
**ACRE SURVEYING  
& DEVELOPMENT**

**CONSULTANTS**  
 DATE: Jul-14-88  
 SURVEYED BY: [Signature]  
 CHECKED BY: [Signature]  
 PROJECT MANAGER: [Signature]

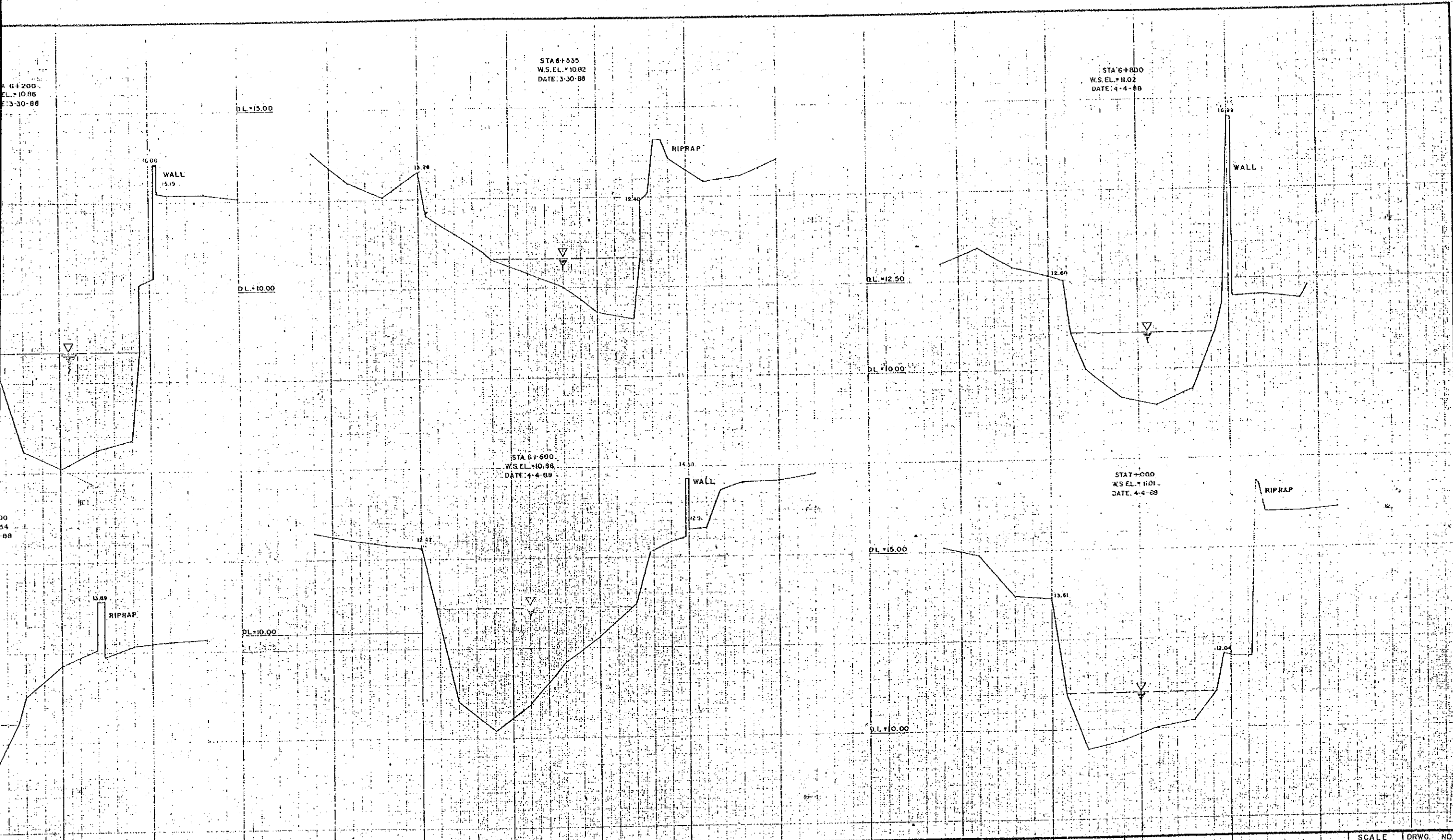


REPUBLIC OF THE PHILIPPINES  
**DEPARTMENT OF  
PUBLIC WORKS AND HIGHWAYS**

PROJECT ENGINEER: [Signature]  
 PROJECT MANAGER: [Signature]  
 DATE: 8-12-88

Masterpiece  
 Printed in Japan

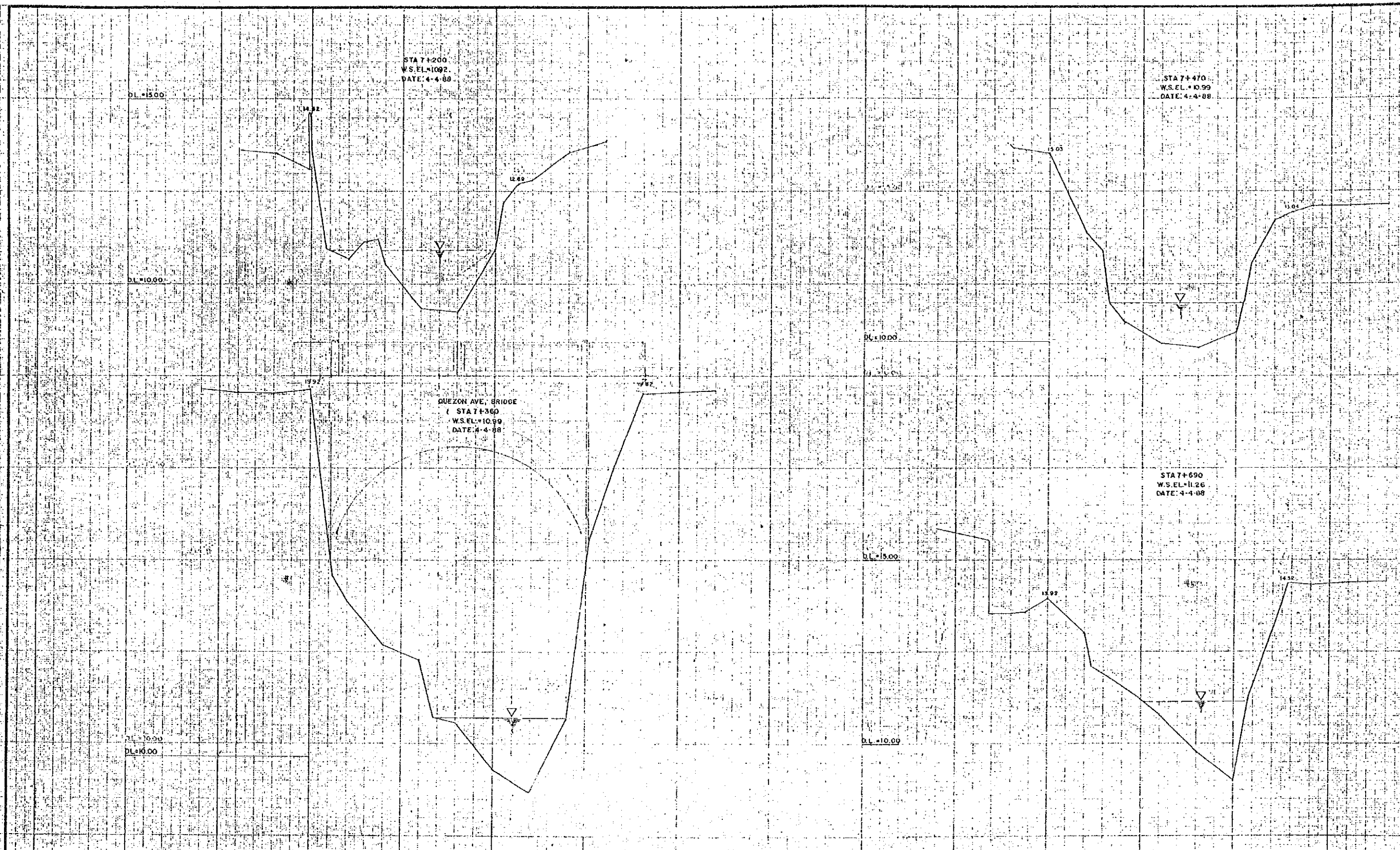
Masterpiece  
 Printed in Japan



CONSULTANTS		REPUBLIC OF THE PHILIPPINES		DATE	SIGNATURE	PROJECT ENGINEER NONI C. PABO	PROJECT MANAGER EUGENIO MANALO	SCALE	DRWG. NO.
DATE	SIGNATURE	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS							
5-1-88	<i>[Signature]</i>							HORIZONTAL 1: 250	9/10
8-12-88	<i>[Signature]</i>							VERTICAL 1: 50	
SAN JUAN RIVER								STA. 6+200 TO 7+000	

A-4-11

M.S.P.



**ACRE SURVEYING & DEVELOPMENT**

**CONSULTANTS**

DATE	SIGNATURE
SURVEYED BY: 8/1/88	<i>[Signature]</i>
CHECKED BY: 8/1/88	<i>[Signature]</i>
PROJECT MANAGER: 8/1/88	<i>[Signature]</i>

**REPUBLIC OF THE PHILIPPINES**  
**DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS**

DATE	SIGNATURE
PROJECT ENGINEER	<i>[Signature]</i>
PROJECT MANAGER	<i>[Signature]</i>

