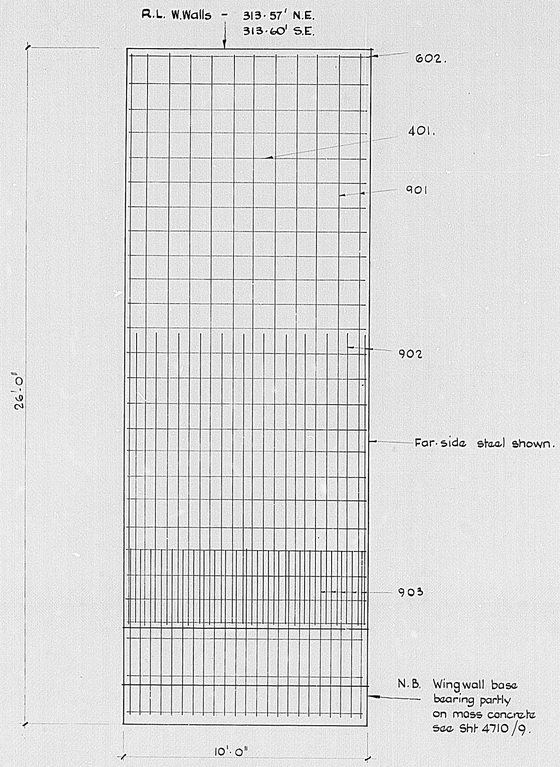
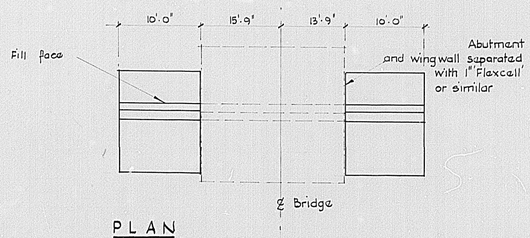


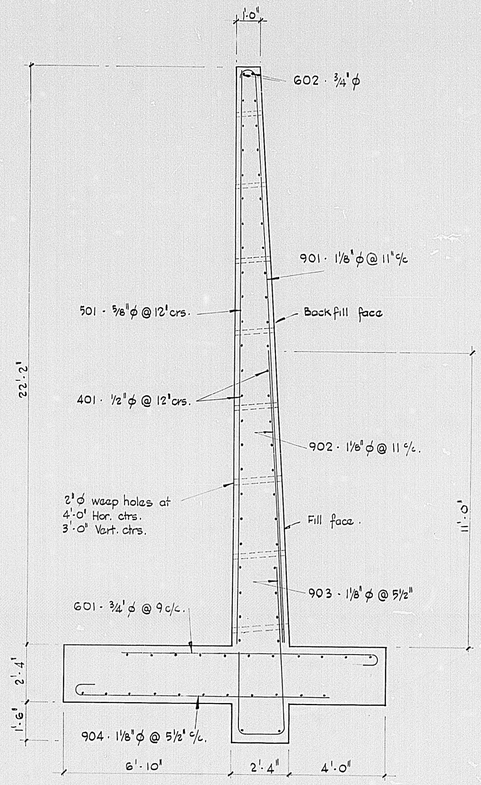
ELEVATION

(N.B. backfill face - far side)



PLAN

Scale : 1/8" = 1'·0"



TYPICAL CROSS SECTION

BENDING SCHEDULE

Mark	ϕ	No 13mm	No 11½	Length	Diagram
401	½"	70	140	9'·8"	All bars straight unless noted. 601 & 904 with standard hooks.
501	5/8"	11	22	22'·0"	
601	3/4"	14	28	11'·0"	
602	3/4"	2	4	9'·8"	
901	1 1/8"	12	24	22'·6"	
902	1 1/8"	12	24	11'·0"	
903	1 1/8"	23	46	12'·0"	
904	1 1/8"	23	46	11'·0"	

All bars deformed bars
All Marks prefix by E.W. (east Wingwall)

No.	DATE	APP'D.	REVISION

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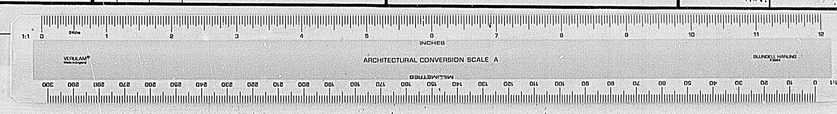
CONSULTING CIVIL & STRUCTURAL ENGINEERS
T&G BUILDINGS, DEE ST. INVERCARGILL N.Z.
P.O. Box 93 Phone 82-429

DRAWN	DATE	SCALE
JH.	June '71.	9/16" = 1'·0"
DESIGNED	CHECKED	APPROVED
HK.		

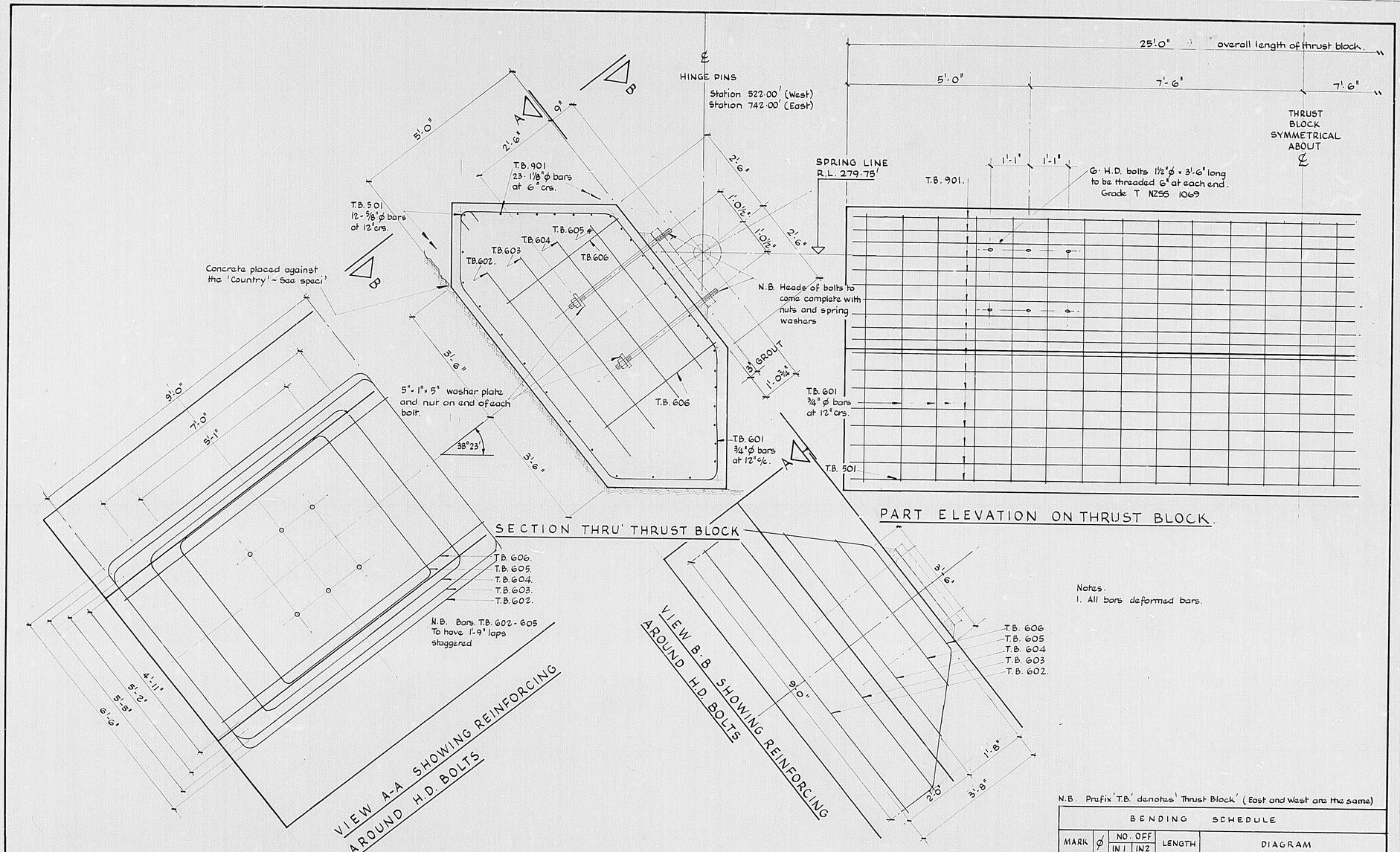
ROXBURGH BRIDGE

EASTERN WINGWALL

No. IN SET 18 DRAWING No. 4710/10



5303



Notes.
1. All bars deformed bars.

N.B. Prefix 'T.B.' denotes 'Thrust Block' (East and West are the same)

BENDING SCHEDULE

MARK	ø	NO. OFF IN1	NO. OFF IN2	LENGTH	DIAGRAM
T.B. 501	⅝	12		24'.8"	Bars marked 501 and 901 ~ Straight
T.B. 601	¾	25		26'.6"	Bars marked 602 to 606 ~ As shown.
T.B. 602	¾	2		32'.9"	
T.B. 603	¾	2		30'.6"	
T.B. 604	¾	2		26'.0"	
T.B. 605	¾	2		21'.9"	
T.B. 606	¾	4		15'.6"	
T.B. 901	1⅛	23		24'.8"	

T.B. 601

N.B. EAST THRUST BLOCK DETAILS SUPPLIED AT LATER DATE JM. 6/8/72

JM. 'D' Oct '72 Dimensions of bars T.B. 601 amended.

no	date	app'd	revision
C.	Sep'72	JM.	East Thrust Block Deleted. West Th. Blk. increased by 2'.0". Re. bars amended.
B	Apr.72	JM.	Bars Marked 601 amended.
A.	Jan'72	JM.	Bars Marked 901 increased 12½% to 6½%
			Redrawn incorporating amendments.
			Reinforcing increased schedule added.

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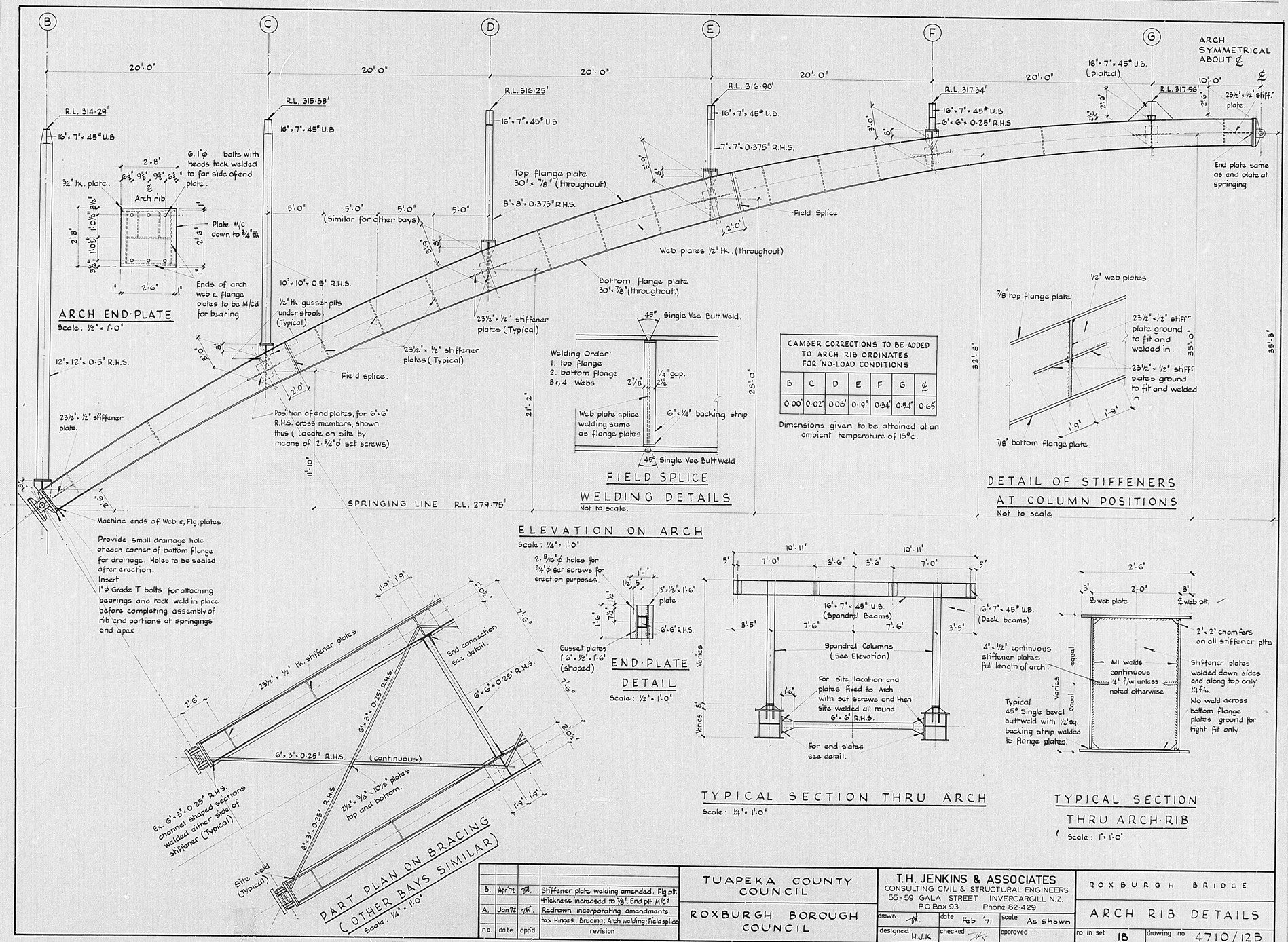
drawn	date	scale
JM.	Jan.'72	¾" = 1'.0"
designed H.J.K.	checked	approved

ROXBURGH BRIDGE

(WEST) THRUST BLOCKS

no in set 18 | drawing no 4710/11D

5303



ARCH END-PLATE
Scale: ½" = 1'-0"

FIELD SPLICE WELDING DETAILS
Not to scale.

CAMBER CORRECTIONS TO BE ADDED TO ARCH RIB ORDINATES FOR 'NO-LOAD CONDITIONS						
B	C	D	E	F	G	℄
0.00"	0.02"	0.06"	0.19"	0.34"	0.54"	0.65

Dimensions given to be attained at an ambient temperature of 15°C.

DETAIL OF STIFFENERS AT COLUMN POSITIONS
Not to scale

ELEVATION ON ARCH
Scale: ¼" = 1'-0"

PART PLAN ON BRACING (OTHER BAYS SIMILAR)
Scale: ¼" = 1'-0"

END-PLATE DETAIL
Scale: ½" = 1'-0"

TYPICAL SECTION THRU ARCH
Scale: ½" = 1'-0"

TYPICAL SECTION THRU ARCH-RIB
Scale: 1"=1'-0"

no.	date	appd	revision
B.	Apr '72	TJH.	Stiffener plate welding amended. Flg.plt. thickness increased to ⅞". End plt M/Cd
A.	Jan 72	TJH.	Redrawn incorporating amendments
			to:- Hinges: Bracing: Arch welding: Field splice

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P.O Box 93 Phone 82-429

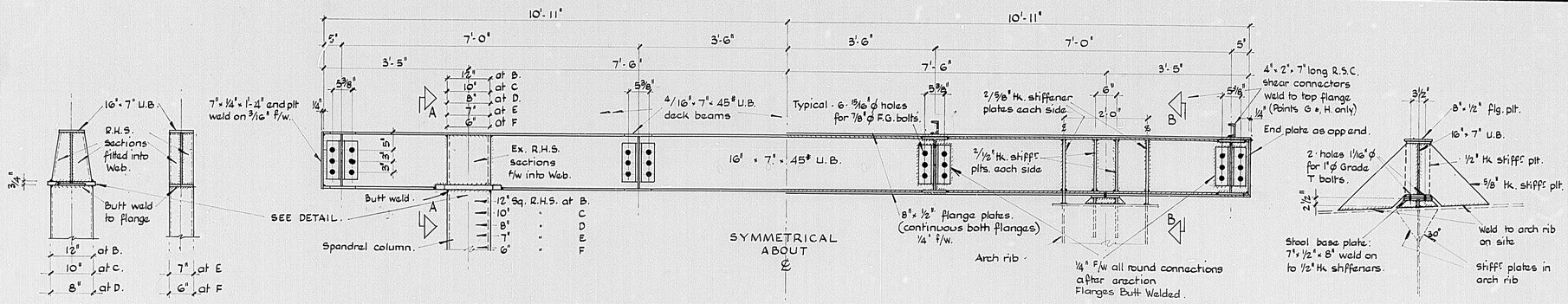
drawn	date	scale
TJH.	Feb '71	As shown
designed H.J.K.	checked	approved

ROXBURGH BRIDGE

ARCH RIB DETAILS

no in set 18 drawing no 4710/12B

5303

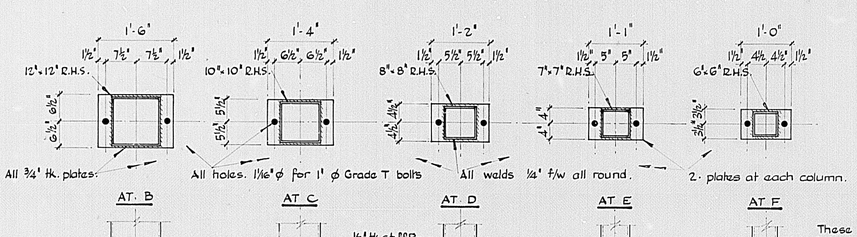


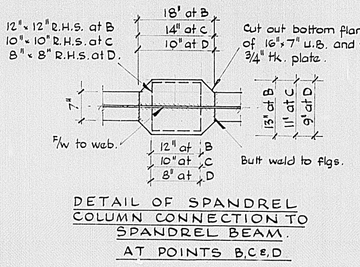
SECTION A-A.

DETAIL OF SPANDREL BEAMS AT B-F

DETAIL OF SPANDREL BEAMS AT G

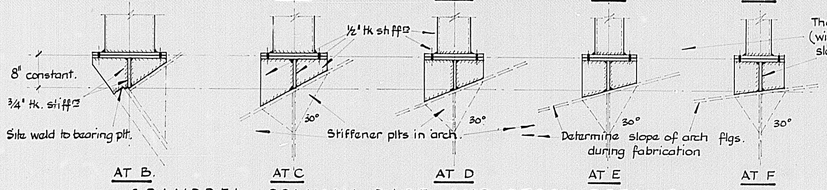
SECTION B-B



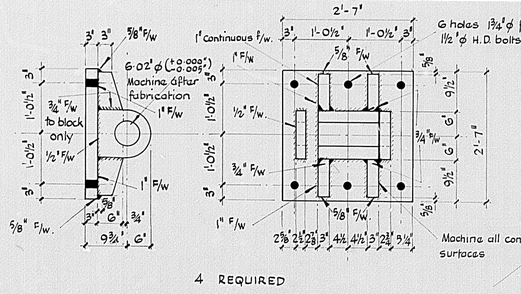


DETAIL OF SPANDREL COLUMN CONNECTION TO SPANDREL BEAM. AT POINTS B,C,E,D

NOTE: BRIDGE ARCH SYMMETRICAL ABOUT CENTRE. DETAILS SHOWN ON THIS SHEET ARE TRUE FOR CORRESPONDING GRID LINE POSITIONS J:K:L:M:E,N WHICH HAVE NOT BEEN REFERED TO.

