

AWM4

**Australian Imperial Force unit war diaries,
1914-18 War**

Engineers

Item number: 14/36/1

**Title: 1st Field Squadron, Australian
Engineers**

June 1916



AWM4-14/36/1

WAR DIARY

Army Form C. 2118.

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or
INTELLIGENCE SUMMARY.

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Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
QANTARA	15/6		<p><u>BRIDGE Proposal</u> Authority CRE/52nd DIVISION</p> <ol style="list-style-type: none"> 1. A Bridge for <u>Wheeled Traffic</u> to replace existing condemned bridge 2. A Foot Bridge to replace Skew Bridge now disused for wheel traffic <p>1. Should be placed to give access between QANTARA RAILWAY STATION and INDIAN CAMEL and ISOLATION CAMP on the NORTH SIDE and R.H.A. MOBILE VETERINARY SECTION and SUPPLY DEPOT TRANSPORT etc of ANZAC MOUNTED DIVISION on the SOUTH SIDE, in addition it should be placed so that Traffic from SAHLIA can pass this to QANTARA</p> <p>1 <u>BRIDGE - WHEELED TRAFFIC</u></p> <p style="margin-left: 100px;"><u>LOADS</u> GUNS up to 18 POUNDER CAMELS INFANTRY in FOURS</p> <p>2 <u>FOOT BRIDGE</u></p> <p style="margin-left: 100px;"><u>LOADS</u> INFANTRY in FILE CAVALRY in SINGLE FILE</p> <p><u>ROAD IMPROVEMENTS</u></p> <ol style="list-style-type: none"> 1. <u>MOBILE VETERINARY SECTION etc - SOUTH SIDE ROAD DEVIATION</u> <u>Section</u> - 1 in 12 Grade - <u>Width</u>, 12 Feet - <u>Contents</u>, 240 Cubic Yards <u>Method and Material used</u> - 300 Yards DECAUVILLE TRAMWAY and 2-1/2 YARD SIDE TIP TRUCKS <u>Mullock taken from pits</u> 300 yards SOUTH of SWEET WATER CANAL <u>LABOUR</u> - 50 NATIVES 2. <u>ROADWAY NORTH SIDE DEVIATION</u> <u>Section</u> - 1 in 18 Grade <u>Width</u>, 12 Feet - <u>Contents</u>, 530 Cubic Yards. <u>Method and Material used</u> - Mullock taken from high ground and carried by natives in baskets - <u>LABOUR</u> - 50 NATIVES 	<p>PROJECT N^o1</p> <p>PROJECT N^o2</p> <p>PROJECT N^o3</p>



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QANTARA	15 th JUNE 1916 TO 18 th JUNE 1916		<u>TIME AND LABOUR TABLE</u> <u>FOR</u> <u>DISMANTLING AND ERECTING BRIDGES over SWEET WATER CANAL QANTARA WEST</u>	
			Work carried out by men of N.C.O's School of Instruction - 1 st Field Squadron Anzac M ^{td} Div	
		<u>Party No 2</u>	Dismantling disused Skew Bridge - Labour = 12 N.C.O's " 50 E.L.C men (natives) Bridge completely dismantled and material conveyed to site of New Road Bridge (Project No 1) Time 6.30 a.m. to 10.00 a.m. Thursday 15 th June 1916 = 3 1/2 Hours	
		<u>Project No 1.</u>	Erection of New Road Bridge to replace Condempned Road Bridge - Labour = 12 N.C.O's <u>Party No 1</u> Commenced 10.00 a.m. Thursday 15 th June 1916 } Total Working Hours Completed 12.00 noon Sunday 18 th June 1916 } 28 Hours Working Hours per diem = 8 Hours.	Project No 1
		<u>Project No 2.</u>	Erection of Foot Bridge in place of Disused Skew Bridge - Labour = 12 N.C.O's <u>Party No 2</u> Commenced 10.15 a.m. Thursday 15 th June 1916 } Total Hours 24 3/4 Hours Completed 6.00 a.m. Sunday 18 th June 1916 } (5.00 a.m. to 6.00 a.m.) Working Hours per diem = 8 Hours.	
			Dismantling Condempned Bridge - Labour - Party No 2 - 12 N.C.O's Bridge completely dismantled and material required for Foot Bridge conveyed to site Time 8.00 a.m. to 10.15 a.m. Saturday - June 17 th 1916 = 2 1/4 Hours Total Working Hours = 22 1/2 Hours	
		<u>Project No 3.</u>	Road Deviation Work on North and South sides of Sweet Water Canal.	
			North Side Deviation - Labour - 50 E.L.C men Daily Working Hours 4 1/2 Date 15 th 1916 Yards 30	Project No 3
			do do do do 50 do do do do 8 do 16 th do 40	
			do do do do 50 do do do do 8 do 17 th do 50	
	do do do do 50 do do do do 8 do 21 st do 56			
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QANTARA	15 th JUNE 1916 TO			

