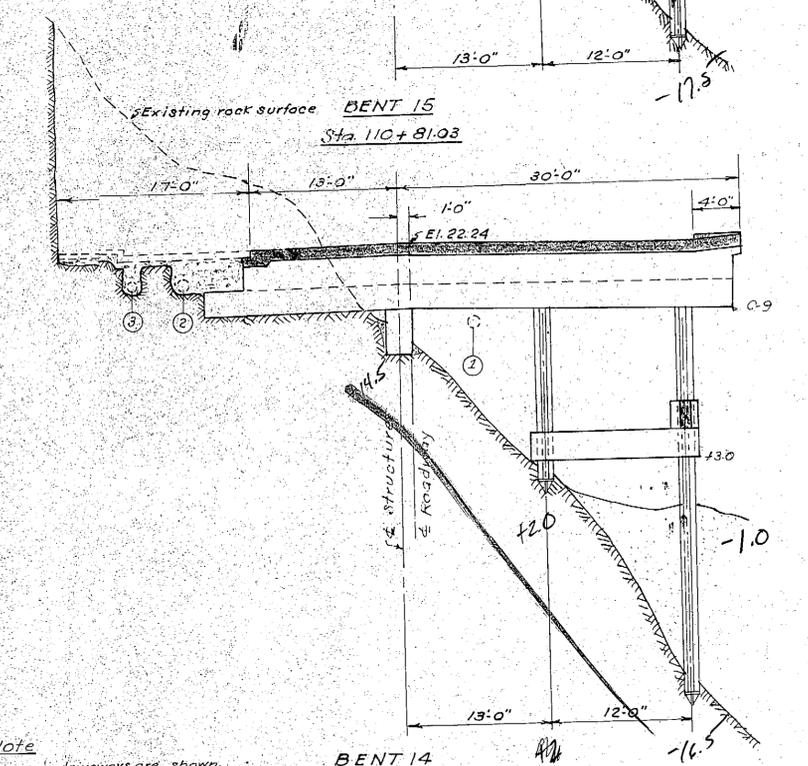
STRUT PLAN Scale 1/8" = 1'-0"

Drift Elevations are top of drift and rock, respectively.
 Rock Piles in bents 14 and 17 have tops 3.75 feet lower than those in intermediate bents.
 Note: For details of struts, See drawing No. 22



BENT 15
Sta 110+81.03

Pour Wall support 2'-0" wide to solid rock. Use Class 'A' conc. Reinforce with 1/2" #12 bars each way on each face.



BENT 14
Sta 111+01.28

- LEGEND**
- ① 12" Sewer
 - ② 10" Water Main
 - ③ 8" Water Main

BENT No.	17	16	15	14	TOTAL
ROW 3	18.0	12.0	14.0	*4.0	44.0
ROW 4	31.0	30.5	23.0	17.5	102.0
ROW 5	42.0	43.0	41.0	36.0	162.0
TOTAL	91.0	85.5	78.0	53.5	308.0

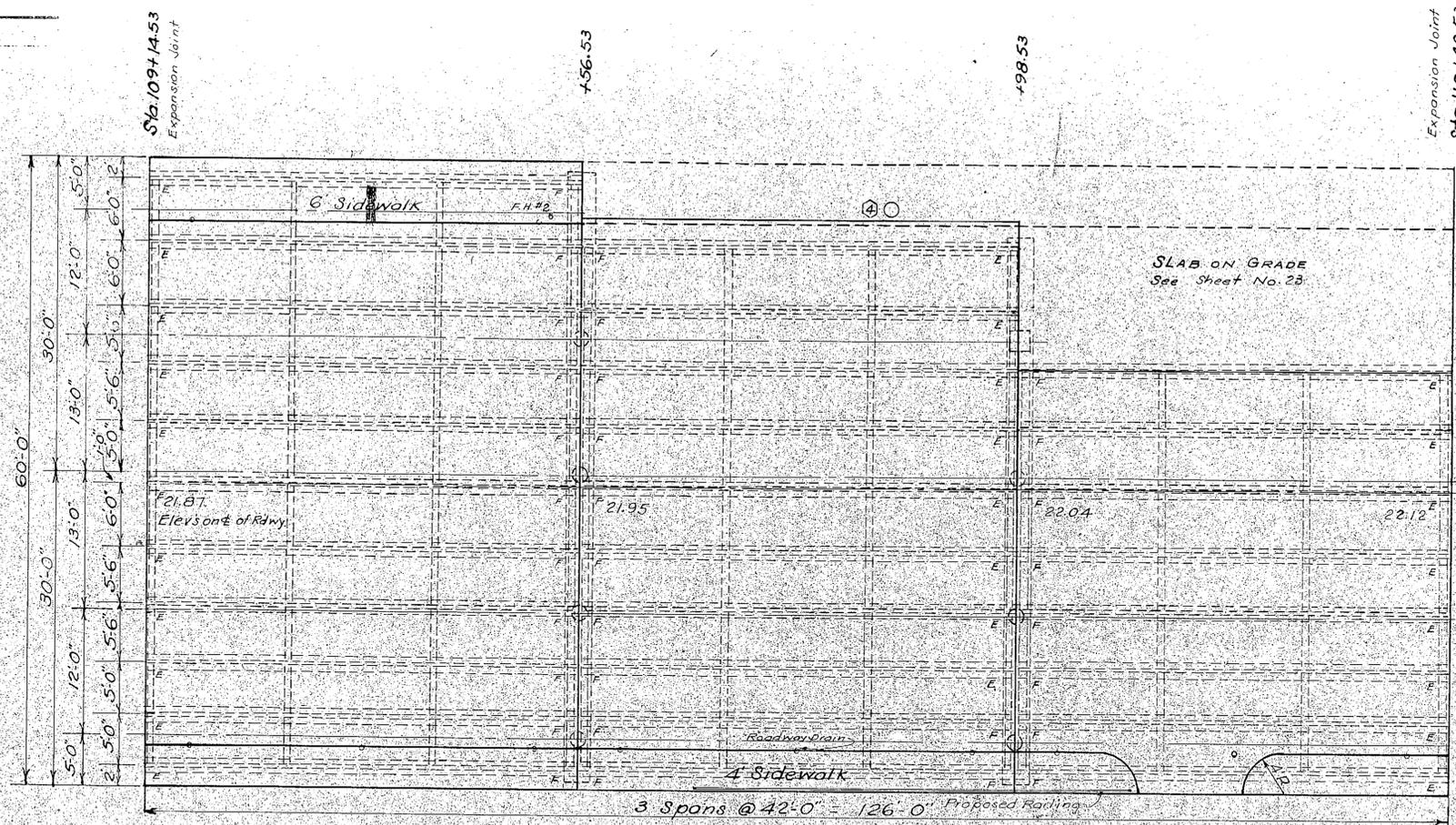
* 24" x 24" Column, Cast in place.

