2)   WD7-4-2

Drawing

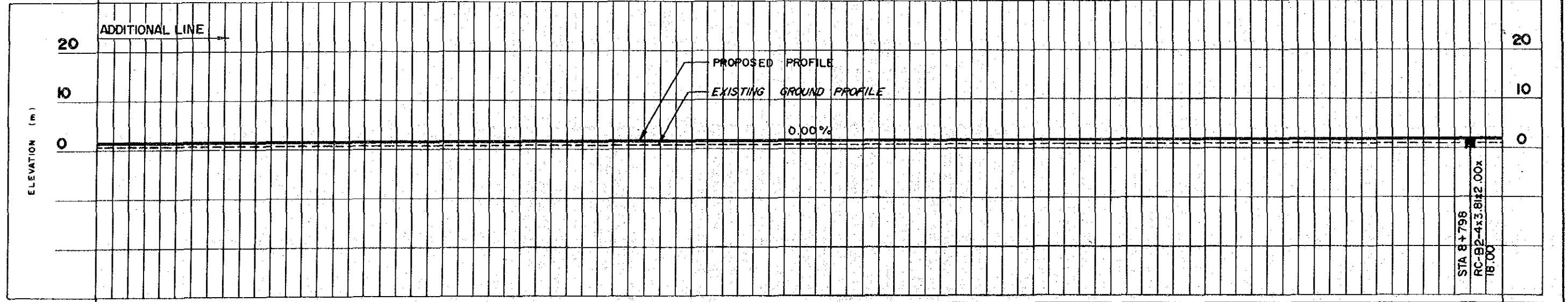| SHEET NO.	LIST OF DRAWINGS
1. - 2.	Plan and Profile
3.	Plan of Intersection
4.	(A) Bridge for Khlong Pak Ra Wa