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QANTARA	15 th JUNE 1916		Project N ^o 3 - Continued - Road Deviation Work	
	To 27 th JUNE/16		North Side Deviation - Labour - 80 E.L.C. men - Daily working hours 8 - Date 23 rd /16 Yards 90	Project N ^o 3
			do do do do 50 do do do do 8 do 24 th /16 do 63	
			do do do do 50 do do do do 8 do 26 th /16 do 60	
			do do do do 50 do do do do 6 do 27 th /16 do 40	
	15 th JUNE 1916		South Side Deviation - do 50 do do do do 8 do 15 th /16 do 20	
	To 27 th JUNE 1916		do do do do 50 do do do do 8 do 16 th /16 do 20	
			do do do do 50 do do do do 8 do 17 th /16 do 20	
			do do do do 50 do do do do 8 do 20 th /16 do 20	
			do do do do 50 do do do do 8 do 21 st /16 do 30	
			do do do do 40 do do do do 8 do 22 nd /16 do 30	
			do do do do 50 do do do do 8 do 23 rd /16 do 20	
			do do do do 50 do do do do 8 do 24 th /16 do 15	
			do do do do 50 do do do do 8 do 26 th /16 do 35	
			do do do do 50 do do do do 8 do 27 th /16 do 30	
	20 th /16		Road to Supply Depot do 40 do do do do 8 do 20 th /16 do 160	
	28 th /16		Road from Railway Level Crossing to Bridge by Veterinary Section do 100 do do do do 8 do 28 th /16 do 480	

J.H.A.