Note
 Approximate locations of driveways are shown. Final location to be determined in the field and approved by the Engineer.

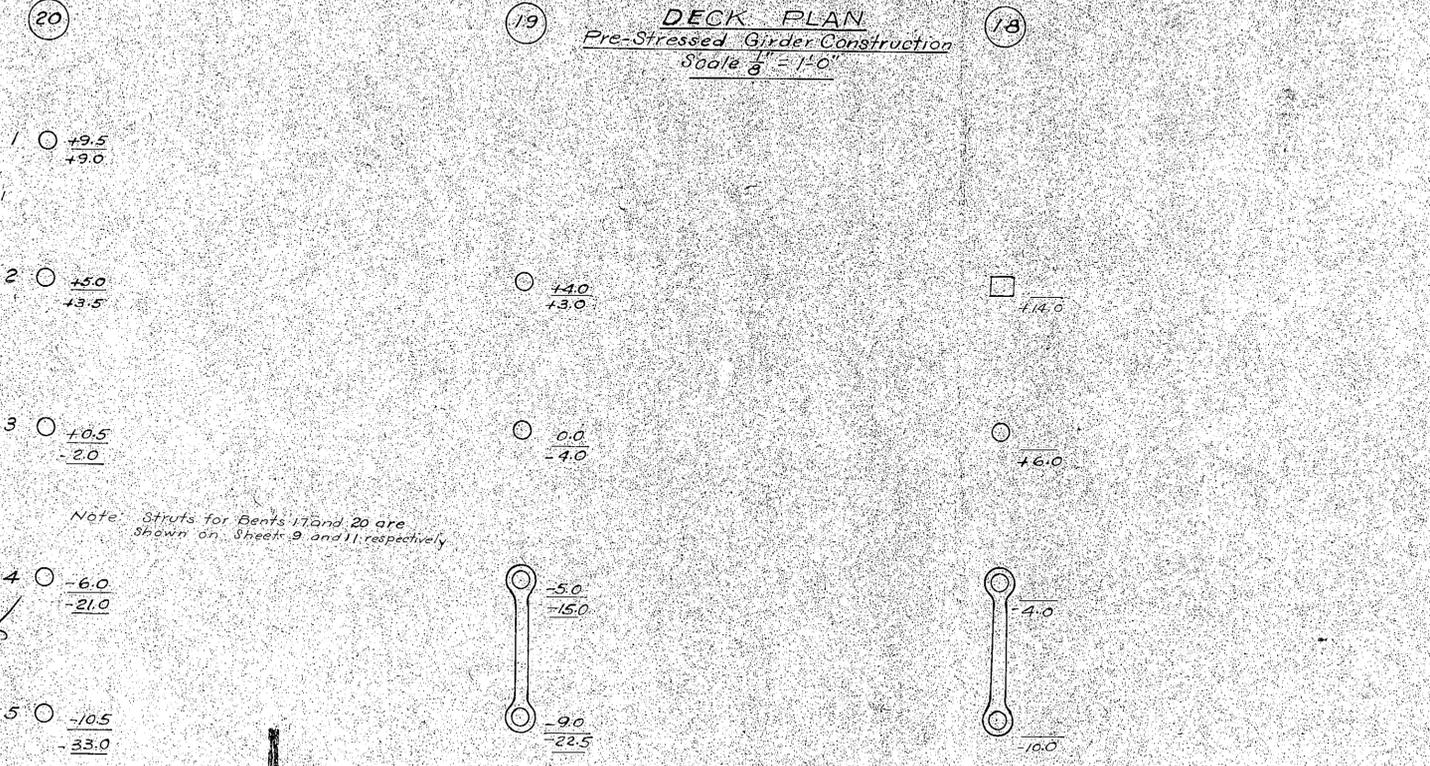
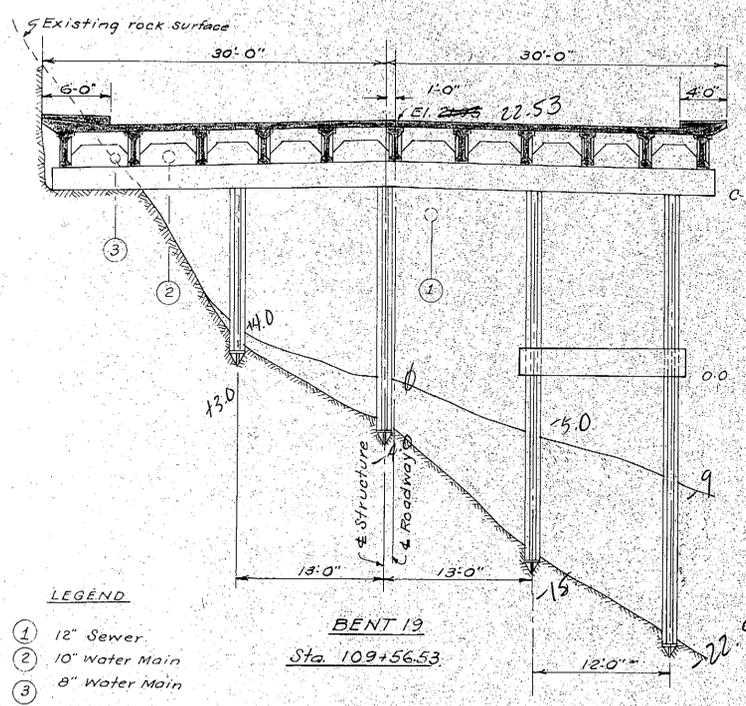


Approved by the City Council
 Jan 27, 1954
 Victor P. Quinn, City Manager

U. S. DEPARTMENT OF THE INTERIOR
 Office of Territories
 ALASKA PUBLIC WORKS
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 KETCHIKAN, ALASKA.
 TONGASS AVE - WATER ST. IMPROVEMENT
 WATERFRONT ARTERIAL
 "B" UNITS 4b.5#6
 PROJECT DESIGN
STRUCTURE PLAN
ELEVATIONS OF BENTS
14 TO 17 - COLUMNS.
 W. F. Brice, Act'g City Engineer
 Ray M. Murray, Consulting Eng'r
 Scale As Noted, Date 7-9-54
 SHEET NO. 9 OF 13 SHEETS
CITY FILE;