ABBREVIATION AND SYMBOLS FOR PROFILE AND PLAN

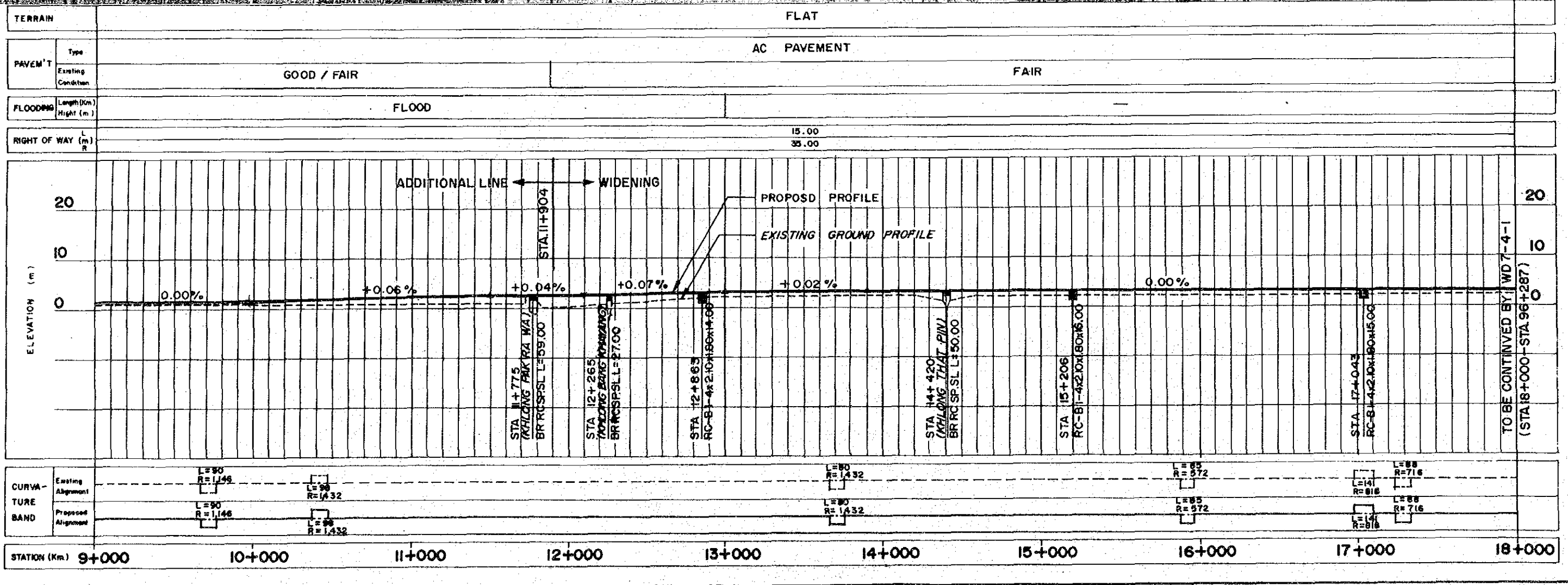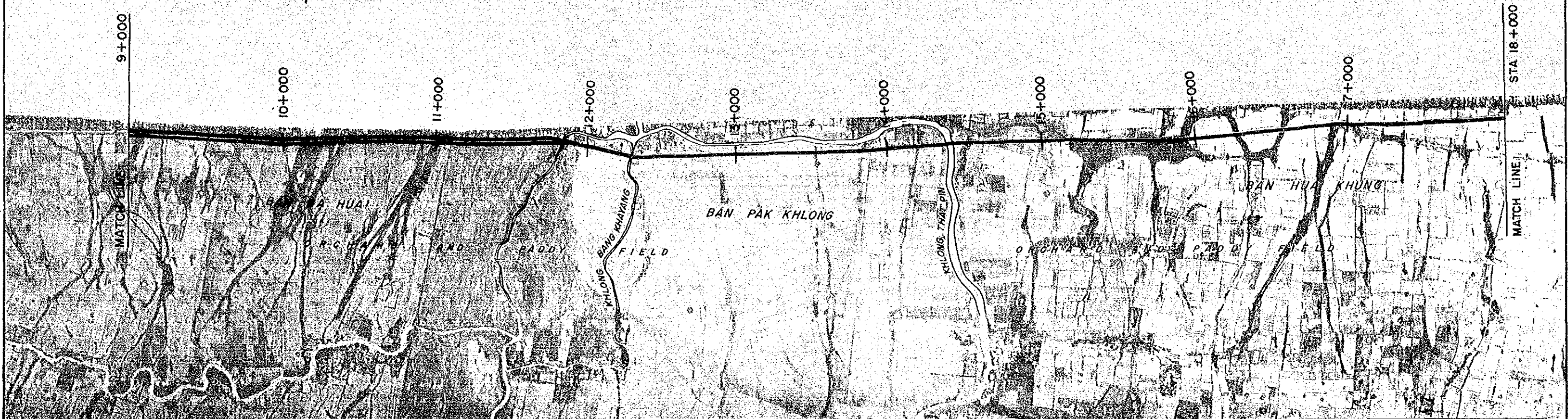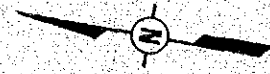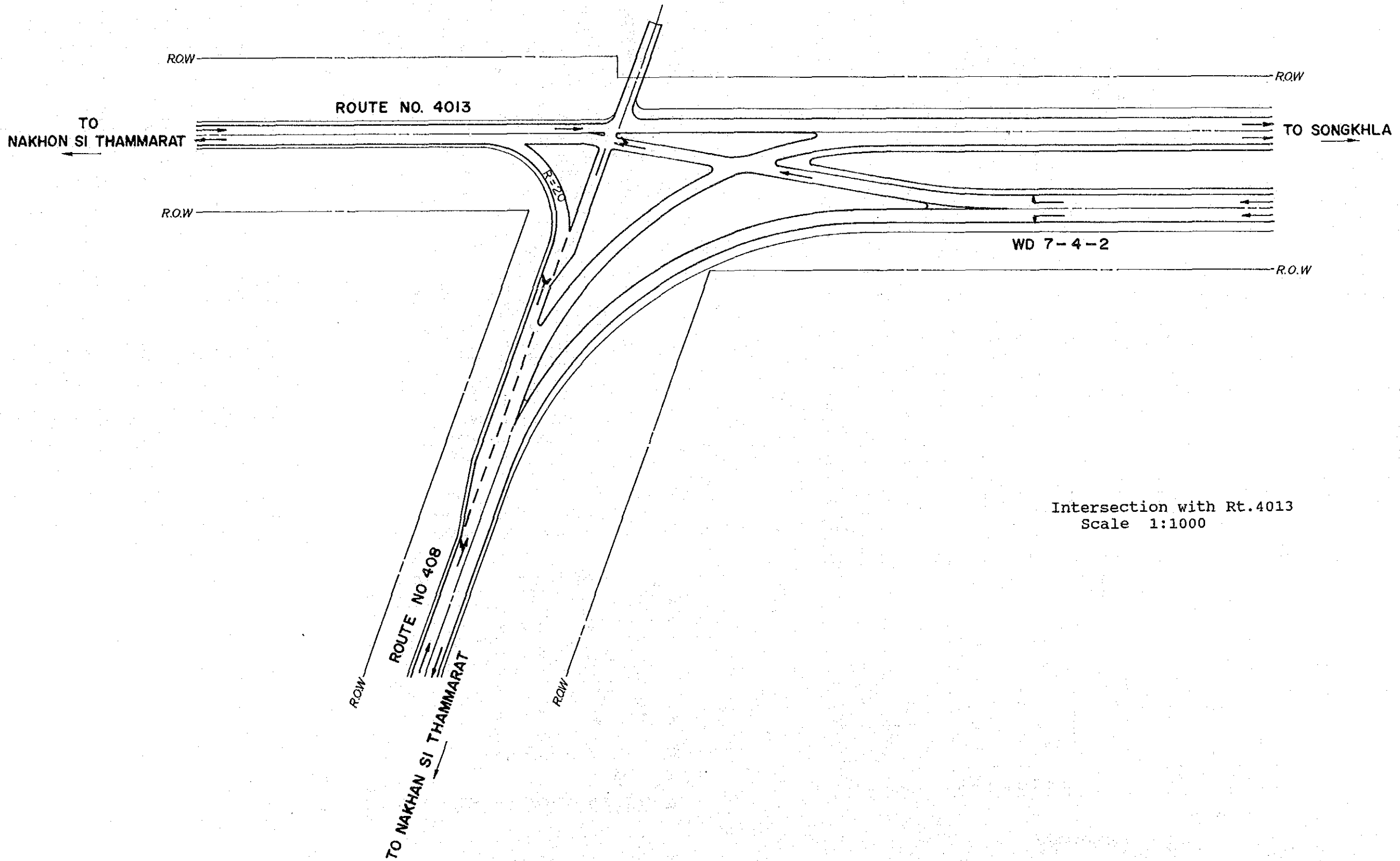|	
———————	: Alignment of Proposed Route
⊃———⊂ , ▬▬▬	: Proposed Bridge
▯	: Proposed Box Culvert
▽HWL	: High Water Level
WL	: Water Level
No.	: Number
R	: Radius of Curvature
L	: Length of Curve
BR.RC.SP.SL L	: Reinforced Concrete Bridge (Bridge Length)
BR.PC.GRDR L	: Prestressed Concrete Bridge (Bridge Length)
BR.ST.SP.TR L	: Steel Bridge (Bridge Length)
RC-B m - n x a x b x i	: Box Culvert (No. of Locations - No. of Cells x Clear Span x Depth x Length)

