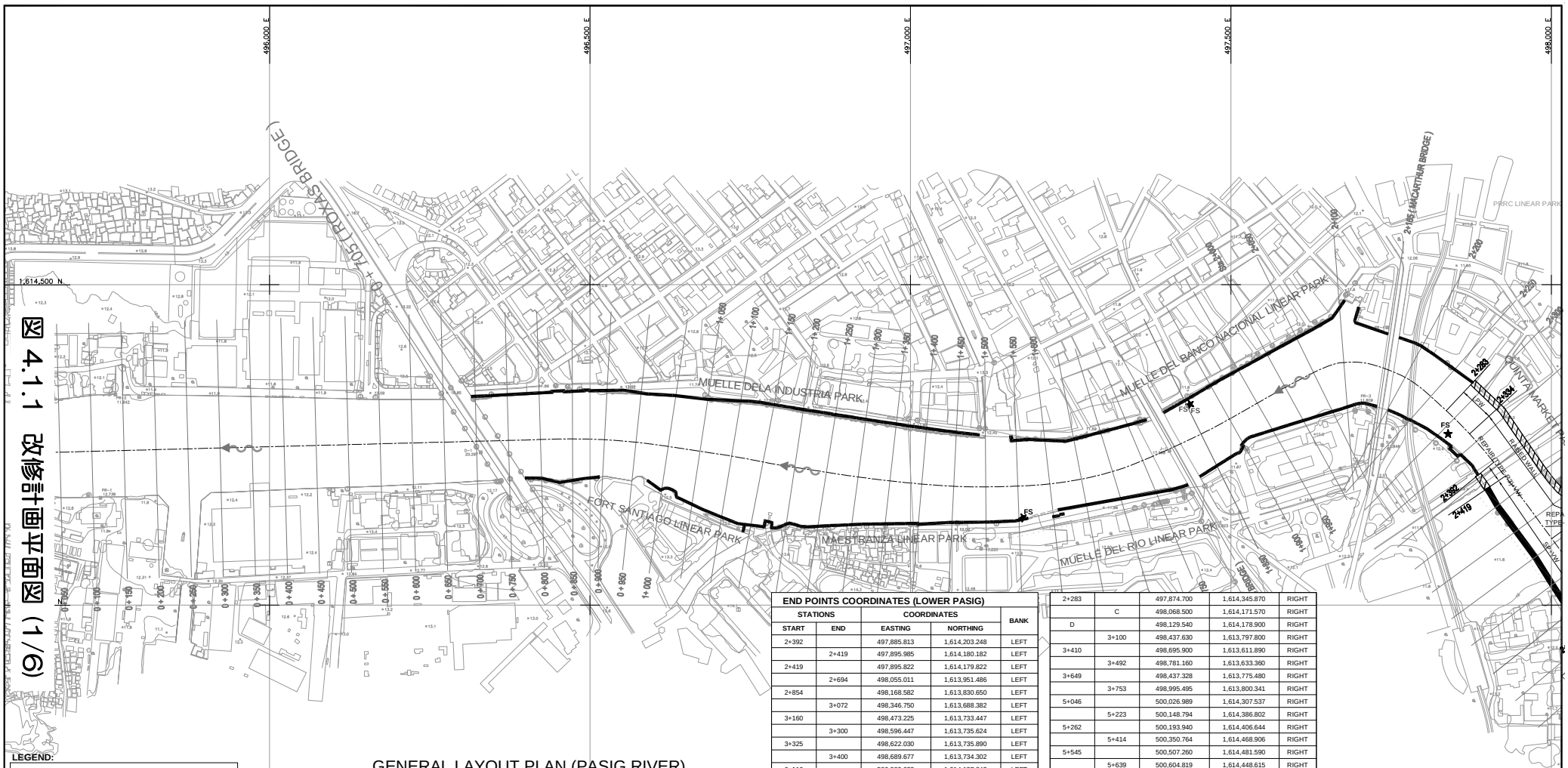
Fg 4.1

図 4.1.1 改修計画平面図 (1/6)



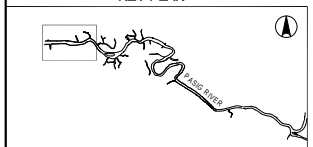
GENERAL LAYOUT PLAN (PASIG RIVER)

SCALE A

LEGEND:

- PHASE III (SSP)
- PHASE III (RCF OR REPAIR)
- PHASE II (COMPLETED)

KEY PLAN



LEGEND:

- ★ FERRY STATION/COAST GUARD
- ▲ BOAT/BANCA STATION

NOTE :