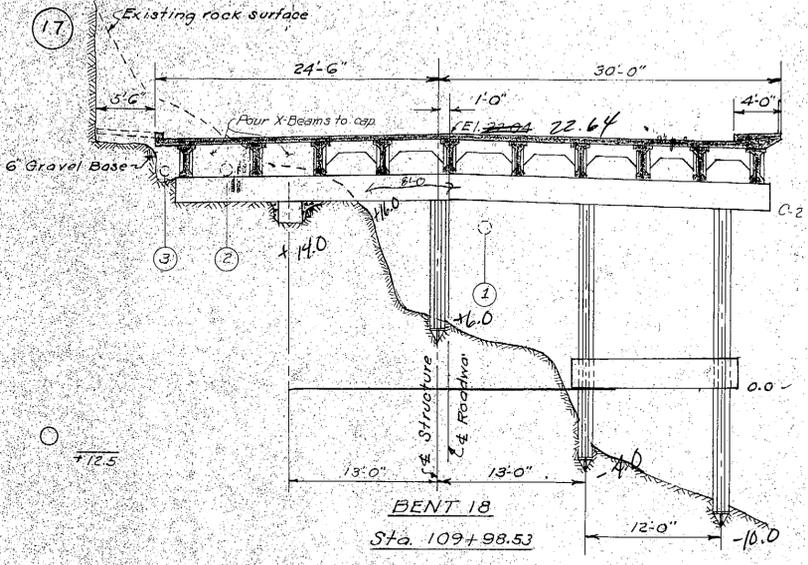


Note:
 Approximate locations of Driveways and Railing are shown. Final location to be determined in the field and approved by the Engineer.



Note: Struts for Bents 17 and 20 are shown on sheets 9 and 11 respectively.

Drift Elevations Shown are of drift and rock respectively. Where rock elevations are shown underlined it was not possible to obtain depth of drift by hand methods. Underlined figures are estimated rock elevations. For details of Struts see Sheet No. 22.



- LEGEND
- ① 12" Sewer
 - ② 10" Water Main
 - ③ 8" Water Main
 - Utility Pole
 - E Expansion Joint
 - F Fixed Joint

ESTIMATED PILE LENGTHS - LIN. FT.

BENT NO.	19	18	TOTALS
ROW 2	17.0	2.0*	17.0
" 3	24.0	14.0	38.0
" 4	35.0	25.0	60.0
" 5	41.5	29.0	70.5
TOTALS	117.5	68.0	185.5

* 24" x 24" Column - Cast in Place



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KETCHIKAN, ALASKA
 TONGASS AVE. - WATER ST. IMPROVEMENT
 - WATERFRONT ARTERIAL -
 "B" UNITS 4b, 5 & 6
 PROJECT DIVISION