JICA RDSR STUDY

WD 7-4-2 ROUTE
HUA SAI~SONGKHA HIGHWAY

SHEET NO
1 OF 4

PLAN AND PROFILE
STA 0+000 TO STA 9+000

STA 0+000
BEGINNING OF PROJECT

GULF OF THAILAND

N

STA 9+000

1+000   2+000   3+000   4+000   5+000   6+000   7+000   8+000

BAN NA SAI

BAN PAK KHLONG

BAN BANG PO

BAN PHO THALE NGAM

KHLONG PAK PHANANG

ORCHARD

AMPHOE HUAI SAI
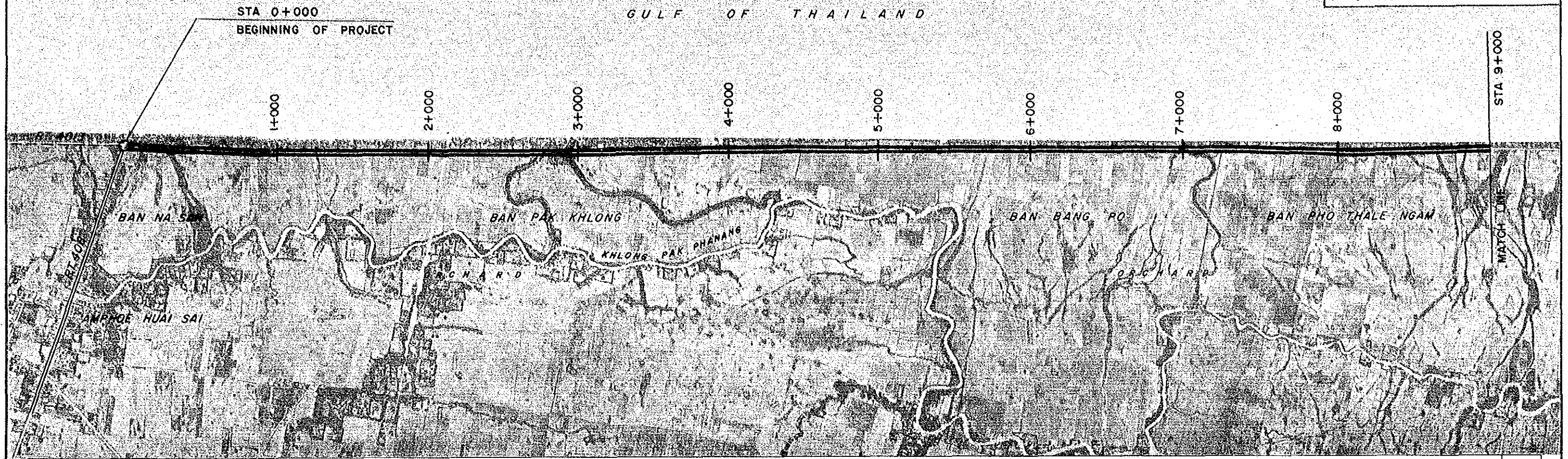
TERRAIN		FLAT			
PAVEM'T	Type	AC PAVEMENT			
	Existing Condition	GOOD / FAIR			
FLOODING	Length (Km)	—	FLOOD	—	FLOOD
	Hight (m)				
RIGHT OF WAY (m)	L	15.00			
	R	35.00			

ADDITIONAL LINE

20   20

PROPOSED PROFILE

10   10

EXISTING GROUND PROFILE

ELEVATION (m)

0   0.00%   0

STA 8+798
RC-B2-4x3.8H2.00x
18.00

CURVA-TURE BAND	Existing Alignment	L=113 R=819		L=73 R=1,146						L=84 R=955
	Proposed Alignment	L=113 R=819		L=73 R=1,146						L=84 R=955

STATION (Km)	0+000	1+000	2+000	3+000	4+000	5+000	6+000	7+000	8+000	9+000

GULF OF THAILAND

9+000
10+000
11+000
12+000
13+000
14+000
15+000
16+000
17+000
STA 18+000

MATCH LINE
MATCH LINE

BAN HUA
KHLONG BANG KHAYANG
BANG KHAYANG FIELD
BAN PAK KHLONG
KHLONG THAT PIN
ORCHARD AND PADDY FIELD
BAN HUA KHUNG
ORCHARD AND PADDY FIELD

TERRAIN		FLAT
PAVEM'T	Type	AC PAVEMENT
	Existing Condition	GOOD / FAIR FAIR
FLOODING	Length (Km) Hight (m)	FLOOD —
RIGHT OF WAY (m)	L R	15.00 / 35.00

ADDITIONAL LINE ←→ WIDENING

PROPOSD PROFILE

EXISTING GROUND PROFILE

STA. 11+904

ELEVATION (m)

20
10
0

0.00%   +0.06%   +0.04%   +0.07%   +0.02%   0.00%

STA 11+775
(KHLONG PAK RA WAI)
BR RC SP S L L=59.00

STA 12+265
(KHLONG BANG KHAYANG)
BR RC SP S L L=27.00

STA 12+865
RC-B-I-4x2.10x1.80x1.60

STA 14+420
(KHLONG THAT PIN)
BR RC SP SL L=50.00

STA 15+206
RC-BI-4x2.10x1.80x5.00

STA 17+043
RC-B-I-4x2.10x1.80x15.00

TO BE CONTINVED BY WD 7-4-1
(STA 18+000 - STA 96+287)

CURVA-TURE BAND	Existing Alignment	L=90 R=1,146	L=90 R=1,432		L=90 R=1,432	L=85 R=572	L=14 R=816 L=88 R=716
	Proposed Alignment	L=90 R=1,146	L=90 R=1,432		L=90 R=1,432	L=85 R=572	L=14 R=816 L=88 R=716