*1 - ALL STATIONS ARE RECKONED AT ℄ OF RIVER
*2 - LENGTHS SHOWN ARE LINEAR METRES UNLESS OTHERWISE SPECIFIED
*3 - FIGURES GOVERN OVER SCALED DIMENSIONS

END POINTS COORDINATES (LOWER PASIG)

STATIONS		COORDINATES		BANK
START	END	EASTING	NORTHING	
2+392		497,885.813	1,614,203.248	LEFT
	2+419	497,895.985	1,614,180.182	LEFT
2+419		497,895.822	1,614,179.822	LEFT
	2+694	498,055.011	1,613,951.486	LEFT
2+854		498,168.582	1,613,830.650	LEFT
	3+072	498,346.750	1,613,688.382	LEFT
3+160		498,473.225	1,613,733.447	LEFT
	3+300	498,596.447	1,613,735.624	LEFT
3+325		498,622.030	1,613,735.890	LEFT
	3+400	498,689.677	1,613,734.302	LEFT
6+116		500,989.023	1,614,137.842	LEFT
	6+219	501,075.465	1,614,091.725	LEFT
6+245		501,086.326	1,614,064.130	LEFT
	6+249	501,090.208	1,614,062.051	LEFT
6+249		501,090.951	1,614,063.095	LEFT
	6+269	501,109.475	1,614,055.291	LEFT
6+269		501,108.654	1,614,054.162	LEFT
	6+323	501,156.448	1,614,026.680	LEFT
6+376		501,216.695	1,614,006.449	LEFT
	6+482	501,327.423	1,613,981.970	LEFT
7+326		501,162.766	1,613,561.615	LEFT
	7+444	501,076.798	1,613,484.213	LEFT
7+494		501,035.746	1,613,461.819	LEFT
	7+580	500,967.134	1,613,431.357	LEFT

2+283		497,874.700	1,614,345.870	RIGHT
	C	498,068.500	1,614,171.570	RIGHT
D		498,129.540	1,614,178.900	RIGHT
	3+100	498,437.630	1,613,797.800	RIGHT
3+410		498,695.900	1,613,611.890	RIGHT
	3+492	498,781.160	1,613,633.360	RIGHT
3+649		498,437.328	1,613,775.480	RIGHT
	3+753	498,995.495	1,613,800.341	RIGHT
5+046		500,026.989	1,614,307.537	RIGHT
	5+223	500,148.794	1,614,386.802	RIGHT
5+262		500,193.940	1,614,406.644	RIGHT
	5+414	500,350.764	1,614,468.906	RIGHT
5+545		500,507.260	1,614,481.590	RIGHT
	5+639	500,604.819	1,614,448.615	RIGHT
6+337		501,241.701	1,614,121.488	RIGHT
	6+510	501,379.564	1,614,064.972	RIGHT
7+516		501,061.242	1,613,355.923	RIGHT
	8+219	500,668.321	1,613,017.642	RIGHT
8+222		500,664.617	1,613,013.612	RIGHT
	9+341	501,379.752	1,613,189.501	RIGHT
9+430		501,468.342	1,613,226.520	RIGHT
	9+792	501,829.470	1,613,302.654	RIGHT
9+814		501,849.505	1,613,313.002	RIGHT
	9+947	502,010.203	1,613,252.770	RIGHT

0 50 100 150 200 250 300m
SCALE A

REVISIONS			
NO.	DESCRIPTION	APPROVED	DATE

NOTE :
PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATIONS OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