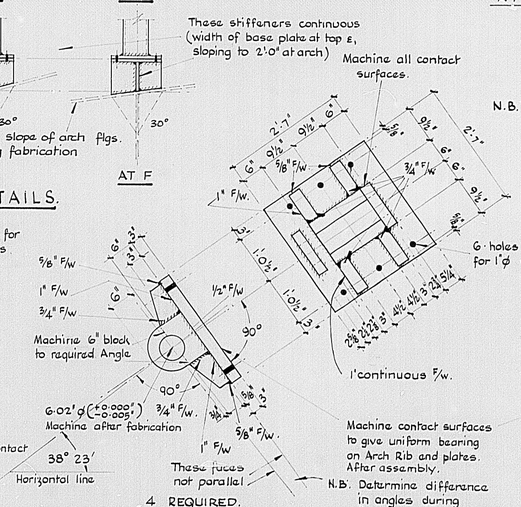


SPANDREL COLUMN BASE AND STOOL DETAILS.



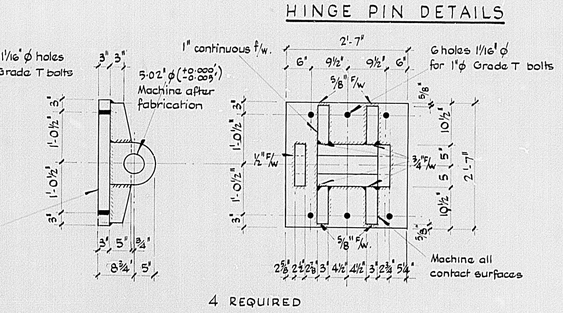
4 REQUIRED

HINGE BEARING PLATE DETAIL (BOLTED TO THRUST BLOCK)



4 REQUIRED.

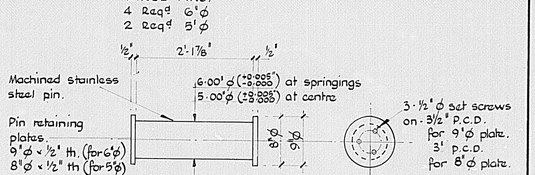
HINGE BEARING PLATE DETAIL (BOLTED TO ARCH RIB AT SPRINGINGS)



4 REQUIRED

HINGE BEARING PLATE DETAIL (BOLTED TO ARCH RIB AT APEX)

HINGE PINS.
4 Req'd 6'ϕ
2 Req'd 5'ϕ



HINGE PIN DETAILS

no.	date	app'd	revision
B.	Apr 71		Note - Re machining added.
B.	Apr 71		Rib slope on hinge rib plates now 3' were 5'6"
			Welding amend^d Con^n at G-site welded.
A.	Jan 72		Redrawn incorporating the following
			amend^ts Hinge pins & bearings / Span: Cols beams

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P.O. Box 93 Phone 82-429

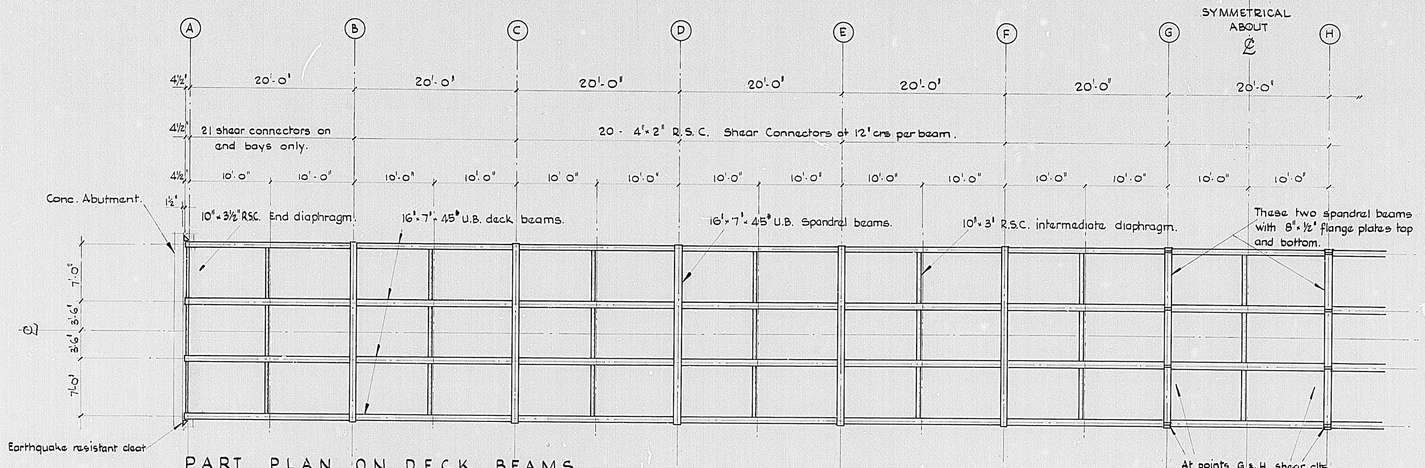
drawn	date	scale
designed H.J.K.	checked	approved
June '71		¾" = 1'-0"

ROXBURGH BRIDGE

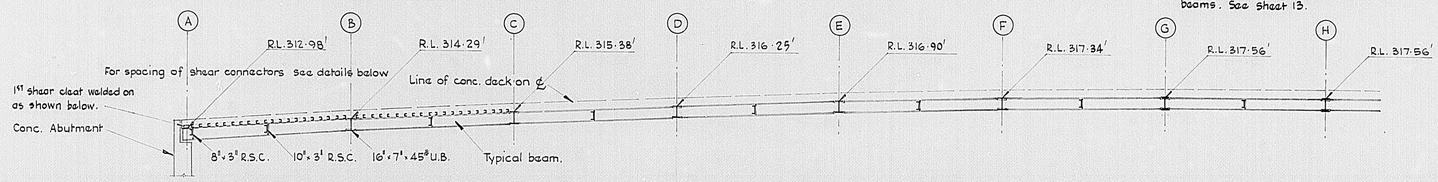
SPANDREL FRAME & BEARING PLTS

no. in set 18 | drawing no 4710/13B

5303



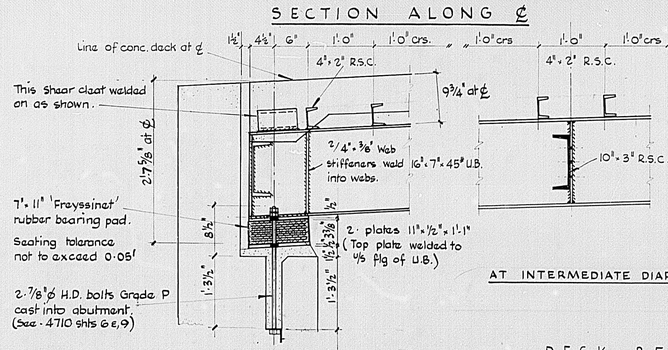
PART PLAN ON DECK BEAMS.



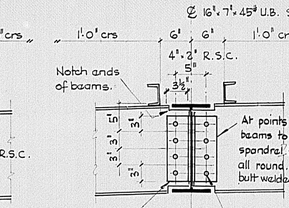
SECTION ALONG ℄

NOTES:

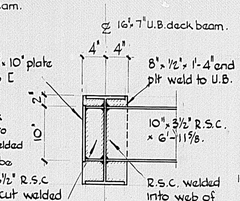
1. All holes 15/16" ϕ unless noted
2. All bolts 7/8" ϕ unless noted
3. All welds ¼" F/w.
4. All bolts (including holding down bolts to be hot dipped galvanised. Except bolts noted as H.S.F.G.



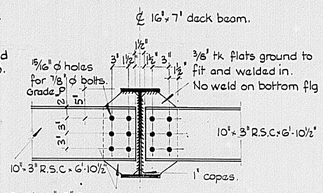
AT BEARINGS



AT SPANDREL BEAM



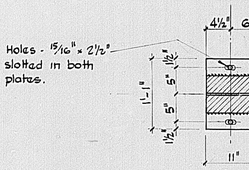
END DIAPHRAGM



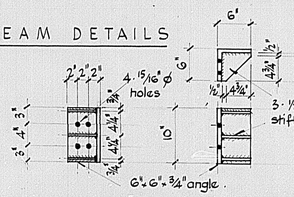
INTERMEDIATE DIAPHRAGM.

DIAPHRAGM CONNECTION DETAILS

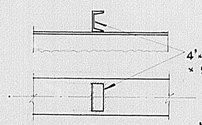
DECK BEAM DETAILS



PLAN ON BEARING



DETAIL OF E/QUAKE RESISTANT CLEAT.
Scale: 1" = 1'-0" 4 Req'd



SHEAR CLEAT DETAIL

All shear cleats weld on thus unless noted otherwise

BEAM CAMBER DIAGRAM

No.	DATE	APP'D.	REVISION
B.	Apr '72	JM.	Bearing detail, detail at G's, H and position of shear connectors amended. End diaphragm repositioned. E/q cleats added.
A	Jan '72	JM.	E/quake linkage deleted bearing detail amended. Spandrel beam conn. amended.

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P.O. Box 93 Phone 82-429

DRAWN	DATE	SCALE
JM.	June 71.	1/8", 1" = 1'-0"
DESIGNED	CHECKED	APPROVED
JM.	JM.	

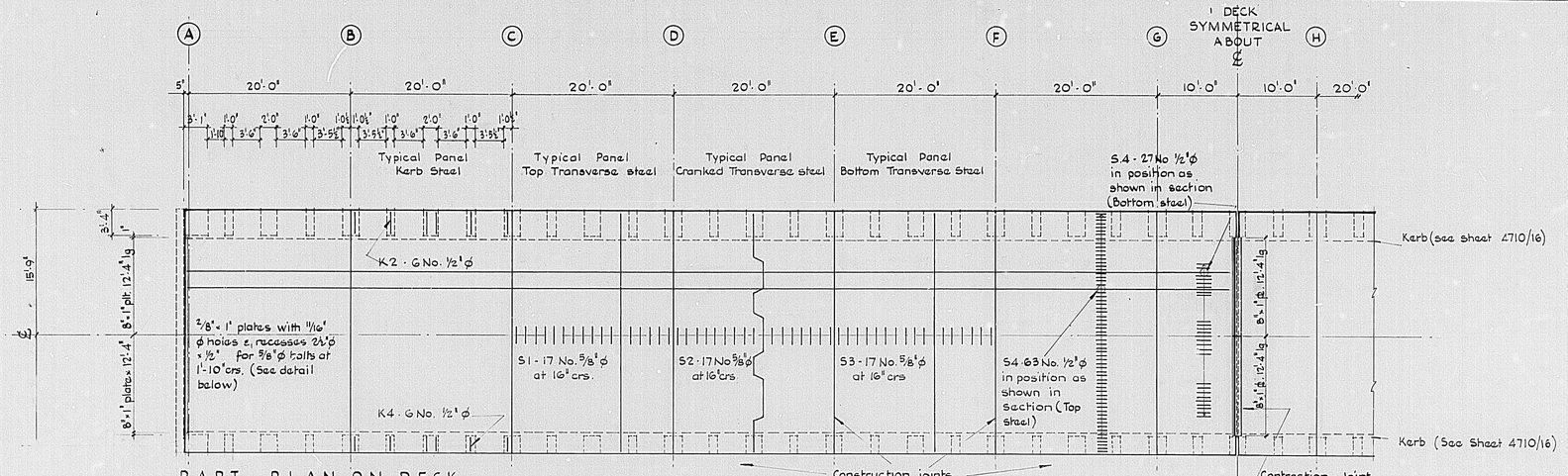
ROXBURGH BRIDGE

DECK BEAMS

No. IN SET 18 DRAWING No. 4710/14B

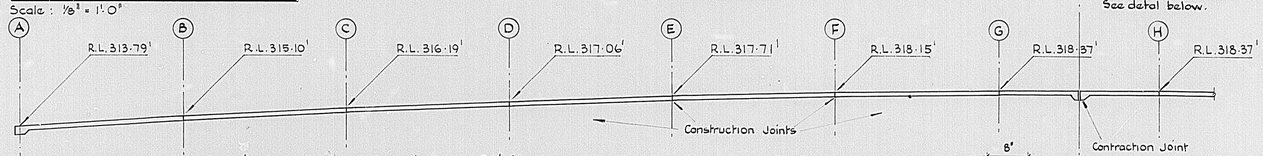
ARCHITECTURAL CONVERSION SCALE A

SYMMETRICAL



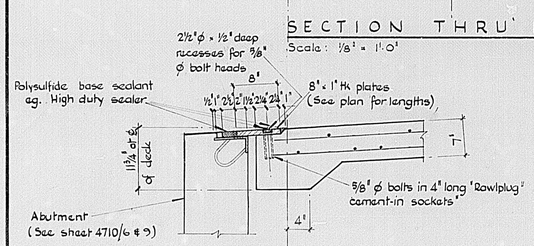
PART PLAN ON DECK

Scale : ⅛" = 1'-0"



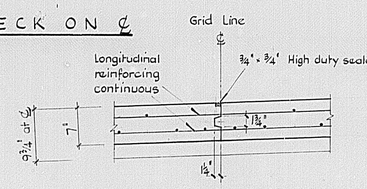
SECTION THRU DECK ON ℄

Scale : ⅛" = 1'-0"



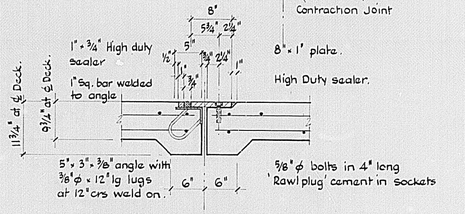
END JOINT

Scale : 1" = 1'-0"



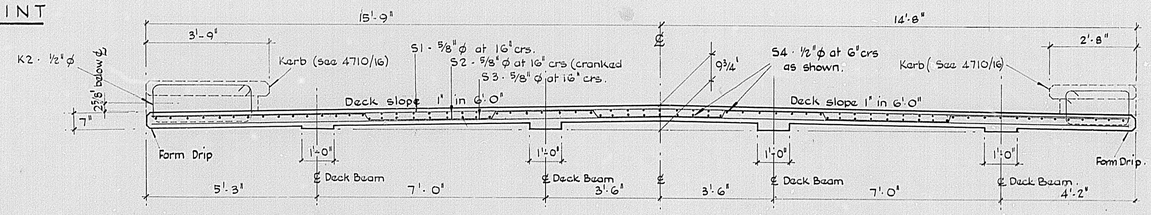
CONSTRUCTION JOINT

Scale: 1" = 1'-0"



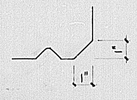
CONTRACTION JOINT

Scale: 1" = 1'-0"



TYPICAL SECTION THRU DECK

Scale : ½" = 1'-0"



DRIP DETAIL

N.T.S.

✳ S4 bars out of stock lengths lapped 28 dia's.

BENDING SCHEDULE

MARK	ϕ	Nº	LENGTH	DIAGRAM
S1	⅝"	221	29'-11"	Bars: S1, S3, S4. All straight bars 29'-11"
S2	⅝"	221	30'-10¼"	3'-3⅛" 3'-7" 2'-10" 3'-7" 2'-10" 3'-7" 3'-3⅛" 5'-4⅜" Bar S2
S3	⅝"	221	29'-11"	
S4	½"	180	130'-2"	3'-2" for K2 2'-1" for K4 1'-1" Bars K2 & K4.
K2	½"	78	9'-6"	
K4	½"	78	7'-4"	

No.	DATE	APP'D.	REVISION
B.	Apr. 72		Deck width increased by 11". S4 bars changed from 12" c/c to 6" c/c. Nos incrd. Contraction joint amend'd. Bar lengths.
A.	Jan 72		Deck slab now continuous - joints amended.

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P.O. Box 93 Phone 82-429

DRAWN	DATE	SCALE
	June 71	As Shown.
DESIGNED	CHECKED	APPROVED

ROXBURGH BRIDGE

DECK DETAILS

No. IN SET 18 DRAWING No. 4710/15B

5303

DECK DETAILS

A1 A2 A3 A4

BENDING SCHEDULE

Mark	ϕ	No Off	Length.	Diagram
K1	3/8"	273	4'-2"	
K3	3/8"	273	3'-1"	
K5	1/2"	12	130'-0"	
E1	1/2"	12	8'-0"	
E2	6g	24	7'-0"	

Stk hooks 3'-3" K1, 1'-3" K3. K5. Straight. E2. E1. 7". 2'-9". 3'-3".

N.B. K, S. bars continuous out of stock lengths 1/2"ϕ bar lapped 28 ϕ's.

ELEVATION ON HANDRAIL AT SOUTHWEST END

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

Spacial panel. 10'-8" approx (check on Site). 10'-0". Spacial top rail. Typical panel with end post connections. End post. Line of existing stone Tower Slope 1:12. Connecting plates grouted into stone. Top of S.W. wing wall. (See 4710/7)

PART ELEVATION ON BRIDGE HANDRAILS

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

A B C D E F G H. 5". 1'. 4". 2'-8". 7'-4". 20'-0". End post. End panel. Typical panel. Top rail joints (on grid line). R.L. 314.50'. R.L. 315.81'. R.L. 316.90'. R.L. 317.77'. R.L. 318.42'. R.L. 318.86'. R.L. 319.08'. R.L. 319.08'. Karb joint (on grid line). Keyed joints on grid lines. Symmetrical about ℄. Expansion joint on ℄. 1'-10". 3'-6". 2'-0". 1'-0". 1'-4".

PLAN ON S.W. END POST

Scale 1/2" = 1'-0"

5". 1'-4". 1'-5". ℄ (grid line). 10" r. Top of abutment. Handrail. Top of wing wall. Hand rail.

TYPICAL END POST

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

3'-0". 4". 2'-8". ℄ (Grid line). E2. 6 No. 6g wire ties. E1. 3 No 1/2"ϕ bars. Hand rail connections. Karb Steel (See Section). Connections for footpath Hand rail (See sheets 5 & 17.). K2 & K4 from deck (See 4710/15). Deck.

NORTH END POST ℄ KERB

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

3'-9". 1". 10". E2. 6 No 6g wire ties. E1. 3 No 1/2"ϕ bars. Karb steel (See Section). K2. from deck (See 4710/15). Deck.

SOUTH END POST ℄ KERB

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

2'-8". 10". 1". E2. 6 No 6g wire ties. E1. 3 No 1/2"ϕ bars. Karb steel (See Section). Hand rail connections on S.W. and post only. K4 from deck (See 4710/15).

U-BOLT

Scale: 3" = 1'-0"

4". 2". 11". Nut & spring washer. 3/4"ϕ U. bolt.

TYPICAL JOINT AT ℄

Scale: 1" = 1'-0"

3/4"ϕ U. bolts. DETAIL OF KEYED JOINT ON GRID LINES. 3/4" Flexcell. Approved rubber between joints eg. 3/4" x 3/4" high duty sealer. K5. K1 & K3. K2 & K4 from deck. 1'-0". 1'-0". N.B. JOINTS ON GRID LINES SIMILAR. SEE KEYED JOINT ABOVE. ALSO K5 RE-BARS CONTINUOUS.

3/4" x 3/4" high duty sealer.

NORTH KERB SECTION

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

3'-9". 8". 4". 3/4"ϕ U. bolts. K5 - 3 No 1/2"ϕ. K1 - 3/8"ϕ @ 12" ctrs. K2 from deck. (See 4710/15).

SOUTH KERB SECTION

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

2'-8". 8". K3 - 3/8" at 12" ctrs. 4". 3/4"ϕ U. Bolt. K5 - 3 No 1/2"ϕ. K4 from deck (See 4710/15).

PLAN ON TOP RAIL

Not to Scale. Typical: L = 19'-11 1/2" x = 9'-7" y = 9'-7". End Post: L = 17'-3 1/2" x = 7'-0" y = 9'-7". Special: L = 10'-5" App. x = 2 3/4" App y = 9'-8".

END POST CONNECTION

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

3". 3 1/2". 1" Radius. 1/4" M.S. plate. 5". 6". 1" x 9/16" slots.

INTERMEDIATE POST CONNECTION

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

1" Radius. 1/4" M.S. plate. 2". 1". 1" x 9/16" slot. 5". 6".