| STATION (Km) | 9+000 | 10+000 | 11+000 | 12+000 | 13+000 | 14+000 | 15+000 | 16+000 | 17+000 | 18+000 |

R.O.W

R.O.W

ROUTE NO. 4013

TO
NAKHON SI THAMMARAT

TO SONGKHLA

R=20

R.O.W

WD 7-4-2

R.O.W

ROUTE NO 408

TO NAKHAN SI THAMMARAT

R.O.W

R.O.W

Intersection with Rt.4013
Scale 1:1000

JICA RDSR STUDY

WD7-4-2 ROUTE
HUA SAI — SONGKHLA HIGHWAY

SHEET NO
4 OF 4

BRIDGE FOR KHLONG PAK RAWA

BRIDGE LENGTH 59.00

8.00 8.00 9.00 9.00 9.00 8.00 8.00

HWL
WL

EXISTING RIVER BED

ELEVATION
SCALE 1:400

EXISTING BRIDGE 59.00

TO SONGKHLA →

KHLONG PAK RA WA

TO NAKHON SI THAMMARAT

8.00 8.00 9.00 9.00 9.00 8.00 8.00

P L A N
SCALE 1:400

20.00

10.00 9.50 12.50

EXISTING BRIDGE
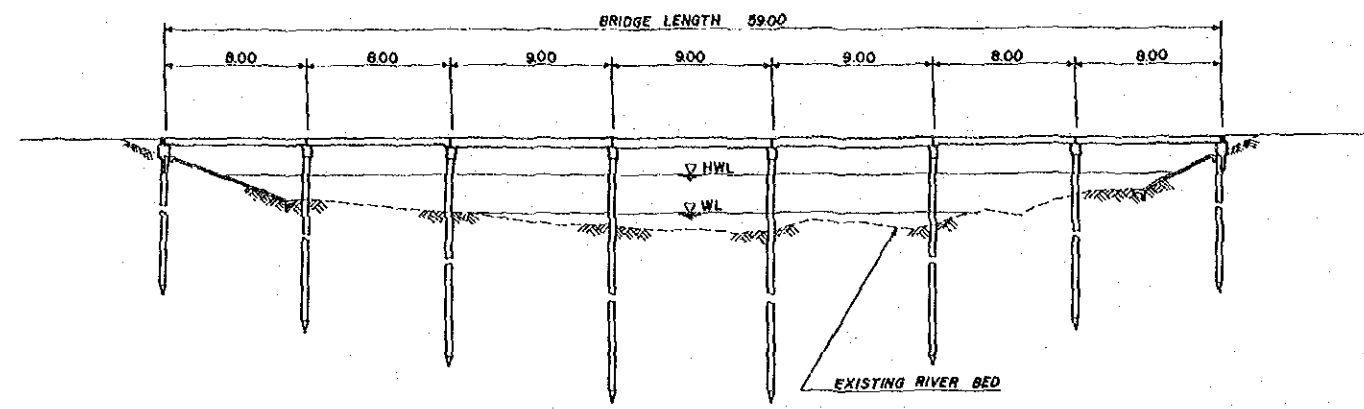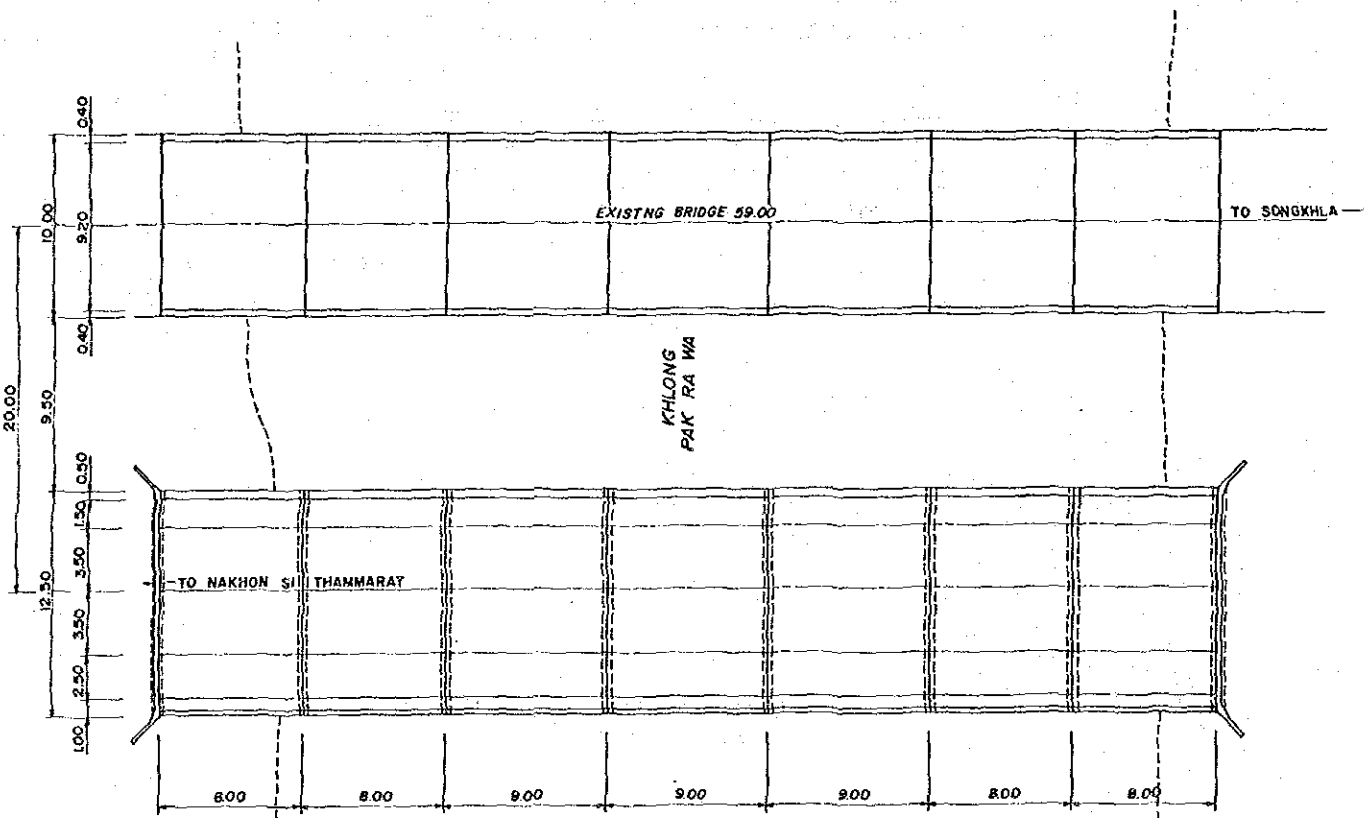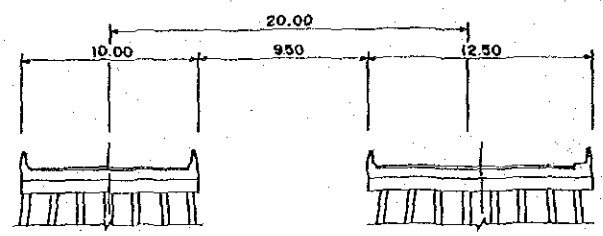
BRIDGE ARRANGEMENT
SCALE 1:400

12.50

0.50 1.50 3.50 3.50 2.50 1.00

0.625 PILE SPACING 5x2.25=11.25 0.625

DOWEL SPACING 5x2.00=10.00

1.5% 1.5%

0.35 0.35 0.35

EXISTING RIVER BED

FOR 8.00 M. SPAN

12.50

0.50 1.50 3.50 3.50 2.50 1.00

1.00 PILE SPACING 7x1.50=10.50 1.00

DOWEL SPACING 5x2.00=10.00

1.5% 1.5%

0.35 0.35 0.35

EXISTING RIVER BED
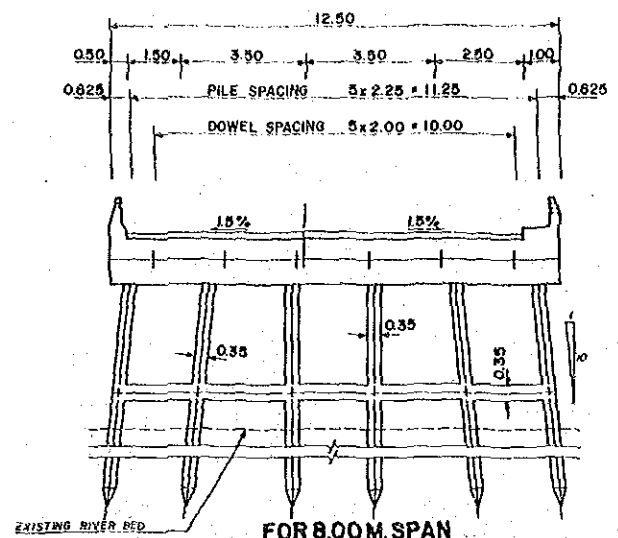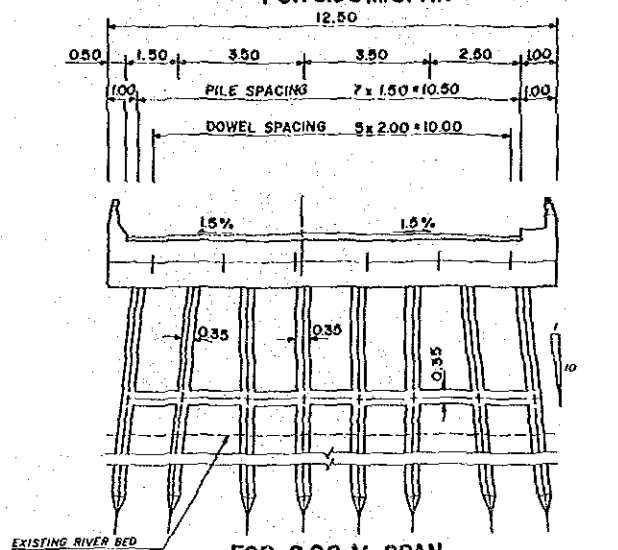
FOR 9.00 M. SPAN
PILE BENT ELEVATION
SCALE 1:200