SHUJI KAKU
TEAM LEADER

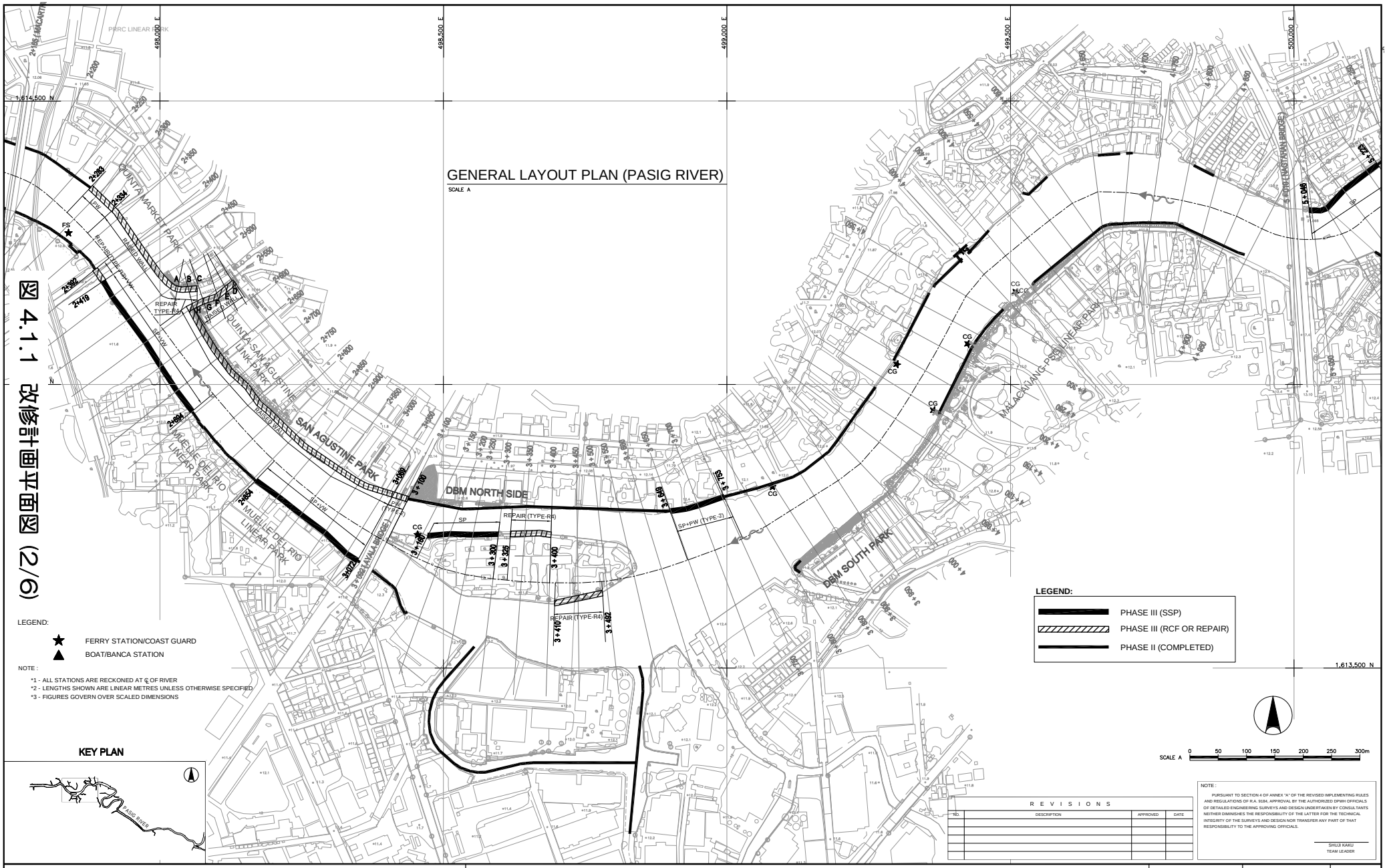
JICA CONSULTANT FOR DETAILED ENGINEERING DESIGN			
CTI ENGINEERING INTERNATIONAL CO., LTD.	DESIGNED BY: EIJI MOKI, STRUCTURAL ENGINEER I	CHECKED BY: TOSHIKI KAWAKAMI, THE CHECKER	SUBMITTED BY: SHUJI KAKU, TEAM LEADER

REPUBLIC OF THE PHILIPPINES					
REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	REVIEWED BY: PERFECTO L. ZAPLAN, JR., CHIEF, HYDRAULIC DIVISION, BOD	RECOMMENDING APPROVAL : PATRICK B. GATAN, PROJECT DIRECTOR PMO - MFCP	GILBERTO S. REYES, DIRECTOR BOD	APPROVED BY: SEE COVER SHEET FOR THE SIGNATURE OF THE UNDERSECRETARY — RAUL C. ASIS, UNDERSECRETARY FOR TECHNICAL SERVICES	SEE COVER SHEET FOR THE SIGNATURE AND APPROVAL OF THE SECRETARY — ROGELIO L. SINGSON, SECRETARY

PROJECT & LOCATION	SHEET CONTENTS	SHEET NO.
PASIG-MARIKINA RIVER CHANNEL IMPROVEMENT PROJECT (PHASE III), METRO MANILA	GENERAL LAYOUT PLAN LOWER PASIG	LP-GE GL 01

Fg 4.2

図 4.1.1 改修計画平面図 (2/6)



LEGEND:

- ★ FERRY STATION/COAST GUARD
- ▲ BOAT/BANCA STATION

NOTE :