CONNECTION AT GRID LINE

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

Length. 2 1/4" typical. 1 1/4" End post Special. x. 5'. y. 1/2" ϕ bolts in 9/16" ϕ holes tack weld in place. 2 1/4" Typical. 1 1/4" End post Special. End ⊥ 12g weld in each end.

TOP PLATE IN END POST

Scale: 3" = 1'-0"

PANEL PLATE IN END POST

Scale: 3" = 1'-0"

12g ⊥. 1 1/2" r. Base plate. 3". 12g electrode.

SECTION TOP RAIL

Not to Scale

Plate with 4 holes as shown for Grid Line Posts. Plate with 2 holes (not hatched) for intermediate post. All 1/2"ϕ bolts with spring washers. 4" x 2" x 0.16" R.H.S. Pack to suit. 6". 6". 6". 6". 1/2" gap. 3 1/2". 2 1/2". 1". 3/8" x 1 1/2" long. 3 1/4". 2 3/4". 2'-3 1/2". 3'-2". 2". 4 1/4". 4 3/4".

TOP PLATE

Scale: 3" = 1'-0"

7". 1" x 9/16" slots. 2 1/2". 1 1/2". 1". 1/4" M.S. plate. 1 3/4". 1/2". 2 1/2". 3/16" F/w. 1". 3/16" F/w. 4" x 2" x 0.16" R.H.S.

PANEL PLATE

Scale: 3" = 1'-0"

3/4" M.S. plate. 3 1/4". 2 3/4". 4". 7 1/2". 1/2". 1 1/2". 1/4" F/w. 2". 2 3/4". 2". 9 1/2". 1 1/2" x 13/16" slots.

BASE PLATE

Scale 8" = 1'-0"

NORTH KERB SECTION

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

10'-0" ctrs of posts. 19 - M.S. bars 3/4"ϕ at 6" ctrs. 4 1/2". 1 3/4". Slope Varies See Elevation. 2" x 1/2" M.S. Flat. All holes 9/16" ϕ on ℄. 3/4". 2'-1 1/4". All welds 3/16" F/w. 2". 3/4"ϕ x 2" long. 2" x 1/2" M.S. Flat.

TYPICAL PANEL

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

7'-4". 1". 3". 14 - M.S. bars 3/4"ϕ at 6" ctrs. All Slopes same See elevation. 2" x 1/2" M.S. Flat. 4 1/2". 1 3/4". All holes 9/16" ϕ on ℄. 3/4". 2'-1 1/4". All welds 1/8" F/w. 2". 3/4"ϕ x 2" long. 2" x 1/2" M.S. Flat.

END PANEL

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

N.B. (See Handrail at S.W. End for 2 spacial panels)

See also sheets 5 & 17 for elevations of footpath & vantage point handrails. All details as for handrails on this sheet.

No.	DATE	APP'D.	REVISION
B.	Apr 72.	JW.	South. kerb increased to 2'-8". Re-bars increased. Spacial top rail amended.
A.	Jan 72.	JW.	Karb joints amended.

TUAPEKA COUNTY COUNCIL

ROXBURGH BOROUGH COUNCIL

T.H. JENKINS & ASSOCIATES
CONSULTING CIVIL & STRUCTURAL ENGINEERS
T&G BUILDINGS, DEE ST. INVERCARGILL N.Z.
P.O. Box 93 Phone 82-429

DRAWN	DATE	SCALE
JW.	June '71	As Shown.
DESIGNED	CHECKED	APPROVED

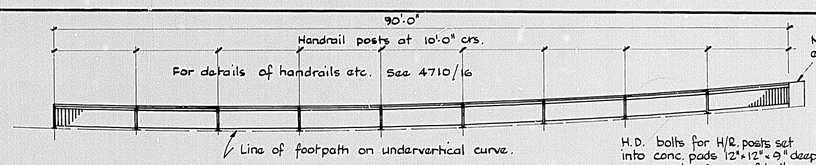
ROXBURGH BRIDGE

KERB & HANDRAILS

No. IN SET 18 | DRAWING No. 4710/16B

5303

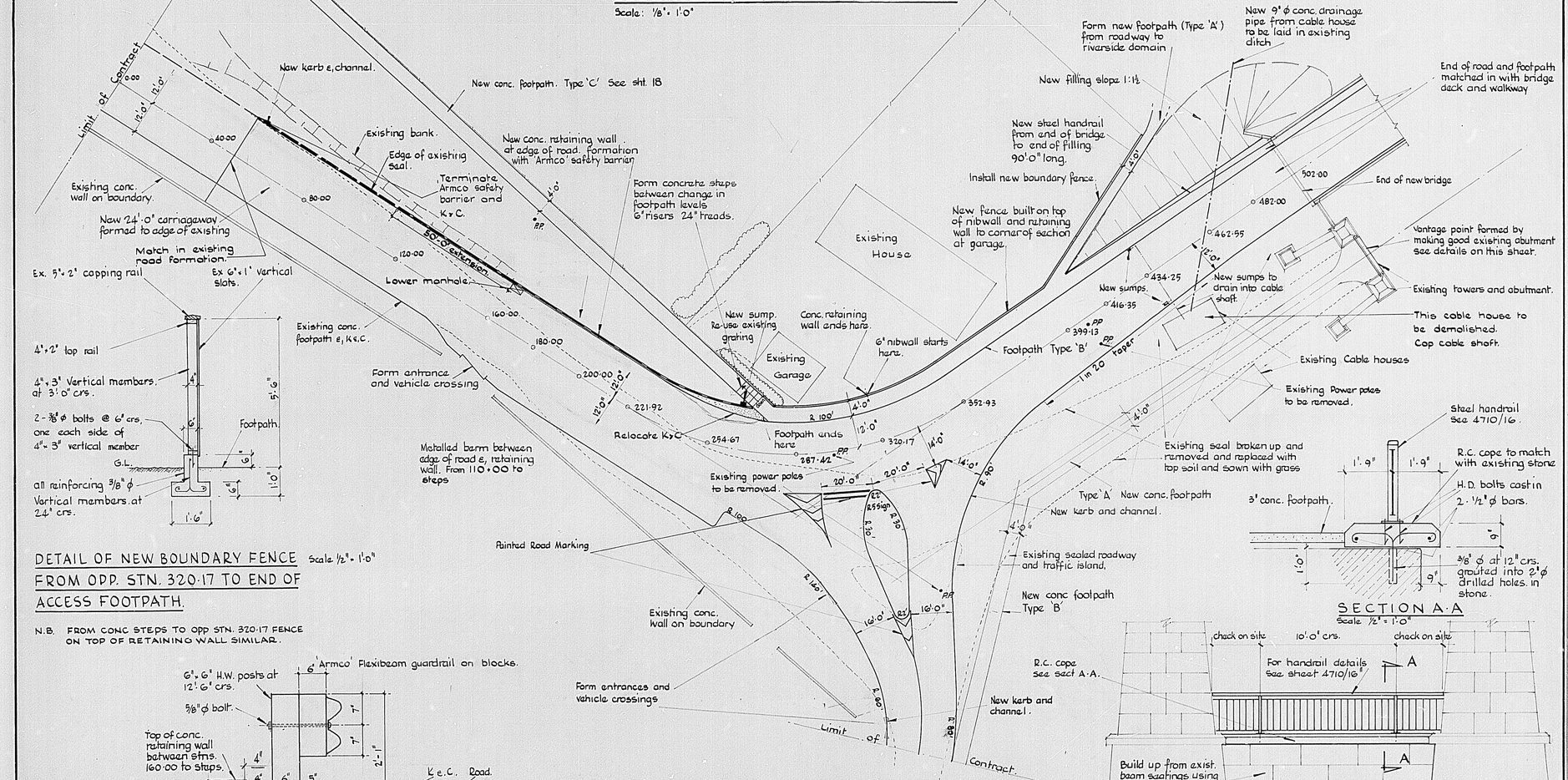
KERB & HANDRAILS



ELEVATION ON FOOTPATH HANDRAIL

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

H.D. bolts for H/R. posts set into conc. pads 12"×12"×9" deep See 4710/16 for crs. of bolts.



PLAN AT WESTERN APPROACH

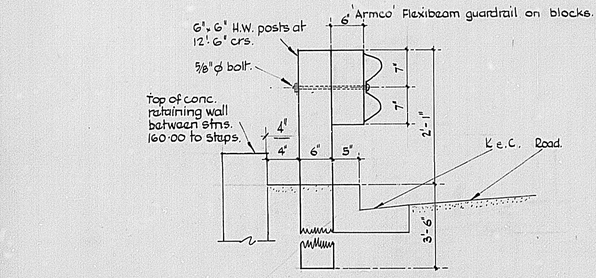
Scale: 20 feet to 1 inch.

SECTION A-A

Scale ½" = 1'-0"

ELEVATION ON VANTAGE POINT LOOKING WEST

Scale ¼" = 1'-0"



DETAIL OF NEW BOUNDARY FENCE FROM OPP. STN. 320-17 TO END OF ACCESS FOOTPATH.

Scale ½" = 1'-0"

N.B. FROM CONC STEPS TO OPP STN. 320-17 FENCE ON TOP OF RETAINING WALL SIMILAR.

DETAIL OF SAFETY FENCE STN. 0-00 TO STEPS

Scale: 1" = 1'-0"

			Cable house demolished.
C	Oct'73	AJS	Safety fence detail amended between stations 50-00 & 280-00
B.	May'72		Traffic island amended.
A	Apr'72		Traffic island amended.
no	date	app'd	revision

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CONSULTING CIVIL & STRUCTURAL ENGINEERS
55-59 GALA STREET INVERCARGILL N.Z.
P.O. Box 93 Phone 82-429

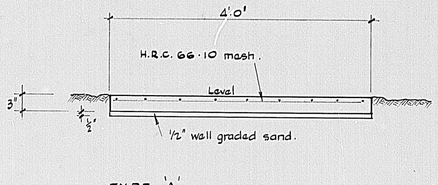
drawn	date Jan 1971	scale as shown	
designed P.R.D.	checked	approved	

ROXBURGH BRIDGE

DETAILS AT WESTERN APPROACH

no in set 18 | drawing no 4710/17C

5303



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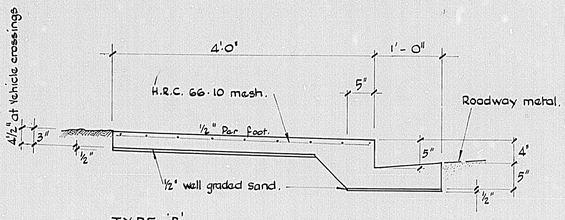
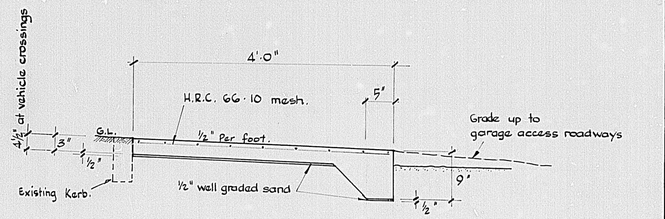


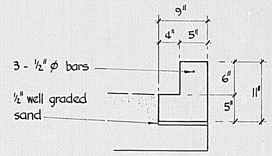
TYPE 'B'



TYPE 'C'

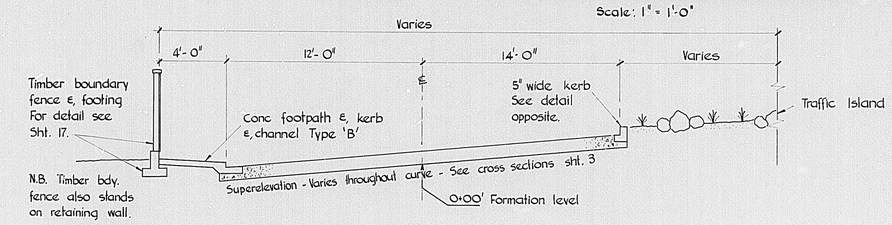
INSITU CONCRETE FOOTPATH, KERB & CHANNEL DETAILS

Scale: 1" = 1'-0"

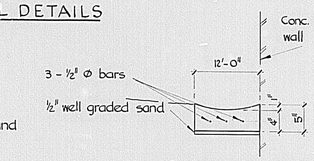


TRAFFIC ISLAND CONC. KERB DETAIL

Scale 1" = 1'-0"

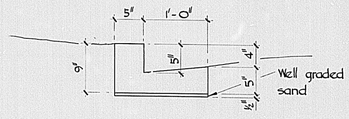


TYPICAL CROSS SECTION AT TRAFFIC ISLAND



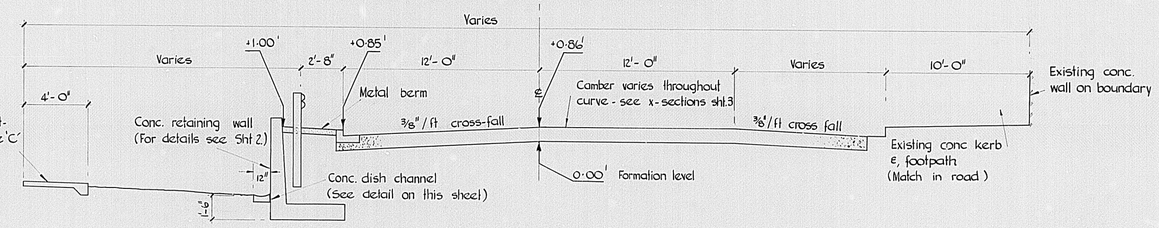
12" DISH CHANNEL

(At base of retaining wall)
Scale 1" = 1'-0"

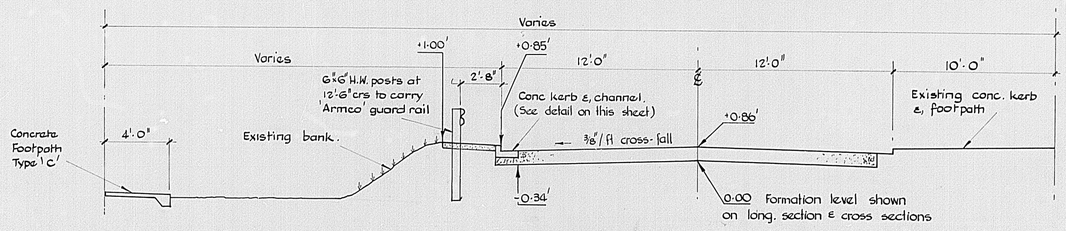


TYPICAL KERB & CHANNEL

Scale : 1" to 1'-0"

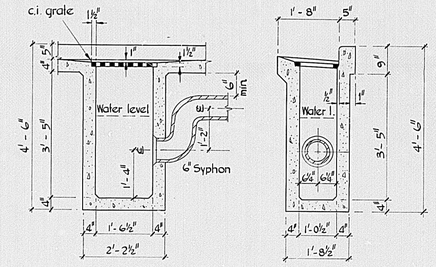


TYPICAL CROSS SECTION FROM ST. 160·00 TO ST. 254·67



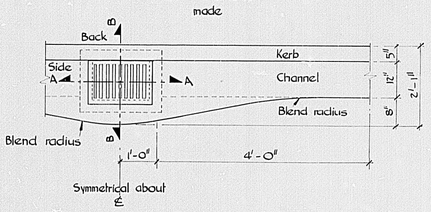
TYPICAL CROSS SECTION FROM ST 0·00 TO ST. 160·00

Scale: ¼" = 1'-0"



SECTION A-A

SECTION B-B



PART PLAN

STORMWATER SUMP

no	date	app'd	revision

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ROXBURGH BOROUGH COUNCIL

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CONSULTING CIVIL & STRUCTURAL ENGINEERS
55-59 GALA STREET INVERCARGILL N.Z.
P.O. Box 93 Phone 82-429

drawn	date	scale
J.W./ tf	Jan '72	As shown
designed J.W.	checked	approved

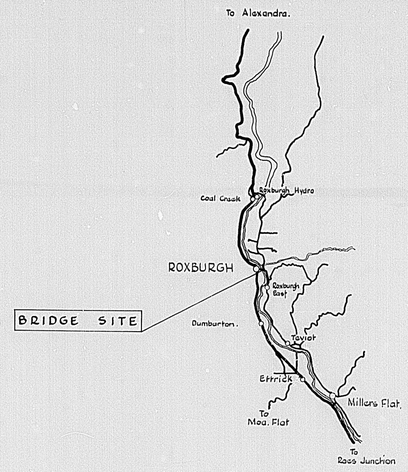
ROXBURGH BRIDGE

TYPICAL ROAD CROSS SECTIONS & DETAILS : WESTERN APPROACHES

no in set	drawing no
18	4710/18

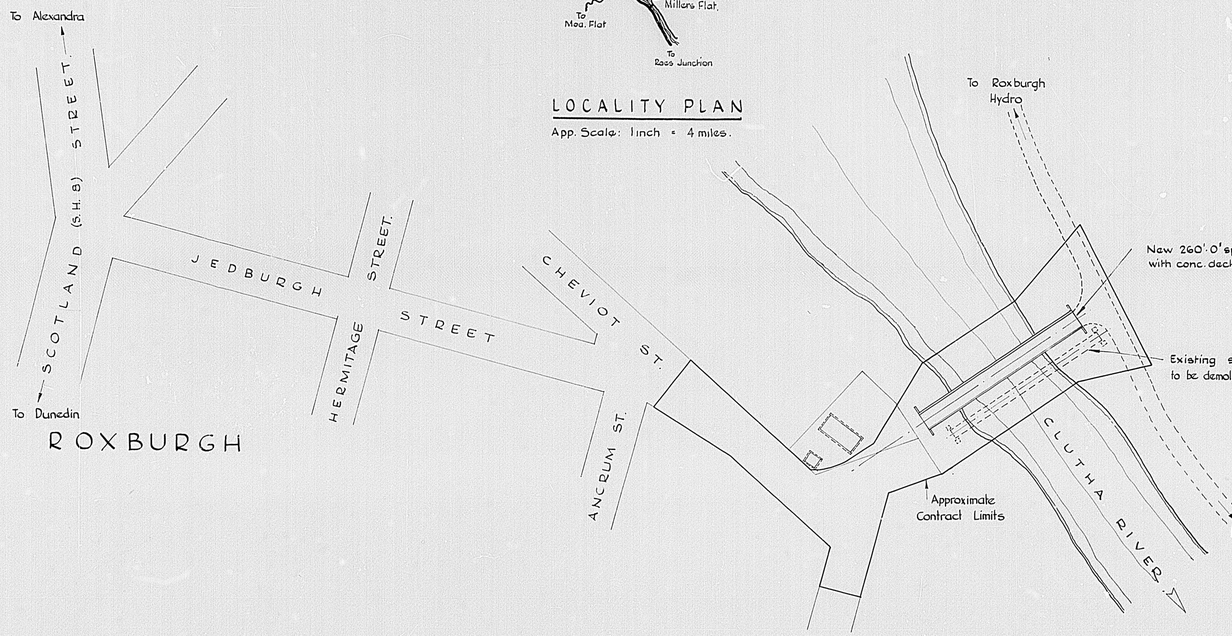
5303

A1 A2 A3 A4



LOCALITY PLAN

App. Scale: 1 inch = 4 miles.