STRUCTURE PLAN
 ELEVATIONS OF BENTS
 17 TO 20 - COLUMNS

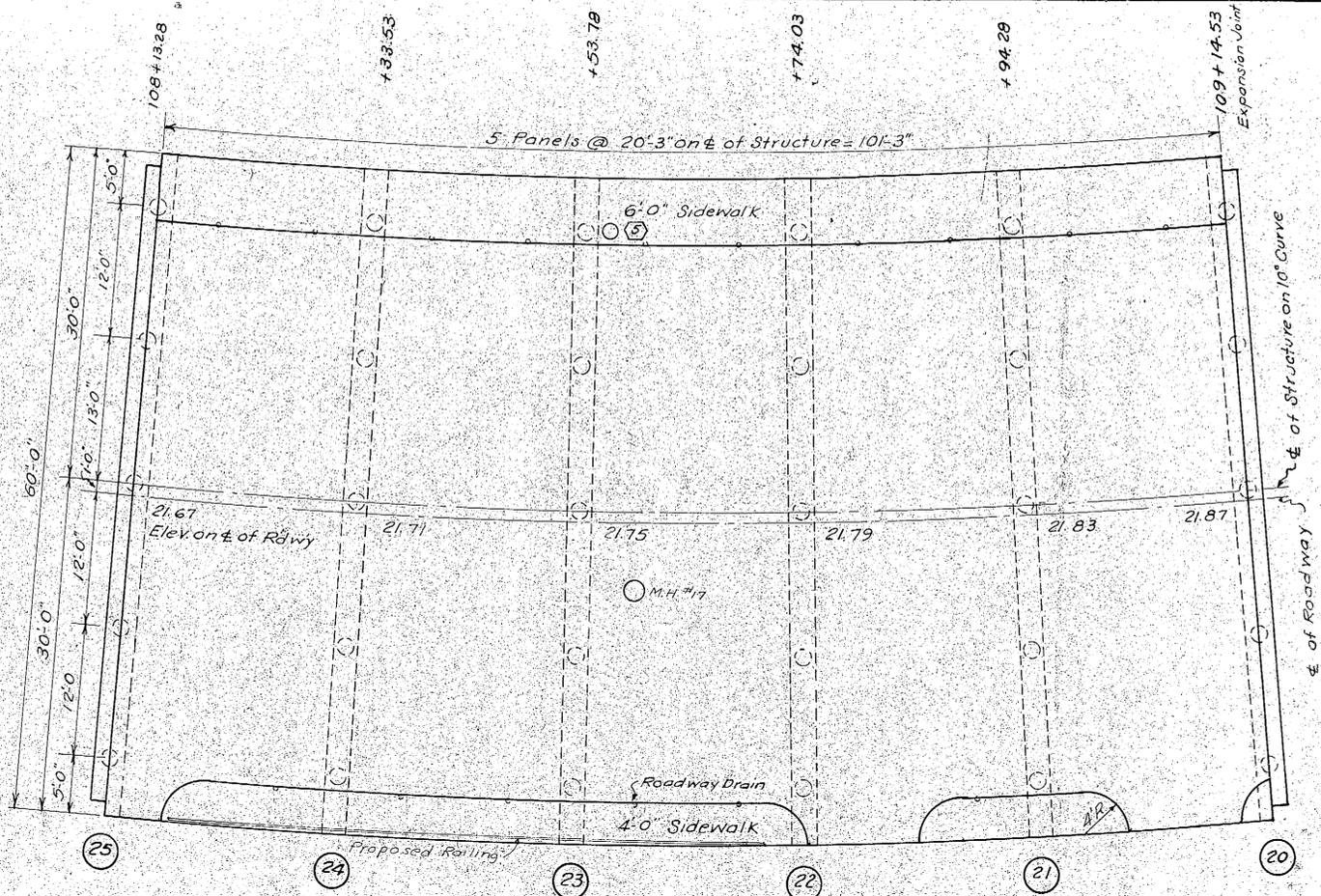
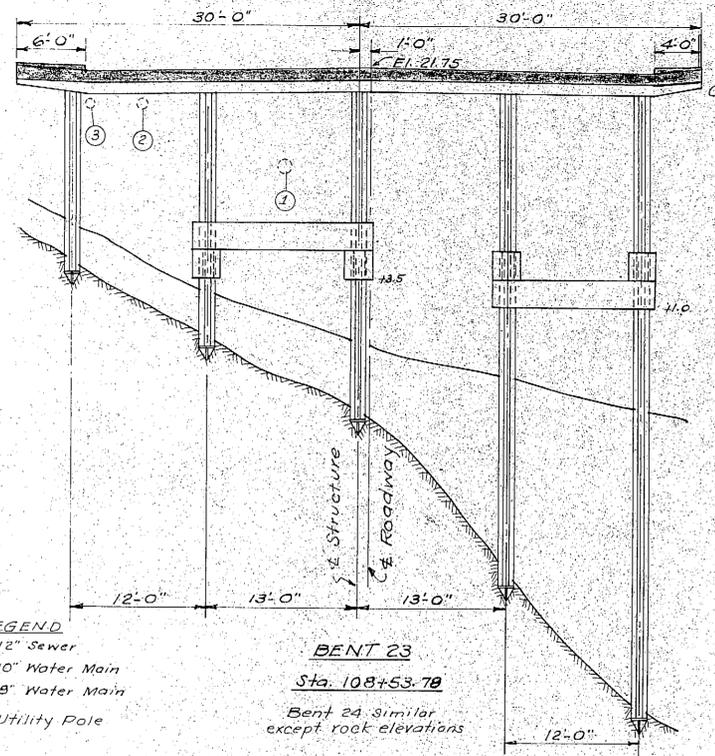
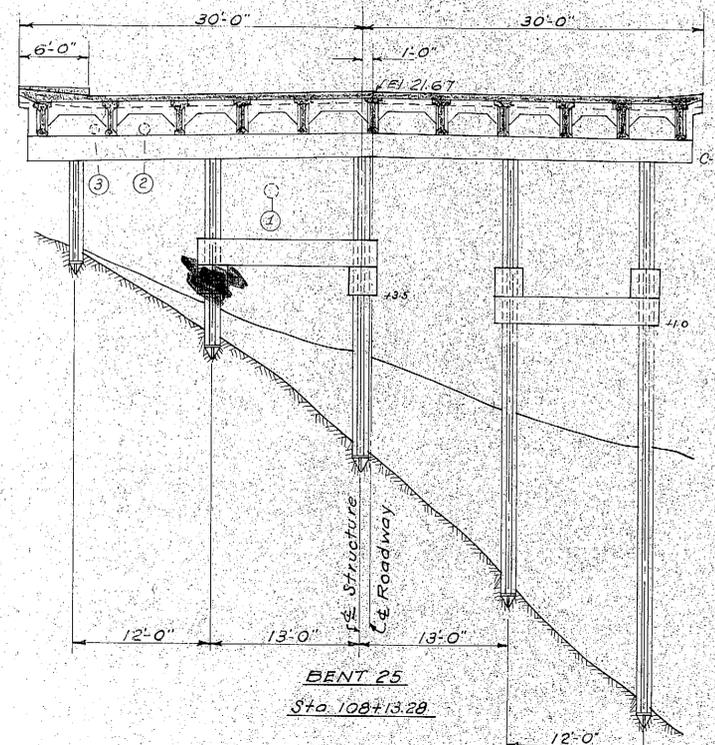
Adopted by the City Council
 Feb. 2, 1953, Resolution No. 519
 Account No. 830 - Fund Waterfront Arterial
 Approved: Jan. 27, 1953
 City Manager

W. E. Brice, Act'g City Engineer
 Ray M. Murray, Consulting Engr.
 Scale As Noted, Date 7-9-54
 SHEET NO. 10 OF 33-B
 CITY FILE

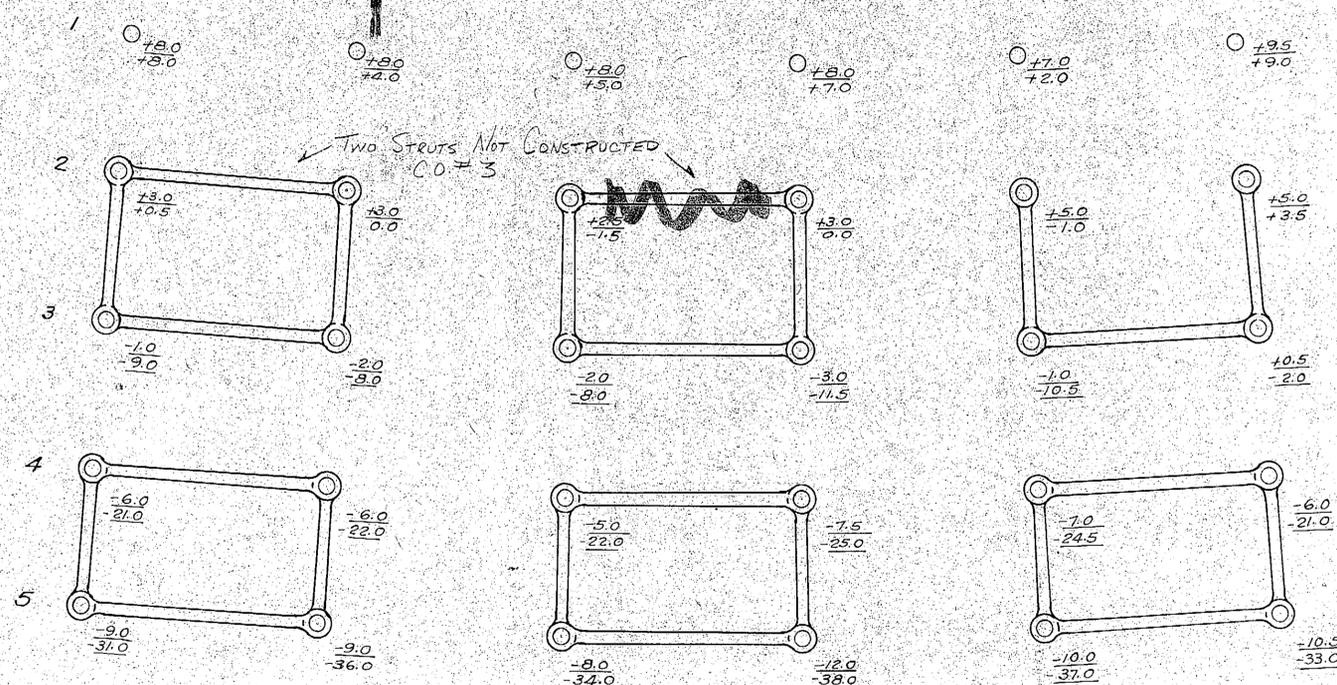
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DATE THIS PRINT