Masterpiece  
 Division of Survey

Masterpiece  
 Division of Survey

STA 7+200  
W.S. EL. = 10.92  
DATE: 4-4-88

STA 7+470  
W.S. EL. = 10.99  
DATE: 4-4-88

QUEZON AVE. BRIDGE  
STA 7+360  
W.S. EL. = 10.90  
DATE: 4-4-88

STA 7+690  
W.S. EL. = 11.26  
DATE: 4-4-88

CONSULTANTS

REPUBLIC OF THE PHILIPPINES

DATE: 8/1/88  
SIGNATURE: *[Signature]*



DEPARTMENT OF  
PUBLIC WORKS AND HIGHWAYS

PROJECT ENGINEER  
PROJECT MANAGER

DATE: 8/1/88  
SIGNATURE: *[Signature]*  
NONATO P. ANIL  
EUGENIO P. GALLO

CROSS SECTION

SAN JUAN RIVER

STA. 7+200 STA. 7+690

SCALE: DRWG. NO.  
HORIZONTAL: 1" = 20'  
VERTICAL: 1" = 50'  
10/10

Master Piece  
10/10/88

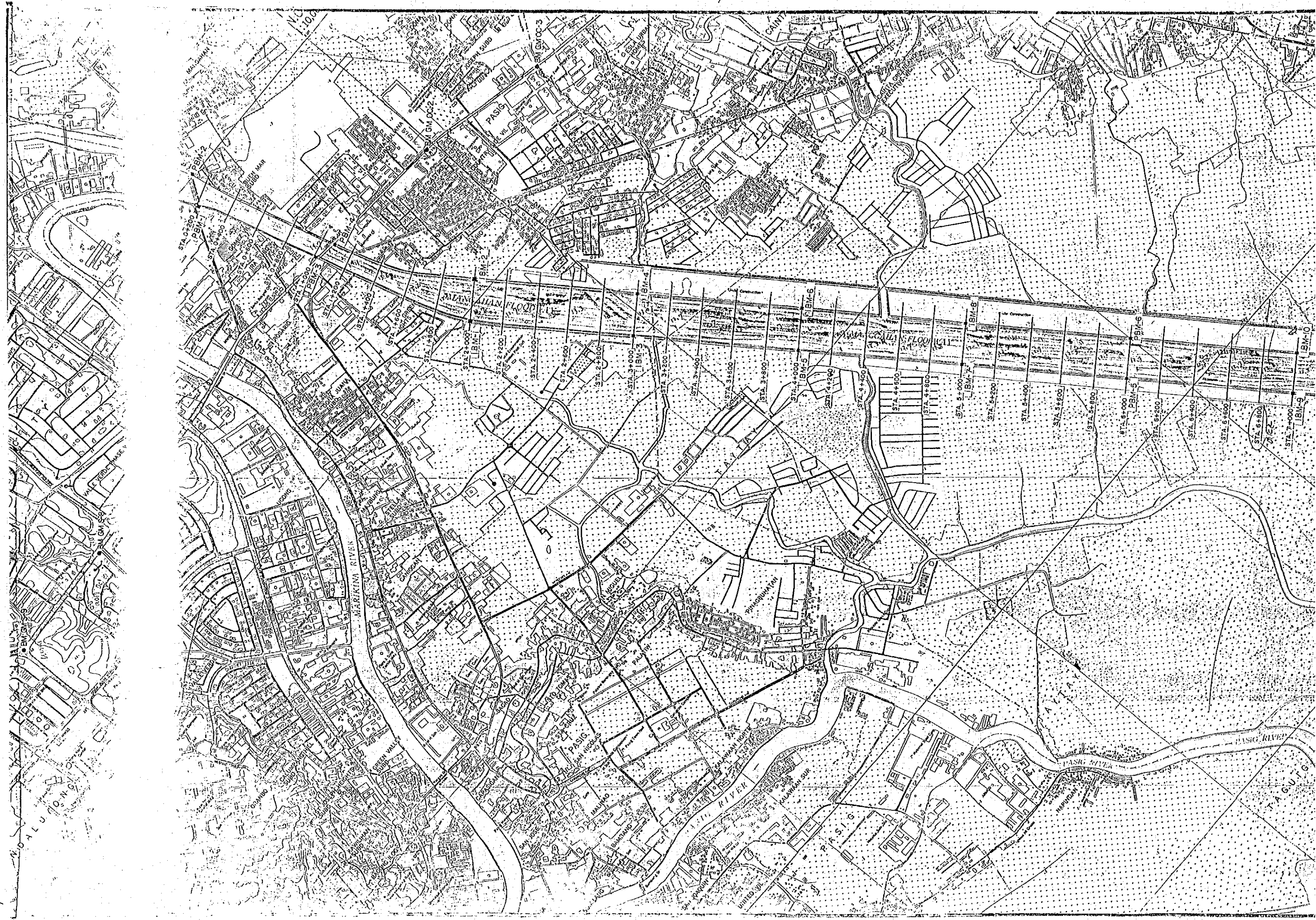
A-4-12

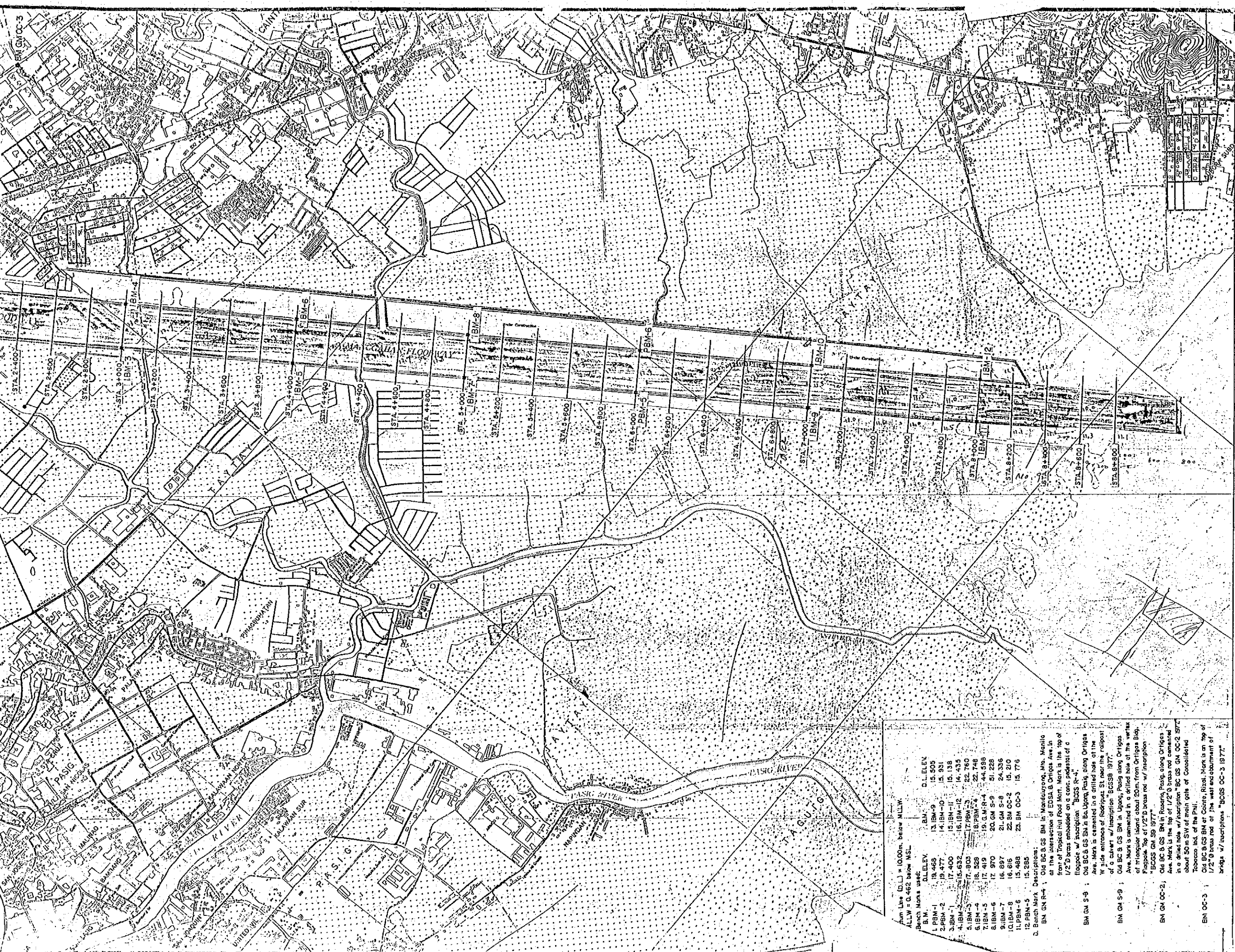
A-5 MANGAHAN FLOODWAY

INDEX MAP (1 SHEET)

LONGITUDINAL PROFILE (1 SHEET)

CROSS SECTION (7 SHEET)





Sum Line (G.L.) = 10.00m, below MLLW.  
 ALLW = 0.462 below MSL

Bench Mark used:	B.M.	D. LEV.	B.M.	D. LEV.
1. PBM-1	13. BM-9	15.505	13. BM-9	15.505
2. PBM-2	14. BM-10	15.138	14. BM-10	15.138
3. BM-1	15. BM-11	14.435	15. BM-11	14.435
4. BM-2	16. BM-12	22.760	16. BM-12	22.760
5. BM-3	17. PBM-3	22.748	17. PBM-3	22.748
6. BM-4	18. BM-13	44.588	18. BM-13	44.588
7. BM-5	19. G.M. R-4	51.228	19. G.M. R-4	51.228
8. BM-6	20. G.M. S-9	24.336	20. G.M. S-9	24.336
9. BM-7	21. G.M. S-8	15.210	21. G.M. S-8	15.210