*1 - ALL STATIONS ARE RECKONED AT ℄ OF RIVER
*2 - LENGTHS SHOWN ARE LINEAR METRES UNLESS OTHERWISE SPECIFIED
*3 - FIGURES GOVERN OVER SCALED DIMENSIONS

KEY PLAN

SCALE A 0 50 100 150 200 250 300m

REVISIONS			
NO.	DESCRIPTION	APPROVED	DATE

NOTE :
PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATIONS OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

SHUJI KAKU
TEAM LEADER

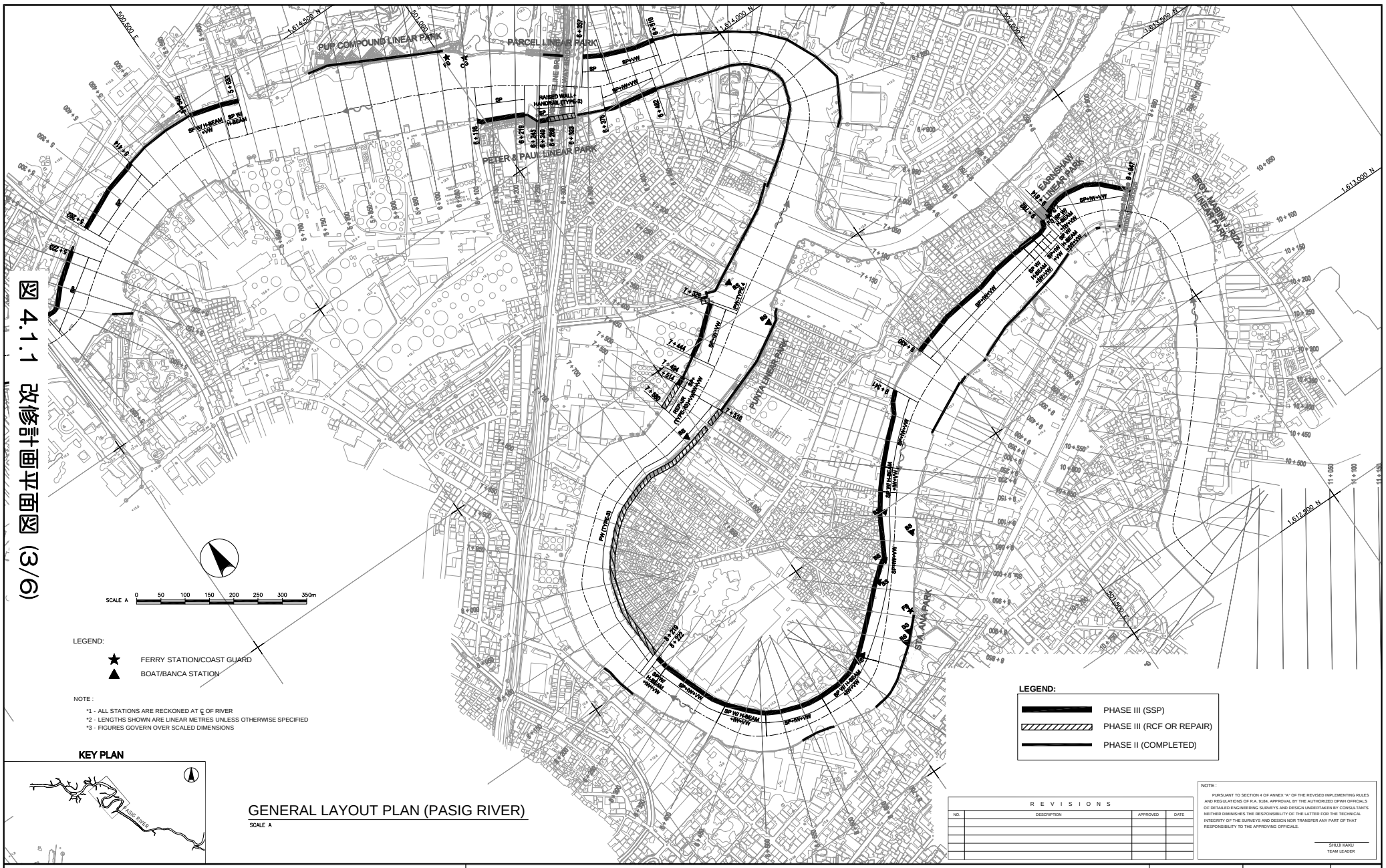
JICA CONSULTANT FOR DETAILED ENGINEERING DESIGN			
CTI ENGINEERING INTERNATIONAL CO., LTD.	DESIGNED BY:	CHECKED BY:	SUBMITTED BY:
	EIJI MOKI STRUCTURAL ENGINEER I	TOSHIKI KAWAKAMI THE CHECKER	SHUJI KAKU TEAM LEADER