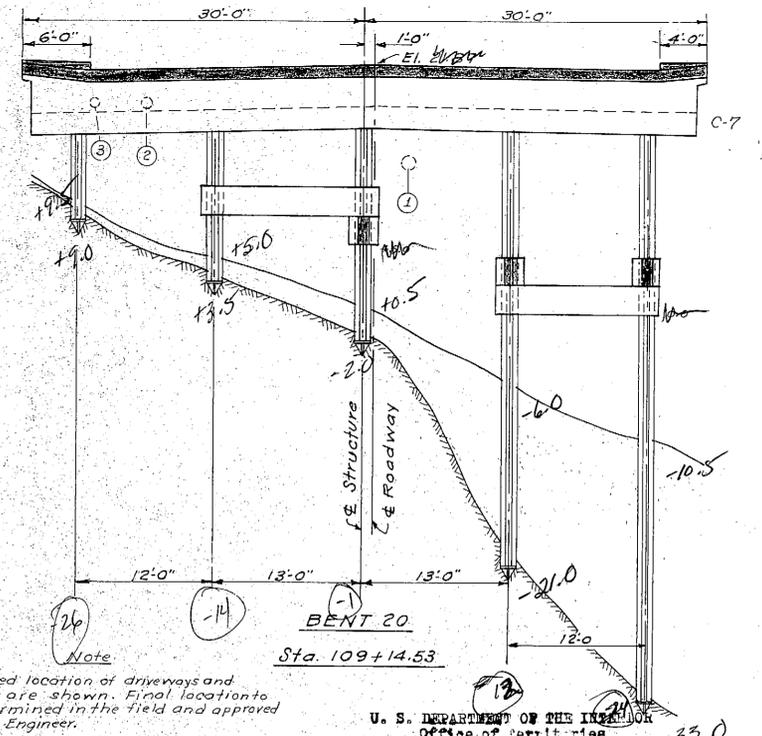
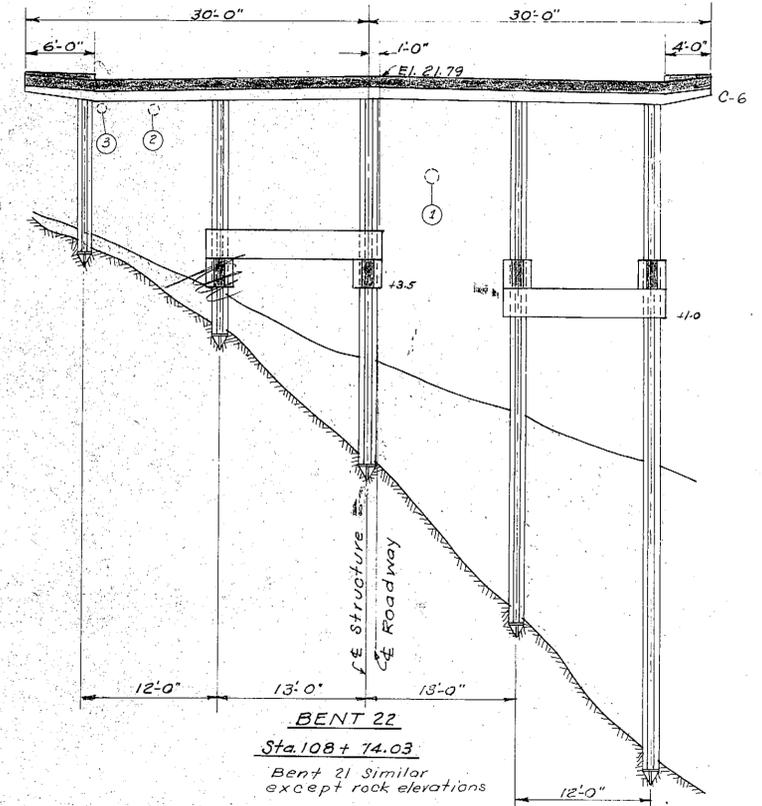
Drawn By: G.M.A. Date: 5-2-54 REVISIONS:
 Checked: L.G.C. Date: 6-28-54
 Ray M. Murray, Consulting Engineer, City Engineer



DECK PLAN
 Flat slab construction on 10° curve
 Scale 1/8" = 1'-0"



STRUT PLAN Scale 3/8" = 1'-0"



Note: Proposed location of driveways and railing are shown. Final locations to be determined in the field and approved by the Engineer.

U. S. DEPARTMENT OF THE INTERIOR
 Office of Territories
 ALASKA PUBLIC WORKS

Project No. Aas 50-A-164 Waterfront Arterial

KETCHIKAN, ALASKA.
 TONGASS AVE. - WATER ST. IMPROVEMENT
 WATERFRONT ARTERIAL
 "B" UNITS 4b, 5 & 6
STRUCTURE PLAN
ELEVATIONS OF BENTS
 20 TO 25 - COLUMNS