SITE PLAN

4975 REFERENCE DRAWINGS.

1. WEST ABUTMENT SITEWORKS PLAN
2. " " " SECTIONS
3. " " " "

4710 REFERENCE DRAWINGS

1. SITE PLAN LOCALITY PLAN
2. PLAN, LONG. SECTION APPROACH
3. CROSS SECTIONS APPROACHES
4. " " "
5. GENERAL ARRANGEMENT
6. WEST ABUTMENT
7. WEST ABUTMENT - W-WALL DETAILS
8. WEST ABUTMENT - FOOTING DETAILS
9. EAST ABUTMENT
10. EAST WINGWALL
11. THRUST BLOCKS
12. ARCH RIB
13. SPANDREL FRAME & BEARING PLTS
14. DECK BEAMS
15. CONCRETE DECK DETAILS
16. KERB AND HANDRAIL DETAILS.
17. DETAILS OF WESTERN APPROACH
18. DETAILS OF WESTERN APPROACH

No.	DATE	APP'D.	REVISION
A.	31/8/72	JN.	Reference Drgs 7 + Bamand 4975 added

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CONSULTING CIVIL & STRUCTURAL ENGINEERS
T&G BUILDINGS, DEE ST. INVERCARGILL N.Z.
P.O. Box 93 Phone 82-429

DRAWN	DATE	SCALE
JN	Dec. 1970	As Shown.
DESIGNED H.K.	CHECKED T.H.J	APPROVED T.H.J

ROXBURGH BRIDGE

SITE & LOCALITY PLANS

No. IN SET 18 DRAWING No. 4710/1A

5303

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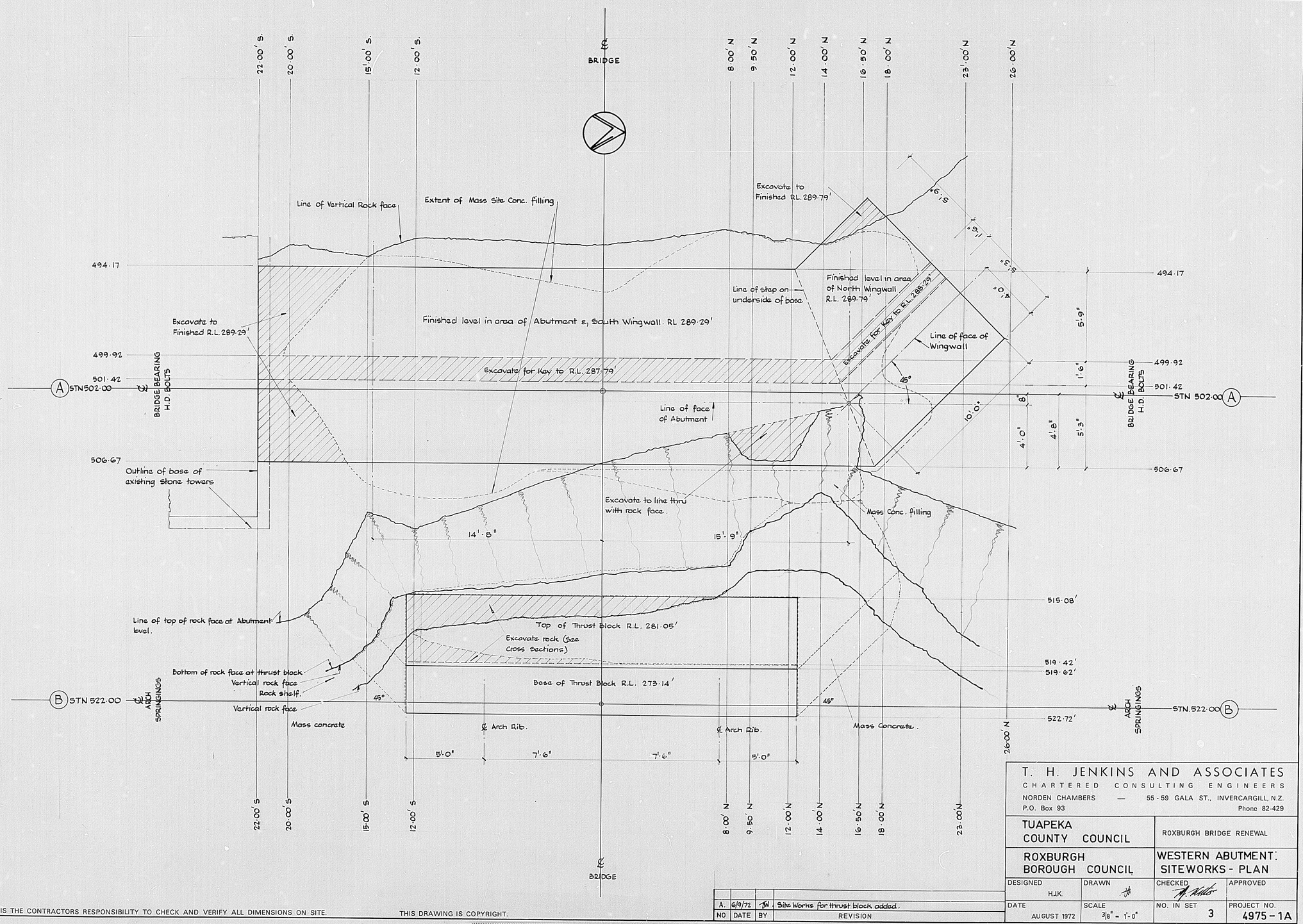

IT IS THE CONTRACTORS RESPONSIBILITY TO CHECK AND VERIFY ALL DIMENSIONS ON SITE.

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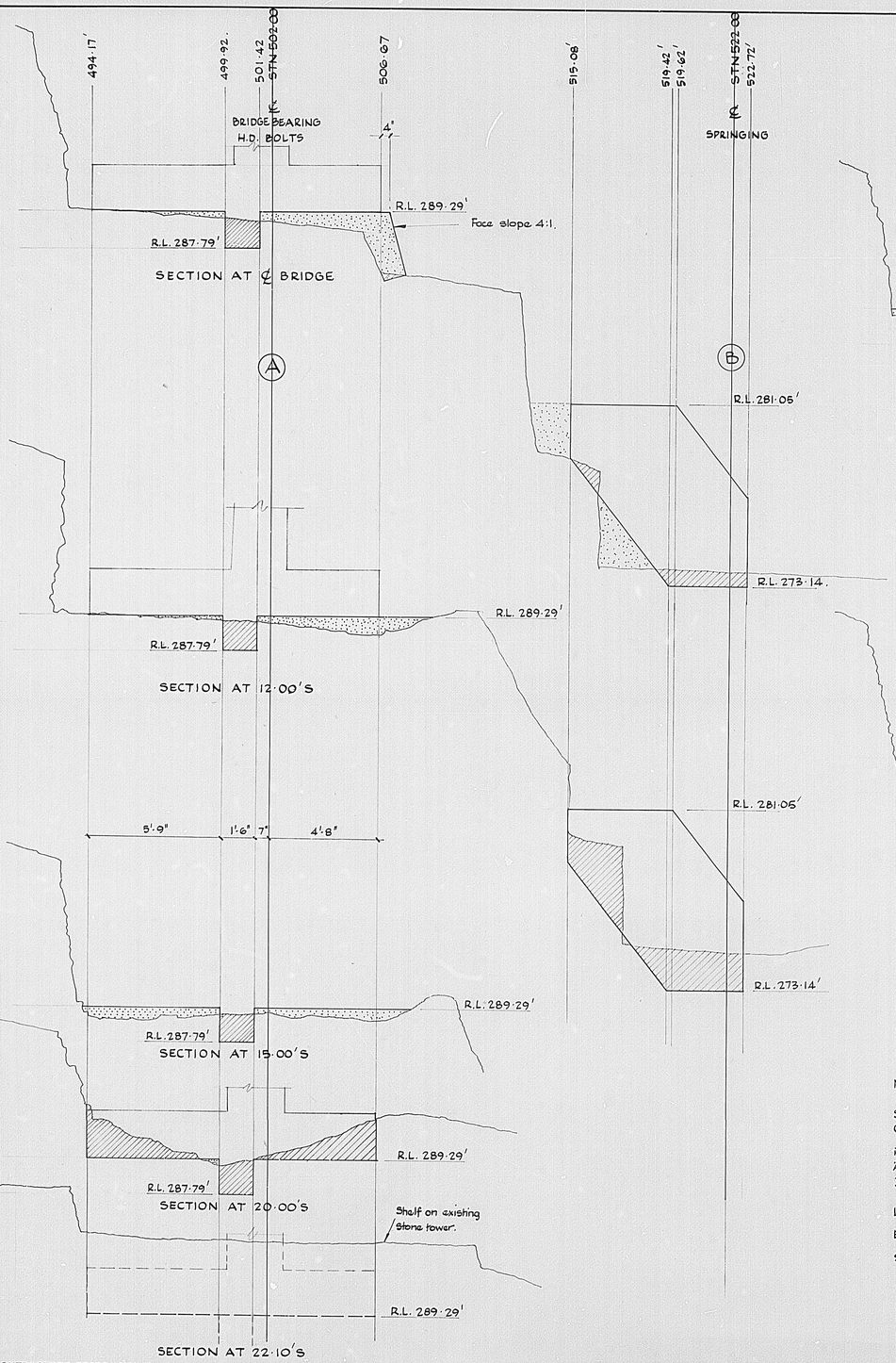
NO	DATE	BY	REVISION
A.	6/9/72	JW	Site Works for thrust block added.

T. H. JENKINS AND ASSOCIATES
CHARTERED CONSULTING ENGINEERS
NORDEN CHAMBERS — 55-59 GALA ST., INVERCARGILL, N.Z.
P.O. Box 93 Phone 82-429

TUAPEKA COUNTY COUNCIL	ROXBURGH BRIDGE RENEWAL
ROXBURGH BOROUGH COUNCIL	WESTERN ABUTMENT: SITEWORKS - PLAN

DESIGNED	DRAWN	CHECKED	APPROVED
H.J.K.	JW		
DATE	SCALE	NO. IN SET	PROJECT NO.
AUGUST 1972	3/8" - 1'-0"	3	4975 - 1A

5303



NOTES

SITE CONCRETE TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 1500 lbs P.S.I. (MIN)

REINFORCING TO BE H.R.C. 665 MESH 2" FROM ALL EXPOSED FACES AND WITH ¾"ϕ BARS GROUTED INTO ROCK AT 2'0" C.C. VERTICALLY 3'0" CRS HORIZONTALLY

LEGEND

EXCAVATE SOLID ROCK ---

SITE CONCRETE ----------

IT IS THE CONTRACTORS RESPONSIBILITY TO CHECK AND VERIFY ALL DIMENSIONS ON SITE.

THIS DRAWING IS COPYRIGHT.

NO	DATE	BY	REVISION
A.	6/8/72	JH.	Thrust Block site works added. Actual rock slopes added.

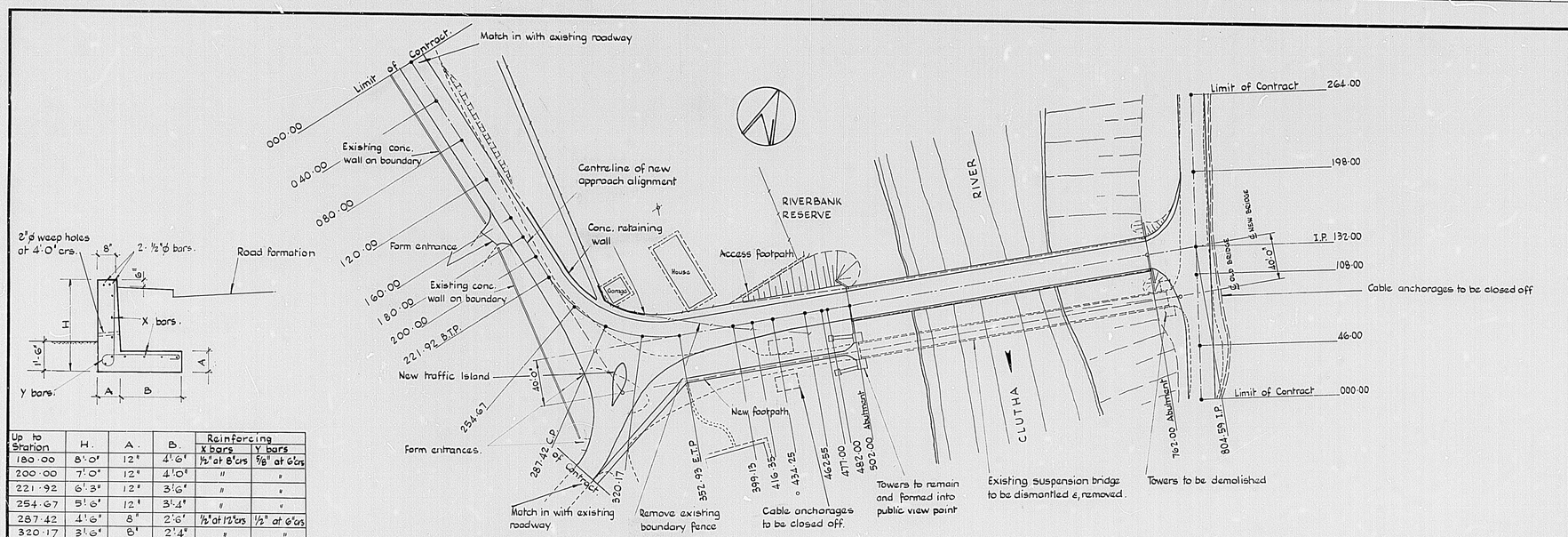
T. H. JENKINS AND ASSOCIATES
CHARTERED CONSULTING ENGINEERS
NORDEN CHAMBERS — 55-59 GALA ST., INVERCARGILL, N.Z.
P.O. Box 93 Phone 82-429

TUAPEKA COUNTY COUNCIL	ROXBURGH BRIDGE RENEWAL
ROXBURGH BOROUGH COUNCIL	WESTERN ABUTMENT. SITEWORKS - SECTIONS

DESIGNED	DRAWN	CHECKED	APPROVED
H.J.K.	JH.		
DATE	SCALE	NO. IN SET	PROJECT NO.
AUGUST 1972	3/8" = 1'-0"	3	4975 - 2A

5303

A1 A2 A3 A4



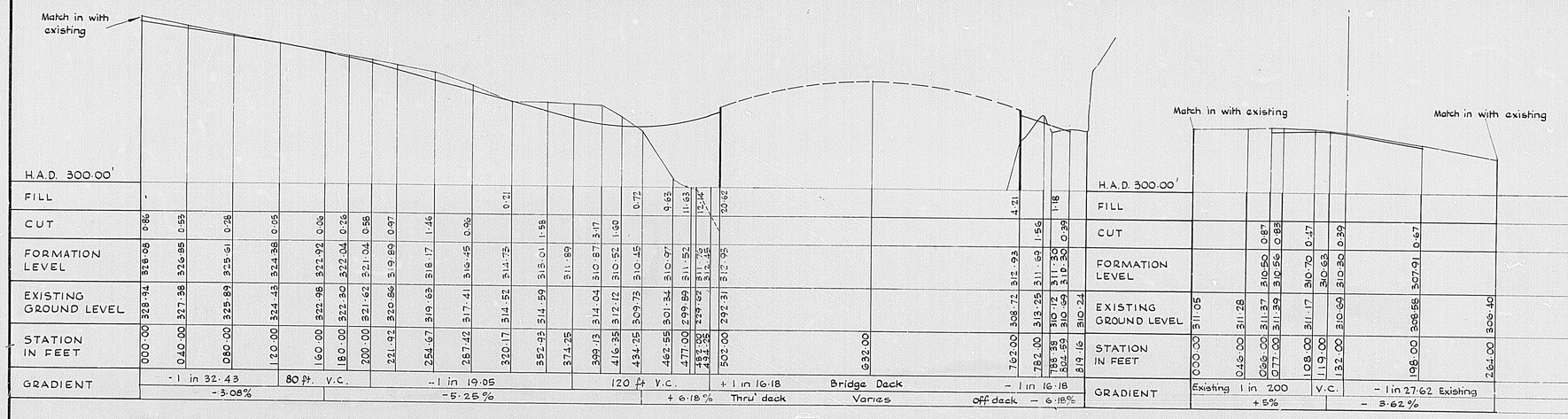
Up to Station	H.	A.	B.	Reinforcing X bars	Reinforcing Y bars
180·00	8'·0"	12"	4'·6"	½" at 8' crs	⅝" at 6' crs
200·00	7'·0"	12"	4'·0"	"	"
221·92	6'·3"	12"	3'·6"	"	"
254·67	5'·6"	12"	3'·4"	"	"
287·42	4'·6"	8"	2'·6"	½" at 12" crs	½" at 6' crs
320·17	3'·6"	8"	2'·4"	"	"

RETAINING WALL DETAILS

Stn 160+00 to Stn 320·17

PLAN

Scale: 50'·1"



LONGITUDINAL SECTION ROXBURGH APPROACH

Scale: Vertical 10'·0" to 1"
Horizontal 50'·0" to 1"

LONGITUDINAL SECTION EASTERN APPROACH

No.	DATE	APP'D.	REVISION
A.	Apr. '72	TJH.	Traffic Island amended
			Retaining wall reinforcing amended.

TUAPEKA COUNTY COUNCIL

ROXBURGH BOROUGH COUNCIL

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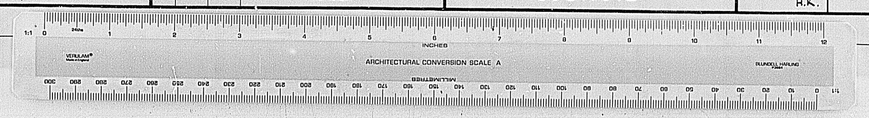
CONSULTING CIVIL & STRUCTURAL ENGINEERS
T&G BUILDINGS, DEE ST. INVERCARGILL N.Z.
P.O. Box 93 Phone 82-429

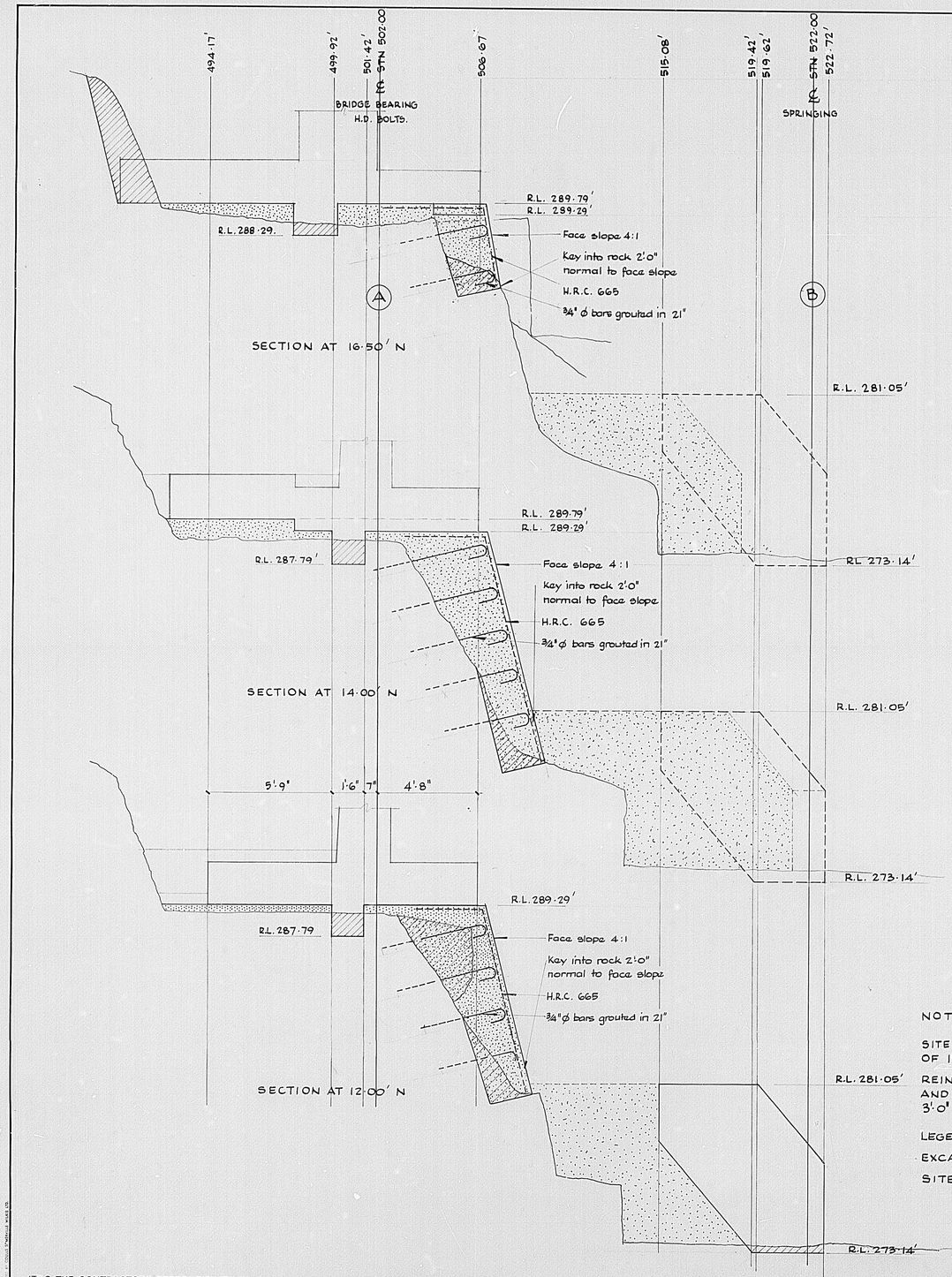
DRAWN	DATE	SCALE
TJH	Jan 1971	As Shown.
DESIGNED H.K.	CHECKED T.H.J.	APPROVED T.H.J