REPUBLIC OF THE PHILIPPINES					
REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	REVIEWED BY:	RECOMMENDING APPROVAL :			APPROVED BY:
				SEE COVER SHEET FOR THE SIGNATURE OF THE UNDERSECRETARY	SEE COVER SHEET FOR THE SIGNATURE AND APPROVAL OF THE SECRETARY
	PERFECTO L. ZAPLAN, JR. CHIEF, HYDRAULIC DIVISION, BOD	PATRICK B. GATAN PROJECT DIRECTOR PMO - MFCP	GILBERTO S. REYES DIRECTOR BOD	RAUL C. ASIS UNDERSECRETARY FOR TECHNICAL SERVICES	ROGELIO L. SINGSON SECRETARY

PROJECT & LOCATION	SHEET CONTENTS	SHEET NO.
PASIG-MARIKINA RIVER CHANNEL IMPROVEMENT PROJECT (PHASE III), METRO MANILA	GENERAL LAYOUT PLAN LOWER PASIG	LP-GE GL 02

図 4.1.1 改修計画平面図 (3/6)

Fg 4.3



GENERAL LAYOUT PLAN (PASIG RIVER)

SCALE A

REVISIONS			
NO.	DESCRIPTION	APPROVED	DATE

NOTE :

PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATIONS OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFERS ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

SHUJI KAKU
TEAM LEADER

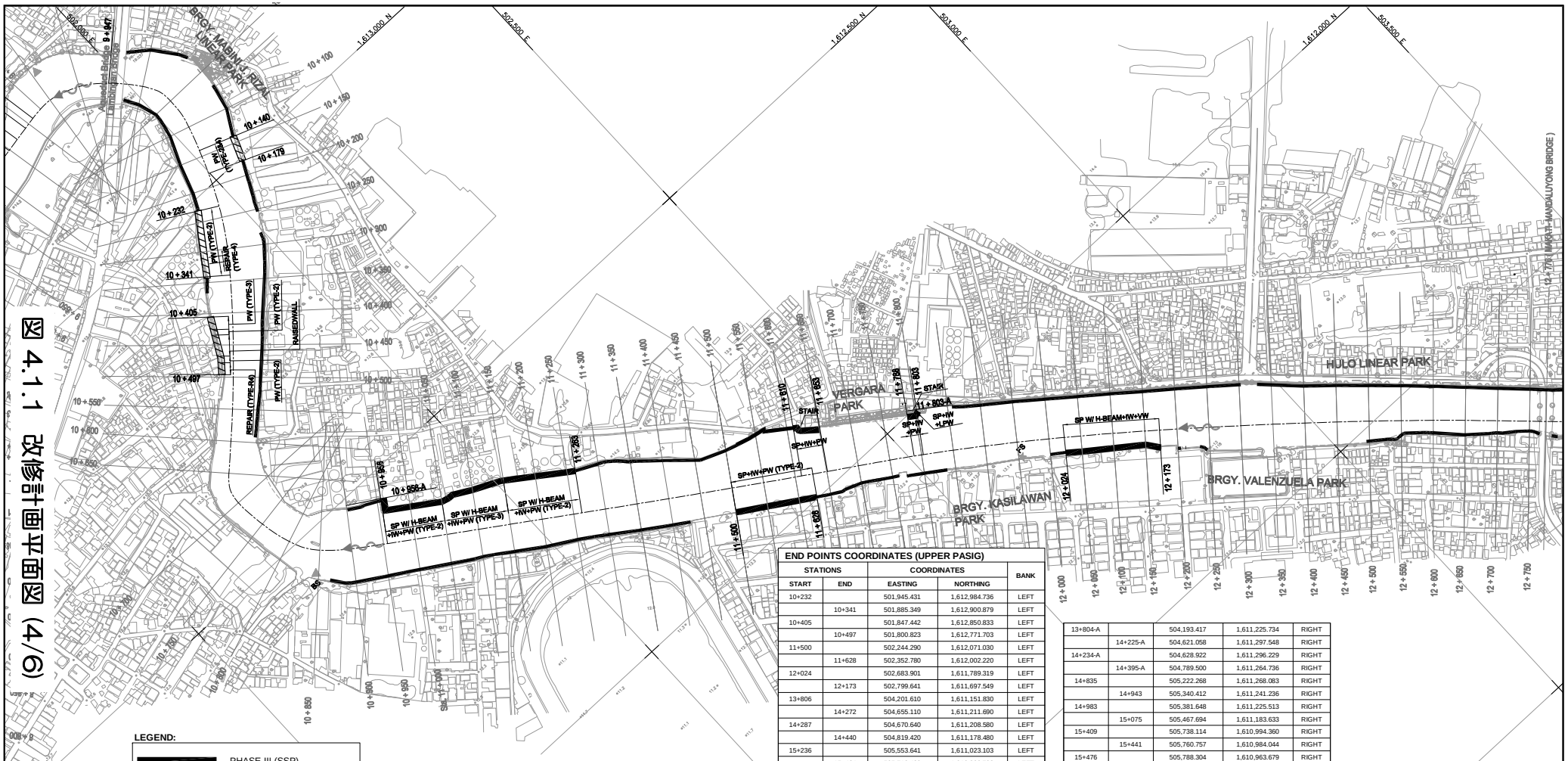
JICA CONSULTANT FOR DETAILED ENGINEERING DESIGN			
CTI ENGINEERING INTERNATIONAL CO., LTD.	DESIGNED BY:	CHECKED BY:	SUBMITTED BY:
	EIJI MOKI STRUCTURAL ENGINEER I	TOSHIKI KAWAKAMI THE CHECKER	SHUJI KAKU TEAM LEADER