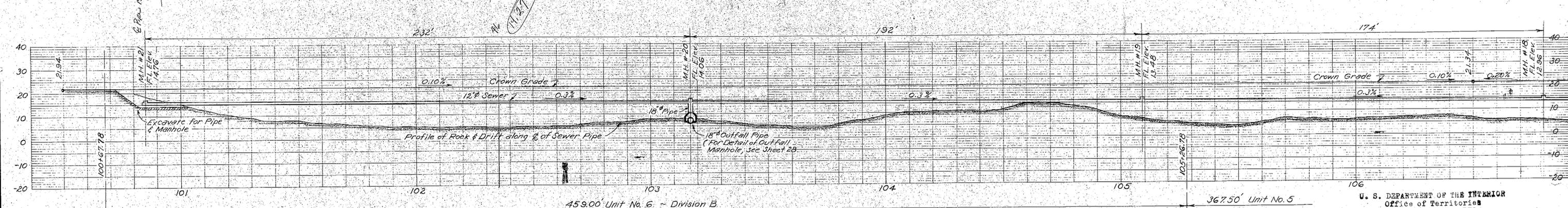
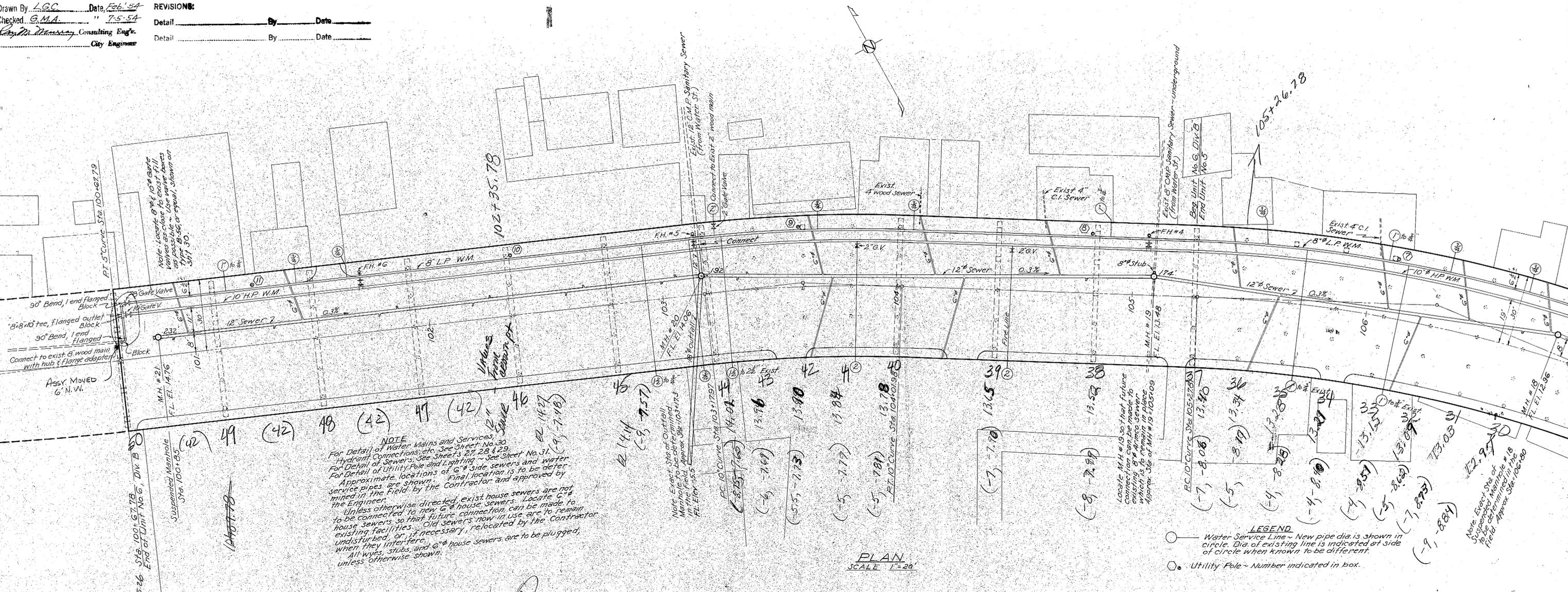
Adopted by the City Council
 Feb. 2, 1952, Resolution No. 319

W. E. Brice, Act'g City Engineer
 Ray M. Murray, Consulting Engr.
 SHEET NO. 11 OF 33 SHEETS
 CITY FILE

BENT NO.	25	24	23	22	21	20	TOTALS
ROW 1	11.0	19.0	18.0	16.0	20.0	10.0	94.0
" 2	19.0	22.5	24.5	23.0	26.0	16.0	131.0
" 3	28.5	31.0	31.0	35.0	34.5	21.5	181.5
" 4	40.0	45.0	45.0	48.0	47.5	40.5	266.0
" 5	50.0	59.0	59.0	61.0	60.0	52.5	341.5
TOTALS	148.5	176.5	177.5	183.0	188.0	140.5	1014.0

AS BUILT
 DATE THIS PRINT

Note: For details of struts see Dwg. No. 22.
 Drift Elevations shown are of drift and rock respectively. Where rock elevation is shown underlined it was not possible to obtain depth of drift by hand methods. Underlined figures are estimated rock elevations. Piles in bents 20 and 25 have tops 3.75 lower than those of bent 24.



"As Built"

DATE THIS PRINT _____
 Approved Jan. 27, 1955
Victor P. Gunn City Manager
 Adopted by the City Council
 Feb. 2, 1955, Resolution No. 519
 Account No. 230 Fund Waterfront Arterial
W. E. Brice Mayor, Richard M. Wall City Clerk