WAR DIARY

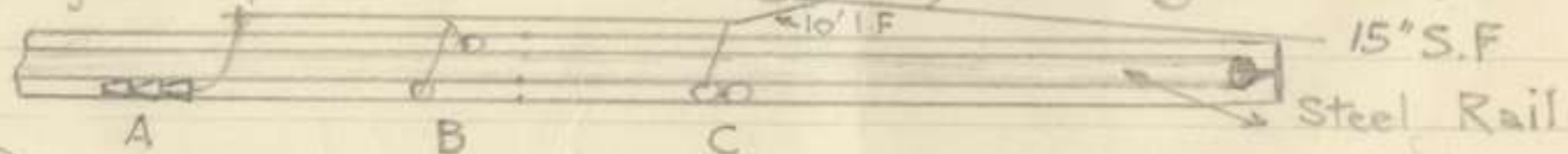


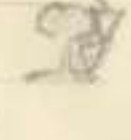
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Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
QANTARA	20 TH AND 21 ST JUNE/16		<p><u>RESULTS OF EXPLOSIVE EXPERIMENTS CARRIED OUT BY 1ST FIELD SQUADRON</u> <u>on the 20th and 21 June 1916 at QANTARA WEST</u></p> <p><u>N^o 1 Test.</u> 12" S.F. with rick joint to 20 feet of I.F. and N^o 8 Detonator (Earth) From time of ignition to explosion 30 Seconds</p> <p><u>N^o 2 Test.</u> 2 feet S.F. with cut joint to 10 feet of I.F. and N^o 8 Detonator (Earth) From time of ignition to explosion 65 Seconds</p> <p><u>N^o 3 Test</u> 2 feet S.F. to N^o 8 Detonator (Earth) Time 60 Seconds</p> <p><u>N^o 4 Test</u> 3 feet S.F. to N^o 8 Detonator and G.C. Primer (Earth) Time 80 Seconds</p> <p><u>N^o 5 Test</u> 15 inches S.F. with rick joint to 10 feet I.F. N^o 8 Detonator (Earth) G.C. Primer and 1 lb of Gun Cotton Time 50 Seconds</p> <p><u>N^o 6 Test</u> 15 inches S.F. with rick joint to 9'-6" I.F. N^o 8 Detonator (20 lb Steel Rail successful explosion) Primer and 1 lb G. Cotton Time 50 Seconds</p> <p><u>N^o 7 Test</u> 3 Charges of 3 G.C. Primers on 20 lb Steel Rail</p>  <p>A  Result Web shattered - but rail got cut</p> <p>B  " Did not detonate</p> <p>C  " Web shattered - but rail got cut</p> <p>} Time 40 Seconds</p> <p><u>N^o 8 Test</u> Electrical Detonation - 100 yard Lead - 1 lb Gun Cotton at base of 11" Post Post badly shattered but Note, - The Gun Cotton used in these experiments was quite dry and badly flaked.</p>	

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Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
<u>RESULTS OF EXPERIMENTS - CONTINUED -</u>				
QANTARA	22 ND JUNE 1916		<p><u>No 9 Test.</u> Electrical Detonation, 100 yard Lead, (series) 3. - No 13 Detonators only, under sand bags successful detonation.</p> <p><u>No 10 Test</u> Electrical Detonation, 100 yard Lead - No 13 Detonator, Primer and 2 lb slab of Gun Cotton (damp) to post 10' round, successful. top of post carried about 30 yards from stump.</p> <p><u>No 11 Test</u> Electrical Detonation, 120 yard Lead. No 13 Detonator, Primer and 1 lb of Gun Cotton (dry) under sand mound - 3 feet of sand above Gun Cotton Successful</p> <p><u>No 12 Test</u> To break a 20 lb steel Rail. - Placed a charge of 3 ozs dry Gun Cotton (3 Primers) against the rail and exploded it by means of a No 8 Mark VI Detonator using 10 feet of I.F. and 2 feet Bickfords S.F. with pick joint Time from ignition to explosion - 60 seconds.</p> <p><u>Result.</u> Bent rail considerably and broke web, but failed to break flanges.</p> <p><u>No 13 Test.</u> Increased charge to 4 oz dry Gun Cotton and obtained similar result to No 12 Test Used 10 feet I.F. and 1 foot Bickfords S.F. Time from ignition to explosion 28 seconds</p> <p><u>No 14 Test</u> To Explode a Mine Electrically - Placed a charge of 2 lb of Gun Cotton (wet) in a sand mound, under about 3 feet of sand. Exploded by means of dry Gun Cotton Primer with a No 13 Mark II Electrical Detonator connected to the Exploder by 100 Foot Leads.</p> <p><u>Result,</u> Shook up the whole of mound.</p>	

