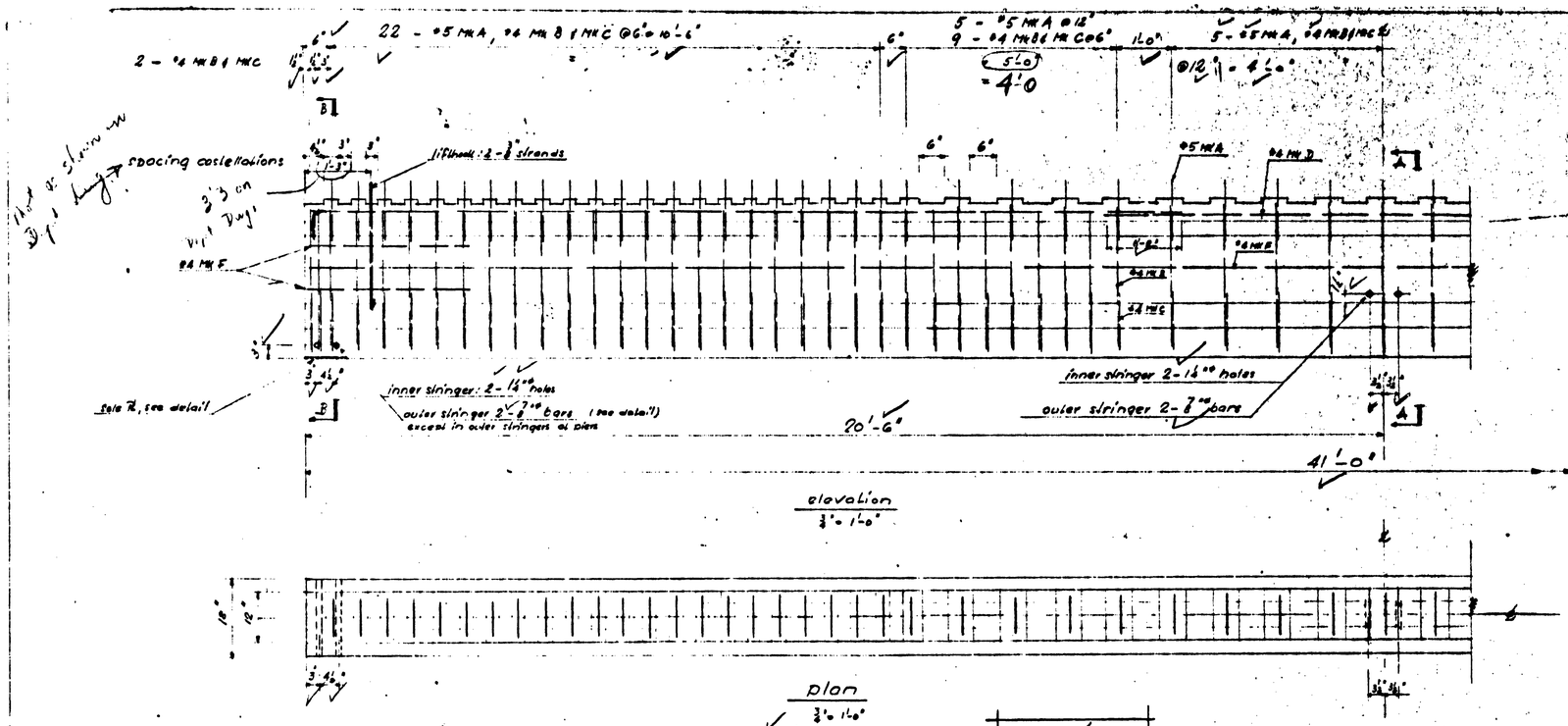
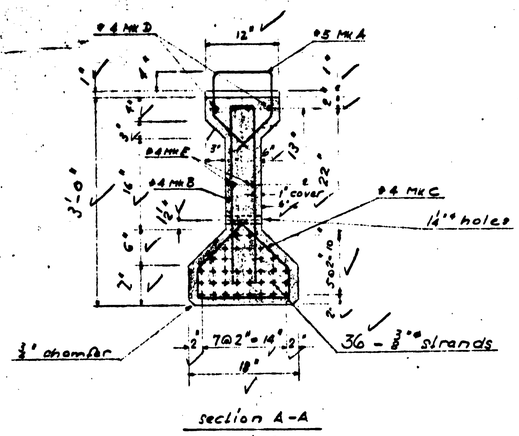
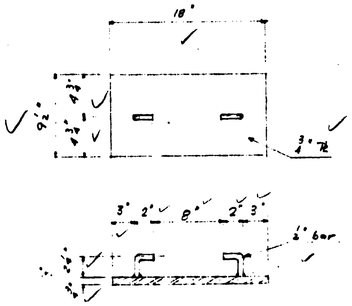


41'-0" stringer

concrete 4.0 cu.yd.
weight 8.2 tons



section A-A
1" = 1'-0"



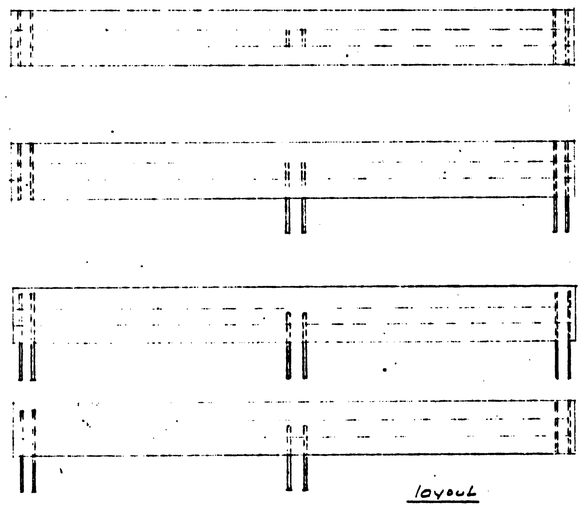
detail sole 'R' required 84
1/2" = 1'-0"

interior girder A
required 30

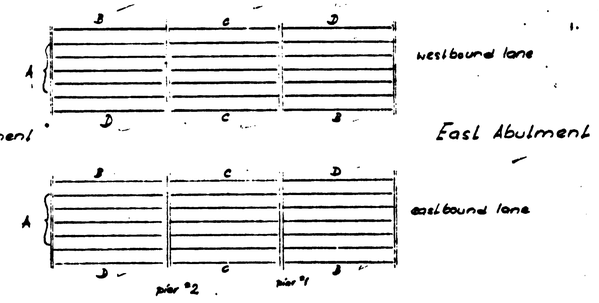
exterior girder B
required 4

exterior girder C
required 4

exterior girder D
required 4

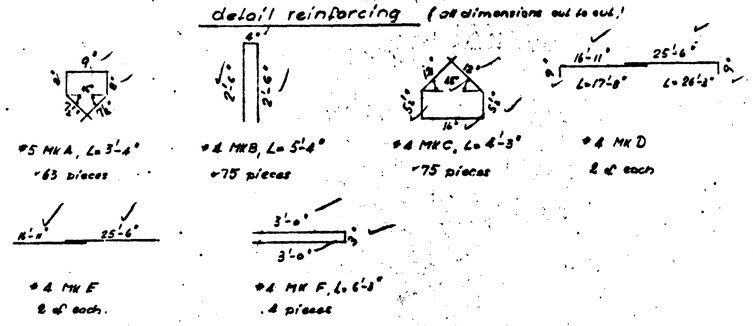


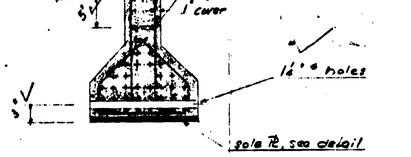
layout



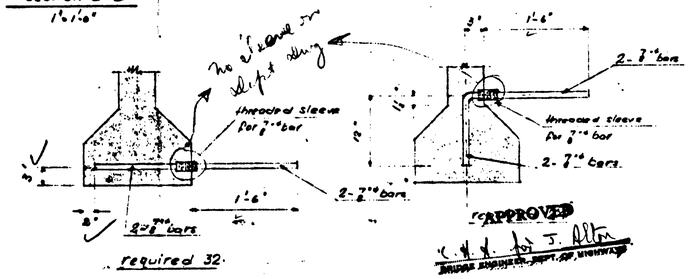
Key plan

detail reinforcing (all dimensions out to out.)





section B-B
1" = 1'-0"



detail couplings
1" = 1'-0"

APPROVED
C.W.V. for J. Allin
BRIDGE ENGINEER, DEPT. OF HIGHWAYS

OFFICE COPY

Notes

1. Prestressing steel to be 8 3/8" strands: ultimate strength 20 000 lbs per strand.
   stress at time of release 14000 lbs. per strand.
2. Min. compressive strength of concrete at time of release 4500 psi
   at 28 days 5500 psi
3. Reinforcing to have 1½" min. cover unless noted.
4. Length of stringers given [to ½"] are to be attained at 28 days after placing concrete.
5. Reinforcing to be structural grade, splices to be staggered, top of bars to be 400.
6. Ends of stringers to be painted with asphaltic material.

Phone MU7-6783
Superior Concrete Products LTD.
551 Seymour BLVD.
North Vancouver, B.C.

Broadner Road Overpass

Prestressed Concrete Stringers 41'-0" lg.

99882

Scale as shown	made by:	date: Oct. 1961	approved:	Dwg.
	checked by:	date:	revised:	841 - 5

GOVERNMENT OF BRITISH COLUMBIA
DEPARTMENT OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE

BILL No. 1608-X1
SHEET No. 1 of 1
FILE No. 917
MADE BY J.T.W.S
DATE MAY. 29/59
CHECKED BY KW
DATE Nov. 6/59

BILL OF RAILS FOR PIPE RAILING

NAME OF WORK BRADNER ROAD OVERPASS
CHILLIWACK DISTRICT
TRANS-CANADA HIGHWAY
MILE 105.01

REVISIONS			
No.	Made by	Checked by	Date
A			
B			
C			

ITEM No.	QUANTITY	SIZE	MARK	DESCRIPTION	LIN. FT.
				Rails shall be galvanized steel tubing (minimum wall thickness #12 B.W.G) or aluminum alloy tubing (minimum wall thickness ⅛") as ordered. All pieces mark A1 and A2 are to be supplied with one rail cap as shown on Dwg. No. SK 587-98. Caps to be shop fitted.	
				All above as per specifications.	
1.	32	5" O.D.	Mk A1	Rails 11'-1⅛" lg.	355'-4"
2.	16	"	Mk A2	" 11'-0⅛" lg.	176'-6"
3.	32	"	Mk B1	" 9'-5" lg.	301'-4"
4.	16	"	Mk B2	" 9'-4" lg.	149'-6"
				Total	982'-4" lin. ft.