10. BM-8	22. BM OC-2	15.176	22. BM OC-2	15.176
11. PBM-5	15.285			
12. PBM-5	15.285			

**Bench Mark Descriptions:**  
 BM GN R-4 : Old BC & GS BM in Mandulung, Mts. Manila at the intersection of EDSSA B Ortigas Ave. in front of Tropical Fruit Food Mart. Mark is the top of 1/2" brass embedded in a concrete pedestal of a floopack w/ inscription "BCGS R-4".  
 BM GN S-9 : Old BC & GS BM in E. Uyong Pass, along Ortigas Ave. Mark is cemented in a drilled hole at the side entrance of Rodriguez St. near the railpost of a cement w/ inscription "BCGS S-9".  
 BM GN S-8 : Old BC & GS BM in Uyong Pass along Ortigas Ave. Mark is cemented in a drilled hole at the vertex of a concrete island about 20m from Ortigas Bldg. Floopack top of 1/2" brass red w/ inscription "BCGS GN S-8".  
 BM GN OC-2 : Old BC & GS BM in Pasig, Pasig along Ortigas Ave. Mark is the top of 1/2" brass not cemented in a drilled hole w/ inscription "BC GS GN OC-2 1977" about 50m SW of main gate of Consolidated Tobacco Bldg. of the Pasig.  
 BM GN OC-3 : Old BC & GS BM at Cojuangco, Rizal. Mark is on top of 1/2" brass red of the wall embankment of bridge w/ inscription "BCGS OC-3 1977".

UNIVERSAL TRANSVERSE MERCATOR PROJECTION  
 SCALE 1:10,000  
 0 100 200 300 400 500 600 700 800 900 1000 METERS

121192W  
 151116N

DEPARTMENT OF PUBLIC WORKS HIGHWAYS  
 PROJECT ENGINEER: *[Signature]*  
 PROJECT MANAGER: *[Signature]*