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WAR DIARY

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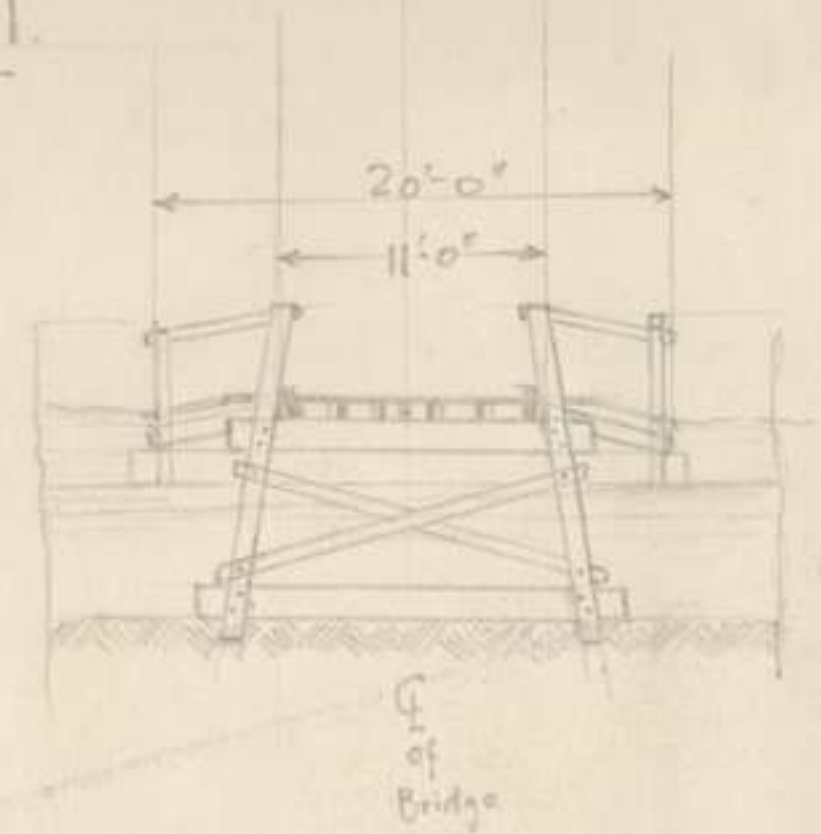
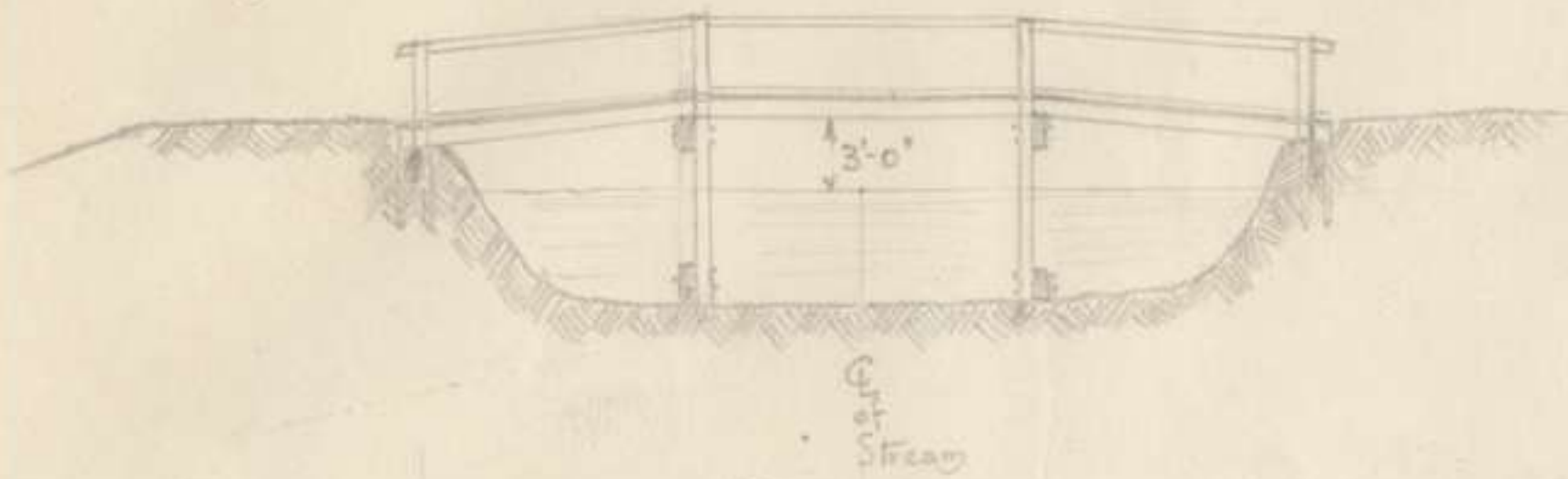
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Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
QANTARA	29 th /16		DISMANTLING AND RE-ERECTING HORSE WATER TROUGHS FOR SOMERSET AND LEICESTER BATTERIES	
	AND		BY SWEET WATER CANAL - SOUTH SIDE - ½ MILE WEST OF SWING BRIDGE PORT SAID RAILWAY	
	30 th /16		Labour - 10 Men 1 st Field Squadron = 50 Natives E.L.C. Filling = Sand	
			Troughs built on Timber Frame with Sand bag revetment.	
			Water Gravitated through 3" dia Pipe from Sweet Water Canal.	
			Length of Troughing 100 Feet	