GOVERNMENT OF BRITISH COLUMBIA
DEPARTMENT OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE

BILL No. 1608-X2
SHEET No. 1 of 1
FILE No. 917
MADE BY J.T.W.S.
DATE MAY. 29/59
CHECKED BY P.P.
DATE Nov 6/59

BILL OF REINFORCING STEEL

FOR SUBSTRUCTURE
NAME OF WORK BRADNER ROAD OVERPASS

ITEM No.	No. REQ'D	MARK	SIZE	LENGTH	TOTAL LENGTH	BENDING DIMENSIONS A	B	C	D	E	F	G	H	L
1.			#6		9460			Cut and bend to suit Dwg. No. 1608-6						
2.			#5		13330									
3.			#4		18680									
					Total Weight 37,300 lbs.									

"Reinforcing bars shall be in accordance with the Canadian Standards Association Specification for Billet Steel Reinforcing Bars No. G30-1938 or with the Specification for Rail Steel Reinforcing Bars No. G31-1938 and subsequent revisions thereof.

GOVERNMENT OF BRITISH COLUMBIA
DEPARTMENT OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE

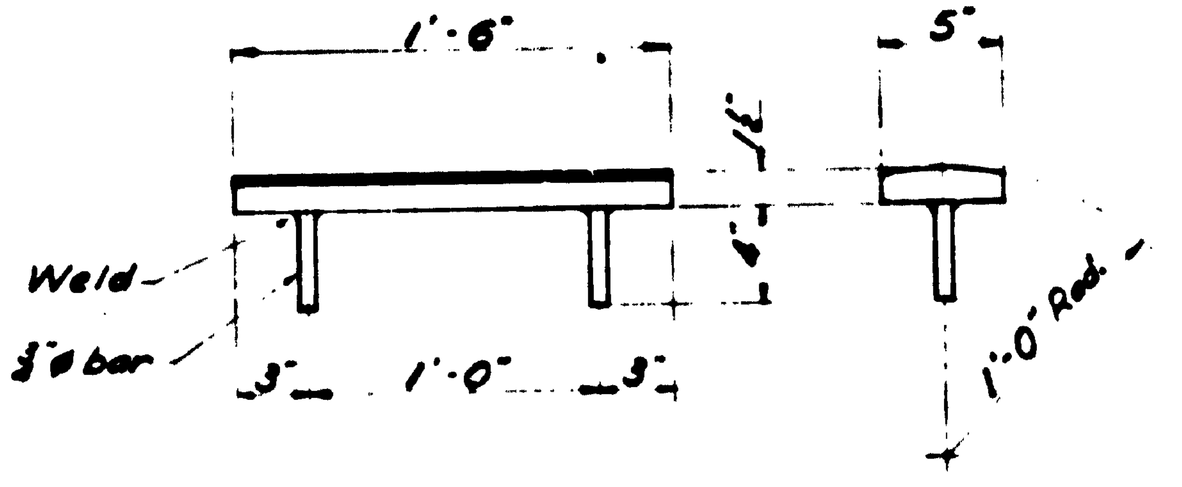
BILL No 1608-X3
SHEET No 1 of 1
FILE No 917
MADE BY J.T.W.S.
DATE MAY. 29, 59
CHECKED BY P.P.
DATE Nov. 6/59

BILL OF REINFORCING STEEL

FOR SUPERSTRUCTURE
NAME OF WORK BRADNER ROAD OVERPASS

ITEM No.	No. REQ'D	MARK	SIZE	LENGTH	TOTAL LENGTH	BENDING DIMENSIONS A	B	C	D	E	F	G	H	L
1.			#7		1930			Cut and bend to suit Dwg. No. 1608-0						
2.			#6		2440									
3.			#5		55120									
4.			#4		42080									
					Total Weight 33,000 lbs.									

"Reinforcing bars shall be in accordance with the Canadian Standards Association Specification for Billet Steel Reinforcing Bars No. G30-38? or with the Specification for Rail Steel Reinforcing Bars No. G31-1938 and subsequent revisions thereof.



BEARING DETAILS

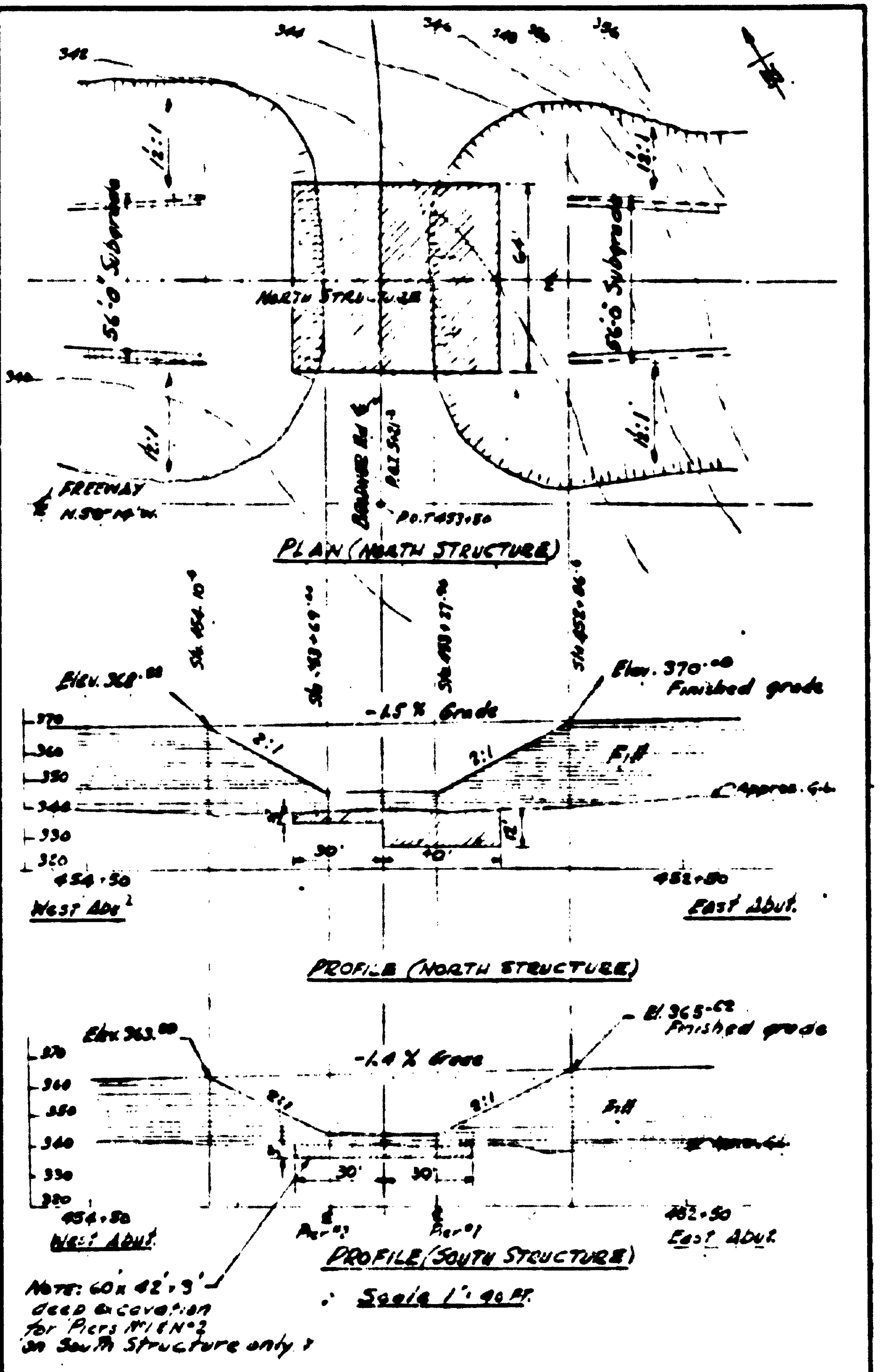
Scale: 1½"=1'-0"

No. required = 28
Estimated weight of each = 39.5 lbs.

Total weight - 1106 lbs.

GOVT. OF BRITISH COLUMBIA, DEPT. OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE.

	Made by Init.	Date	Checked by Init.	Date	S.K.
CHILLIWACK DISTRICT BRADNER ROAD OVERPASS BEARINGS	U.T.W.S.	MAY 23/59	P.P.	11/6/59	BRIDGES 1608-7
	Approved:				



GOVT. OF BRITISH COLUMBIA, DEPT. OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE.