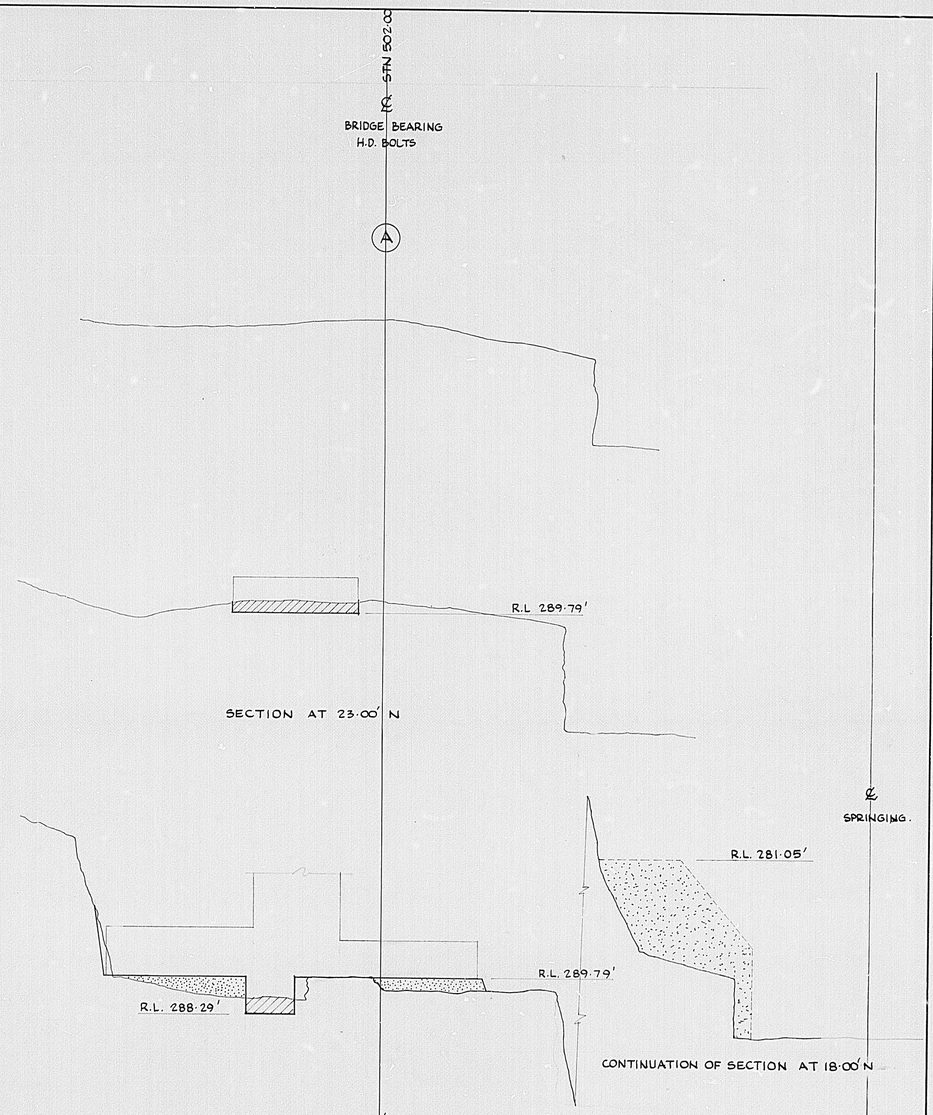
ROXBURGH BRIDGE

APPROACHES
PLAN & LONG. SECTION

No. IN SET 18 | DRAWING No. 4710/2A







NOTES

SITE CONCRETE TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 1500 lbs P.S.I. (MIN)

REINFORCING TO BE H.R.C. 665 MESH 2" FROM ALL EXPOSED FACES AND WITH 3/4" ø BARS GROUTED INTO ROCK AT 2'0" C.C. VERTICALLY 3'0" CRS HORIZONTALLY

LEGEND

EXCAVATE SOLID ROCK ---

SITE CONCRETE ---------

NO	DATE	BY	REVISION
A.	6/8/72	JM	Thrust Block Sitz works added. Actual rock slopes added.

IT IS THE CONTRACTORS RESPONSIBILITY TO CHECK AND VERIFY ALL DIMENSIONS ON SITE.

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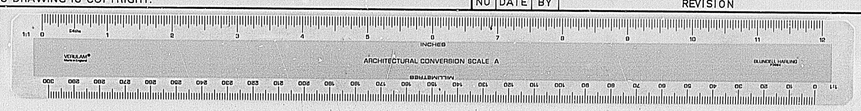
CHARTERED CONSULTING ENGINEERS
NORDEN CHAMBERS — 55-59 GALA ST., INVERCARGILL, N.Z.
P.O. Box 93 Phone 82-429

TUAPEKA COUNTY COUNCIL	ROXBURGH BRIDGE RENEWAL
ROXBURGH BOROUGH COUNCIL	WESTERN ABUTMENT. SITEWORKS - SECTIONS

DESIGNED	DRAWN	CHECKED	APPROVED
H.J.K.	JM		
DATE	SCALE	NO. IN SET	PROJECT NO.
AUGUST 1972	3/8" = 1'-0"	3	4975-3A



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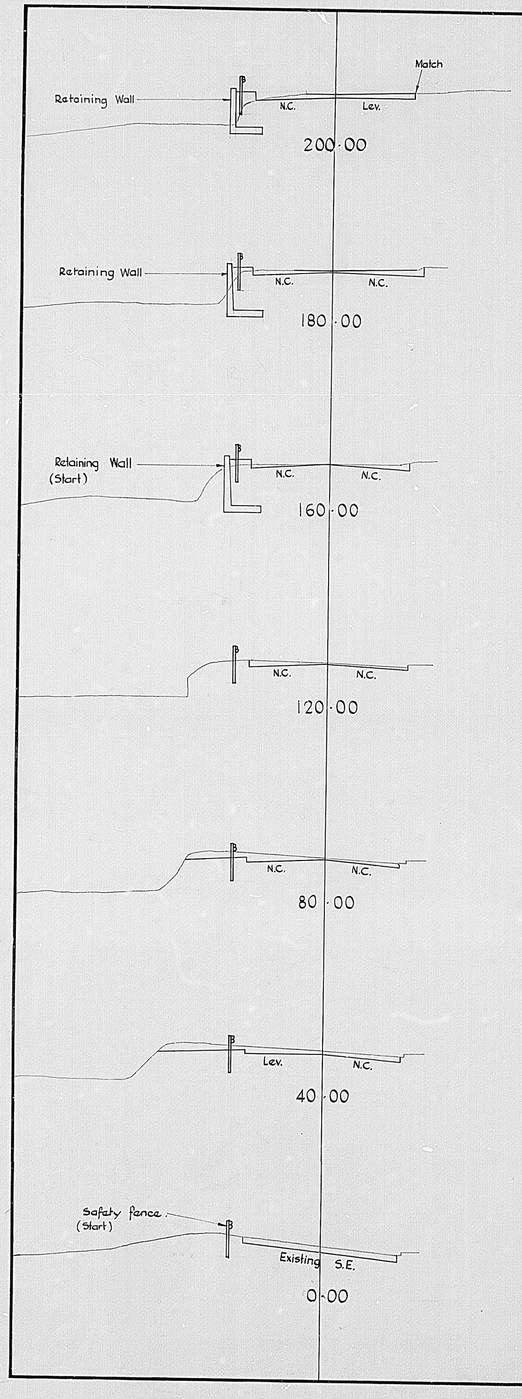
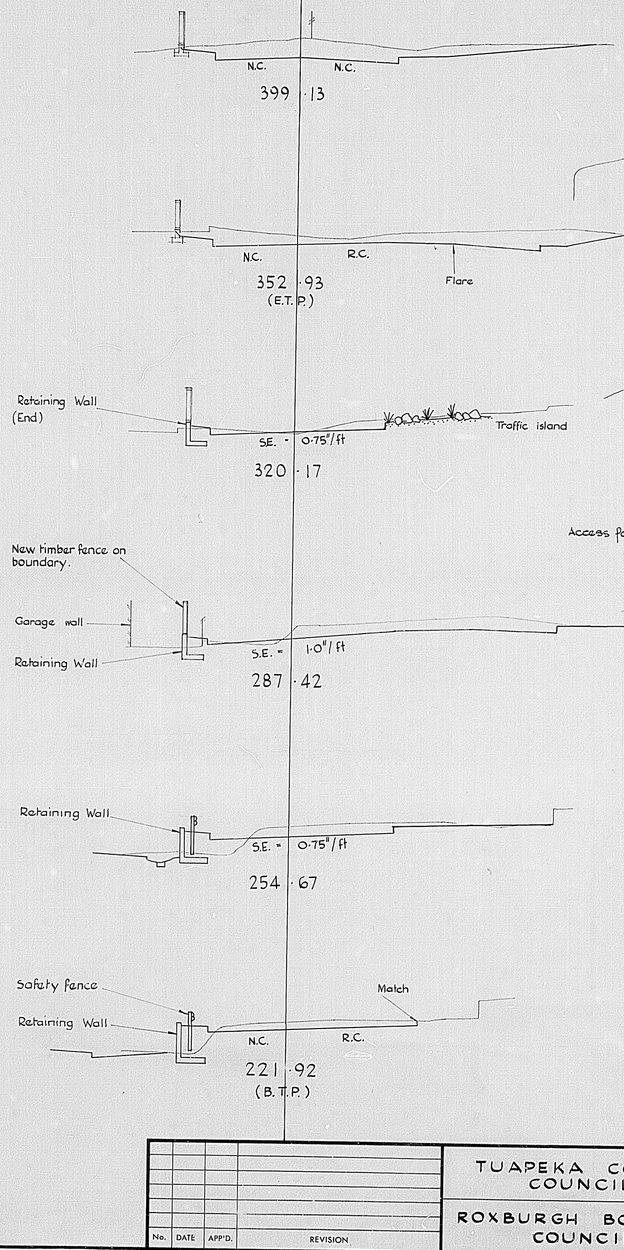
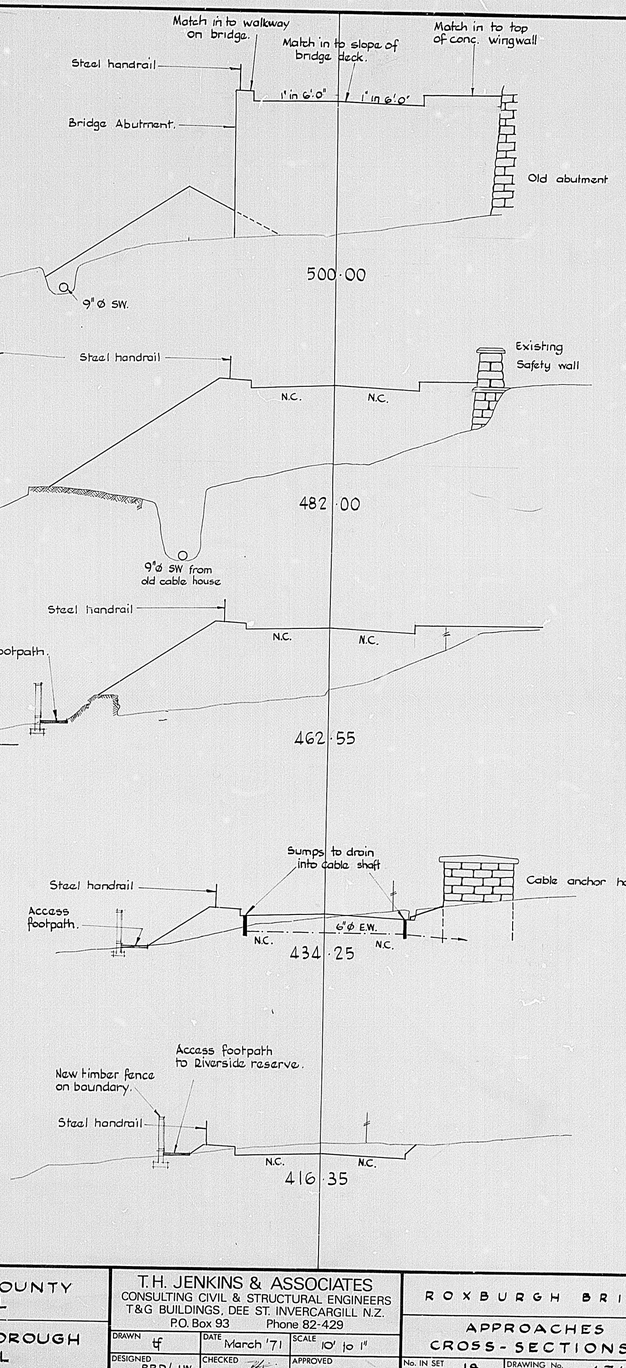
A1 A2 A3 A4 A4 A3 A2 A1







No.	DATE	APP'D.	REVISION

TUAPEKA COUNTY COUNCIL

ROXBURGH BOROUGH COUNCIL

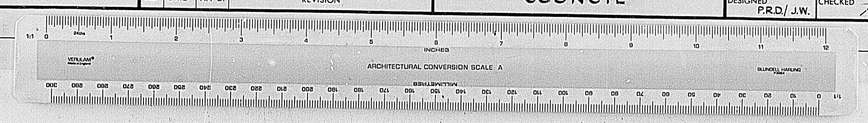
T.H. JENKINS & ASSOCIATES
CONSULTING CIVIL & STRUCTURAL ENGINEERS
T&G BUILDINGS, DEE ST. INVERCARGILL N.Z.
P.O. Box 93 Phone 82-429

DRAWN	DATE	SCALE
tf	March '71	10' to 1"
DESIGNED P.R.D./J.W.	CHECKED	APPROVED

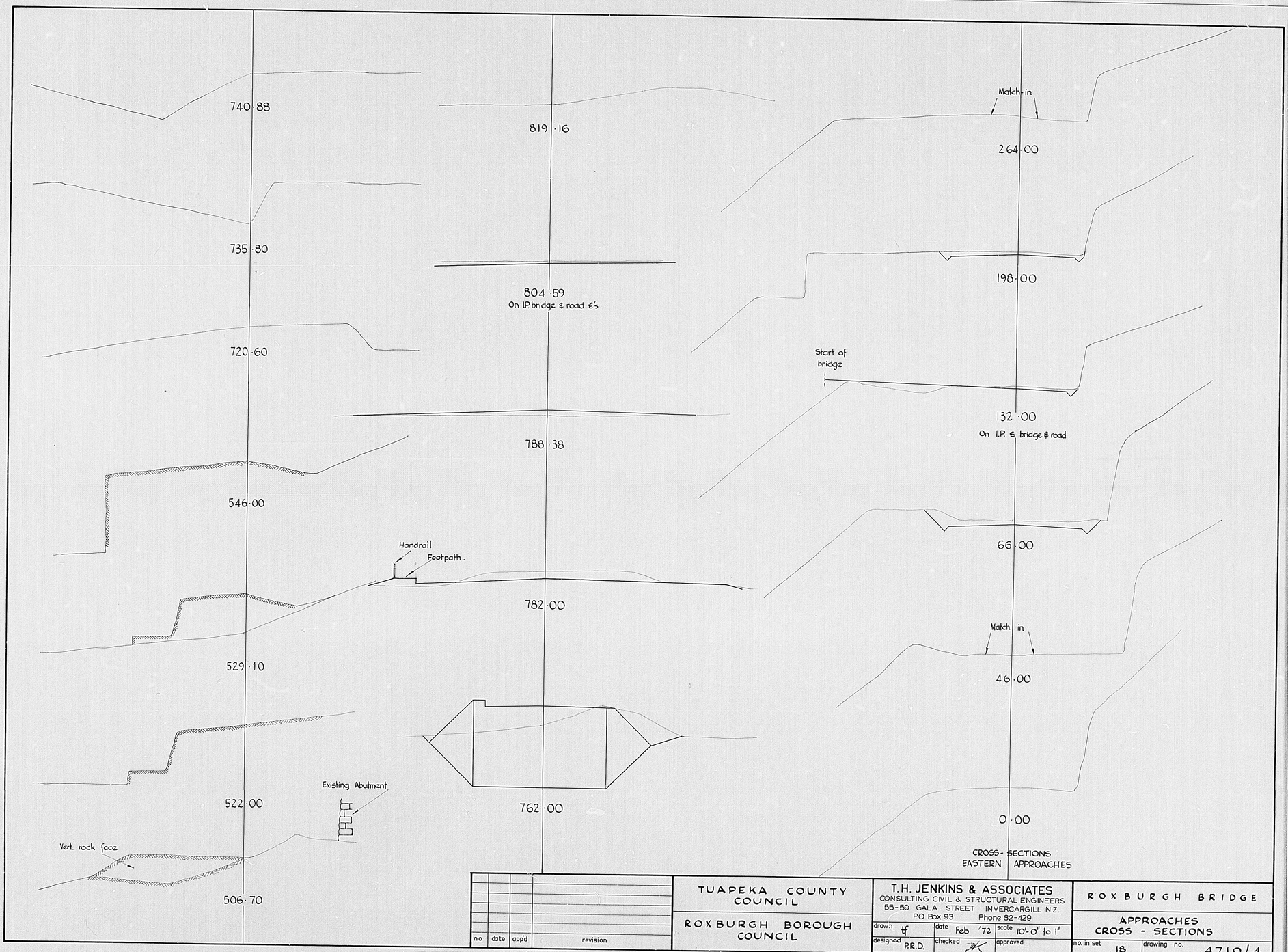
ROXBURGH BRIDGE

APPROACHES
CROSS-SECTIONS

No. IN SET	DRAWING No.
18	4710/3



A1 A2 A3 A4



no	date	appd	revision

TUAPEKA COUNTY COUNCIL

ROXBURGH BOROUGH COUNCIL

T.H. JENKINS & ASSOCIATES
CONSULTING CIVIL & STRUCTURAL ENGINEERS
55-59 GALA STREET INVERCARGILL N.Z.
PO Box 93 Phone 82-429