U. S. DEPARTMENT OF THE INTERIOR
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KETCHIKAN, ALASKA.
TONGASS AVE. - WATER ST. IMPROVEMENT
WATERFRONT ARTERIAL
"B" UNITS 4 & 5 & 6
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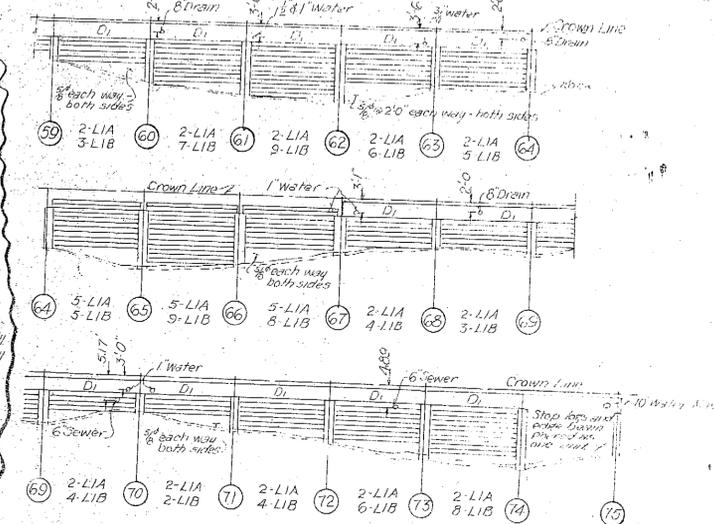
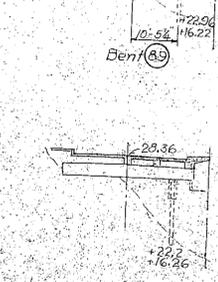
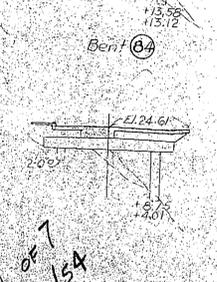
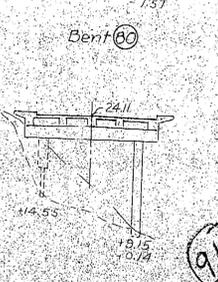
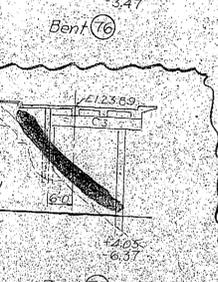
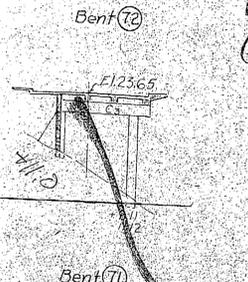
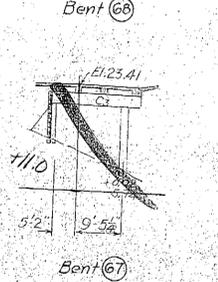
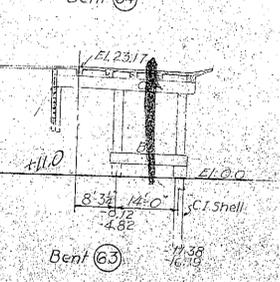
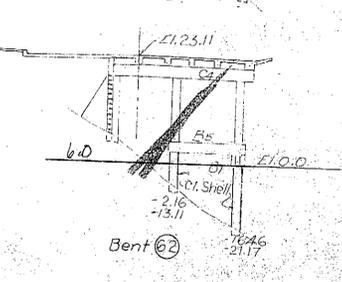
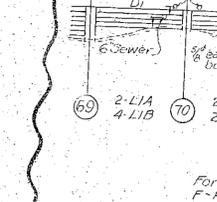
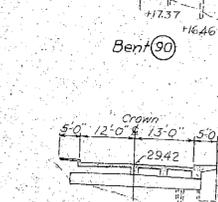
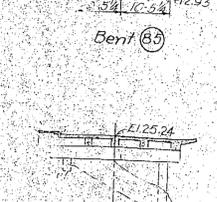
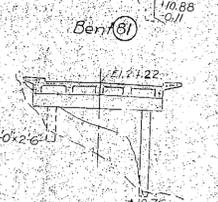
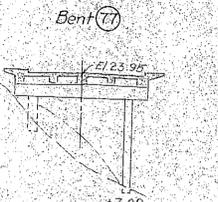
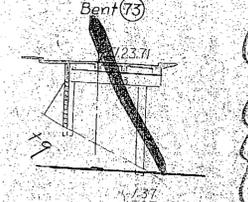
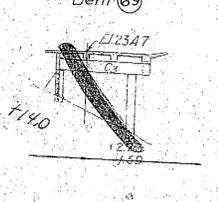
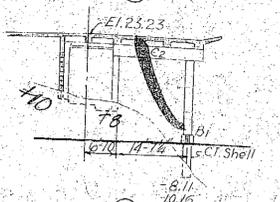
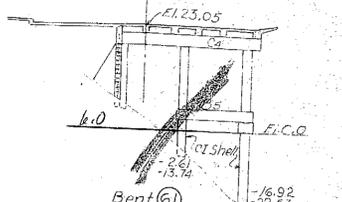
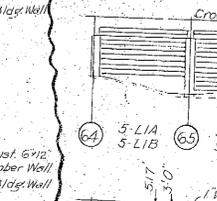
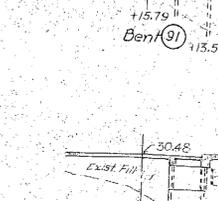
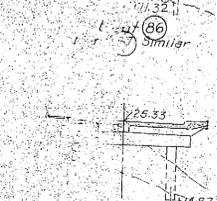
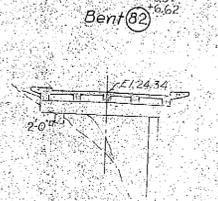
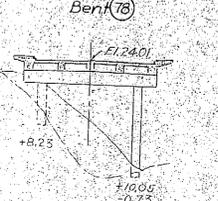
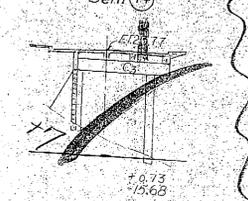
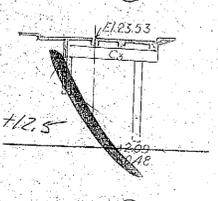
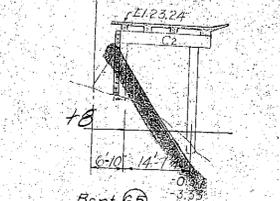
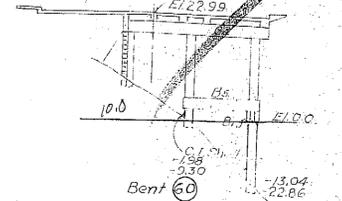
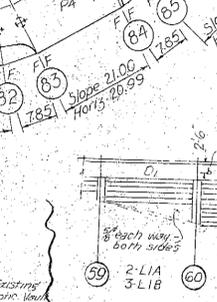
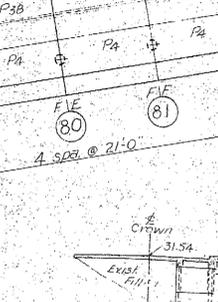
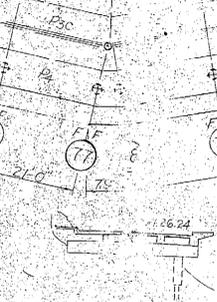
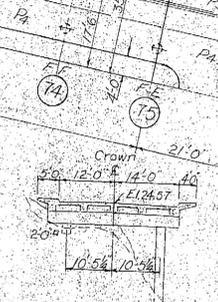
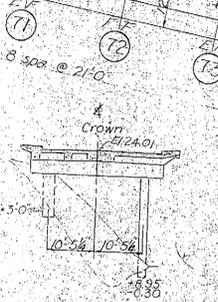
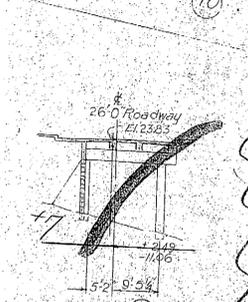
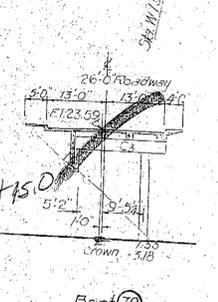
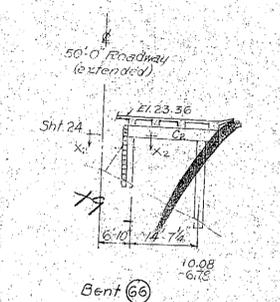
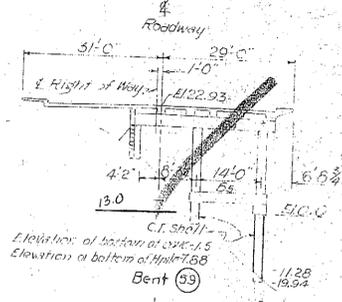
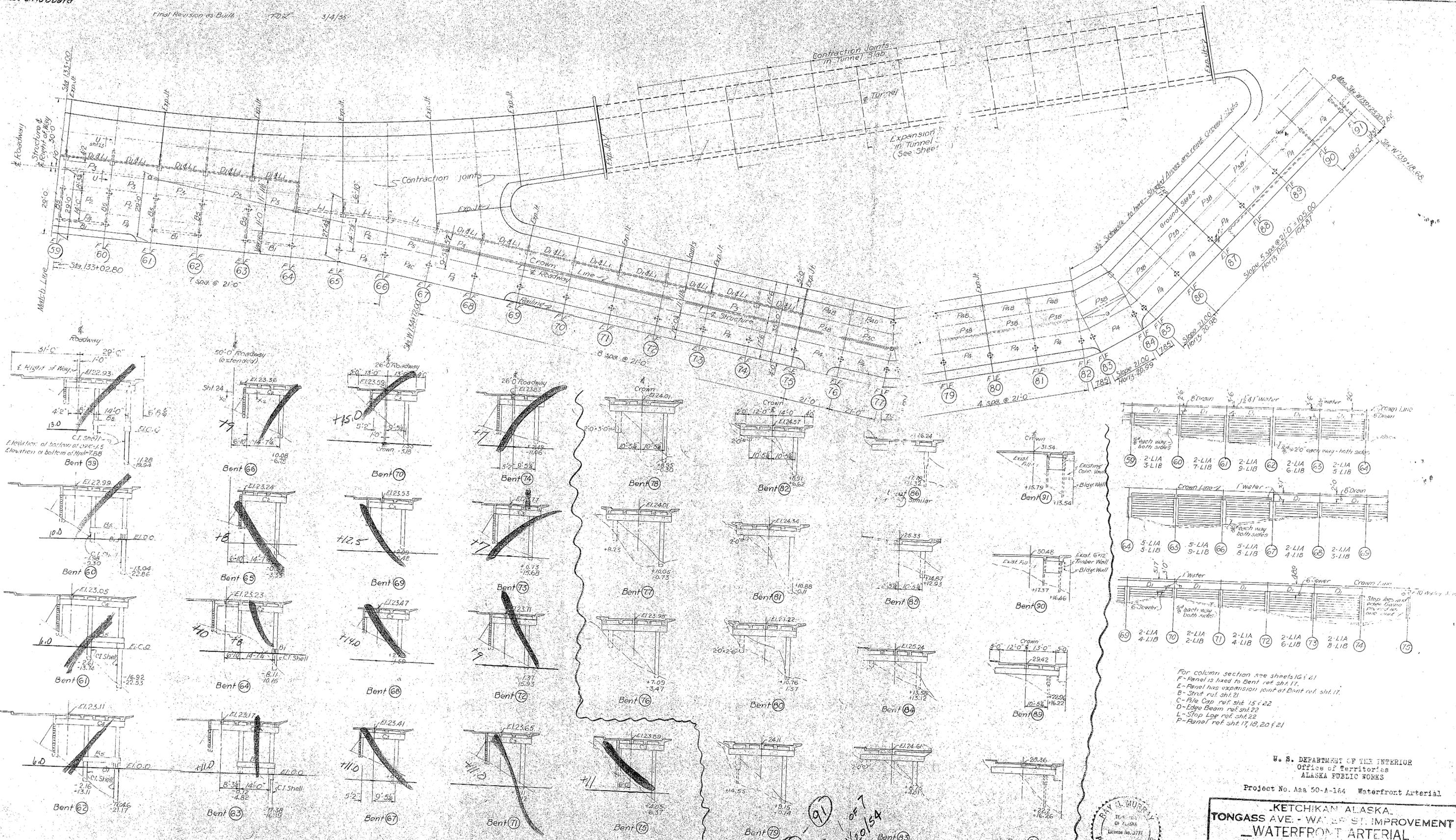
UTILITIES AND SEWERS
ELLIS AIR HANGAR AND IND.
SALMON CANNERY TO WIRE WORKS