CONSULTANT'S SIGNATURE: *[Signature]*  
 DATE: *[Date]*

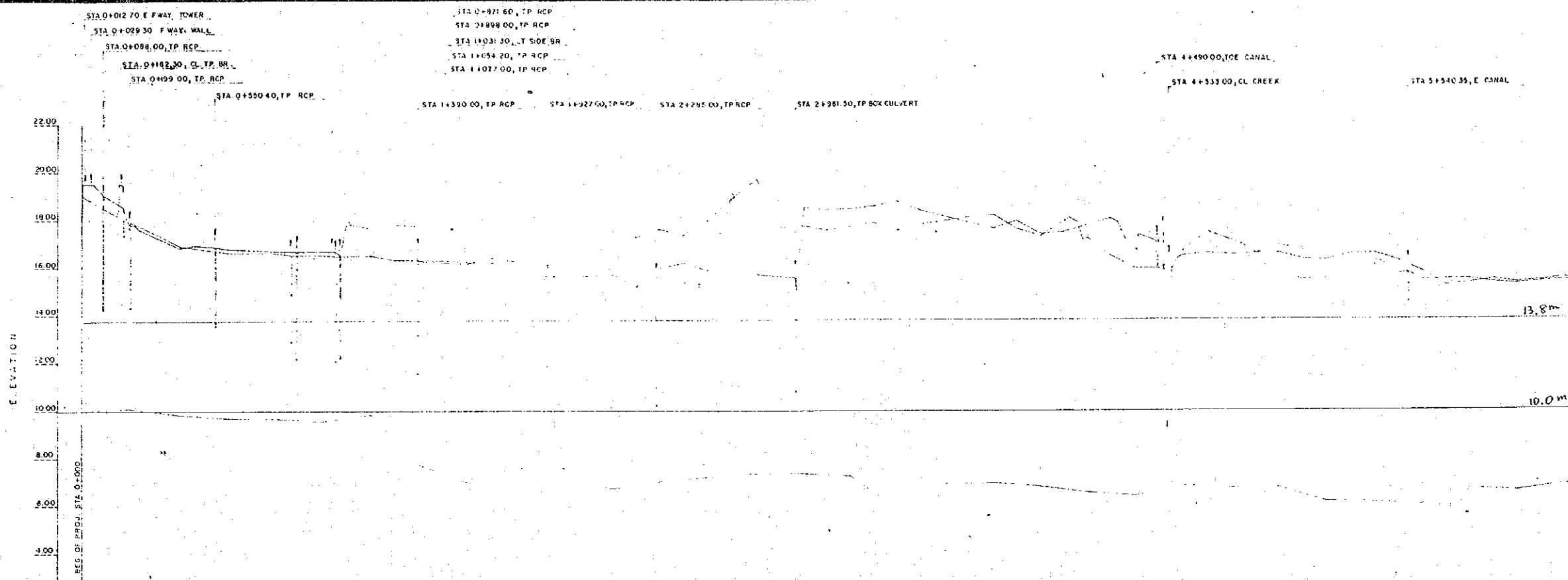
SURVEYED BY: *[Signature]*  
 CHECKED BY: *[Signature]*  
 PROJECT MANAGER: *[Signature]*

INDEX MAP  
 MANGGAHAN FLOODWAY

SHEET NO. 171

**ACRE SURVEYING & DEVELOPMENT**

# MANGGAHAN FLOODWAY



STATION NO.	EXISTING ELEVATION				PROPOSED ELEVATION			
	RIVER BED	LEFT LEVEL	RIGHT LEVEL	RIVER BED	HIGH WATER LEVEL	BANK LEVEL	RIVER BED GRADIENT	
0+000	8.97	13.00	13.55	8.97	13.00	13.55		
0+200	10.04	18.40	18.45	10.04	18.40	18.45		
0+400	10.81	17.16	17.16	10.81	17.16	17.16		
0+600	10.81	16.92	16.92	10.81	16.92	16.92		
0+800	9.67	16.83	16.83	9.67	16.83	16.83		
1+000	9.56	16.69	16.69	9.56	16.69	16.69		
1+200	9.55	16.52	16.52	9.55	16.52	16.52		
1+400	9.54	16.32	16.32	9.54	16.32	16.32		
1+600	9.54	16.13	16.13	9.54	16.13	16.13		
1+800	9.54	15.94	15.94	9.54	15.94	15.94		
2+000	9.54	15.74	15.74	9.54	15.74	15.74		
2+200	9.54	15.54	15.54	9.54	15.54	15.54		
2+400	9.54	15.34	15.34	9.54	15.34	15.34		
2+600	9.54	15.14	15.14	9.54	15.14	15.14		
2+800	9.54	14.94	14.94	9.54	14.94	14.94		
3+000	9.54	14.74	14.74	9.54	14.74	14.74		
3+200	9.54	14.54	14.54	9.54	14.54	14.54		
3+400	9.54	14.34	14.34	9.54	14.34	14.34		
3+600	9.54	14.14	14.14	9.54	14.14	14.14		
3+800	9.54	13.94	13.94	9.54	13.94	13.94		
4+000	9.54	13.74	13.74	9.54	13.74	13.74		
4+200	9.54	13.54	13.54	9.54	13.54	13.54		
4+400	9.54	13.34	13.34	9.54	13.34	13.34		
4+600	9.54	13.14	13.14	9.54	13.14	13.14		
4+800	9.54	12.94	12.94	9.54	12.94	12.94		
5+000	9.54	12.74	12.74	9.54	12.74	12.74		
5+200	9.54	12.54	12.54	9.54	12.54	12.54		
5+400	9.54	12.34	12.34	9.54	12.34	12.34		
5+500	9.54	12.14	12.14	9.54	12.14	12.14		

<b>ACRE SURVEYING &amp; DEVELOPMENT</b>	CONSULTANTS		REPUBLIC OF THE PHILIPPINES		DATE		SIGNATURE	
	SURVEYED BY	DATE	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS		PROJECT ENGINEER	/NONITO T. AND		
	CHECKED BY	DATE			PROJECT MANAGER	EUGENIO T. LO		



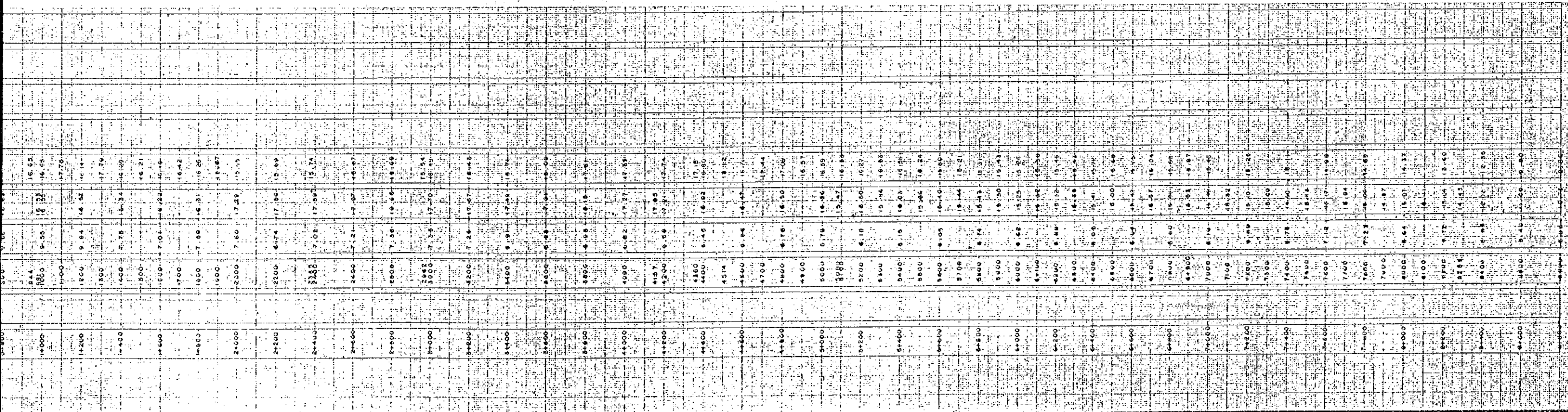
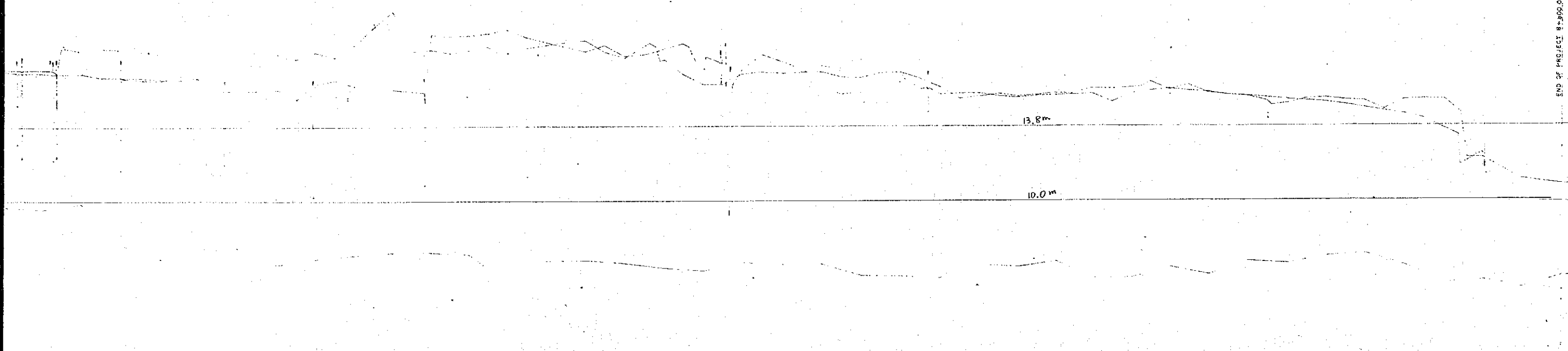
STA 0+871.60, TP RCP  
 STA 21898.00, TP RCP  
 STA 1+031.30, LT SIDE BR  
 STA 1+054.20, TP RCP  
 STA 1+077.00, TP RCP