drawn	tf	date	Feb '72	scale	10'-0" to 1"
designed	P.R.D.	checked		approved	

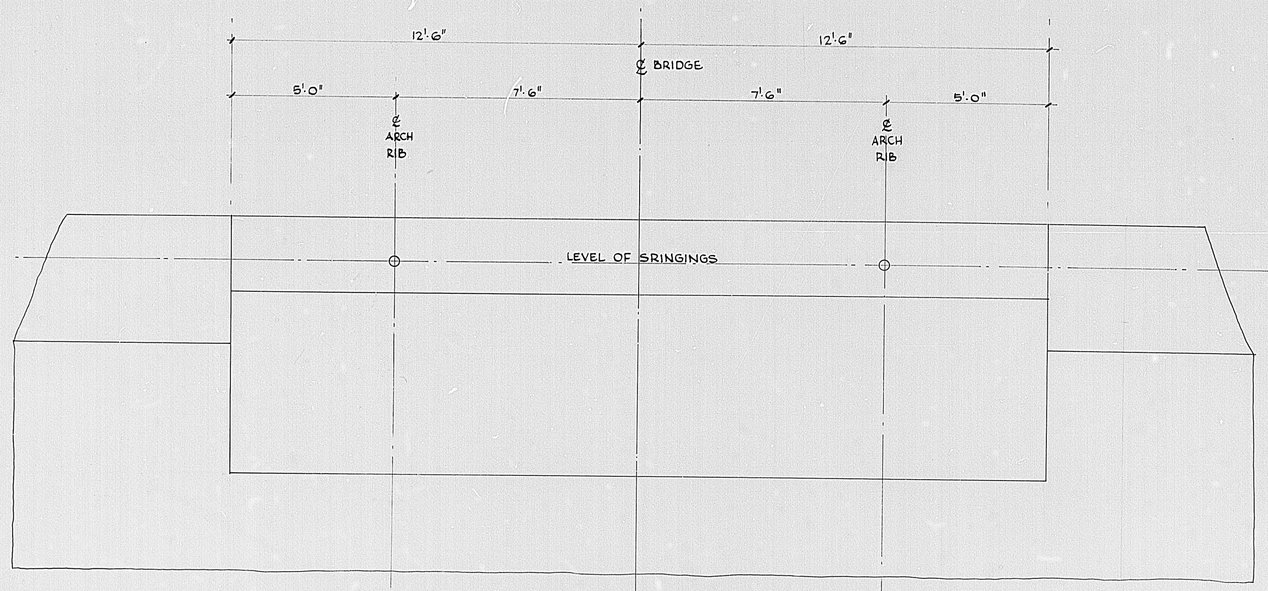
ROXBURGH BRIDGE

APPROACHES
CROSS - SECTIONS

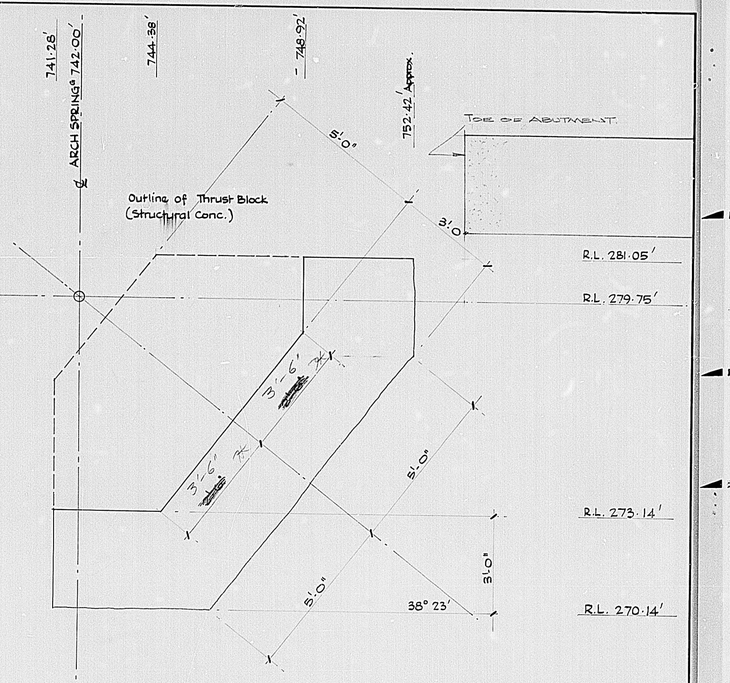
no. in set	18	drawing no.	4710/4

5303

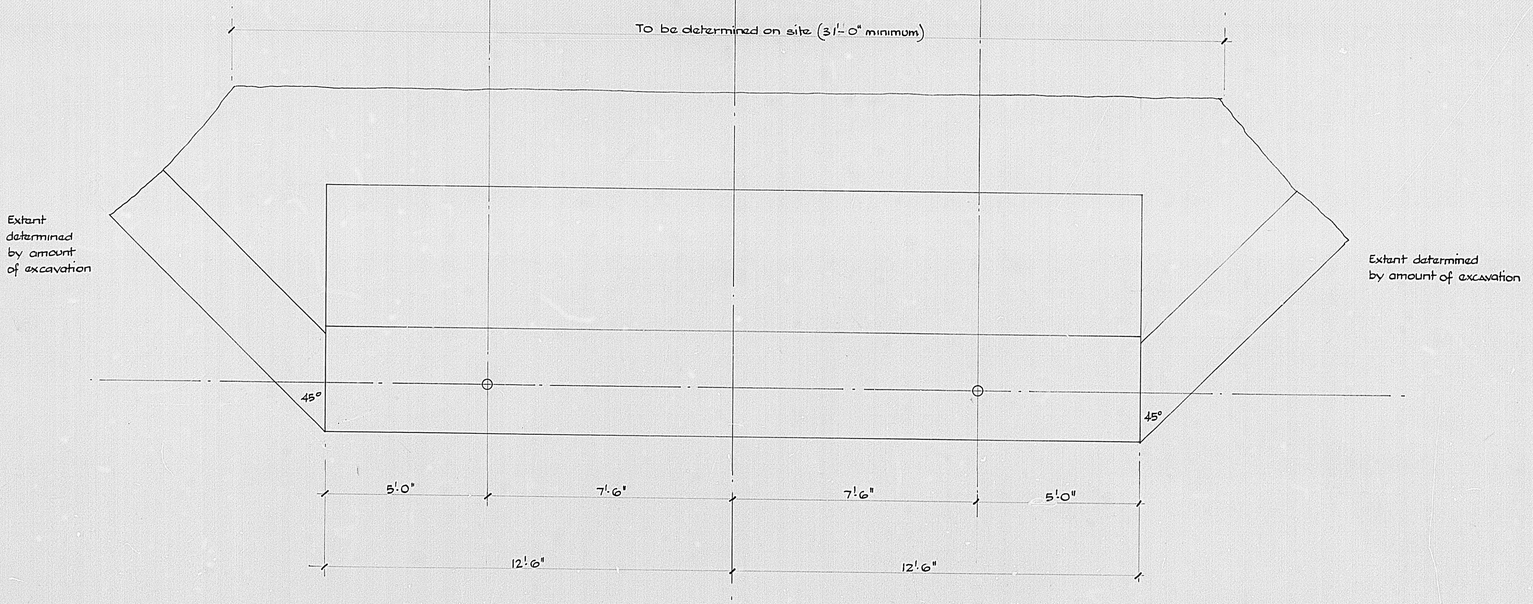
A1 A2 A3 A4 A4 A3 A2 A1



ELEVATION



SECTION



PLAN

N.B. DETAIL OF EAST THRUST BLOCK NOW SAME AS WEST THRUST BLOCK SEE DRG. 4710/11 C.

IT IS THE CONTRACTORS RESPONSIBILITY TO CHECK AND VERIFY ALL DIMENSIONS ON SITE.

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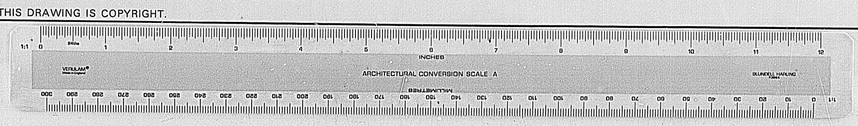

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CHARTERED CONSULTING ENGINEERS
NORDEN CHAMBERS — 55-59 GALA ST., INVERCARGILL, N.Z.
P.O. Box 93 Phone 82-429

TUAPEKA COUNTY COUNCIL	ROXBURGH BRIDGE RENEWAL
ROXBURGH BOROUGH COUNCIL	EASTERN THRUST BLK MASS CONC.

DESIGNED	DRAWN	CHECKED	APPROVED
H.J.K.	DN.		
DATE	SCALE	NO. IN SET	PROJECT NO.
Oct. 72	½" = 1'-0"	1	4975-4

5303

A1 A2 A3 A4

260'-0" between end bearings.

220'-0" Span of Steel Arch. (Vertical Curve on deck)

42.59'

℄ Intersection

20'-0"

20'-0"

90'-0"
(Steel handrail on North Side only)

Outline of existing Towers. (To remain)

A B C D E F G H J K L M N P

13 Spans at 20'-0"

ROXBURGH

12"×12" R.H.S.

10"×10" R.H.S.

8'-8" Steel Handrails

7"×7" R.H.S.

6'-6" Conc Deck & Kerb

6"×10" R.H.S.

7"×7" R.H.S.

8"×8" R.H.S.

10"×10" R.H.S.

12"×12" R.H.S.

Conc. end post

16"×7"×45# U.B. deck beams.

16"×7"×45# U.B. deck beams.

Hinge

R.C. Abutment

3/Welded steel plate Arches

35'-3"

Original Ground level on ℄ of bridge

R.C. abutment.

Original Ground level on ℄ Bridge.

Level of Springings R.L. 279.75'

Hinge

Conc. Anchor Block

Conc Anchor Block

Normal Water Level. R.L. 254.00'

SOUTH ELEVATION

Scale: 15' to 1"

Handrail on footpath.

Footpath to match into Walkway on Bridge

Conc. kerb & walkway

B A RIVER

℄ Arch.

Steel hand-rail

Conc. end-post

New Approach Alignment.

Conc. end post.

Steel H/rail 45'0" long (See sheet 16 for details)

Footpath

4'-0" Conc. Footpath TYPE 'C' (See detail on sheet 18)

ROXBURGH.

Wall built between Existing towers. (Use material from east towers after demolition.)

Conc. kerb

B A CLUTHA

Steel hand-rail

Armco guard-rail 56'0" long See sheet 17. for details

Outline of existing Suspension Bridge To be Removed

Existing towers to be demolished.

TEVIOT MILLER'S FLAT

PLAN

Scale: 15' to 1"

Steel handrail.

Concrete deck.

Steel handrails

Armco Guard rail.

Wing Walls ℄ Abutments.

Arch Bracing

Steel Arch ribs

Conc. Anchor Block.

Water level

SECTION A-A Scale: 15' to 1"

2'8" 24'-0" 3'9"

12'-0" 12'-0"

Bridge Deck on Vertical Curve

walk-way

Steel handrail

16"×7" U.B. Spandrel beams

R.H.S Spandrel Cols @ 20ft crs.

7'-0" 3'-6" 3'-6" 7'-0"

7'-6" 7'-6"

SECTION B-B

Scale: ¼" - 1'0"

No.	DATE	APP'D.	REVISION
B.	Apr. 72	JW.	South Kerb increased from 1'-9" to 2'-8"
			Metal shoulder at N.E approach - sealed.
A	Jan '72	JW.	Spandrel column sections increased.

TUAPEKA COUNTY COUNCIL

ROXBURGH BOROUGH COUNCIL

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CONSULTING CIVIL & STRUCTURAL ENGINEERS
T&G BUILDINGS, DEE ST. INVERCARGILL N.Z.
P.O. Box 93 Phone 82-429

DRAWN	DATE	SCALE
JW.	Dec. 1970	15' to 1"
DESIGNED H.K.	CHECKED T.H.J.	APPROVED T.H.J.

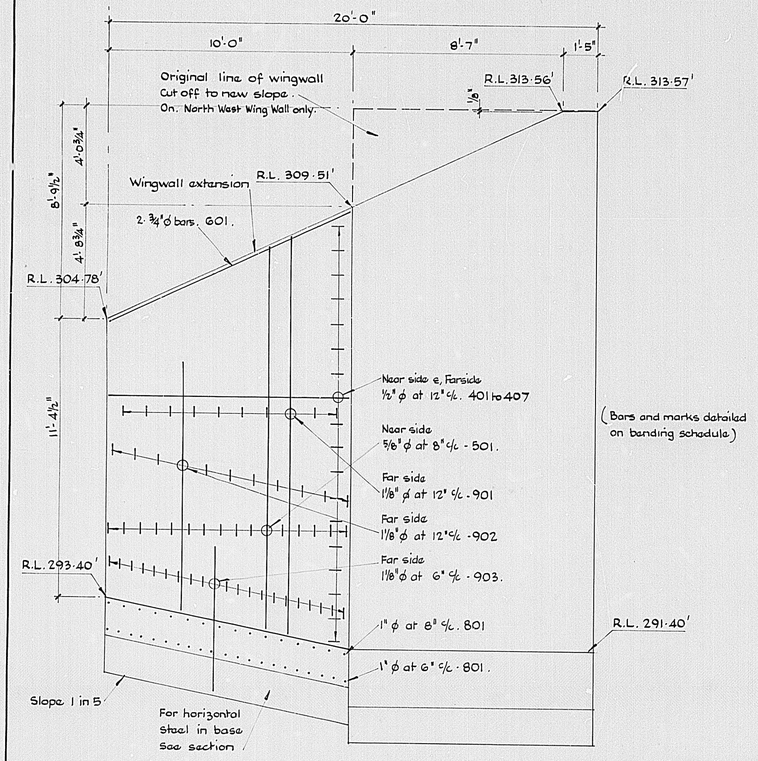
ROXBURGH BRIDGE

GENERAL ARRANGEMENT

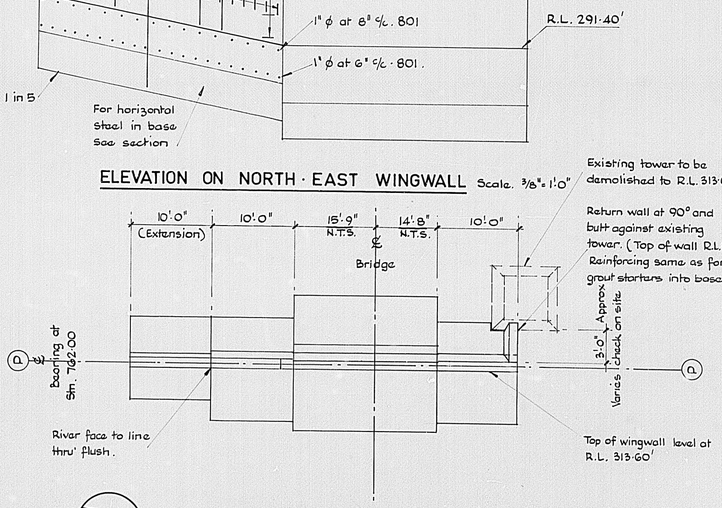
No. IN SET 18 DRAWING No. 4710/5B

5303

A1 A2 A3 A4

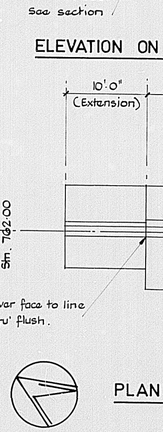


ELEVATION ON NORTH · EAST WINGWALL Scale. ⅜"= 1'0"

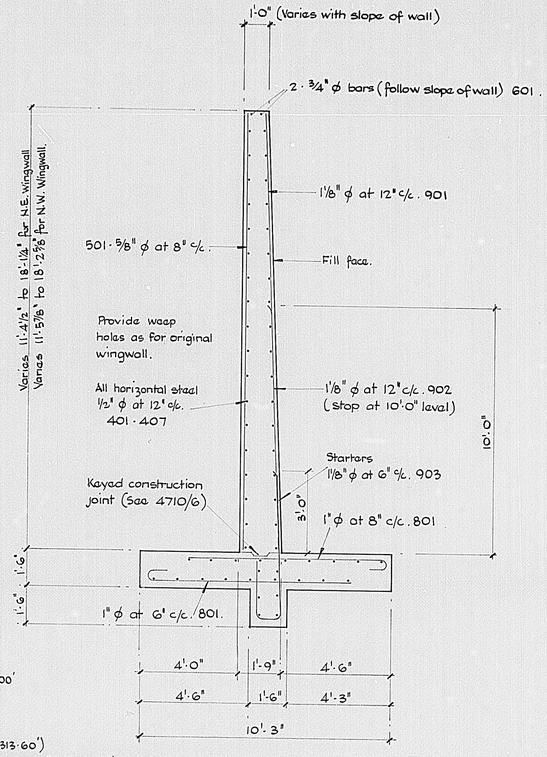


Existing tower to be demolished to R.L. 313.00'

Return wall at 90° and butt against existing tower. (Top of wall R.L. 313.60') Reinforcing same as for stem of N.E. extension grout starters into base of original Wingwall.



PLAN ON EASTERN ABUTMENT Scale 1/8"= 1'0"

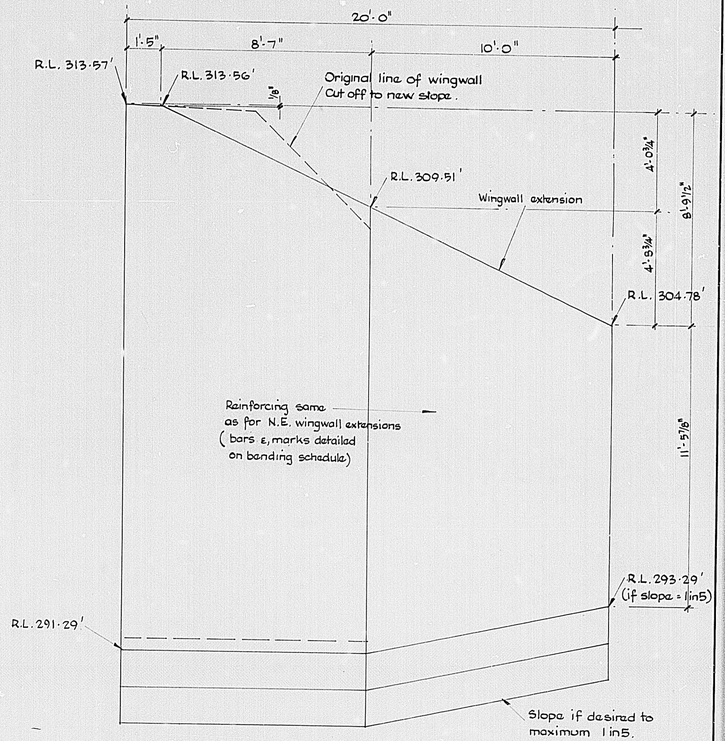


SECTION THRU EXTENSION TO WINGWALL

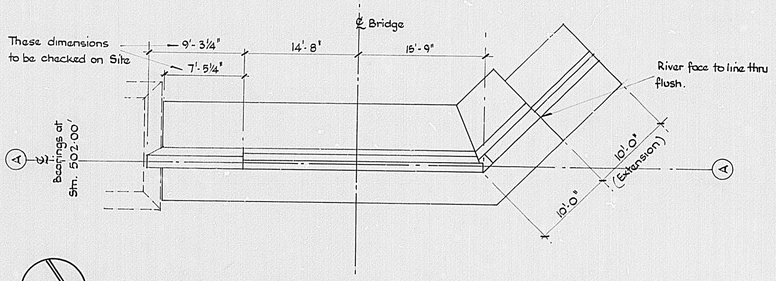
Scale: ⅜"= 1'0"

NOTES.

1. Refer to drgs 4710/10 for original. N.E. Wingwall
   4710/7e,8 " " N.W. "
2. N.E. Wingwall Re-bars prefixed N.E.W.W.
   N.W. " " " N.W.W.W.
3. For South-East wingwall 90° return reinforcing see bending schedule sheet 5.