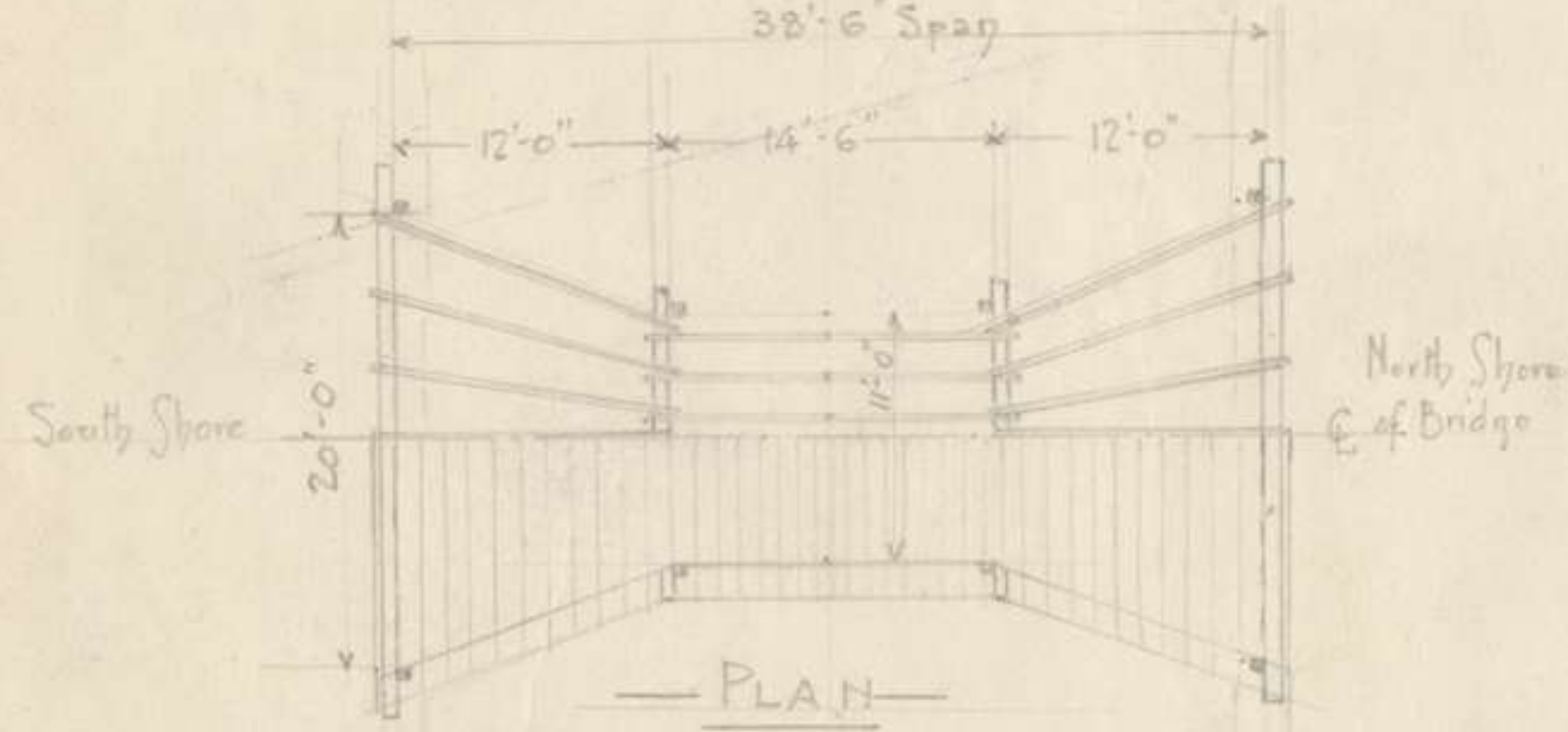
*H. Alexander. Major. R.E.
OC. 1st Field Squadron
of C.R.C. Aussie Mounted Division*