STA 4+490.00, TOE CANAL  
 STA 4+533.00, CL CREEK  
 STA 5+540.35, E. CANAL

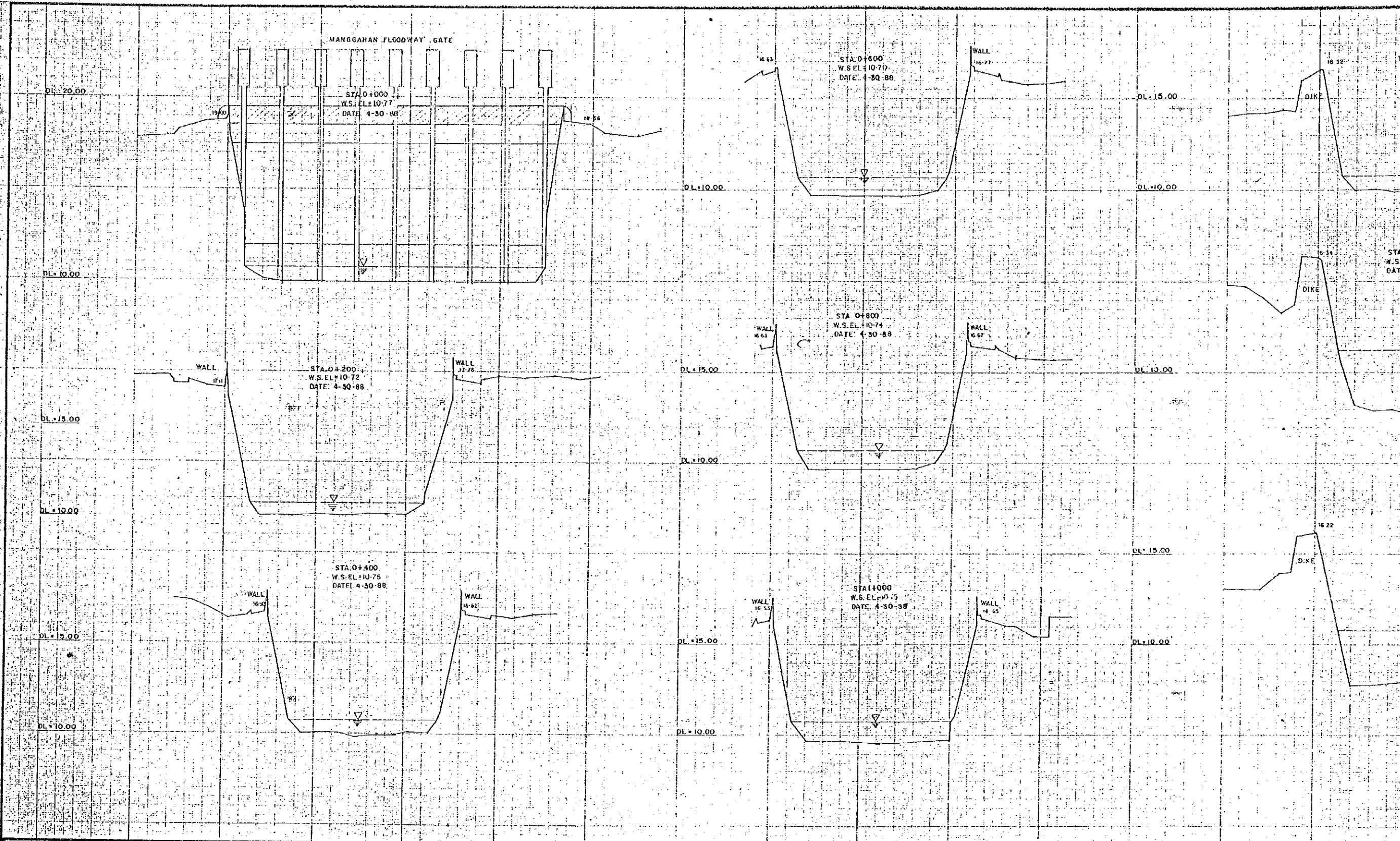
STA 9+405.00, CL CANAL


STA 1+330.00, TP RCP  
 STA 1+927.00, TP RCP  
 STA 2+282.00, TP RCP  
 STA 2+361.50, TP BOX CULVERT

END OF PROJECT 8+800.00  
 LEFT BANK  
 RIGHT BANK  
 CL RIVER BED




CONSULTANTS		REPUBLIC OF THE PHILIPPINES		DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS		PROJECT ENGINEER		PROJECT MANAGER		MONITOR AND ENGINEER		DATE		SIGNATURE		SCALE		DRWG. NO.		
8-10-88	8-12-88																			
<b>PLAN AND PROFILE</b>												MANGAHAN RIVER		STA. 0+000 - STA. 8+800		HORIZONTAL 1:10000	VERTICAL 1:100	71		