ELEVATION ON NORTH · WEST WINGWALL Scale: ⅜"= 1'0"



PLAN ON WESTERN ABUTMENT Scale: 1/8"= 1'0"

T. H. JENKINS AND ASSOCIATES CHARTERED CONSULTING ENGINEERS NORDEN CHAMBERS — 55-59 GALA ST., INVERCARGILL, N.Z. P.O. Box 93 Phone 82-429	
TUAPEKA COUNTY COUNCIL	ROXBURGH BRIDGE RENEWAL
ROXBURGH BOROUGH COUNCIL	WINGWALL EXTENSIONS

DESIGNED	DRAWN	CHECKED	APPROVED
H.J.K.			
DATE: Oct. '72.	SCALE: As. Shown.	NO. IN SET	PROJECT NO. 4975-5

IT IS THE CONTRACTORS RESPONSIBILITY TO CHECK AND VERIFY ALL DIMENSIONS ON SITE.

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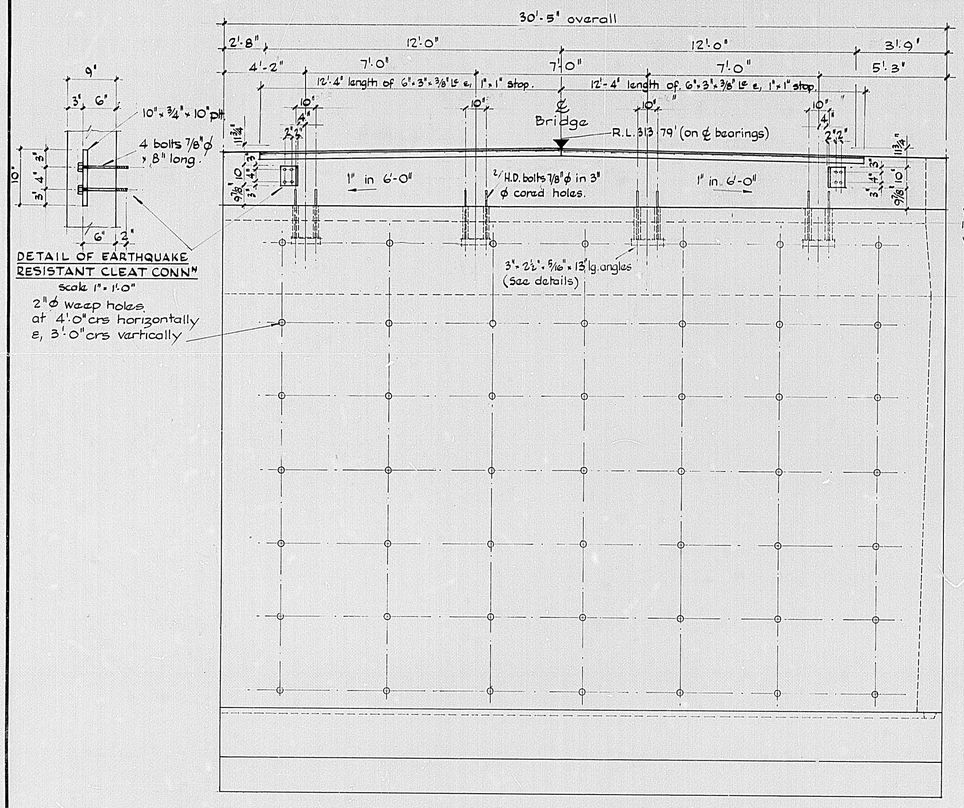
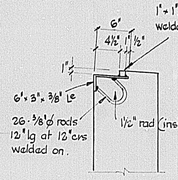
5303

A1 A2 A3 A4 A4 A3 A2 A1

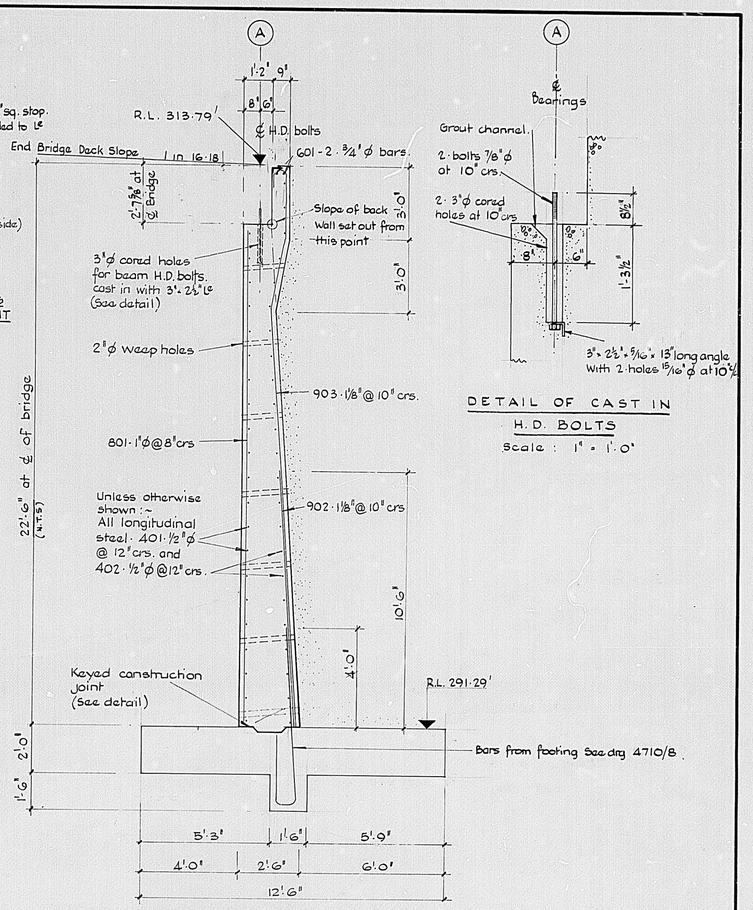


DETAIL OF EARTHQUAKE RESISTANT CLEAT CONN"
Scale 1" = 1'-0"

2" ϕ weep holes at 4'-0" crs horizontally e, 3'-0" crs vertically



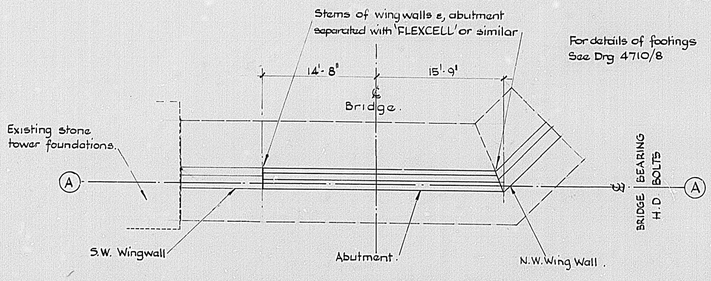
DETAIL ALONG TOP OF ABUTMENT
Scale 1" = 1'-0"



SECTION AT CENTRE
Scale : 3/8" = 1'-0"

DETAIL OF CAST IN H.D. BOLTS
Scale : 1" = 1'-0"

ELEVATION ON WEST ABUTMENT
Scale : 3/8" = 1'-0"

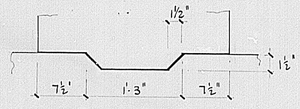


PLAN ON WEST ABUTMENT
Scale : 1/8" = 1'-0"

BENDING SCHEDULE				
MARK	ϕ	No	Length	Diagram.
401	½	21	30'-2"	Unless shown - bars straight.
402	½	23	29'-2"	
601	¾	2	29'-2"	
801	1	45	19'-8"	
902	1⅛	36	10'-6"	2'-10" 3'-0" 16'-6" 2'-6" 1'-3" 903
903	1⅛	37	23'-6"	

All bar marks to be Prefixed by W.A. (ie. West Abutment)
All bars deformed bars

COVER.
Cover to main steel : footings : 3"
Stems : 1½"



DETAIL OF KEY
Scale: N.T.S.

No.	DATE	APP'D.	REVISION
C.	Aug'72	JWH.	Footing now detailed on drg 4710/8. Rock profiles now shown on 4975/1-3. Footing re-bars removed from schedule. Plan Alter.
B.	Apr.'72	JWH.	Beam. H.D. bolt crs increased. Abut. width increased (incl. re-bars) E/q. cleats added.
A.	Jan'72	JWH.	E/quake link. deleted : exp. joint added.

TUAPEKA COUNTY COUNCIL

ROXBURGH BOROUGH COUNCIL

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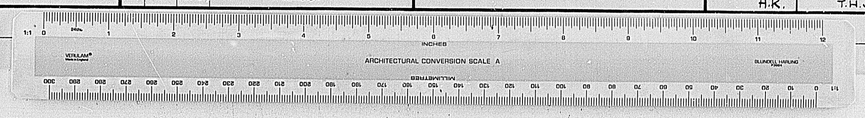
CONSULTING CIVIL & STRUCTURAL ENGINEERS
T&G BUILDINGS, DEE ST. INVERCARGILL N.Z.
P.O. Box 93 Phone 82-429

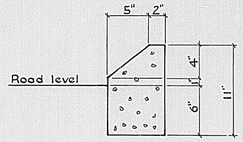
DRAWN	DATE	SCALE
JWH	Apr. 71.	As Shown.
DESIGNED H.K.	CHECKED T.H.J.	APPROVED T.H.J.

ROXBURGH BRIDGE

WESTERN ABUTMENT

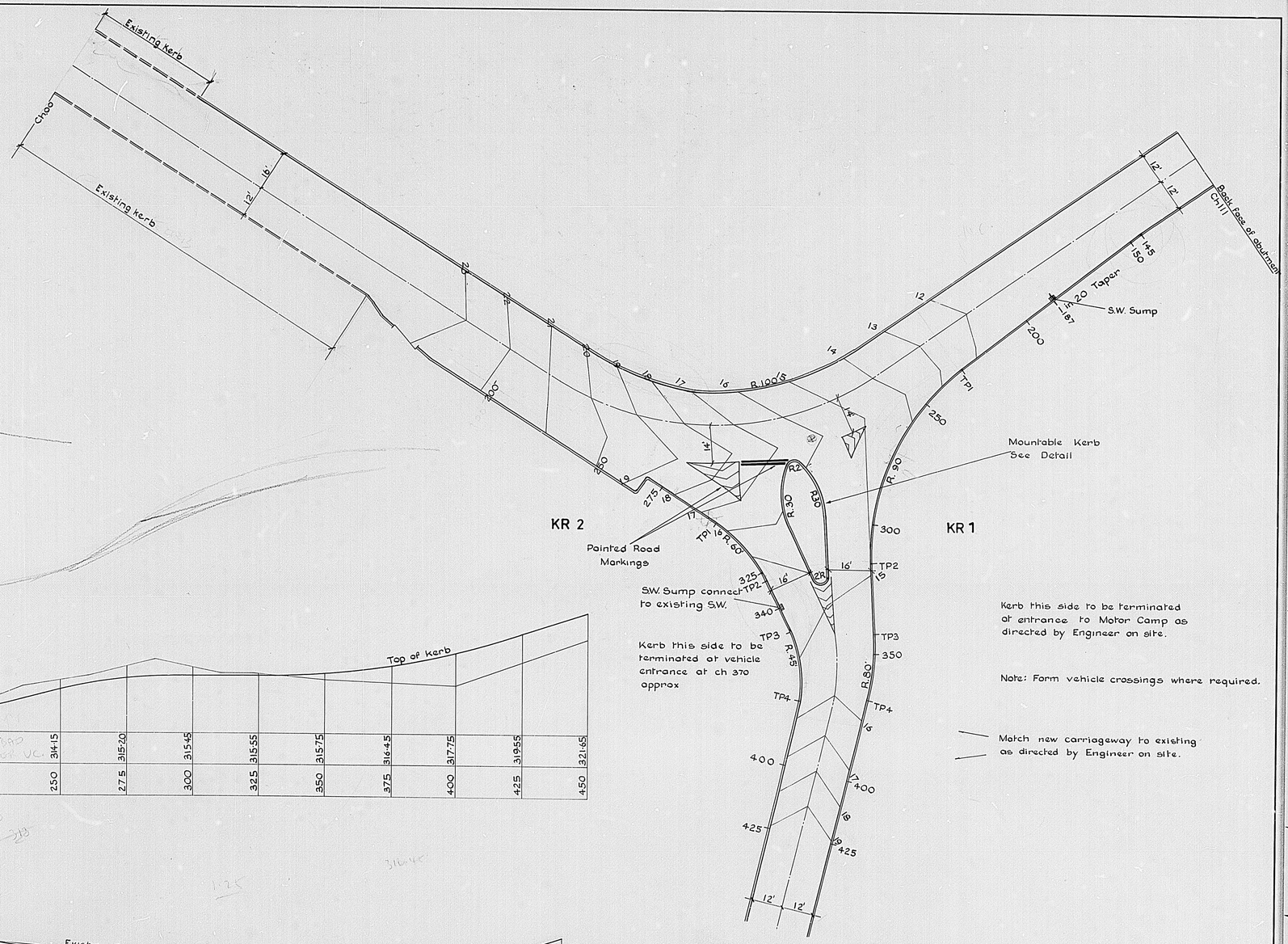
No. IN SET 18 | DRAWING No. 4710/6C

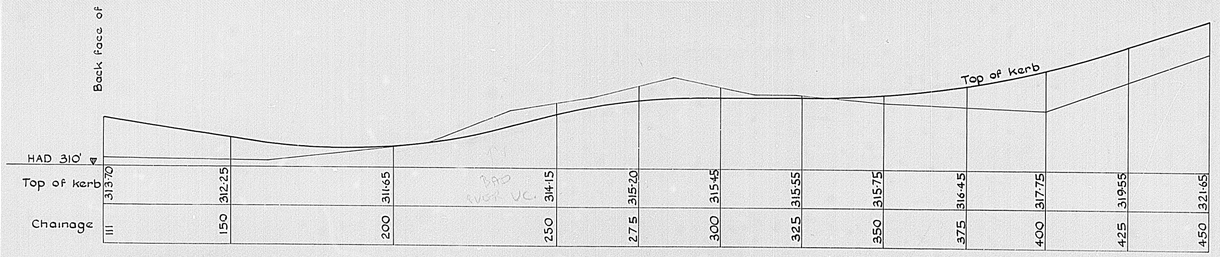




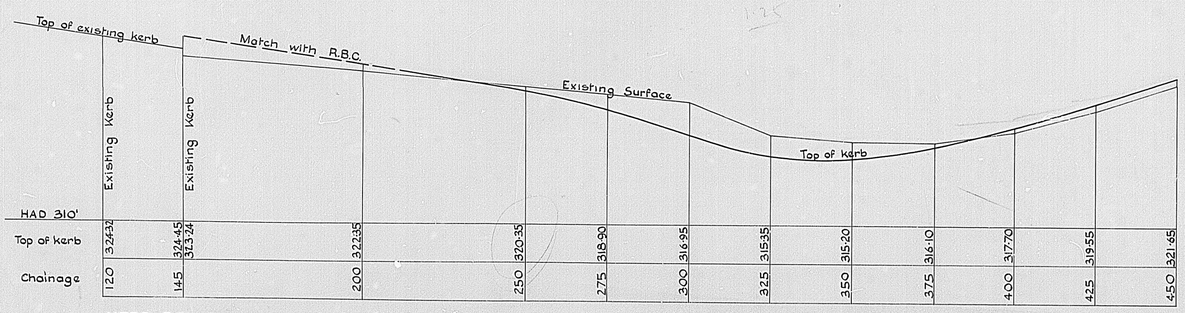
MOUNTABLE KERB

Scale: 1½" = 1'-0"





KERB RETURN 1



KERB RETURN 2

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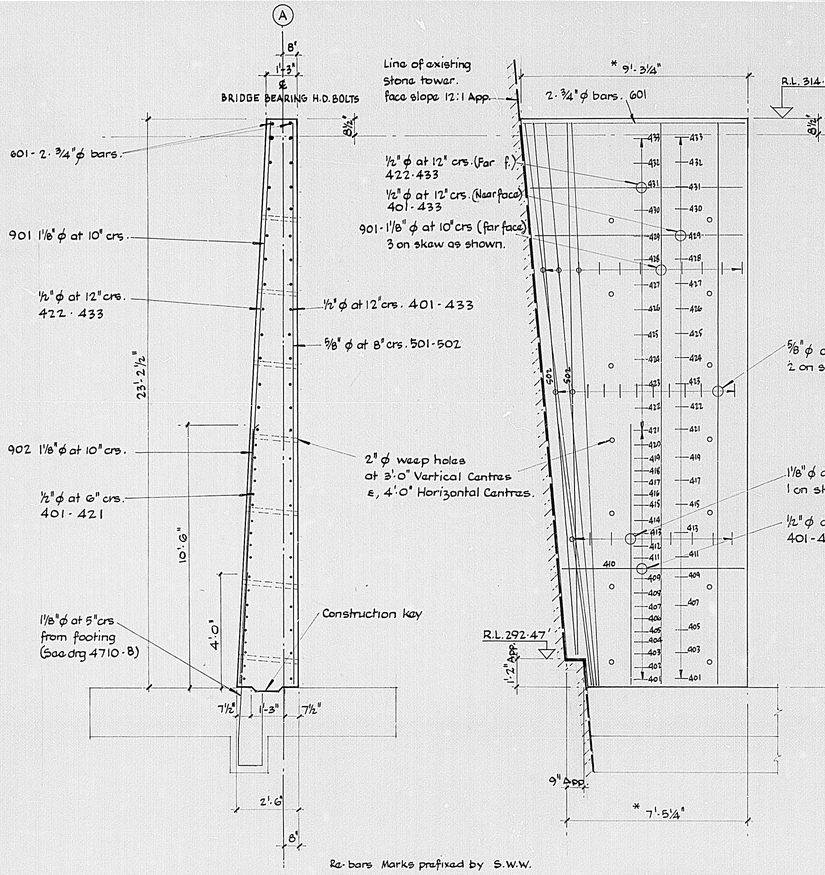
NORDEN CHAMBERS — 55-59 GALA ST., INVERCARGILL, N.Z.
P.O. Box 93 Phone 82-429

TUAPEKA COUNTY COUNCIL	ROXBURGH BRIDGE
	INTERSECTION DETAILS

DESIGNED	DRAWN	CHECKED	APPROVED
	GWA/RJS		
DATE 19/2/73	SCALE Horiz 20 to 1" Vert 5 to 1"	NO. IN SET	PROJECT NO. 4975 - 6

5303

A1 A2 A3 A4



NOTES

* Check on site

For detail of construction key see 4710/6

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NO.	DATE	BY	REVISION
B.	31/8/72	JM	Drgs 4710-7 & 8 redrawn. S.W. & N.W. Wing wall now on this drawing