BRIDGE PROJECT No 1



ELEVATION

CROSS SECTION



PLAN

DESIGN

To carry Wheeled Traffic - Loads - Guns up to 18 Pounds - Carrels - Infantry in Fours

Note: - Infantry in Fours - weight of 5 cwt's per foot run, produces greater stress than 18 lb E.Q. load.

Cut Bay
 Road Bearers 6 (7" x 3 1/2")
 $W = 5L = 5 \times \frac{7}{2} \times 49 \times \frac{5}{4}$
 $L^2 = \frac{35 \times 49}{8} = \frac{1715}{8} = 215$
 $L = 14.6$ Feet

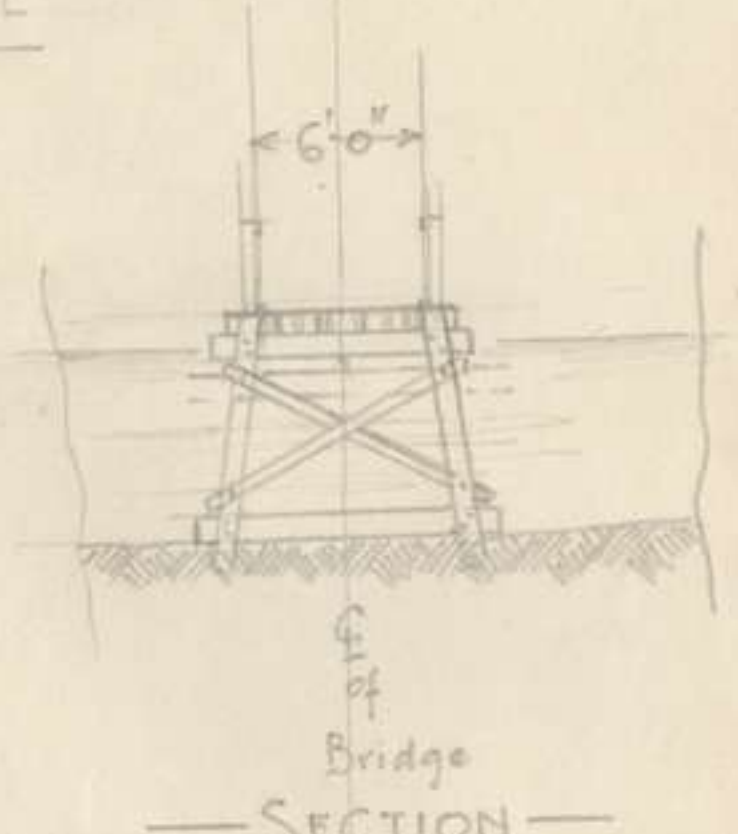
SHORE BAYS
 Road Bearers 7 (6" x 3 1/2") (6 doing duty)
 $W = 5L = 5 \times \frac{7}{2} \times 36 \times \frac{5}{4}$
 $L^2 = \frac{35 \times 36}{8} = \frac{1260}{8} = 157.5$
 $L = 12.5$ Feet

Legs 6" x 6"
 Total Load Infantry = 66 1/2 cwt's
 18 Pounder = 24 "
 Max load on each leg = 33 1/4 cwt's
 Unsupported Length 5'1"
 Allowable Load = 8 Tons

Trussoms 12" x 6"
 $W = 5 \times 13 \frac{1}{2} = 66.25$ cwt's
 $67 = \frac{6 \times 144 \times \frac{5}{4}}{L}$
 $L = \frac{1080}{67} = 16$ Feet