12.50

0.50 1.50 3.50 3.50 2.50 1.00

0.625 PILE RACING 5x2.25=11.25 0.625

1.5% 1.5%

0.35 0.35 0.35

EXISTING RIVER BED

ELEVATION

0.20 0.20 0.10

2.00 0.25 0.25 45°

0.16

12.50
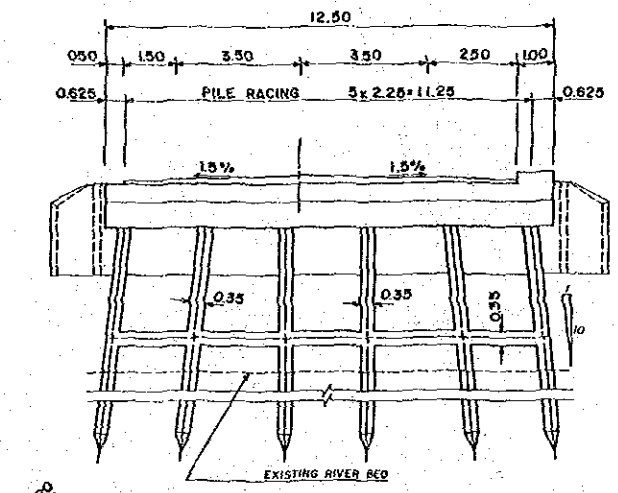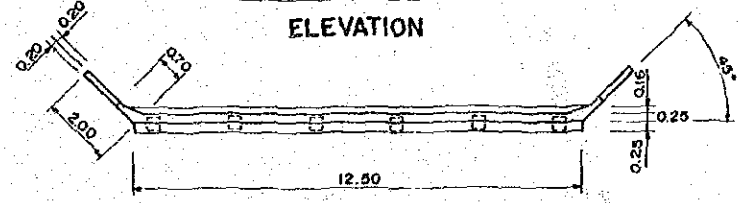
P L A N
ABUTMENT
SCALE 1:200

NOTES :

1. DESIGN STRESSES :
   a) CONCRETE , f_c = 70 KSC.
   b) STEEL , f_s = 1,400 KSC. (INTERMEDIATE GRADE)
              f_s = 1,200 KSC. (STRUCTURAL GRADE)

2. CONCRETE SHALL HAVE MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 210 KG/CM² FOR .15 X .15 X .15 CUBE AT 28 DAYS. AND APPROXIMATE MIX DESIGN PER CUBIC METER IS SUGGESTED AS FOLLOWS :
   PORTLAND CEMENT, MIN. 350 KG.
   SAND 0.43 M³
   CRUSHED ROCK OR GRAVEL 0.86 M³
   CONCRETE SLUMP, MAX 10 CM.

3. CLEAR CONCRETE COVER FOR TOP REINFORCEMENT IN SLAB BRIDGE SHALL BE 3.5 CM. ELSEWHERE OF SLAB BRIDGE AND SIDEWALK SHALL BE 2.5 CM.

4. ALL CONCRETE EXPOSED CORNERS SHALL HAVE 2 CM. CHAMFER UNLESS OTHERWISE INDICATED.

5. REBARS #4 OR LARGER SHALL BE INTERMEDIATE GRADE DEFORMED BARS, OTHERS SHALL BE STRUCTURAL GRADE PLAIN BARS UNLESS OTHERWISE INDICATED.

6. LOCATIONS OF LAP SPLICE OF REBARS SHALL BE APPROVED BY THE ENGINEER.

7. LAP LENGTH SHALL NOT BE LESS THAN 40 DIAMETERS OF BIGGER BAR IN CASE OF PLAIN BARS AND 24 DIAMETERS OF BIGGER BAR FOR DEFORMED BARS.

8. IN CASE OF SALINE PROTECTION, HIGH SULPHATE RESISTANT PORTLAND CEMENT TYPE 5 CONFORMED TO AASHTO SPECIFICATIONS SHALL BE USED AND ADDITIONAL CONCRETE COVER OF 2.5 CM. FROM NORMAL CASE ALL AROUND SHALL BE PROVIDED WITHOUT ALTERING THE LOCATIONS OF REBARS.

9. ALL MATERIALS SHALL BE USED UNDER THE APPROVAL OF THE ENGINEER.

10. PAINTING SHALL BE PROVIDED ON ALL SURFACES AT BRIDGE ENDS WHICH EXPOSED TO TRAFFIC. WHITE AND BLACK COLOUR SHALL BE PAINTED ALTERNATELY. WHITE COLOUR SHALL BE LIGHT REFLECTED TYPE.

11. ALL DIMENSIONS SHOWN ARE IN METERS UNLESS OTHERWISE INDICATED.

12. BAR MARK S101 MAY BE TAKEN OUT ONE BAR ON EACH SIDE OF THE BRIDGE WHEREVER THEY PASS THROUGH DRAIN PIPES. IF THE LOCATIONS OF THESE BARS ARE NEAR V-DRIP SUCH THAT CONCRETE COVER IS NOT ADEQUATE, THEY SHALL BE PLACED ON TOP OF ST 101. OTHER BARS WHICH PASS THROUGH DRAIN PIPES SHALL BE BENT ALONG THE PIPES.