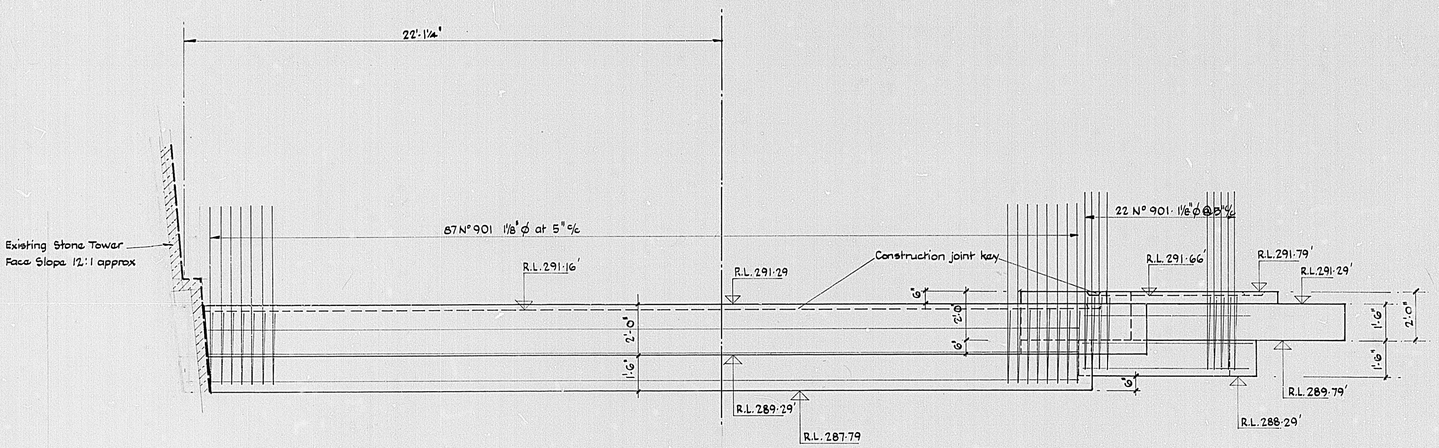
T. H. JENKINS AND ASSOCIATES
CHARTERED CONSULTING ENGINEERS
NORDEN CHAMBERS — 55 - 59 GALA ST., INVERCARGILL, N.Z.
P.O. Box 93 Phone 82-429

TUAPEKA COUNTY COUNCIL	ROXBURGH BRIDGE RENEWAL
ROXBURGH BOROUGH COUNCIL	WESTERN ABUTMENT WINGWALL DETAILS

DESIGNED	DRAWN	CHECKED	APPROVED
H.J.K.	JM.		
DATE	SCALE	NO. IN SET	PROJECT NO.
AUGUST 1972	AS SHOWN	18	4710-7B

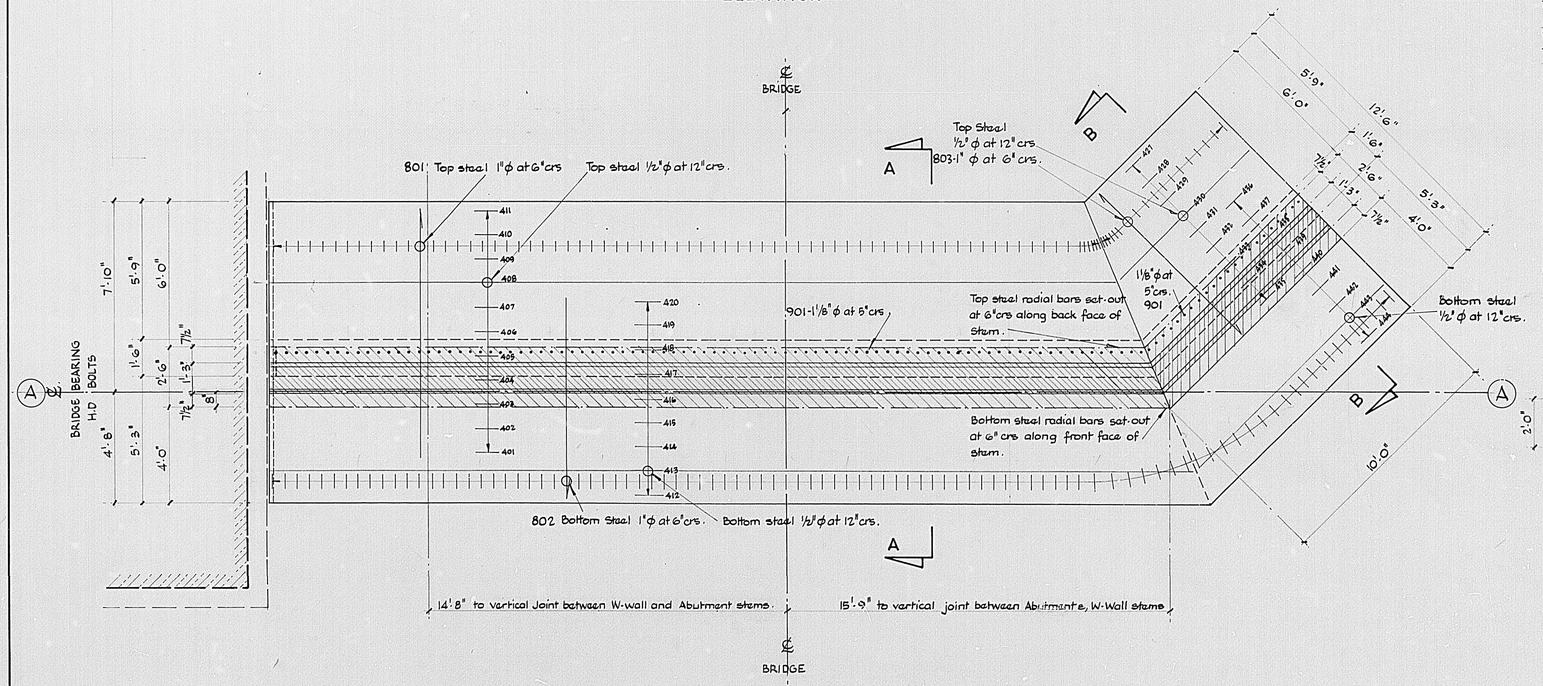
5302

A1 A2 A3 A4

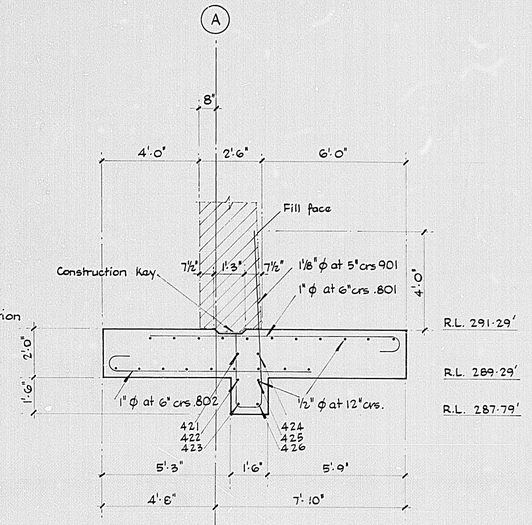


ELEVATION

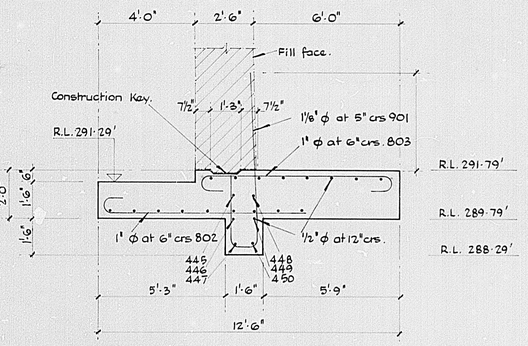
N.B. For details of Construction Key see drg. 4710/6



PLAN



SECTION A - A



SECTION B-B

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NO.	DATE	BY	REVISION
B.	31/8/72	JM.	Drg 4710·B redrawn N.W. Wingwall now on drg 4710·7

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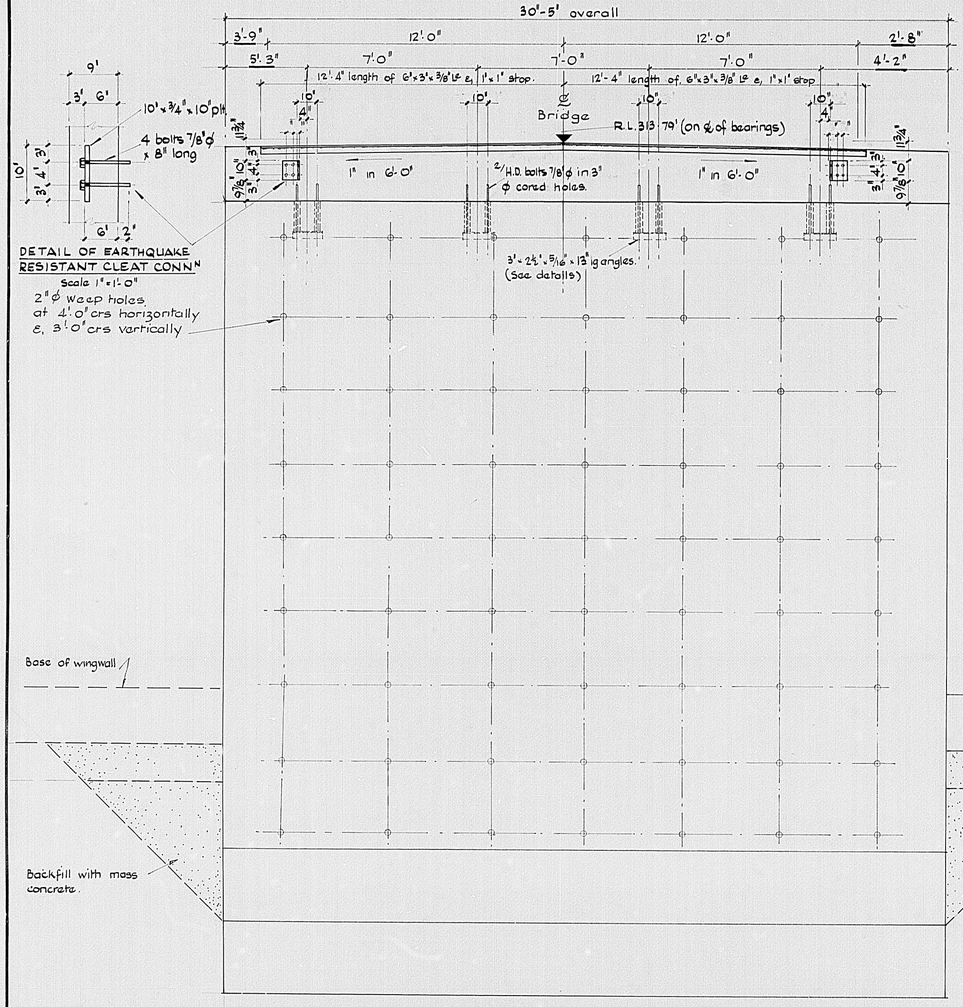
CHARTERED CONSULTING ENGINEERS
NORDEN CHAMBERS — 55-59 GALA ST., INVERCARGILL, N.Z.
P.O. Box 93 Phone 82-429

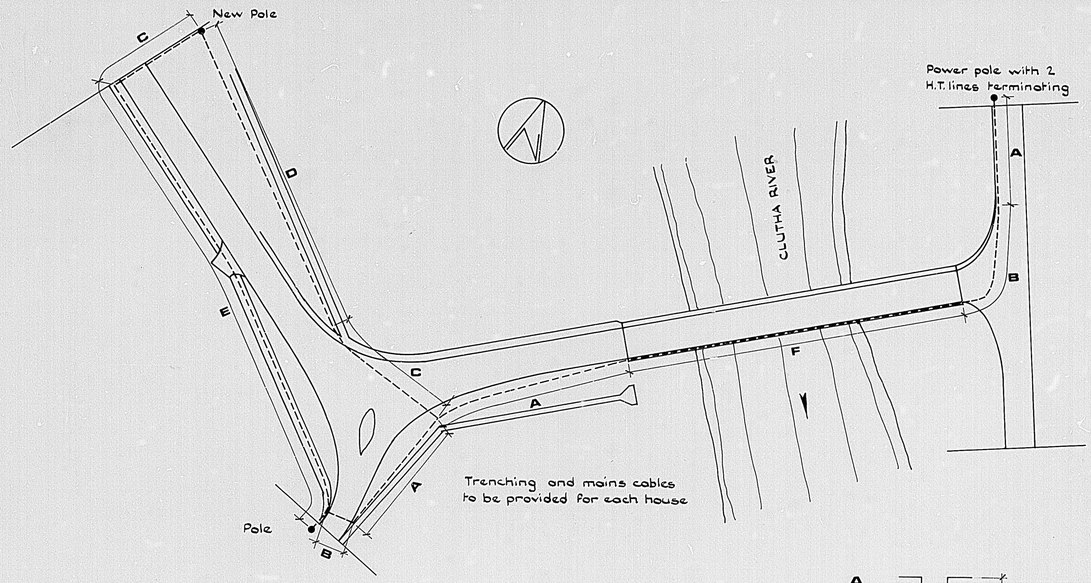
TUAPEKA COUNTY COUNCIL	ROXBURGH BRIDGE RENEWAL
ROXBURGH BOROUGH COUNCIL	WESTERN ABUTMENT & WINGWALL FOOTINGS

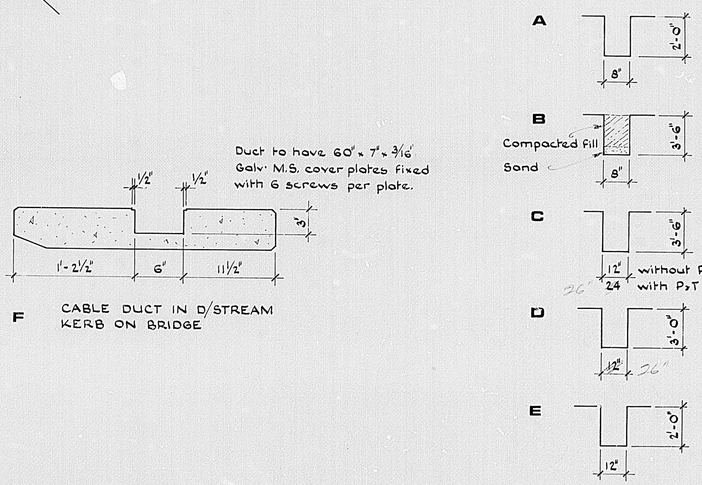
DESIGNED	DRAWN	CHECKED	APPROVED
H.J.K.	JM.		
DATE	SCALE	NO. IN SET	PROJECT NO.
AUGUST 1972	3/8" - 1'-0"	18	4710·8B

5303

A1 A2 A3 A4


30'-5" overall
3'-9"
12'-0"
12'-0"
2'-8"
5'-3"
7'-0"
7'-0"
7'-0"
4'-2"
12'-4" length of 6"x3"x3/8" LE, 1"x1" stop.
12'-4" length of 6"x3"x3/8" LE, 1"x1" stop.
10'
10'
10'
10'
4"
4"
Bridge
R.L. 313.79' (on ℄ of bearings)
1" in 6'-0"
1" in 6'-0"
2" H.D. bolts 7/8" ϕ in 3" ϕ cored holes.
3'-4"
3'-0"
3'-4"
3'-0"
3'-0"
3'-0





F CABLE DUCT IN D/STREAM KERB ON BRIDGE

IT IS THE CONTRACTORS RESPONSIBILITY TO CHECK AND VERIFY ALL DIMENSIONS ON SITE. THIS DRAWING IS COF

T. H. JENKINS AND ASSOCIATES
CHARTERED CONSULTING ENGINEERS
NORDEN CHAMBERS — 55-59 GALA ST., INVERCARGILL, N.Z.
P.O. Box 93 Phone 82-429

ROXBURGH BRIDGE		ELECTRICAL CABLES	
		TRENCHING DETAILS	
DESIGNED	DRAWN R.W.A	CHECKED	APPROVED
DATE Nov '73	SCALE N.T.S.	NO. IN SET	PROJECT NO. 5109 – B26

530

A1 A2 A3 A4

PROPOSED BRIDGE AT ROXBURGH

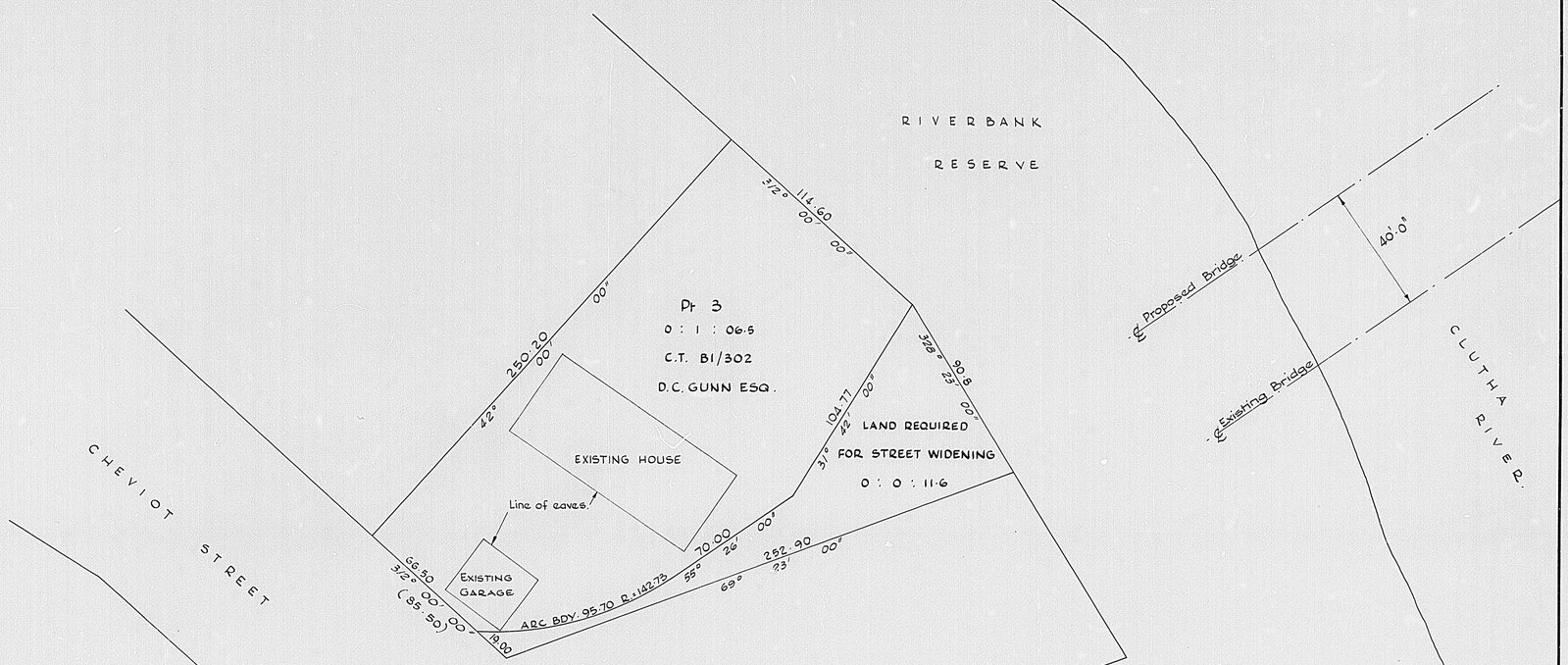
TUAPEKA COUNTY COUNCIL

T. H. JENKINS & ASSOCIATES

5303

A1 A2 A3 A4

OTAGO LAND DISTRICT
BLOCK XXV TOWN OF ROXBURGH
ROXBURGH BOROUGH COUNCIL



PROPOSED STREET WIDENING
FOR NEW BRIDGE ACCESS
BEING PT. LOT 3 D.P. 1023B PT SEC. 10
TOWN OF ROXBURGH.

TOTAL AREA = 0 : 1 : 18·1
OWNER : D.C. GUNN ESQ.
C.T. B1/302.

No.	DATE	APP'D.	REVISION

TUAPEKA COUNTY COUNCIL

ROXBURGH BOROUGH COUNCIL

T.H. JENKINS & ASSOCIATES
CONSULTING CIVIL & STRUCTURAL ENGINEERS
T&G BUILDINGS, DEE ST. INVERCARGILL N.Z.
P.O. Box 93 Phone 82-429

DRAWN	DATE	SCALE
P.R.D./F.J.M.	Nov. '70	30 1/4 to 1 inch
DESIGNED	CHECKED	APPROVED
P.R.D.		

ROXBURGH BRIDGE

WESTERN APPROACHES

No. IN SET 1. DRAWING No. 4710/S1

5303

A1 A2 A3 A4