**ACRE SURVEYING  
& DEVELOPMENT**

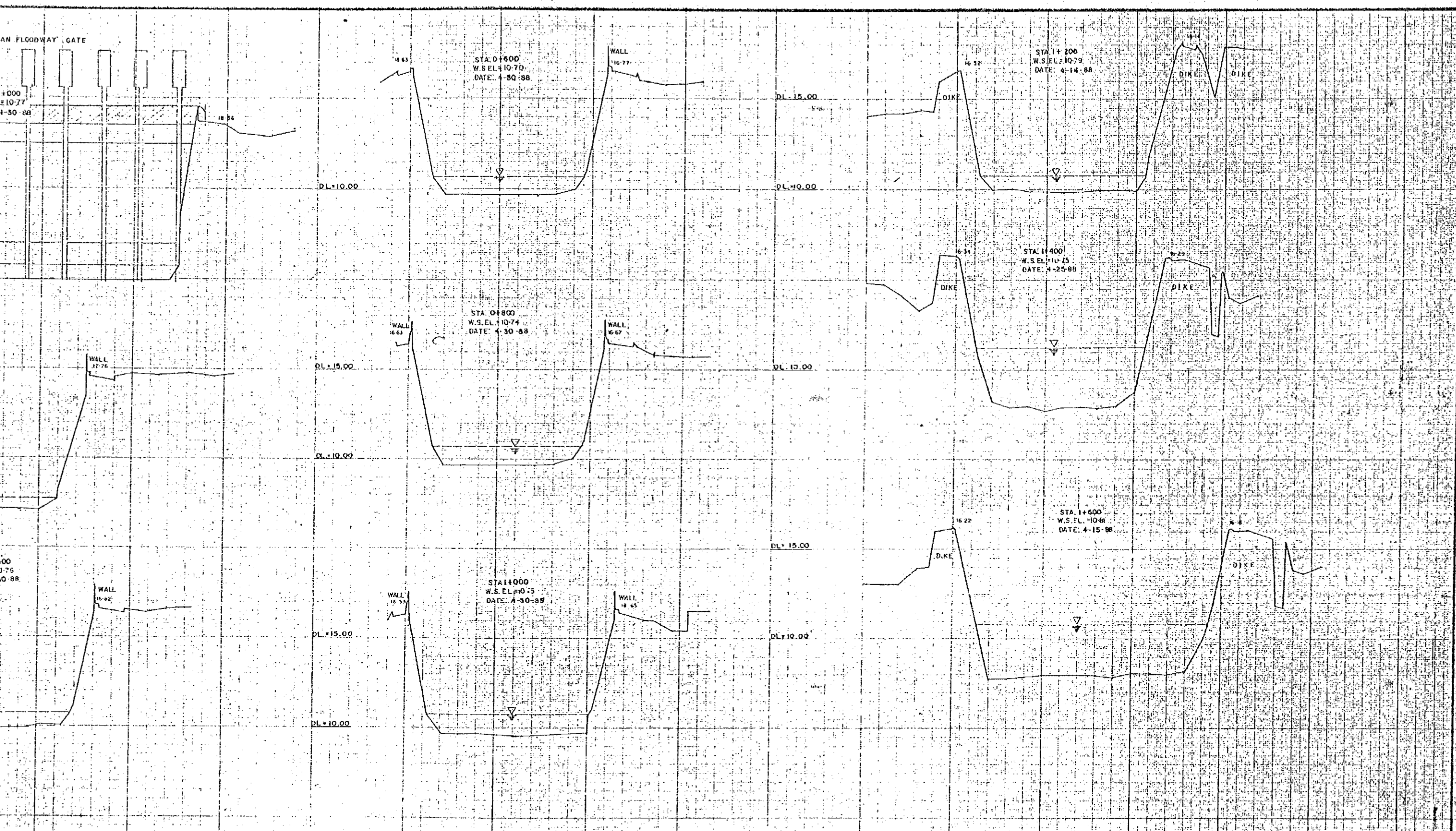
CONSULTANTS		DATE	SIGNATURE
SURVEYED BY:	<i>[Signature]</i>	2/2/88	<i>[Signature]</i>
CHECKED BY:	<i>[Signature]</i>	2/2/88	<i>[Signature]</i>
PROJECT MANAGER:	<i>[Signature]</i>	2/2/88	<i>[Signature]</i>

REPUBLIC OF THE PHILIPPINES  

**DEPARTMENT OF  
PUBLIC WORKS AND HIGHWAYS**

DATE	SIGNATURE
	<i>[Signature]</i>
	<i>[Signature]</i>

Masterpiece  
Printed in Japan

Scale: 1:1000  
Sheet: 1 of 1



DESIGNERS		REPUBLIC OF THE PHILIPPINES		DATE		SCALE		DRAWG. NO.	
DATE	SIGNATURE	PROJECT ENGINEER	PROJECT MANAGER	DATE	SIGNATURE	HORIZONTAL	VERTICAL		
11-03-88	<i>[Signature]</i>	MONITO P. FANDI	ERIC JOE MANALD	11-03-88	<i>[Signature]</i>	1:1000	1:100	177	
12-13-88	<i>[Signature]</i>								
1-04-88	<i>[Signature]</i>								



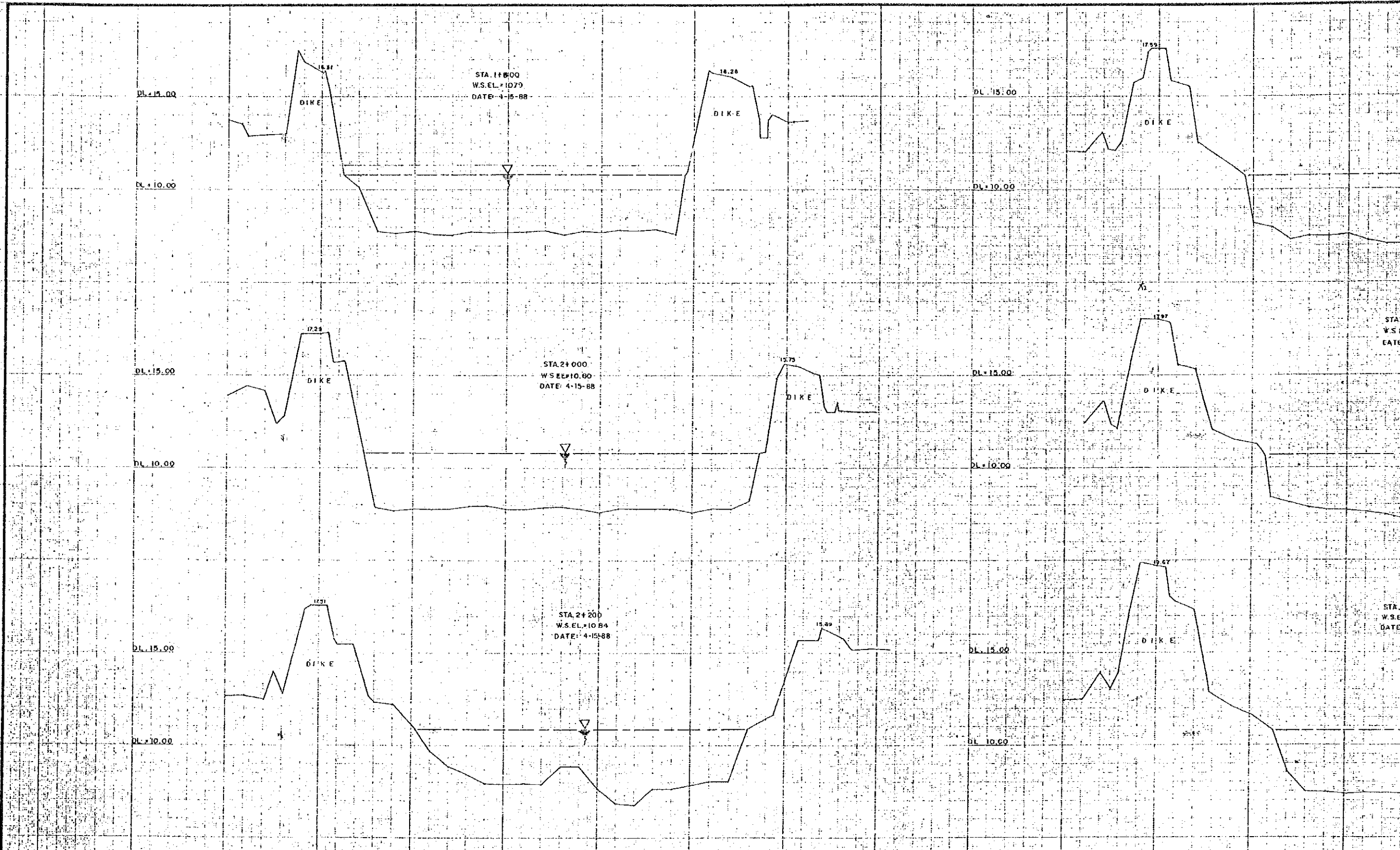
DEPARTMENT OF  
PUBLIC WORKS AND HIGHWAYS