13. ALL PIERS WHICH DO NOT HAVE LOG PROTECTION WALLS SHALL BE HAUNCH UNDER THE TOP CROSS BRACING.

14. IF ANY NOTES ON THE DRAWINGS OF PIERS CONTRADICT THE NOTES ON THIS DRAWING, THEY WILL BE SUPERSEDED BY THESE NOTES.

15. THIS DRAWING IS ADAPTED FROM DOH DWG NO. 3 A05-106-14/1A IN CASE OF ANY DISCREPANCY BETWEEN SUCH DRAWINGS ARISES, THE DOH. STANDARD DRAWING WILL PREVAIL UNDER THE APPROVAL OF THE ENGINEER.

List of Bridge

LIST OF BRIDGES (WD7-4-2:SD/S1)
==

Station	Materials	Structural System	Width (a+b+c+d+e:m)	Span and Length (m)	Remarks	(Fig.)

==

<4 Lane Section: SD>

Station	Materials	Structural System	Width (a+b+c+d+e:m)	Span and Length (m)	Remarks	(Fig.)
11+775 Kh.Pak Rawa	RC	SP.SL	0.4+0.0+9.2+0.0+0.4=10.0	2*8.0+3*9.0+2*8.0=59.0	Used as existed	
	RC	SP.SL	0.3+0.7+11.0+0.0+0.5=12.5	2*8.0+3*9.0+2*8.0=59.0	New construction	

<2 Lane Section: S1>

Station	Materials	Structural System	Width	Span and Length	Remarks	
12+265	RC	SP.SL	0.4+0.0+9.0+0.0+0.4=9.8	3*9.0=27.0	Used as existed	
14+420 Tha Khen	RC	SP.SL	0.3+0.7+8.0+0.7+0.3=10.0	5*10.0=50.0	Used as existed	

==

Note: (1) Materials
            RC: Reinforced Concrete Bridge
       (2) Structural System
            SP.SL: Simply Supported Slab

List of Culvert

LIST OF BOX AND PIPE CULVERT

STATION	CULVERT TYPE	CULVERT SIZE (m) PIPE NO. of ROW x DIAMETER	BOX NO. of CELLS (CLEAR SPAN x DEPTH)	NO. of LOCATION	CULVERT LENGTH (m) EXISTING	EXTENDED CONST-RUCTION	NEW CONST-RUCTION
0+0.50	Pipe	1x⊙0.60		2	16.0	4.0	20.0
0+0.50	Pipe	1x⊙0.60		2	14.0	4.0	18.0
0+423	Pipe	1x⊙0.60		2	10.0	4.0	14.0
0+428	Pipe	1x⊙0.80		2	12.0	4.0	16.0
0+828	Pipe	1x⊙0.60		2	12.0	4.0	16.0
1+253	Pipe	1x⊙0.80		2	14.0	4.0	18.0
1+778	Pipe	1x⊙0.80		2	13.0	4.0	17.0
2+378	Pipe	1x⊙0.80		2	13.0	4.0	17.0
2+728	Pipe	1x⊙1.00		2	13.0	4.0	17.0
2+878	Pipe	1x⊙0.80		2	19.0	4.0	23.0
3+203	Pipe	1x⊙0.80		2	12.0	4.0	16.0
3+528	Pipe	1x⊙0.60		2	11.0	4.0	15.0
3+878	Pipe	1x⊙1.00		2	12.0	4.0	16.0
4+278	Pipe	1x⊙0.80		2	12.0	4.0	16.0
5+828	Pipe	1x⊙0.80		2	12.0	4.0	16.0
5+878	Pipe	1x⊙0.80		2	10.0	4.0	14.0
5+878	Pipe	1x⊙0.60		2	12.0	4.0	16.0
5+893	Pipe	2x⊙0.80		2	13.0	4.0	17.0
5+978	Pipe	1x⊙0.80		2	13.0	4.0	17.0
6+528	Pipe	1x⊙0.80		2	13.0	4.0	17.0
6+878	Pipe	1x⊙0.80		2	15.0	4.0	19.0
7+328	Pipe	1x⊙0.60		2	14.0	4.0	18.0
7+728	Pipe	1x⊙0.80		2	14.0	4.0	18.0
8+328	Pipe	1x⊙0.80		2	14.0	4.0	18.0
8+553	Pipe	1x⊙0.80		2	14.0	4.0	18.0
8+628	Pipe	1x⊙0.80		2	14.0	4.0	18.0
8+780	Pipe	1x⊙0.80		2	12.0	4.0	16.0
8+798	Box		4(3.80x2.00)	2	14.0	4.0	18.0
9+428	Pipe	1x⊙0.80		2	14.0	4.0	18.0
9+828	Pipe	1x⊙0.80		2	14.0	4.0	18.0
10+478	Pipe	1x⊙0.80		2	13.0	4.0	17.0
10+728	Pipe	1x⊙0.80		2	14.0	4.0	18.0
11+228	Pipe	1x⊙0.80		2	13.0	4.0	17.0
12+686	Pipe	1x⊙0.80		1	17.0	2.0	

STATION	CULVERT TYPE	CULVERT SIZE (m) PIPE NO. of ROW x DIAMETER	BOX NO. of CELLS (CLEAR SPAN x DEPTH)	NO. of LOCATION	CULVERT LENGTH (m) EXISTING	EXTENDED CONST-RUCTION	NEW CONST-RUCTION
12+863	Box		4(2.10x1.80)	1	12.0	2.0	
13+428	Pipe	1x⊙0.80		1	14.0	2.0	
13+528	Pipe	1x⊙0.80		1	14.0	2.0	
13+888	Pipe	1x⊙0.80		1	12.0	2.0	
13+901	Pipe	1x⊙0.60		1	12.0	2.0	
14+228	Pipe	1x⊙1.00		1	15.0	2.0	
15+206	Box		4(2.10x1.80)	1	14.0	2.0	
15+328	Pipe	1x⊙0.80		1	13.0	2.0	
15+667	Pipe	1x⊙1.00		1	13.0	2.0	
15+928	Pipe	1x⊙0.60		1	11.0	2.0	
15+928	Pipe	1x⊙0.60		1	12.0	2.0	
16+026	Pipe	1x⊙1.00		1	14.0	2.0	
16+345	Pipe	1x⊙0.80		1	15.0	2.0	
16+692	Pipe	1x⊙1.00		1	15.0	2.0	
17+043	Box		4(1.80x1.20)	1	13.0	2.0	
17+328	Pipe	1x⊙0.80		1	14.0	2.0	
17+578	Pipe	1x⊙0.80		1	14.0	2.0	
18+140	Box		4(1.80x1.20)	1	13.0	2.0	
18+728	Pipe	1x⊙0.80		1	14.0	2.0	
19+178	Pipe	1x⊙0.80		1	15.0	2.0	
19+203	Pipe	1x⊙0.60		1	10.0	2.0	
19+248	Pipe	1x⊙0.60		1	13.0	2.0	
19+603	Pipe	2x⊙0.80		1	14.0	2.0	
20+478	Pipe	2x⊙0.80		1	14.0	2.0	
21+128	Pipe	1x⊙0.80		1	13.0	2.0	
21+555	Pipe	1x⊙0.80		1	12.0	2.0	
21+588	Pipe	1x⊙0.80		1	14.0	2.0	
21+929	Box		2(1.80x1.50)	1	13.0	2.0	
22+478	Pipe	2x⊙0.60		1	13.0	2.0	
22+678	Pipe	2x⊙0.60		1	13.0	2.0	
23+303	Pipe	1x⊙0.60		1	12.0	2.0	
23+878	Pipe	1x⊙0.60		1	13.0	2.0	
24+256	Pipe	1x⊙0.60		1	13.0	2.0	
24+653	Pipe	1x⊙0.60		1	12.0	2.0	