REPUBLIC OF THE PHILIPPINES					
REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	REVIEWED BY:	RECOMMENDING APPROVAL :			APPROVED BY:
				SEE COVER SHEET FOR THE SIGNATURE OF THE UNDERSECRETARY	SEE COVER SHEET FOR THE SIGNATURE AND APPROVAL OF THE SECRETARY
	PERFECTO L. ZAPLAN, JR. CHIEF, HYDRAULIC DIVISION, BOD	PATRICK B. GATAN PROJECT DIRECTOR PMO - MFCP	GILBERTO S. REYES DIRECTOR BOD	RAUL C. ASIS UNDERSECRETARY FOR TECHNICAL SERVICES	ROGELIO L. SINGSON SECRETARY

PROJECT & LOCATION	SHEET CONTENTS	SHEET NO.
PASIG-MARIKINA RIVER CHANNEL IMPROVEMENT PROJECT (PHASE III), METRO MANILA	GENERAL LAYOUT PLAN LOWER PASIG	LP-GE GL 03

図 4.1.1 改修計画平面図 (4/6)

Fg 4.4



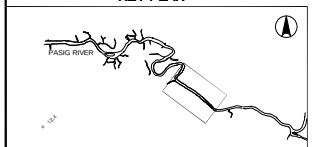
LEGEND:

- PHASE III (SSP)
- PHASE III (RCF OR REPAIR)
- PHASE II (COMPLETED)

GENERAL LAYOUT PLAN (PASIG RIVER)

SCALE A

KEY PLAN



LEGEND:

- FERRY STATION/COAST GUARD
- BOAT/BANCA STATION

NOTE :

*1 - ALL STATIONS ARE RECKONED AT Ç OF RIVER
*2 - LENGTHS SHOWN ARE LINEAR METRES UNLESS OTHERWISE SPECIFIED
*3 - FIGURES GOVERN OVER SCALED DIMENSIONS

END POINTS COORDINATES (UPPER PASIG)