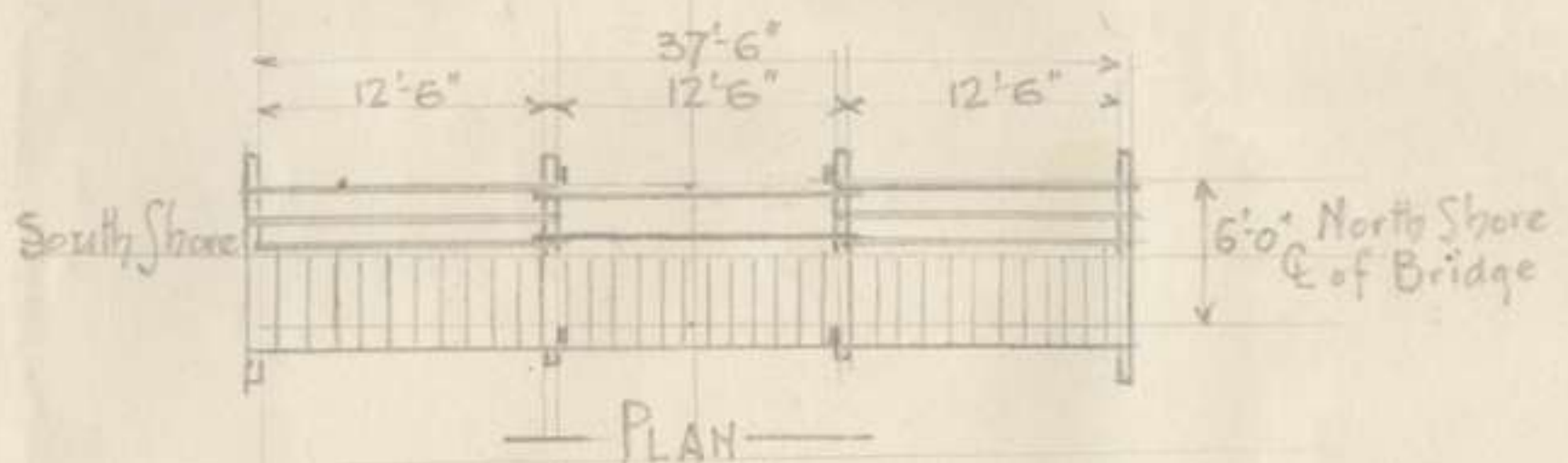
Chesses Cut Bay 8" x 12"
 $W = \frac{8 \times \frac{3}{4} \times \frac{5}{4}}{1.5} = 15$ cwt's
Shore Bays 10 1/2 x 2"
 $W = \frac{10 \times 4 \times \frac{5}{4}}{3} = 16.7$ cwt's

FOOT BRIDGE - PROJECT No 2



ELEVATION

SECTION



PLAN

DESIGN

To carry Infantry in File and Cavalry in Single File

Cut Bay
 Road Bearers 4 (6" x 3 1/2")
 $W = \frac{5}{2}L = 3 \times \frac{7}{2} \times \frac{36}{L} \times \frac{5}{4}$
 $L^2 = 189$
 $L = 13.5$ Feet

Trussoms 6" x 6"
 $W = \frac{62.5}{2} = \frac{216}{L} \times \frac{5}{4}$
 $L^2 = \frac{54 \times 5}{62.5}$
 $L = 8.64$ Feet