LIST OF BOX AND PIPE CULVERT

STATION	CULVERT TYPE	CULVERT SIZE (m) PIPE NO. of ROW x DIAMETER	CULVERT SIZE (m) BOX NO. of CELLS (CLEAR SPAN x DEPTH)	NO. of LOCATION	CULVERT LENGTH (m) EXISTING	EXTENDED CONSTRUCTION	NEW CONSTRUCTION
25+828	Pipe	2x⊙0.60		1	13.0	2.0	
25+953	Pipe	1x⊙0.60		1	12.0	2.0	
26+028	Pipe	1x⊙0.80		1	14.0	2.0	
26+392	Pipe	1x⊙0.60		1	12.0	2.0	
26+492	Pipe	2x⊙0.60		1	15.0	2.0	
26+505	Pipe	1x⊙0.60		1	12.0	2.0	
27+017	Pipe	1x⊙0.80		1	13.0	2.0	
27+617	Pipe	1x⊙0.80		1	12.0	2.0	
28+407	Pipe	1x⊙0.60		1	16.0	2.0	
28+537	Pipe	1x⊙0.60		1	18.0	2.0	
28+889	Box		3(1.80x1.80)	1	13.0	2.0	
28+948	Pipe	1x⊙0.60		1	17.0	2.0	
29+017	Box		3(3.00x2.70)	1	13.0	2.0	
29+234	Pipe	1x⊙0.60		1	16.0	2.0	
29+534	Pipe	1x⊙0.60		1	14.0	2.0	
29+993	Pipe	1x⊙0.60		1	14.0	2.0	
30+385	Pipe	1x⊙0.60		1	14.0	2.0	
30+737	Pipe	1x⊙1.00		1	17.0	2.0	
31+416	Pipe	1x⊙0.60		1	18.0	2.0	
31+843	Pipe	1x⊙0.60		1	15.0	2.0	
32+334	Pipe	2x⊙1.50		1	12.0	2.0	
32+734	Pipe	1x⊙0.60		1	16.0	2.0	
33+039	Pipe	1x⊙0.60		1	18.0	2.0	
33+417	Pipe	1x⊙0.50		1	13.0	2.0	
33+894	Pipe	1x⊙0.50		1	18.0	2.0	
34+484	Pipe	1x⊙0.60		1	15.0	2.0	
35+034	Pipe	1x⊙0.60		1	15.0	2.0	
35+340	Pipe	1x⊙0.60		1	20.0	2.0	
35+547	Pipe	1x⊙0.80		1	16.0	2.0	
35+550	Box		2(2.10x2.10)	1	12.0	2.0	
35+965	Pipe	1x⊙0.60		1	17.0	2.0	
36+223	Pipe	1x⊙1.00		1	17.0	2.0	
36+634	Pipe	1x⊙0.60		1	16.0	2.0	
37+177	Pipe	1x⊙0.60		1	16.0	2.0	
37+611	Pipe	1x⊙0.60		1	16.0	2.0	
38+634	Pipe	1x⊙0.60		1	15.0	2.0	
38+979	Pipe	1x⊙0.60		1	15.0	2.0	
39+134	Pipe	1x⊙0.60		1	15.0	2.0	
39+328	Pipe	1x⊙0.60		1	16.0	2.0	
39+749	Pipe	1x⊙0.60		1	16.0	2.0	
39+925	Pipe	1x⊙0.60		1	15.0	2.0	
40+234	Pipe	1x⊙0.60		1	15.0	2.0	
40+502	Pipe	1x⊙0.60		1	16.0	2.0	
40+743	Pipe	1x⊙0.60		1	15.0	2.0	
40+779	Pipe	1x⊙0.60		1	15.0	2.0	
43+184	Pipe	1x⊙0.60		1	15.0	2.0	
44+559	Pipe	1x⊙0.60		1	16.0	2.0	
44+804	Pipe	1x⊙0.60		1	16.0	2.0	
45+502	Pipe	1x⊙0.60		1	17.0	2.0	
45+942	Pipe	1x⊙0.60		1	16.0	2.0	
46+209	Pipe	1x⊙0.60		1	15.0	2.0	
46+684	Pipe	1x⊙0.60		1	16.0	2.0	
47+077	Pipe	1x⊙0.60		1	17.0	2.0	
47+434	Pipe	1x⊙0.60		1	15.0	2.0	
48+230	Pipe	1x⊙0.60		1	15.0	2.0	
48+266	Pipe	1x⊙0.60		1	15.0	2.0	
48+470	Pipe	1x⊙0.60		1	17.0	2.0	
48+633	Pipe	1x⊙0.60		1	16.0	2.0	
48+884	Pipe	1x⊙0.60		1	18.0	2.0	
49+563	Pipe	1x⊙0.60		1	17.0	2.0	
49+837	Pipe	1x⊙0.60		1	15.0	2.0	
50+996	Pipe	1x⊙0.60		1	17.0	2.0	
51+029	Pipe	1x⊙0.60		1	17.0	2.0	
51+449	Pipe	1x⊙0.60		1	16.0	2.0	
52+080	Pipe	1x⊙0.60		1	18.0	2.0	
52+528	Pipe	1x⊙0.60		1	17.0	2.0	
53+080	Pipe	1x⊙1.00		1	18.0	2.0	
53+853	Pipe	1x⊙0.60		1	16.0	2.0	