STATIONS		COORDINATES		BANK
START	END	EASTING	NORTHING	
10+232		501,945.431	1,612,984.736	LEFT
	10+341	501,885.349	1,612,900.879	LEFT
10+405		501,847.442	1,612,850.833	LEFT
	10+497	501,800.823	1,612,771.703	LEFT
11+500		502,244.290	1,612,071.030	LEFT
	11+628	502,352.780	1,612,002.220	LEFT
12+024		502,683.901	1,611,789.319	LEFT
	12+173	502,799.641	1,611,697.549	LEFT
13+806		504,201.610	1,611,151.830	LEFT
	14+272	504,655.110	1,611,211.690	LEFT
14+287		504,670.640	1,611,208.580	LEFT
	14+440	504,819.420	1,611,178.480	LEFT
15+236		505,553.641	1,611,023.103	LEFT
	15+424	505,710.439	1,610,909.702	LEFT
15+443		505,729.902	1,610,901.644	LEFT
	15+548	505,832.880	1,610,861.622	LEFT
15+747		506,031.112	1,610,821.523	LEFT
	15+870	506,131.893	1,610,786.395	LEFT
15+965		506,213.776	1,610,749.279	LEFT
	16+564	506,695.226	1,610,383.596	LEFT
10+140		502,068.442	1,613,031.162	RIGHT
	10+179	502,052.100	1,612,993.846	RIGHT
10+956-A		501,848.042	1,612,458.589	RIGHT
	11+263	502,103.379	1,612,287.744	RIGHT
11+610		502,398.180	1,612,105.651	RIGHT
	11+653	502,429.374	1,612,076.398	RIGHT
11+788		502,541.586	1,611,999.462	RIGHT
	11+803-A	502,558.825	1,611,996.566	RIGHT
13+578		503,975.019	1,611,164.999	RIGHT
	13+801-B	504,188.868	1,611,224.601	RIGHT
13+804-A		504,193.417	1,611,225.734	RIGHT
	14+225-A	504,621.058	1,611,297.548	RIGHT
14+234-A		504,628.922	1,611,296.229	RIGHT
	14+395-A	504,789.500	1,611,264.736	RIGHT
14+835		505,222.268	1,611,268.083	RIGHT
	14+943	505,340.412	1,611,241.236	RIGHT
14+983		505,381.648	1,611,225.513	RIGHT
	15+075	505,467.694	1,611,183.633	RIGHT
15+409		505,738.114	1,610,994.360	RIGHT
	15+441	505,760.757	1,610,984.044	RIGHT
15+476		505,788.304	1,610,963.679	RIGHT
	15+494	505,807.299	1,610,964.507	RIGHT
15+494		505,807.299	1,610,964.507	RIGHT
	16+472	506,638.408	1,610,494.427	RIGHT
16+667		506,814.299	1,610,447.226	RIGHT
	16+724	506,869.588	1,610,436.758	RIGHT
16+760		506,907.212	1,610,429.992	RIGHT
	16+843	507,000.226	1,610,401.554	RIGHT

0 50 100 150 200 250 300m
SCALE A

NOTE :
PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATIONS OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

SHUJI KAKU
TEAM LEADER

REVISIONS			
NO.	DESCRIPTION	APPROVED	DATE

JICA CONSULTANT FOR DETAILED ENGINEERING DESIGN

CTI ENGINEERING INTERNATIONAL CO., LTD.

DESIGNED BY:	CHECKED BY:	SUBMITTED BY:
EIJI MOKI STRUCTURAL ENGINEER I	TOSHIKI KAWAKAMI THE CHECKER	SHUJI KAKU TEAM LEADER

REPUBLIC OF THE PHILIPPINES

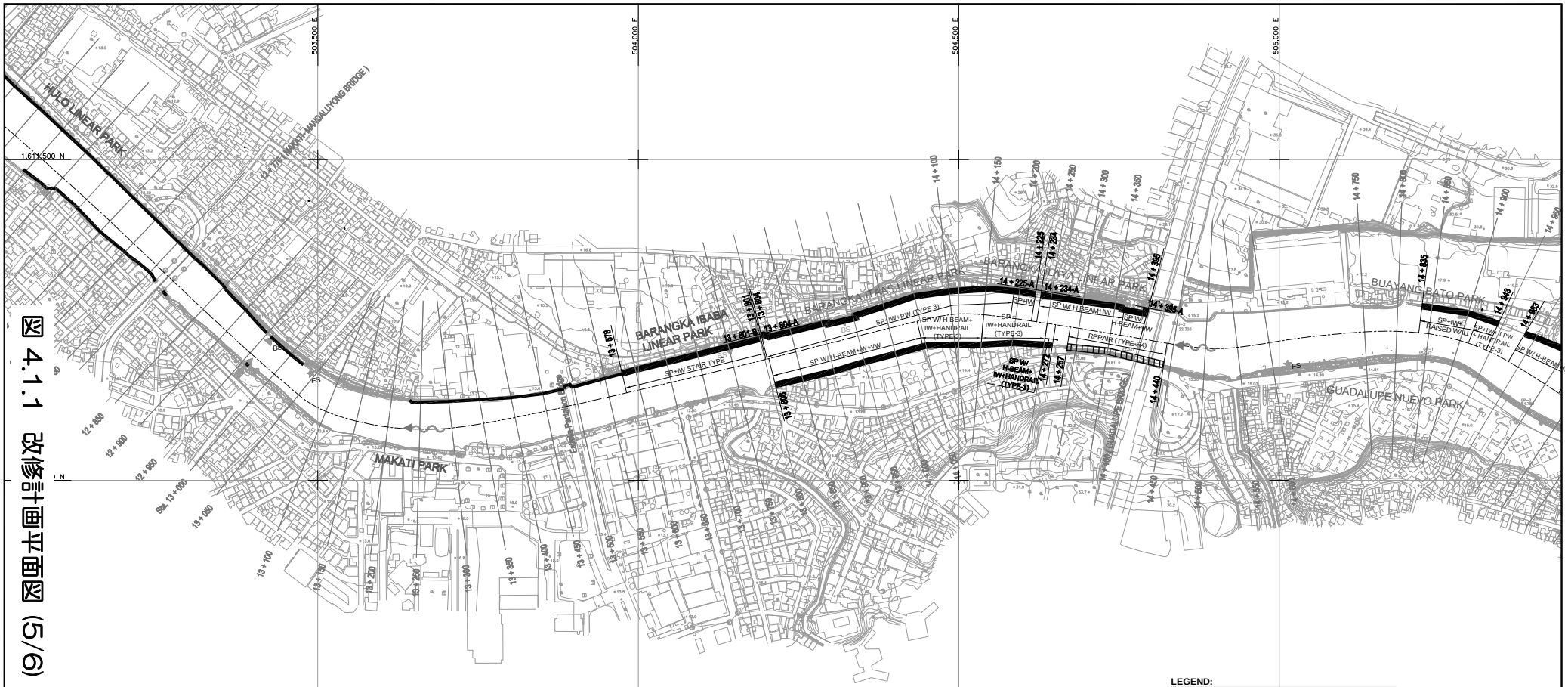
REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