CROSS SECTION

MANGGAHAN RIVER STA. 0+000 - STA. 1+600

Masterpiece  
Printed in Japan A-5-3

Masterpiece  
Printed in Japan



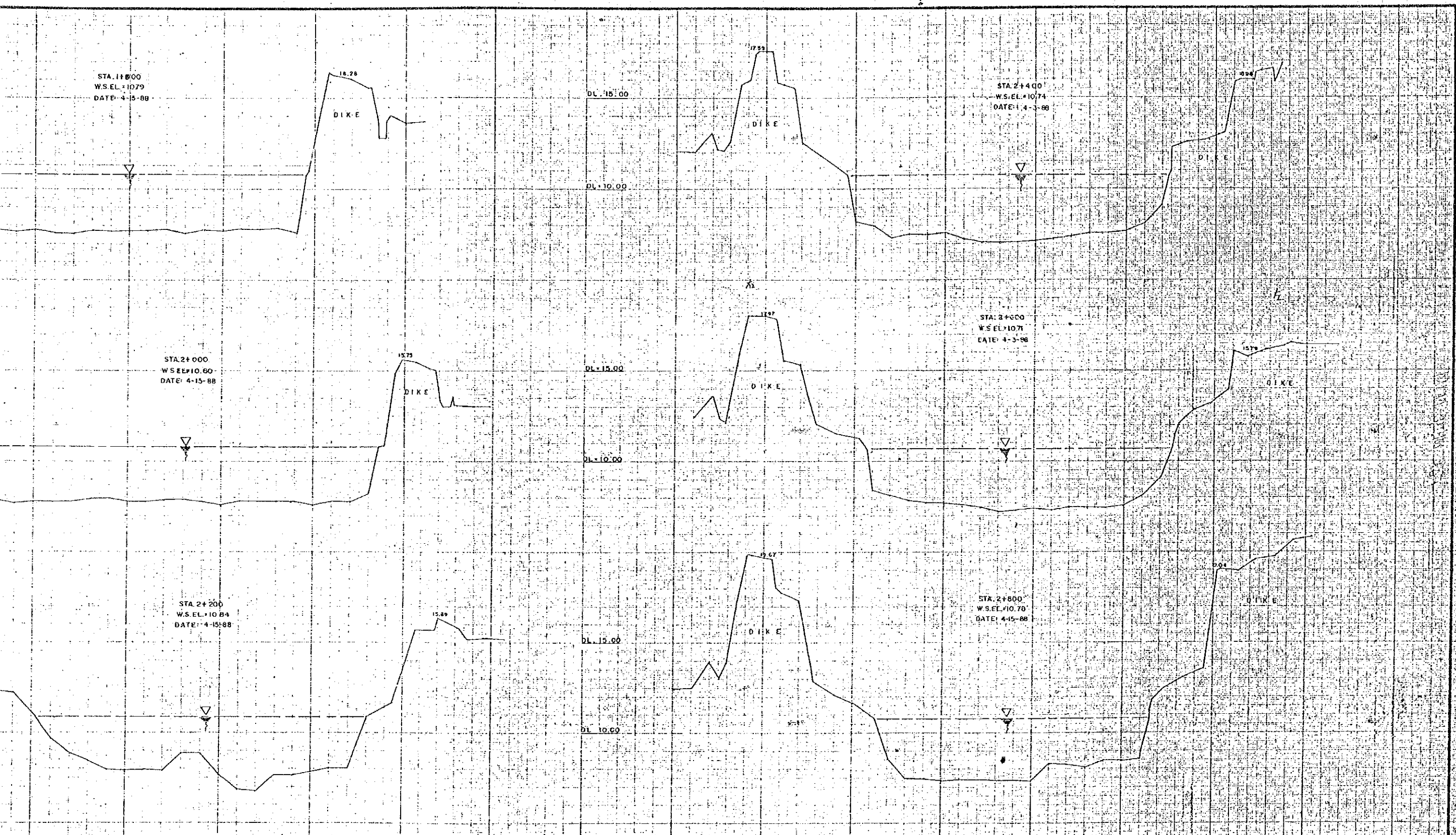
**ACRE SURVEYING & DEVELOPMENT**

CONSULTANTS	
DATE	SIGNATURE
SURVEYED BY: 2/14/88	<i>[Signature]</i>
CHECKED BY: 2/13/88	<i>[Signature]</i>
PROJECT MANAGER: 2/14/88	<i>[Signature]</i>

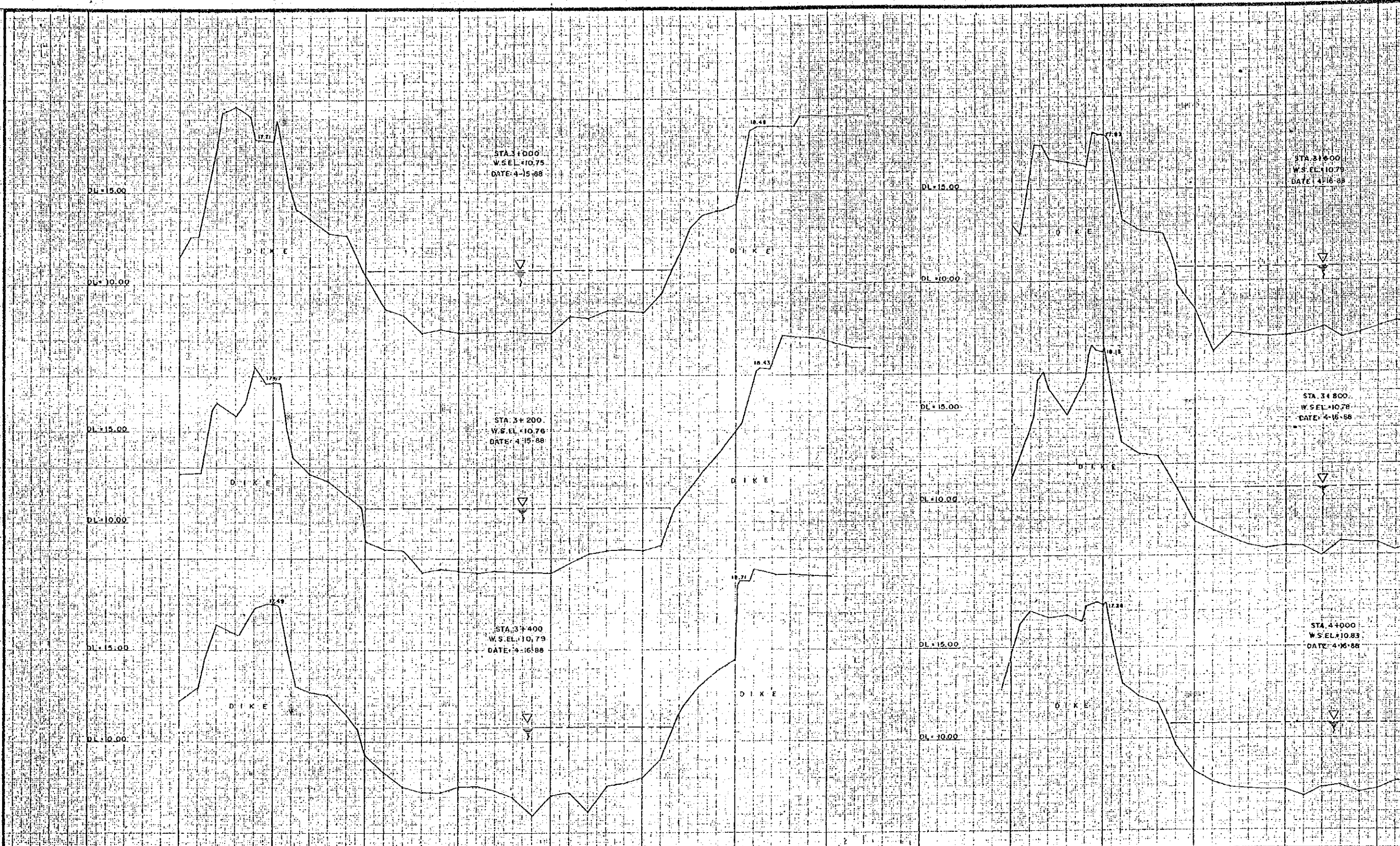
REPUBLIC OF THE PHILIPPINES  
**DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS**