LIST OF BOX AND PIPE CULVERT

STATION	CULVERT TYPE	CULVERT SIZE (m) PIPE NO. of ROW x DIAMETER	BOX NO. of CELLS (CLEAR SPAN x DEPTH)	NO. of LOCATION	CULVERT LENGTH (m) EXISTING	EXTENDED CONST-RUCTION	NEW CONST-RUCTION
54+084	Pipe	1x⊙0.60		1	15.0	2.0	
54+434	Pipe	1x⊙0.60		1	19.0	2.0	
54+978	Pipe	1x⊙0.60		1	15.0	2.0	
55+368	Pipe	1x⊙0.60		1	16.0	2.0	
55+859	Pipe	1x⊙0.60		1	16.0	2.0	
56+349	Pipe	1x⊙0.60		1	18.0	2.0	
56+831	Pipe	1x⊙0.60		1	16.0	2.0	
56+918	Pipe	1x⊙0.60		1	16.0	2.0	
57+415	Pipe	1x⊙0.60		1	16.0	2.0	
57+771	Pipe	1x⊙0.60		1	16.0	2.0	
58+235	Pipe	1x⊙0.60		1	17.0	2.0	
58+579	Pipe	1x⊙0.60		1	17.0	2.0	
58+972	Pipe	1x⊙0.60		1	16.0	2.0	
59+669	Pipe	1x⊙0.60		1	16.0	2.0	
59+930	Pipe	1x⊙0.60		1	16.0	2.0	
60+156	Pipe	1x⊙0.60		1	15.0	2.0	
60+635	Pipe	1x⊙0.60		1	14.0	2.0	
61+074	Pipe	2x⊙0.60		1	15.0	2.0	
61+184	Pipe	1x⊙0.60		1	16.0	2.0	
61+494	Pipe	1x⊙0.60		1	16.0	2.0	
62+213	Pipe	1x⊙0.60		1	16.0	2.0	
62+377	Pipe	2x⊙0.60		1	16.0	2.0	
62+784	Pipe	2x⊙0.80		1	14.0	2.0	
63+498	Pipe	1x⊙0.60		1	15.0	2.0	
63+694.5	Pipe	1x⊙0.60		1	15.0	2.0	
63+901.4	Pipe	1x⊙0.60		1	17.0	2.0	
64+259	Pipe	1x⊙0.60		1	14.0	2.0	
64+637	Pipe	1x⊙0.60		1	15.0	2.0	
65+159	Pipe	1x⊙0.60		1	14.0	2.0	
65+437.6	Pipe	1x⊙0.60		1	16.0	2.0	
65+815.5	Pipe	1x⊙0.60		1	13.0	2.0	
66+431	Pipe	1x⊙0.60		1	16.0	2.0	
67+180	Pipe	1x⊙0.60		1	18.0	2.0	
67+717	Pipe	1x⊙0.60		1	15.0	2.0	
68+709	Pipe	1x⊙0.60		1	18.0	2.0	
69+809	Pipe	1x⊙0.60		1	15.0	2.0	
70+111.4	Pipe	1x⊙0.60		1	15.0	2.0	
70+621.5	Pipe	1x⊙0.60		1	15.0	2.0	
72+307.7	Pipe	1x⊙0.60		1	17.0	2.0	
72+460	Pipe	1x⊙0.60		1	16.0	2.0	
73+035	Pipe	1x⊙0.60		1	15.0	2.0	
73+061	Pipe	1x⊙0.60		1	15.0	2.0	
73+061	Pipe	1x⊙0.60		1	14.0	2.0	
73+384	Pipe	1x⊙0.60		1	14.0	2.0	
74+195	Pipe	1x⊙0.60		1	16.0	2.0	
74+911	Pipe	1x⊙0.80		1	17.0	2.0	
76+585.5	Pipe	1x⊙0.60		1	14.0	2.0	
77+634	Pipe	1x⊙0.80		1	17.0	2.0	
77+910	Pipe	1x⊙0.80		1	17.0	2.0	
78+134	Pipe	1x⊙0.80		1	17.0	2.0	
78+434	Pipe	1x⊙0.80		1	17.0	2.0	
78+659	Pipe	1x⊙0.80		1	17.0	2.0	
78+849	Pipe	1x⊙1.00		1	20.0	2.0	
78+880	Pipe	1x⊙1.00		1	20.0	2.0	
78+984	Pipe	1x⊙0.80		1	16.0	2.0	
79+359	Pipe	1x⊙0.80		1	18.0	2.0	
79+619	Pipe	1x⊙0.60		1	15.0	2.0	
80+234	Pipe	1x⊙0.60		1	16.0	2.0	
80+566	Pipe	1x⊙0.60		1	15.0	2.0	
81+284	Pipe	1x⊙0.60		1	17.0	2.0	
82+049	Box		3(3.60x2.40)	1	12.0	2.0	
83+009	Pipe	1x⊙0.60		1	15.0	2.0	
83+284	Pipe	1x⊙0.60		1	14.0	2.0	
83+787	Pipe	1x⊙0.80		1	17.0	2.0	
84+287	Pipe	1x⊙0.60		1	16.0	2.0	
84+473	Pipe	1x⊙0.60		1	16.0	2.0	
85+009	Pipe	1x⊙0.60		1	15.0	2.0	
85+709	Pipe	1x⊙0.80		1	15.0	2.0	

LIST OF BOX AND PIPE CULVERT

STATION	CULVERT TYPE	CULVERT SIZE (m)		NO. of LOCATIONS	CULVERT LENGTH (m)		
		PIPE	BOX				
		NO. of ROW x DIAMETER	NO. of CELLS (CLEAR SPAN x DEPTH)		EXISTING	EXTENDED CONST-RUCTION	NEW CONST-RUCTION
86+090	Pipe	1x⊙0.80		1	17.0	2.0	
86+509	Pipe	1x⊙0.60		1	15.0	2.0	
86+984	Pipe	1x⊙0.60		1	15.0	2.0	
87+459	Pipe	1x⊙0.60		1	15.0	2.0	
87+101.5	Pipe	1x⊙0.60		1	15.0	2.0	
88+101.5	Pipe	1x⊙0.60		1	16.0	2.0	
89+256.5	Pipe	1x⊙0.60		1	18.0	2.0	
89+968	Pipe	1x⊙0.60		1	16.0	2.0	
91+584	Pipe	1x⊙0.60		1	17.0	2.0	
91+895	Pipe	1x⊙0.60		1	16.0	2.0	
92+630.5	Pipe	1x⊙0.60		1	15.0	2.0	
94+275	Pipe	1x⊙0.60		1	15.0	2.0	
94+484	Pipe	1x⊙0.60		1	17.0	2.0	
94+923	Pipe	2x⊙0.60		1	16.0	2.0	