	Made by Init.	Date	Checked by Init.	Date	S.K.
TRANS-CANADA HIGHWAY MILE 105.01 BRADNER RD. OVERPASS PLACING OF FILLS					BRIDGES 1608-8
	Approved:				

DEPARTMENT OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE

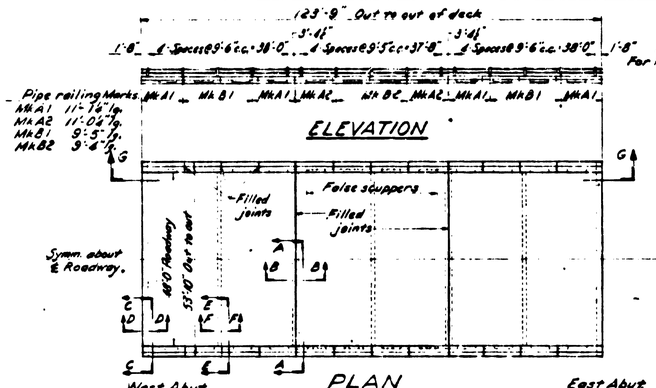
SCHEDULE OF MATERIAL

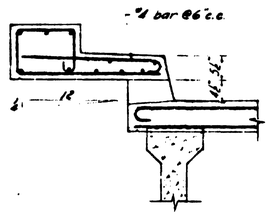
For BRADNER ROAD OVERPASS
CHILLIWACK DISTRICT
TRANS-CANADA HIGHWAY
MILE 105·01

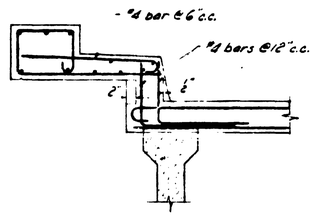
Sheet No. 1 of 1
Dwg. File No. 1608
Corr. File No. 917
Made by U.T.W.S.
Date MAY. 23/59
Checked by P.P.
Date Nov. 6/59

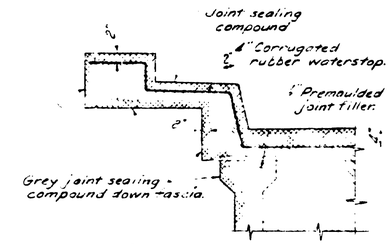
ITEM	QUANTITY	DESCRIPTION	BILL	DRAWING	WEIGHT POUNDS	REQ'N
		SUBSTRUCTURE				
1.	3395 sks.	Cement				
2.	1-Lot	Reinforcing steel	X2	1608-4	37,300	
3.	16 gals.	Air Entraining Agent				
		SUPERSTRUCTURE				
4	42 only	Prestressed concrete stringers 41'-0" lg.		1608-5		
5	1-Lot.	Bearings		SK.1608-7	1106	
6	982-5 lin.ft.	Rails for Pipe Railing	X1			
7	60 only	Railing Post Assemblies		587-8B		
8	48 only	Rail Caps		587-9B		
9	2 qts.	Alkali Resistant Bituminous Paint				
10	6-lbs	Aluminum impregnated Caulking Compound				
		DECK				
11	2570 sks.	Cement				
12	1-Lot	Reinforcing steel	X3	1608-6	93,000	
13	26-gals.	Joint sealing compound.				
14	8 gals.	Grey joint sealing compound				
15	220-lin.ft.	4" Corrugated rubber waterstop				
16	700-lin.ft.	½"x2" Premoulded joint filler				
17	200-lin.ft.	½"x4" " " "				
18	460 lin.ft.	½"x2" " " "				
19	28 pcs.	6" Lead sheet 18"x15"			420	
20	12 gals.	Air entraining agent				
21	2 rolls.	Saturated cotton fabric 36" wide x 150' lg.				
22	10 gals.	Asphalt waterproof gum				

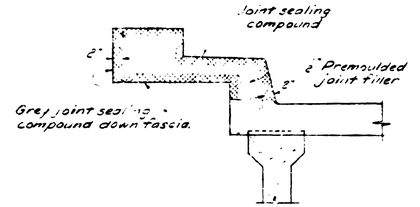
18597

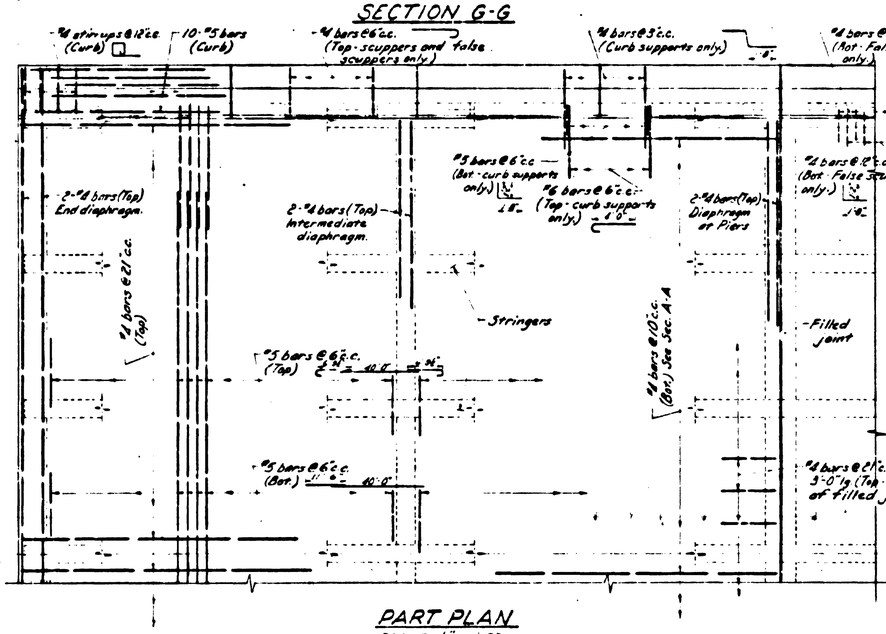


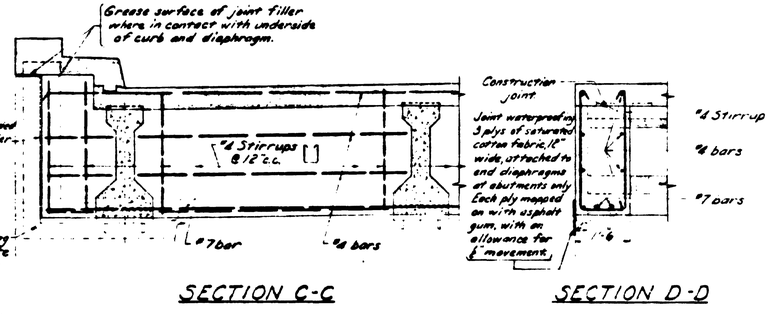


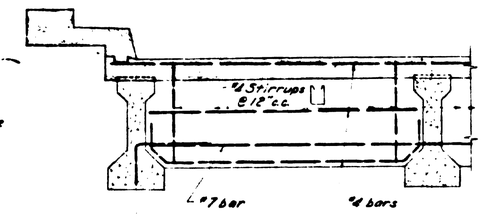


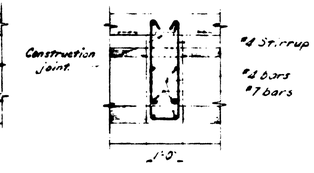






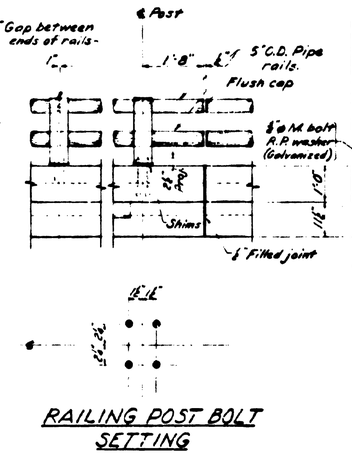


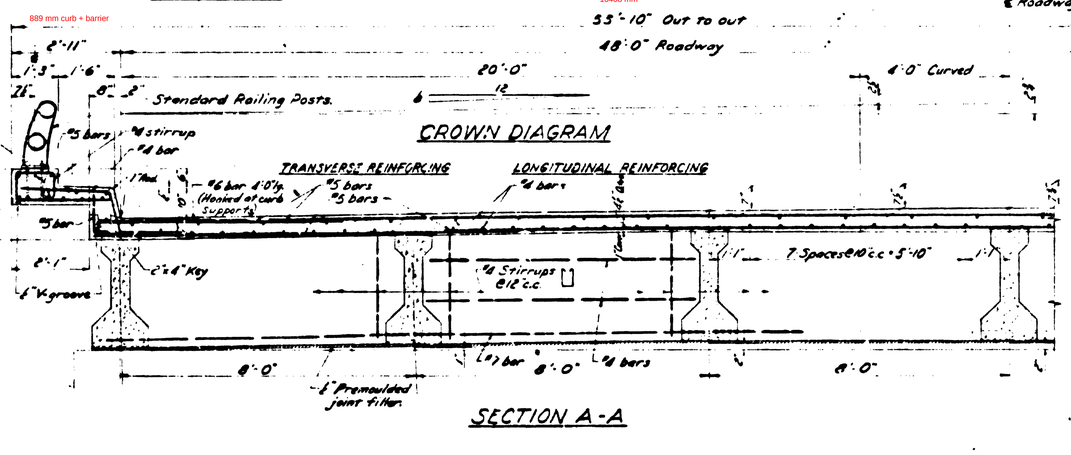


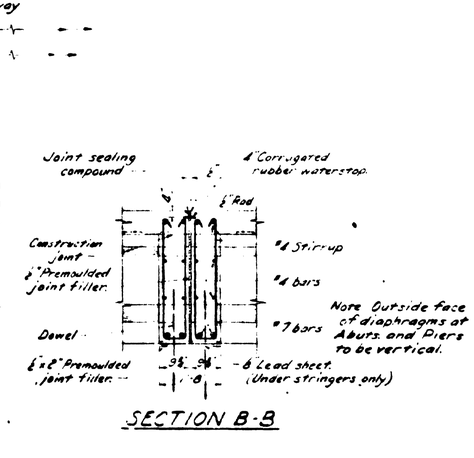


NOTES:
1. All concrete to be Class 'A'.
2. Concrete for each span to be poured in one continuous operation.
3. Curbs to be formed and poured after roadway slab is set.
4. Screeds for deck concrete shall be set to provide for a uniform grade from end to end of the bridge and to accommodate the hogging of the stringers, to be measured in the field, and also a dead load deflection of ½" at centre of span.
5. All diaphragms to be placed and to have attained a cylinder strength of 2000 lbs p.s.i. prior to pouring of deck slab.
6. All exposed edges to have ¾" chamfer unless noted otherwise.
7. All reinforcing steel to be Structural grade.
8. Reinforcing steel to have 1½" cover unless noted otherwise.
9. Minimum dias of pins to be used for bending bars, including hooks, to be 2"d for ties and 6"d for #8 bars and under. Extension of free ends on hooks to be 4"d. Laps of bars for splices to be 40"d. Splices to be staggered.