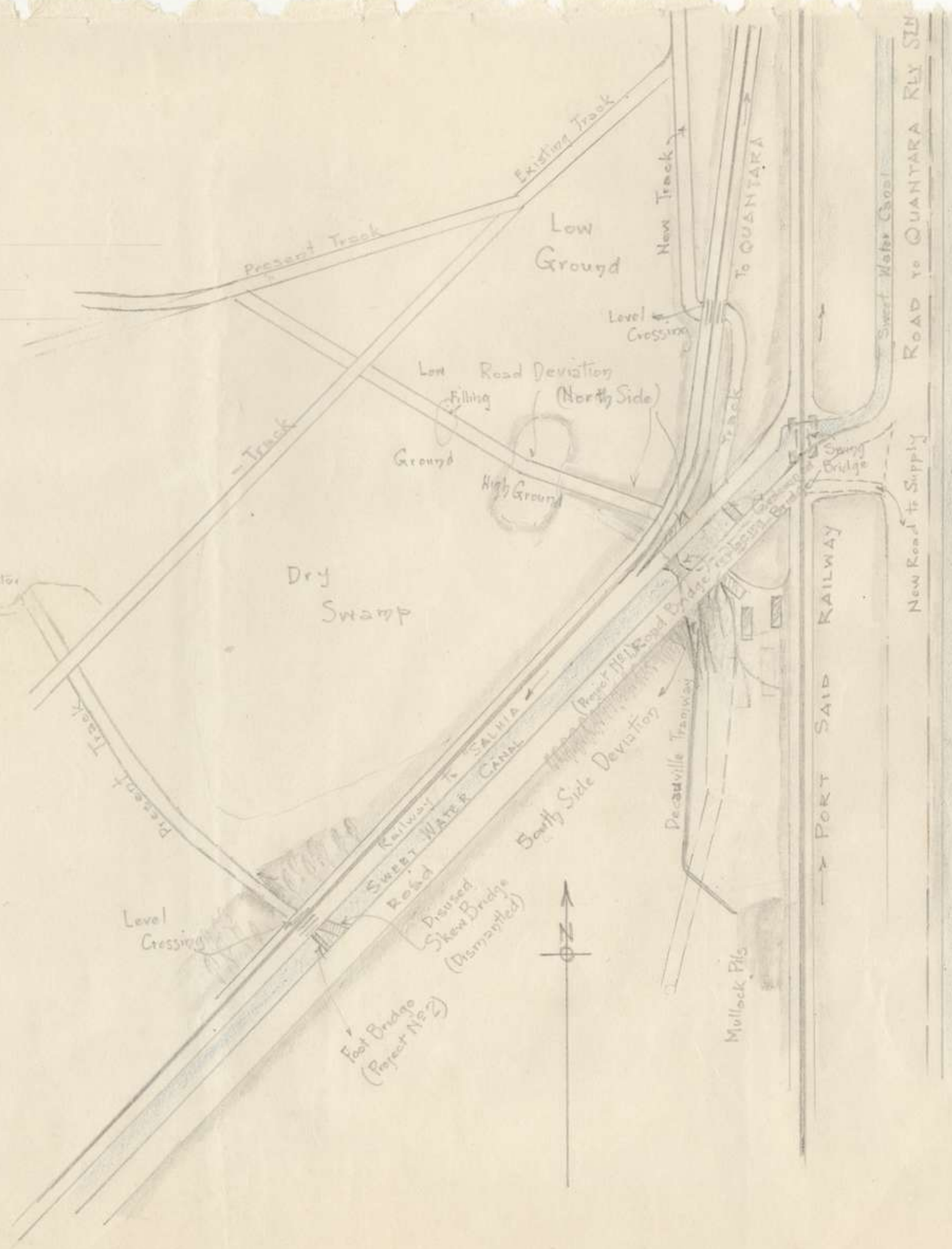
Shore Bays
 Road Bearers 6 (4 1/2" x 3")
 $W = \frac{5}{2}L = \frac{5 \times 3 \times \frac{9}{2} \times \frac{5}{4}}{L}$
 $L^2 = 150$
 $L = 12.5$ Feet

Legs 6" x 3 1/2"
 Max Weight = 3 1/2 cwt's on 2 Legs
 15.8 " " " 1 Leg
 Unsupported Length 7'-0"
 Max Allowable Stress = 16 Cwt's

APPENDIX

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PROJECT No. 3
LOCALITY PLAN SHOWING ROAD DEVIATIONS
AND
LOCATION OF ROAD AND FOOT BRIDGES
NOT TO SCALE



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APPENDIX

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