W. E. Brice, Act'g City Engineer
 Ray M. Murray, Consulting Engr.
 Scale As Noted, Date 7-10-54

SHEET NO. 26 OF 33 SHEETS
CITY FILE

FD
J.R.C.
Ray M. Murray
Lee D. Hubbard

Final Revision as Built 7/2/55 3/4/55



For column section see sheets 16 & 17
F-Panel is fixed to Bent ref. sht. 17
E-Panel has expansion joint at Bent ref. sht. 17
B-Strut ref. sht. 21
C-Flt Cap ref. sht. 15 & 22
D-Edge Beam ref. sht. 22
L-Stop Log ref. sht. 22
P-Panel ref. sht. 17, 18, 20 & 21

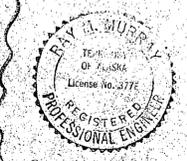
U. S. DEPARTMENT OF THE INTERIOR
Office of Territories
ALASKA PUBLIC WORKS

Project No. Aea 50-A-164 Waterfront Arterial

KETCHIKAN ALASKA
TONGASS AVE. - WATER ST. IMPROVEMENT
WATERFRONT ARTERIAL

DIVISION 'A'

PLAN OF TUNNEL AND WATER STREET
STA. 133+02.80 TO GRANT STREET
SECTIONS



BENTS 76-91
SEE SHEET 91
DATED 1/20/54
DATE

Adopted by the City Council