ESTIMATED QUANTITIES		
Item	Concrete	Reinforcing Steel
North Structure - Deck	84 cu. yds.	46 530 lbs.
South Structure - Deck	84 cu. yds.	46 500 lbs.
Piers	56 cu. yds.	5 300 lbs.







CHILLIWACK DISTRICT
TRANS-CANADA HIGHWAY MILE 105.01
BRADNER ROAD OVERPASS
DECK DETAILS

SCALE: ¼"=1'-0" AND AS NOTED

REVISIONS			
Rev.	Particulars	Init.	Date
A	As Built	R.H.	11/66

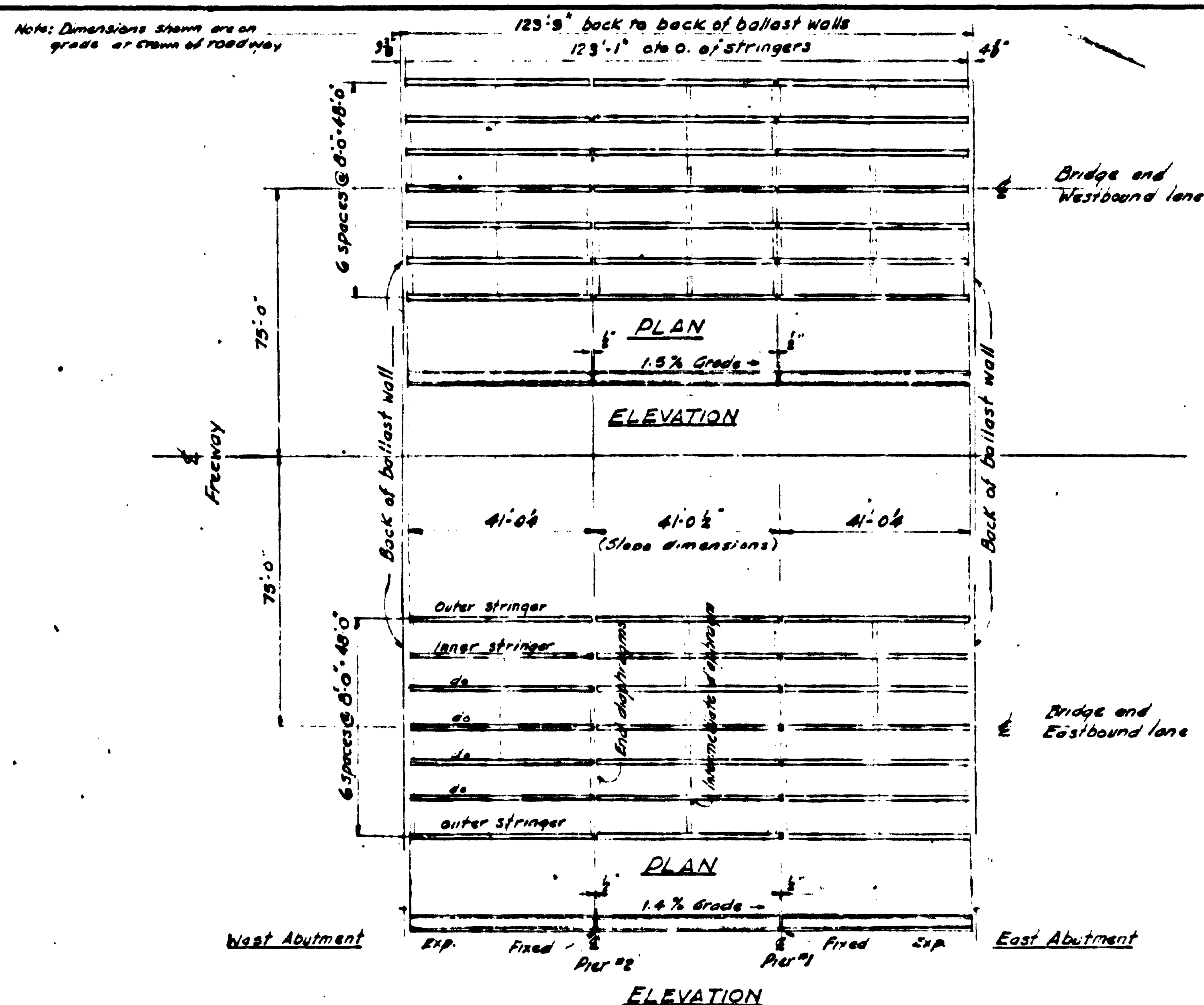
GOVT. OF BRITISH COLUMBIA
DEPT. OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE

	Init.	Date
Made by	T.H.S.	MAR/1965
Checked by	C.F.C.	Mar 4 65
Approved		

DRAWING NO. 1608-6

Cancel prints bearing earlier letter

18596



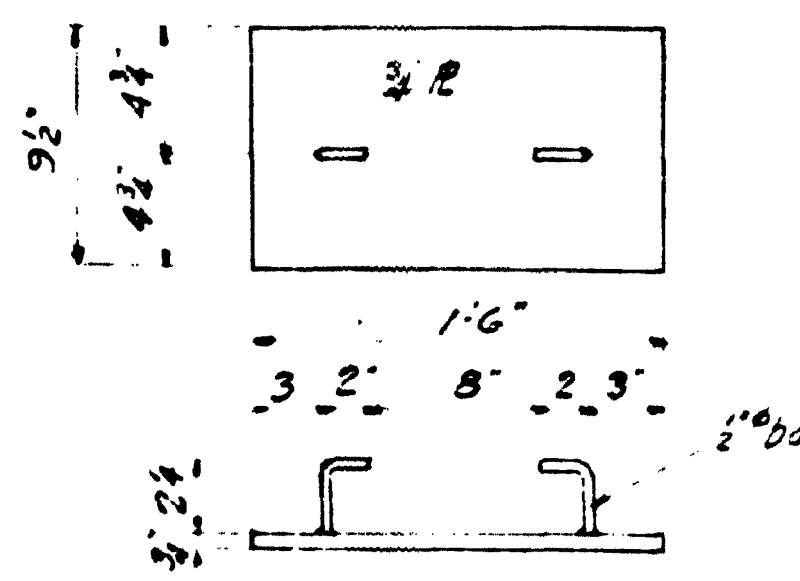
PLAN

ELEVATION

PLAN

ELEVATION

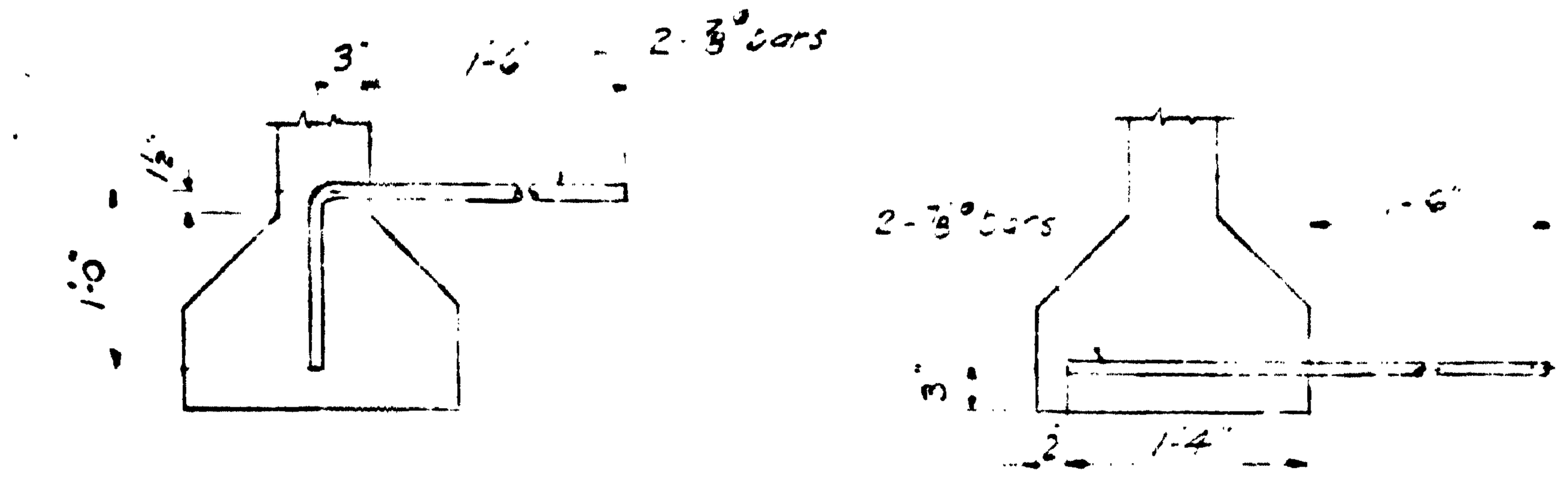
Scale 1" = 20 Ft.