DATE	SIGNATURE
PROJECT ENGINEER	<i>[Signature]</i>
PROJECT MANAGER	<i>[Signature]</i>

58



CONSULTANTS		REPUBLIC OF THE PHILIPPINES				SCALE	DRWG. NO.
DATE	SIGNATURE	PROJECT ENGINEER	DATE	SIGNATURE	HORIZONTAL 1:1000 VERTICAL 1:100	217	
4-15-88	<i>[Signature]</i>	PROJECT MANAGER		<i>[Signature]</i>			
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS		NONITO P. FAND		CROSS SECTION			
		EUGENIO B. MARALD		MANGAHAN RIVER STA. 1+800 - STA. 2+800			



W. A. C. SURVEYING  
& DEVELOPMENT

CONSULTANTS	
DATE	SIGNATURE
SURVEYED BY: 4-16-88	<i>[Signature]</i>
CHECKED BY: 8-15-88	<i>[Signature]</i>
PROJECT MANAGER: 8-14-88	<i>[Signature]</i>

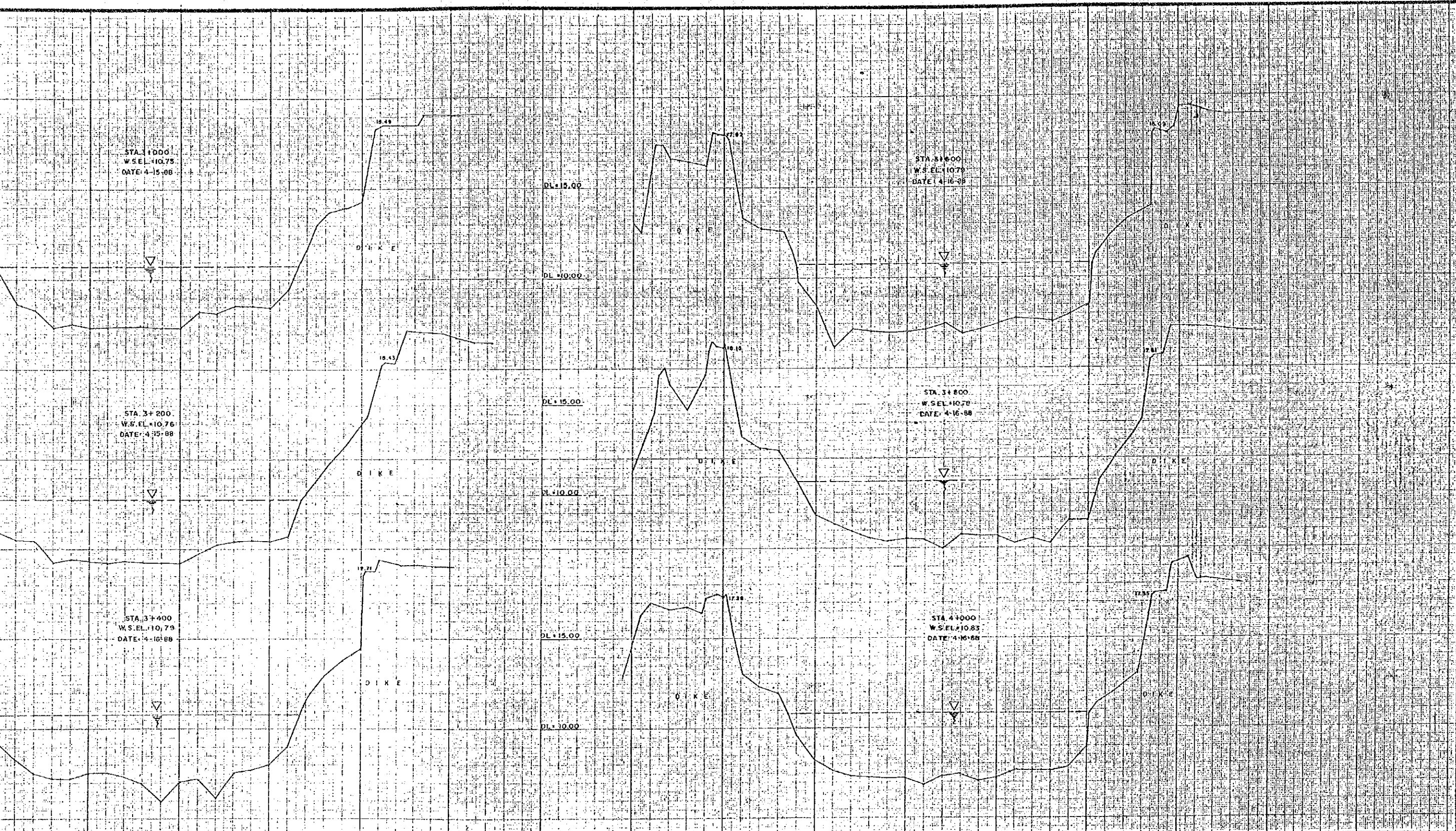


REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF  
PUBLIC WORKS AND HIGHWAYS

PROJECT ENGINEER  
PROJECT MANAGER

DATE: 8-15-88  
SIGNATURE: *[Signature]*  
PROJECT ENGINEER: HONITO F. SANDOZ  
PROJECT MANAGER: EUGENIO M. MANALO

Masterpiece  
1 Printed in the Philippines



CONSULTANTS		REPUBLIC OF THE PHILIPPINES		DATE		SIGNATURE		SCALE	DRWG. NO.
11-26-88	8-13-88	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS		DATE		SIGNATURE		HORIZONTAL 1:1000	VERTICAL 1:500
PROJECT ENGINEER		PROJECT MANAGER		DATE		SIGNATURE		CROSS SECTION	
								MANGAHAN RIVER STA. 3+000 - STA. 4+000	
								3577	