DETAIL OF SOLE PLATE

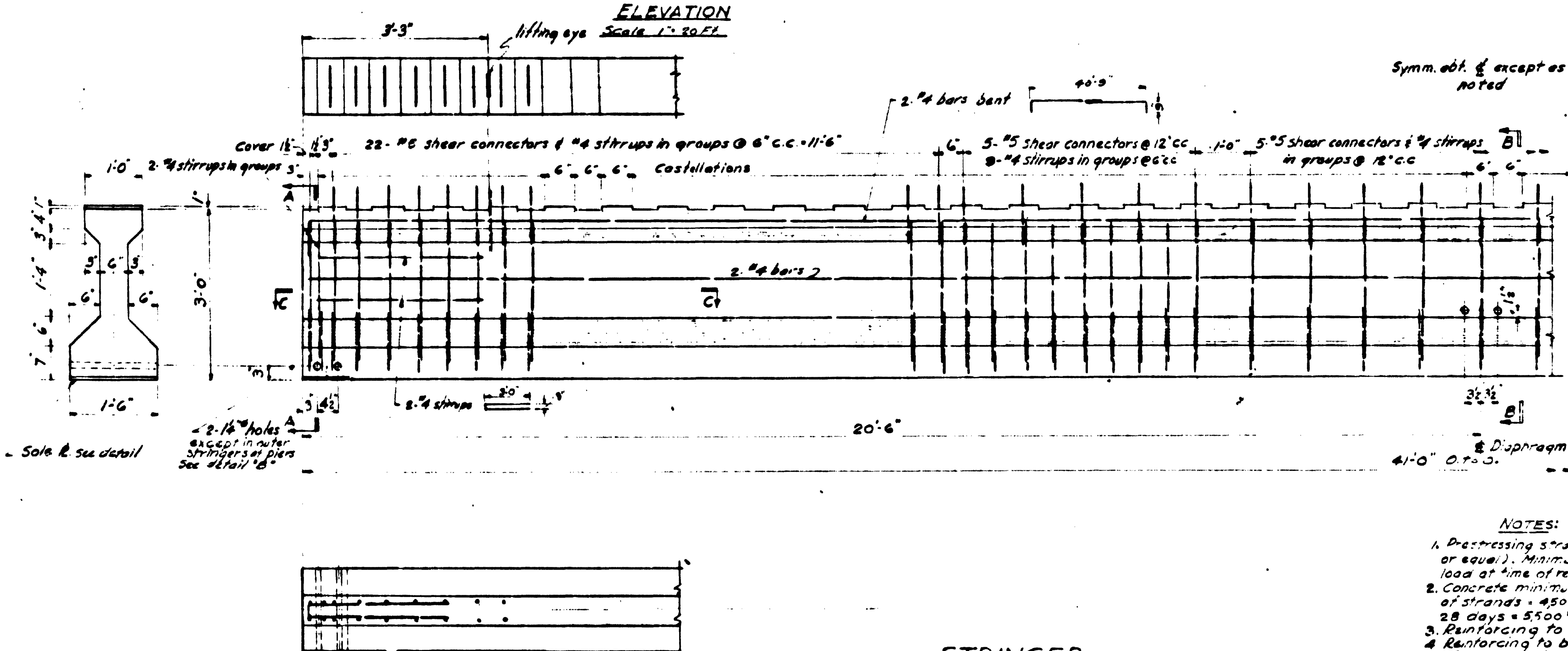
84 - Required

Scale 1½" = 1'-0



DETAIL "A"

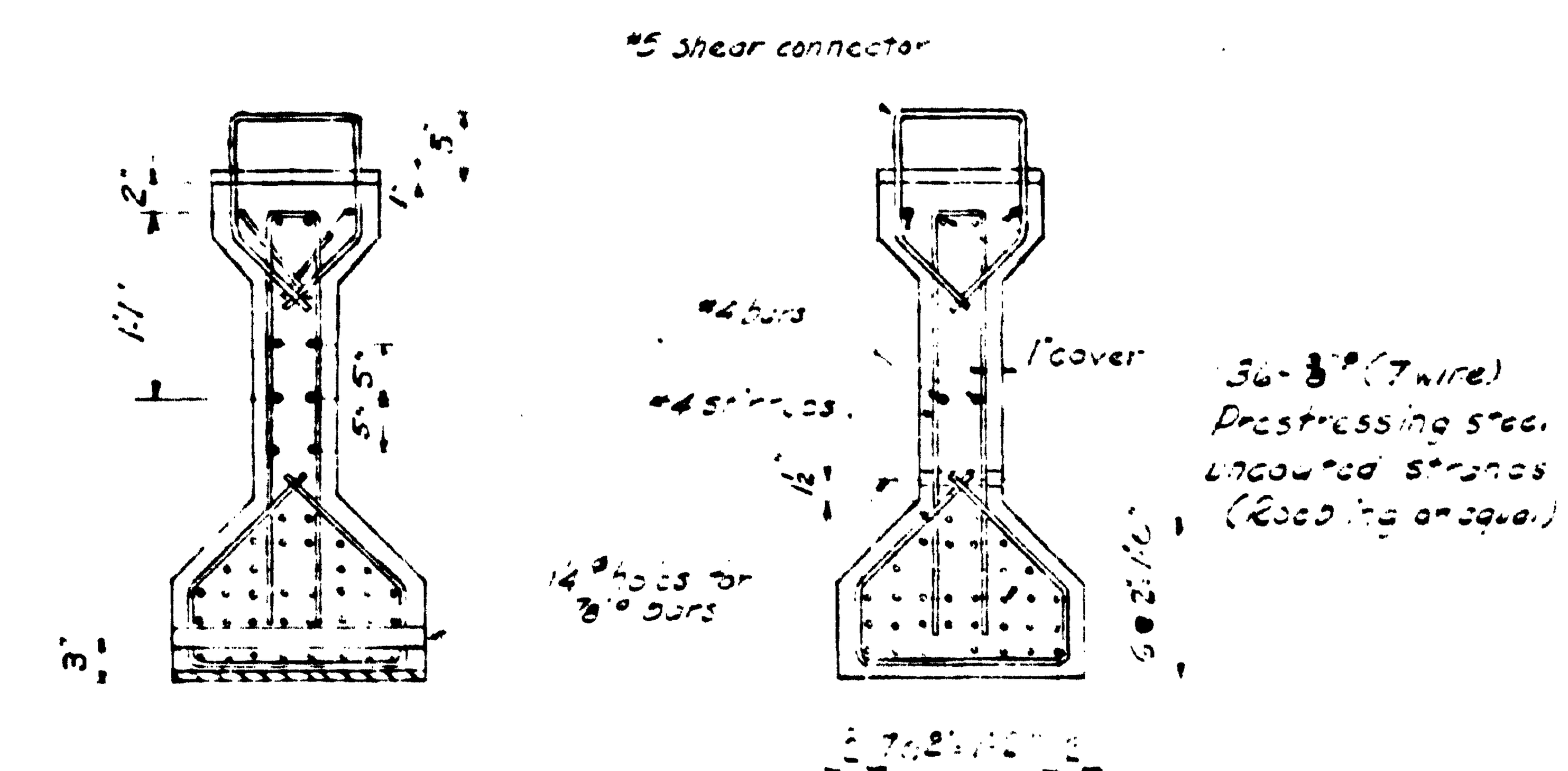
DETAIL "B"



SECTION C-C

STRINGER

(Inner stringer shown
(Outer stringer similar except as noted



SECTION A-A

SECTION B-B

Scale 1" = 1'-0"

NOTES:

1. Prestressing strands to be ⅜" (7 wire) uncoated strands (Roebling S.R. grade or equal). Minimum ultimate tensile strength = 20,000 # per strand. Tensile load at time of release of strands = 13,500 # per strand.
2. Concrete minimum compressive strength of concrete at time of release of strands = 4,500 #/in². Min. compressive strength of concrete at 28 days = 5,500 #/in².
3. Reinforcing to have 1½" min. cover unless noted otherwise.
4. Reinforcing to be structural grade, splices to be staggered, lap of bars 40 x d.
5. Lengths of stringers given (℄-℄) to be attained at 28 days after placing concrete.
6. Paint ends of stringers with asphaltic material.

42 - 41'-0" Prestressed stringers reqd.

CHILLIWACK DISTRICT
TRANS CANADA HIGHWAY MILE 105.01

BRADNER ROAD OVERPASS

PRESTRESSED CONCRETE STRINGERS

SCALE ¾" = 1'-0" AND AS NOTED

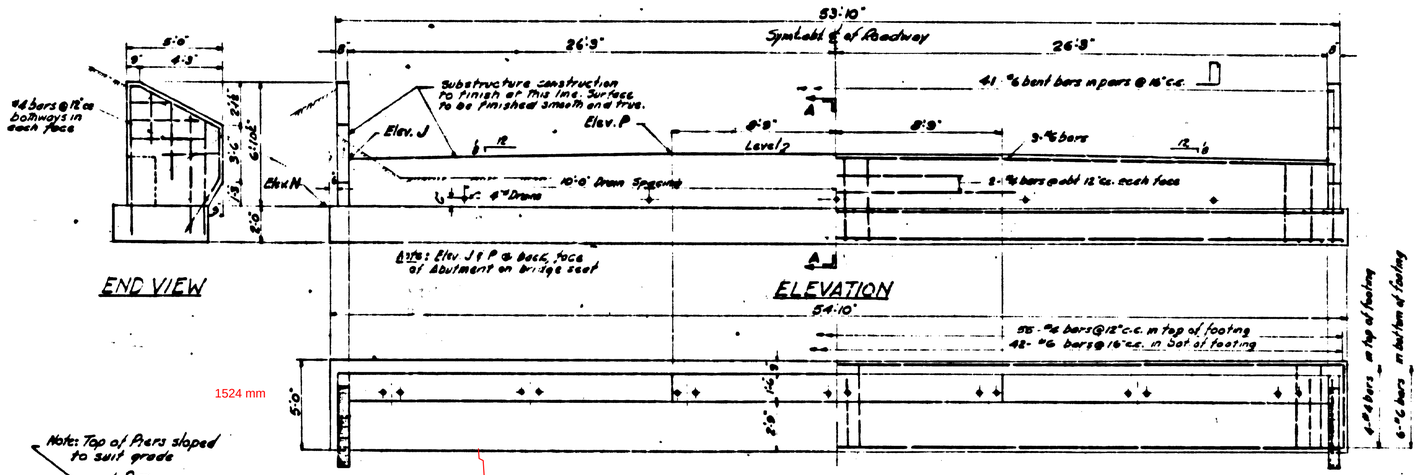
REVISIONS			
Rev.	Particulars	Init.	Date

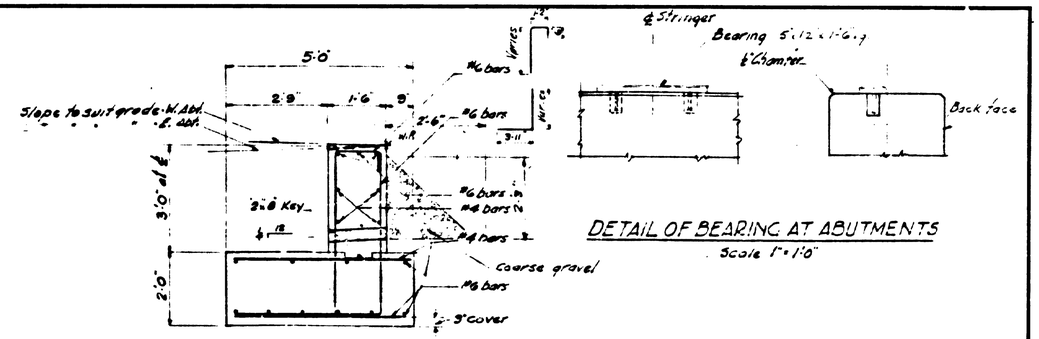
GOVT. OF BRITISH COLUMBIA
DEPT. OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE

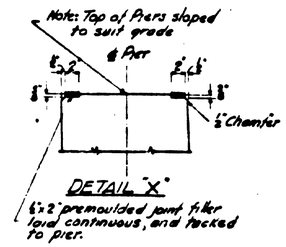
	Init.	Date	DRAWING NO.
Made by	[illegible]	Feb. 59	BRIDGES
Checked by	F.P.	Nov. 6, 59	1608-5
Approved	[illegible]		

Cancel prints bearing earlier letter

18595







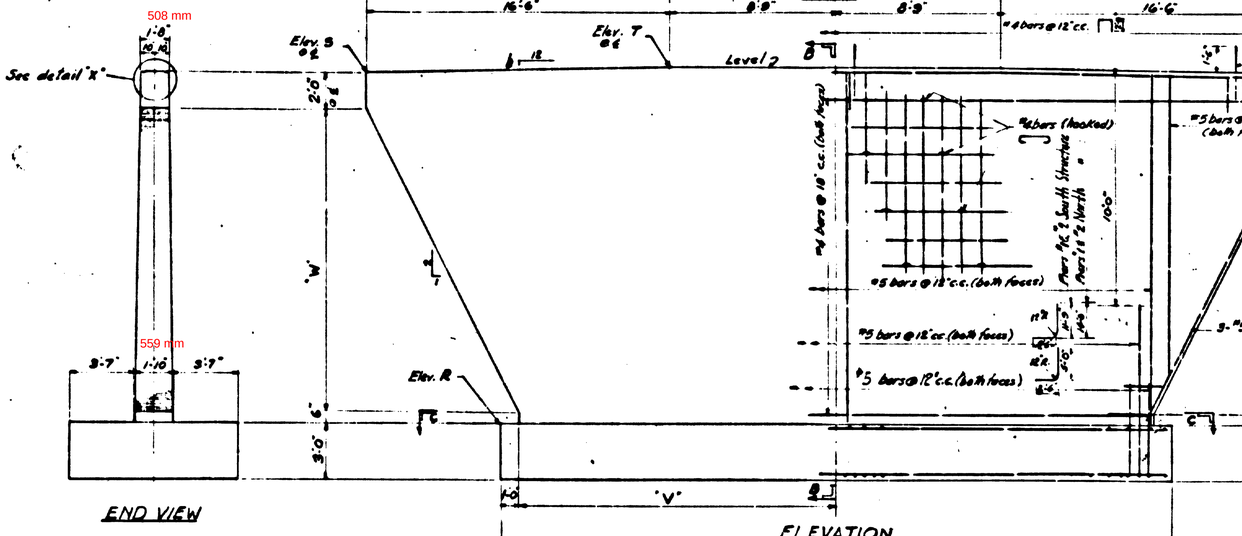


TABLE OF DIMENSIONS				
DIM.	NORTH STRUCTURE		SOUTH STRUCTURE	
	Pier #1	Pier #2	Pier #1	Pier #2
W	18'-8"	18'-8"	16'-4"	16'-6"
V	15'-11"	15'-11"	17'-1"	17'-1"
U	33'-10"	33'-10"	34'-2"	34'-2"
ELEV.				
T	365.80	365.18	361.39	360.81
S	365.62	365.00	361.20	360.63
R	344.45	343.83	342.37	341.81
ELEV.	East Abt.	West Abt.	East Abt.	West Abt.
P	366.31	364.45	361.85	360.48
J	366.12	364.26	361.66	359.93
N	363.31	361.45	358.85	359.12

ESTIMATED QUANTITIES				
	North Structure		South Structure	
	Concrete	Reinforcing	Concrete	Reinforcing
East Abutment	31.0	2600	31.0	2600
West Abutment	31.0	2600	31.0	2600
Pier No 1	91.5	6900	89.0	6650
Pier No 2	91.5	6900	89.0	6650
Totals	Concrete 485 cu.yds.		Reinforcing 37,300 lbs.	

NOTES:
1. Concrete to be class "A" throughout.
2. Exposed edges to be chamfered 1" except where noted otherwise.
3. Reinforcing steel to have 2" cover except where noted otherwise.
4. Reinforcing steel to be structural grade.
5. Reinforcing: Min. dias. of pins to be used for bending bars, including hooks to be 2 x d for stirrups & ties, 6 x d for #8 bars and under. Extensions of free ends on hooks to be 4 x d. Lap bars for splices 40 x d.
6. Continuous horizontal drainage course as shown on this drawing to be provided at main holes.
7. Open holes in abutments for bearing bolts to be filled with sand cement grout by the erector immediately before placing stringers.

CHILLIWACK DISTRICT
TRANS-CANADA HIGHWAY MILE 105.01
BRADNER ROAD OVERPASS
PIERS AND ABUTMENTS
SCALE 1" = 1'-0" AND AS NOTED

REVISIONS			
Rev.	Particulars	Init.	Date
A	As built	K.A.A	5/10/63

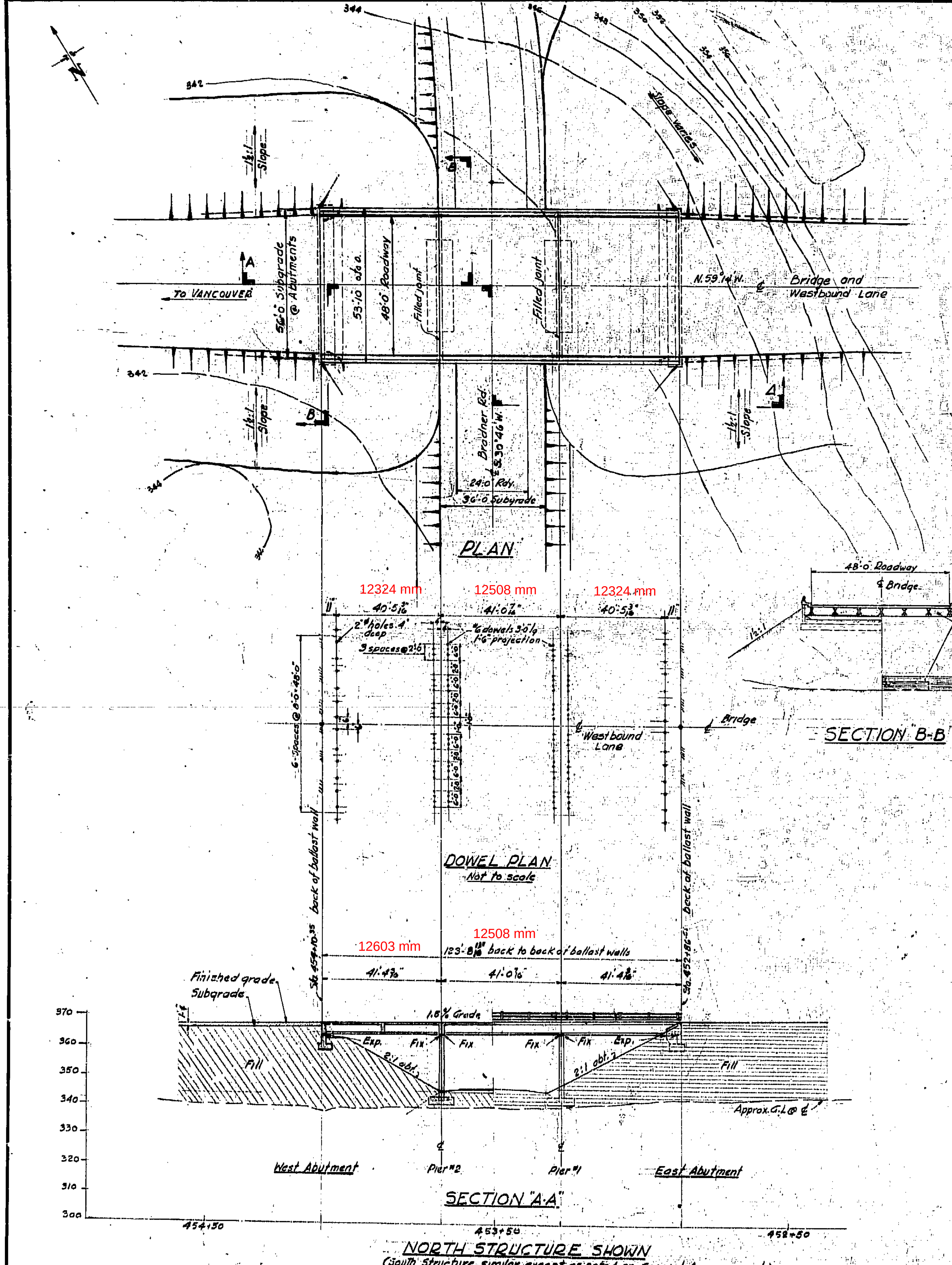
GOVT. OF BRITISH COLUMBIA
DEPT. OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE

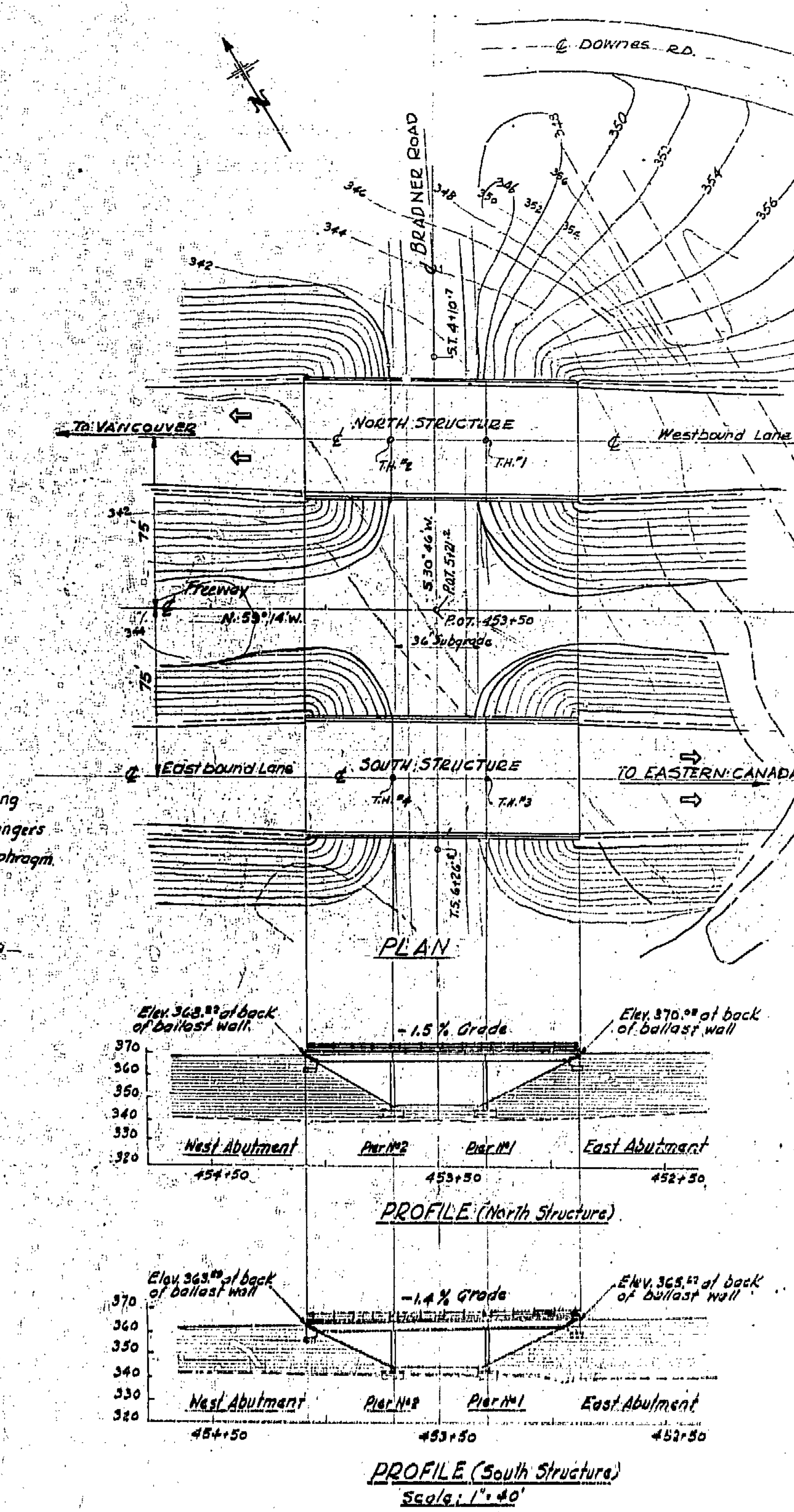
	Init.	Date
Made by	[illegible]	Nov. 3/59
Checked by	[illegible]	Nov. 6/59
Approved	[illegible]	

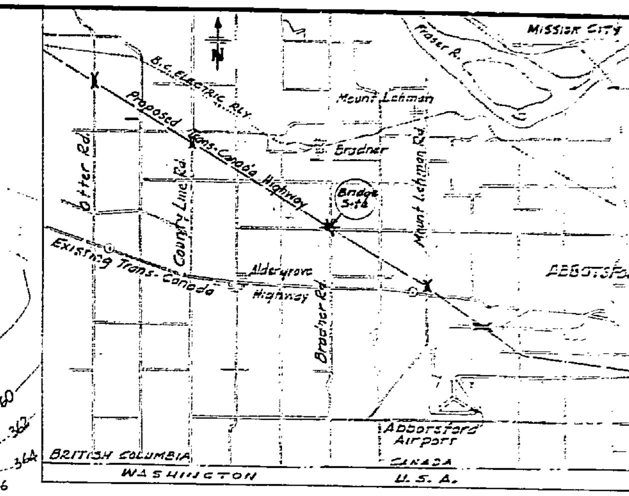
DRAWING NO. 1608-4 A

Consult prints bearing earlier letter

18594







KEY MAP
Scale: 1 inch = 2 miles

Notes
Specifications: Dept. of Highways
Load: H 20-S16
Survey by: Location Branch
Datum: Geodetic
Location B.M.

TEST HOLE DATA

ELEVATION	No 1 MATERIAL	No 1 PENET.	No 2 MATERIAL	No 2 PENET.	No 3 MATERIAL	No 3 PENET.	No 4 MATERIAL	No 4 PENET.
340	Clayey Sandy Silt	20	Clayey Sandy Silt	28	Sandy Clayey Silt	47	Sandy Clayey Silt	32
330	Sandy Clayey Silt	19	Silty Sand	156				
	Clayey Sandy Silt	33						
320	Sandy Clayey Silt	72	Sandy Clayey Silt	117	Sandy Clayey Silt	55	Sandy Clayey Silt	193
310	Sandy Clayey Silt	230	Silty Sand	208	Sandy Gravel	211		
					Silty Sands	171		
300			Silty Sand	208			Silty Gravelly Sand	165
290			Sandy Silty Clay	97				
280								
270								
260			Sandy Clay & Silt	197				
250								
245								

Penetration – Average number of blows per 12" penetration (140 lb hammer falling 30")

LIST OF DRAWINGS

DWG. No	TITLE
1608-3	Layout, Dowel Plan and Key Map
-4	Piers and Abutments
-5	Prestressed Concrete Stringers
-6	Deck Details

CHILLIWACK DISTRICT
TRANS-CANADA HIGHWAY MILE 105.01

BRADNER ROAD OVERPASS
LAYOUT, DOWEL PLAN & KEY MAP

SCALE: 1"=20 FT. AND AS NOTED

REVISIONS

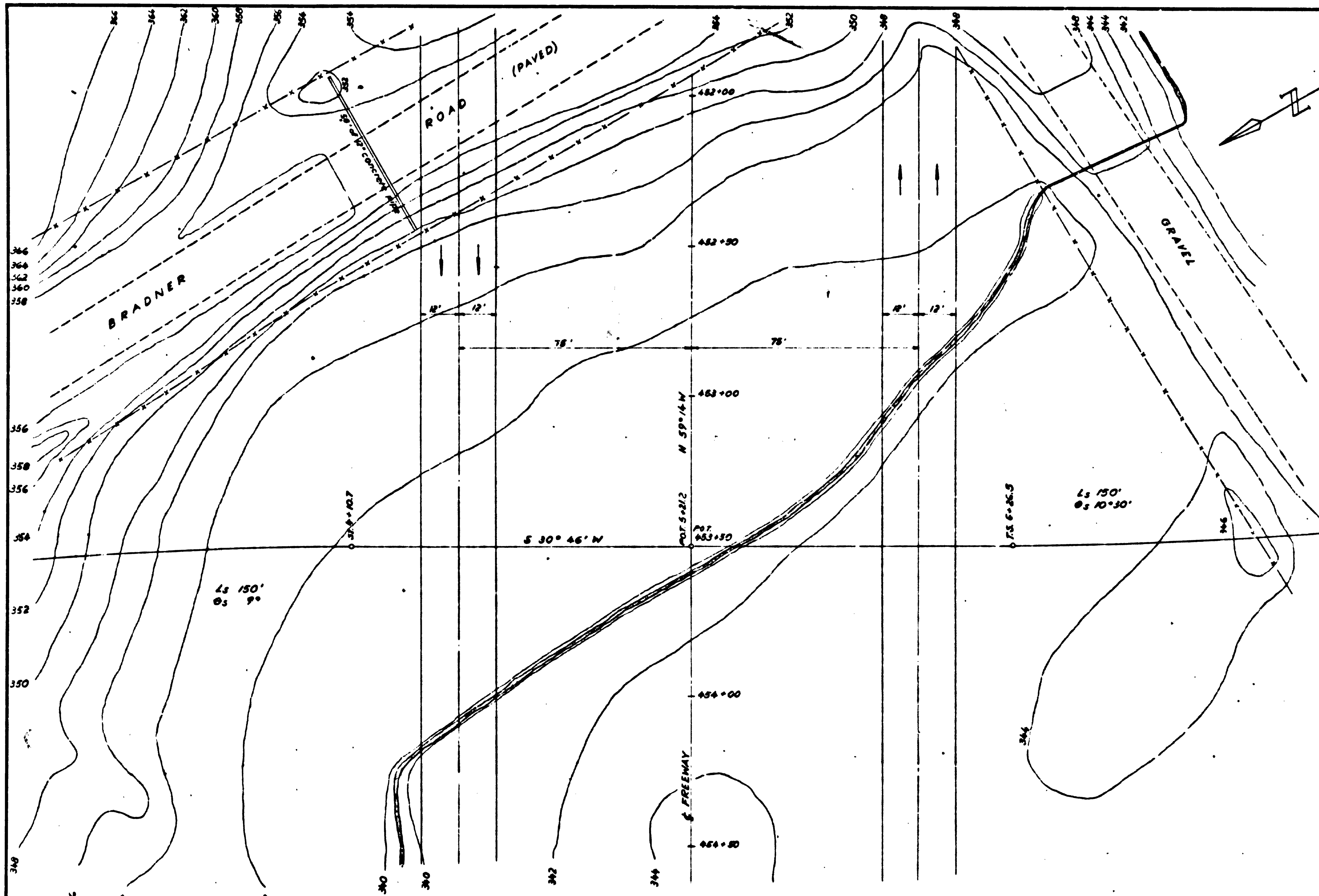
Rev.	Particulars	Init.	Date
A	As built	R.J.A.	5/11/65

GOVT. OF BRITISH COLUMBIA
DEPT. OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE

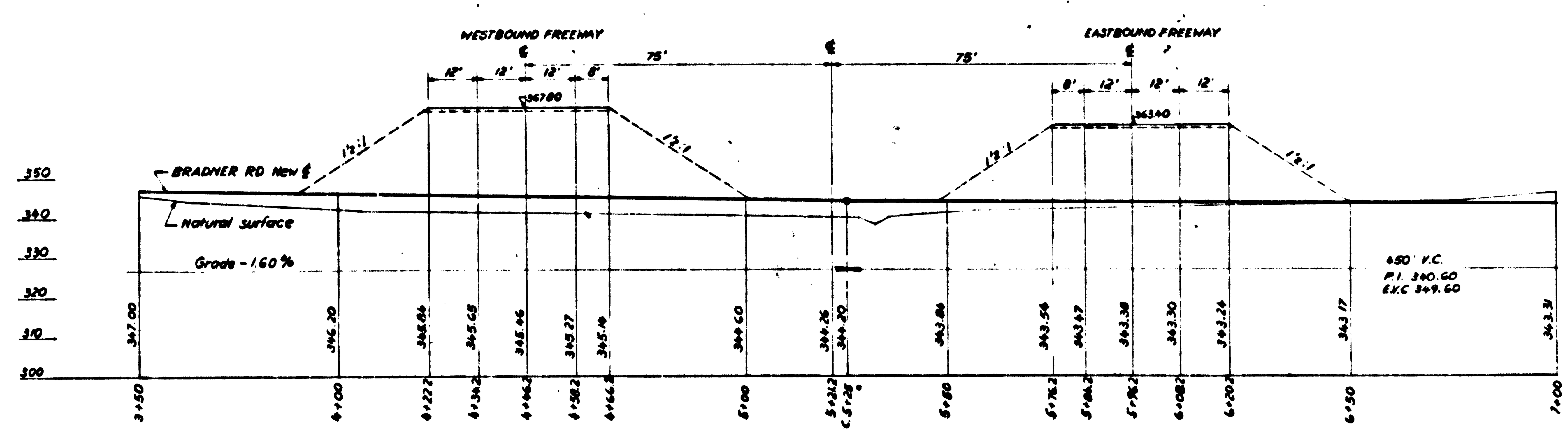
	Init.	Date
Made by	D.M.	Feb. 9/59
Checked by	K.W.	Mar. 6/59
Approved		

DRAWING NO. BRIDGES 1608-3

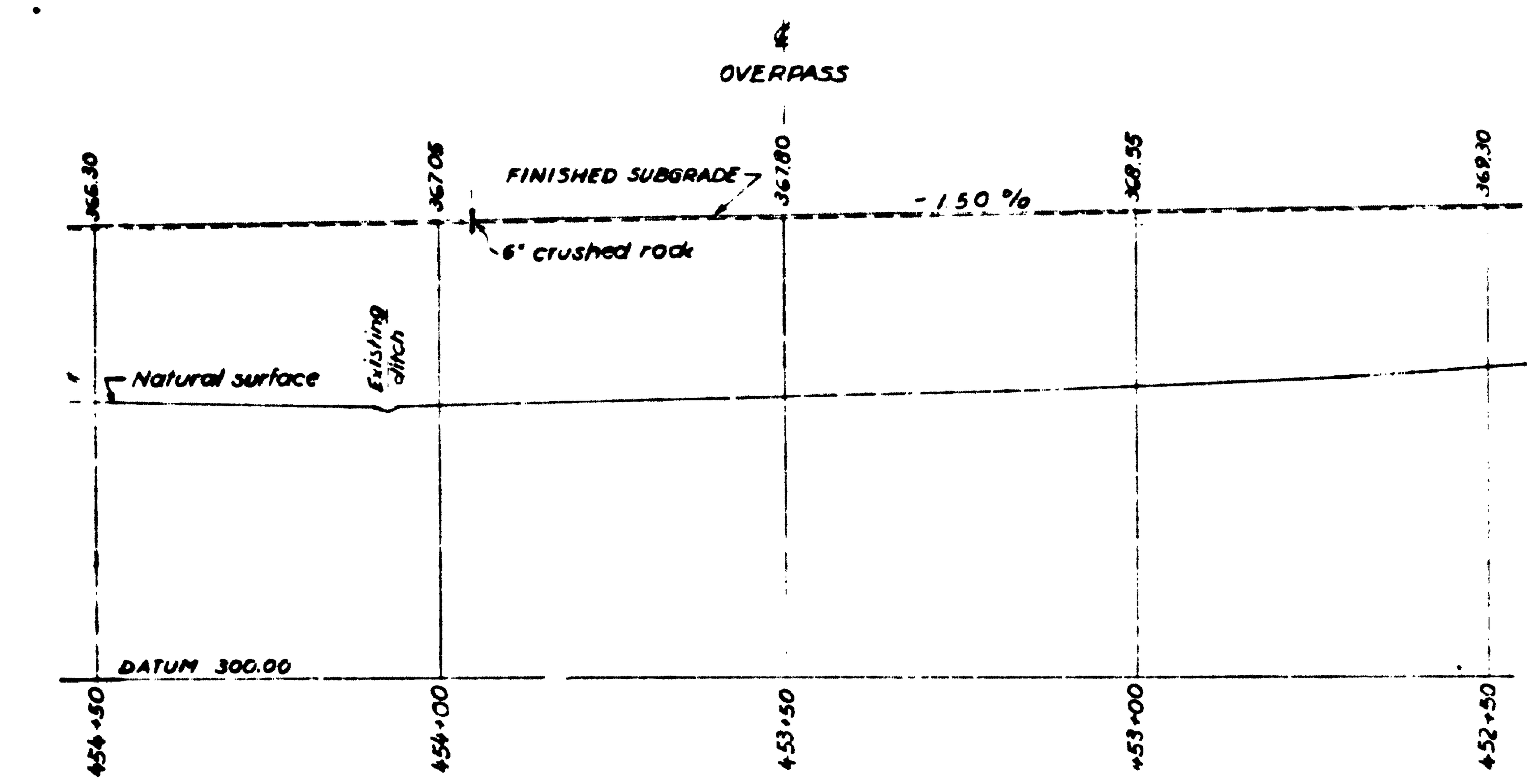
Cancel prints bearing earlier letter



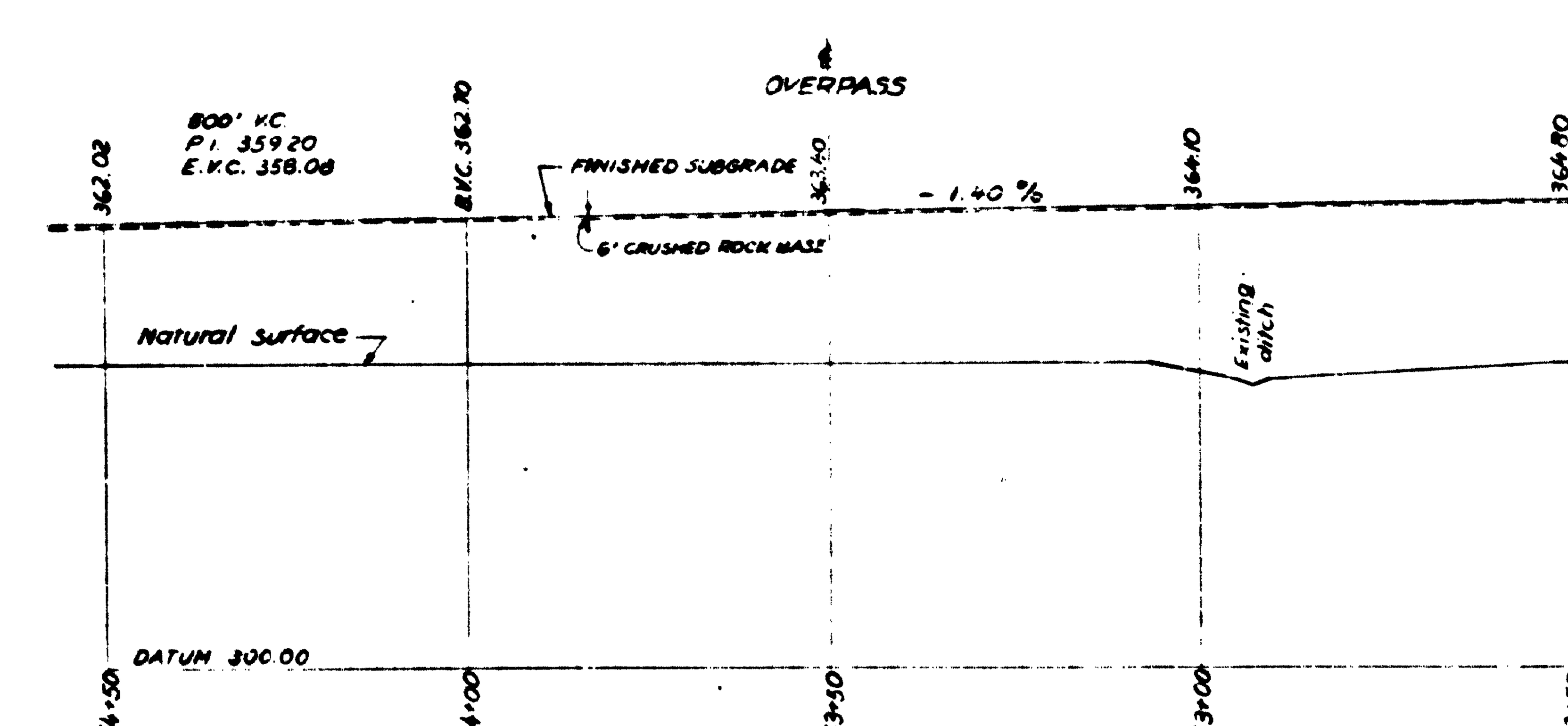
PLAN



ELEVATION



WESTBOUND FREEWAY



EASTBOUND FREEWAY

Location Branch survey by: J.R.S.
Drawn by: D.A.D. March 3 1958

CHILLIWACK DISTRICT
TRANS-CANADA HIGHWAY
BRADNER ROAD OVERPASS
SITE PLAN
SCALE: 1" = 20'-0"

REVISIONS

Rev.	Particulars	Init.	Date

GOVT. OF BRITISH COLUMBIA
DEPT. OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE

	Init.	Date
Made by	R.K.	June 1958
Checked by		
Approved		

DRAWING NO. BRIDGES 1608-2

18592