REVIEWED BY:	RECOMMENDING APPROVAL :			APPROVED BY:
			SEE COVER SHEET FOR THE SIGNATURE OF THE UNDERSECRETARY	SEE COVER SHEET FOR THE SIGNATURE AND APPROVAL OF THE SECRETARY
PERFECTO L. ZAPLAN, JR. CHIEF, HYDRAULIC DIVISION, BOD	PATRICK B. GATAN PROJECT DIRECTOR PMO - MFCP	GILBERTO S. REYES DIRECTOR BOD	RAUL C. ASIS UNDERSECRETARY FOR TECHNICAL SERVICES	ROGELIO L. SINGSON SECRETARY

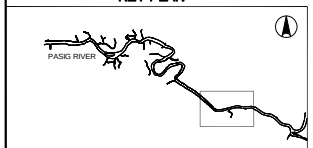
PROJECT & LOCATION	SHEET CONTENTS	SHEET NO.
PASIG-MARIKINA RIVER CHANNEL IMPROVEMENT PROJECT (PHASE III), METRO MANILA	GENERAL LAYOUT PLAN UPPER PASIG	UP-GE GL 01

図 4.1.1 改修計画平面図 (5/6)

Fg 4.5



KEY PLAN



LEGEND:

- FERRY STATION/COAST GUARD
- BOAT/BANCA STATION

NOTE :

*1 - ALL STATIONS ARE RECKONED AT ℄ OF RIVER
*2 - LENGTHS SHOWN ARE LINEAR METRES UNLESS OTHERWISE SPECIFIED
*3 - FIGURES GOVERN OVER SCALED DIMENSIONS

GENERAL LAYOUT PLAN (PASIG RIVER)

SCALE A

SCALE A 0 50 100 150 200 250 300m

REVISIONS			
NO.	DESCRIPTION	APPROVED	DATE

NOTE :

PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATIONS OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

SHUJI KAKU
TEAM LEADER

JICA CONSULTANT FOR DETAILED ENGINEERING DESIGN				REPUBLIC OF THE PHILIPPINES					PROJECT & LOCATION	SHEET CONTENTS	SHEET NO.
CTI ENGINEERING INTERNATIONAL CO., LTD.	DESIGNED BY:	CHECKED BY:	SUBMITTED BY:	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	REVIEWED BY:	RECOMMENDING APPROVAL :		APPROVED BY:	PASIG-MARIKINA RIVER CHANNEL IMPROVEMENT PROJECT (PHASE III), METRO MANILA	GENERAL LAYOUT PLAN UPPER PASIG	UP-GE GL 02
	EIJI MOKI STRUCTURAL ENGINEER I	TOSHIKI KAWAKAMI THE CHECKER	SHUJI KAKU TEAM LEADER		PERFECTO L. ZAPLAN, JR. CHIEF, HYDRAULIC DIVISION, BOD	PATRICK B. GATAN PROJECT DIRECTOR PMO - MFCP	GILBERTO S. REYES DIRECTOR BOD	SEE COVER SHEET FOR THE SIGNATURE OF THE UNDERSECRETARY RAUL C. ASIS UNDERSECRETARY FOR TECHNICAL SERVICES	SEE COVER SHEET FOR THE SIGNATURE AND APPROVAL OF THE SECRETARY ROGELIO L. SINGSON SECRETARY			

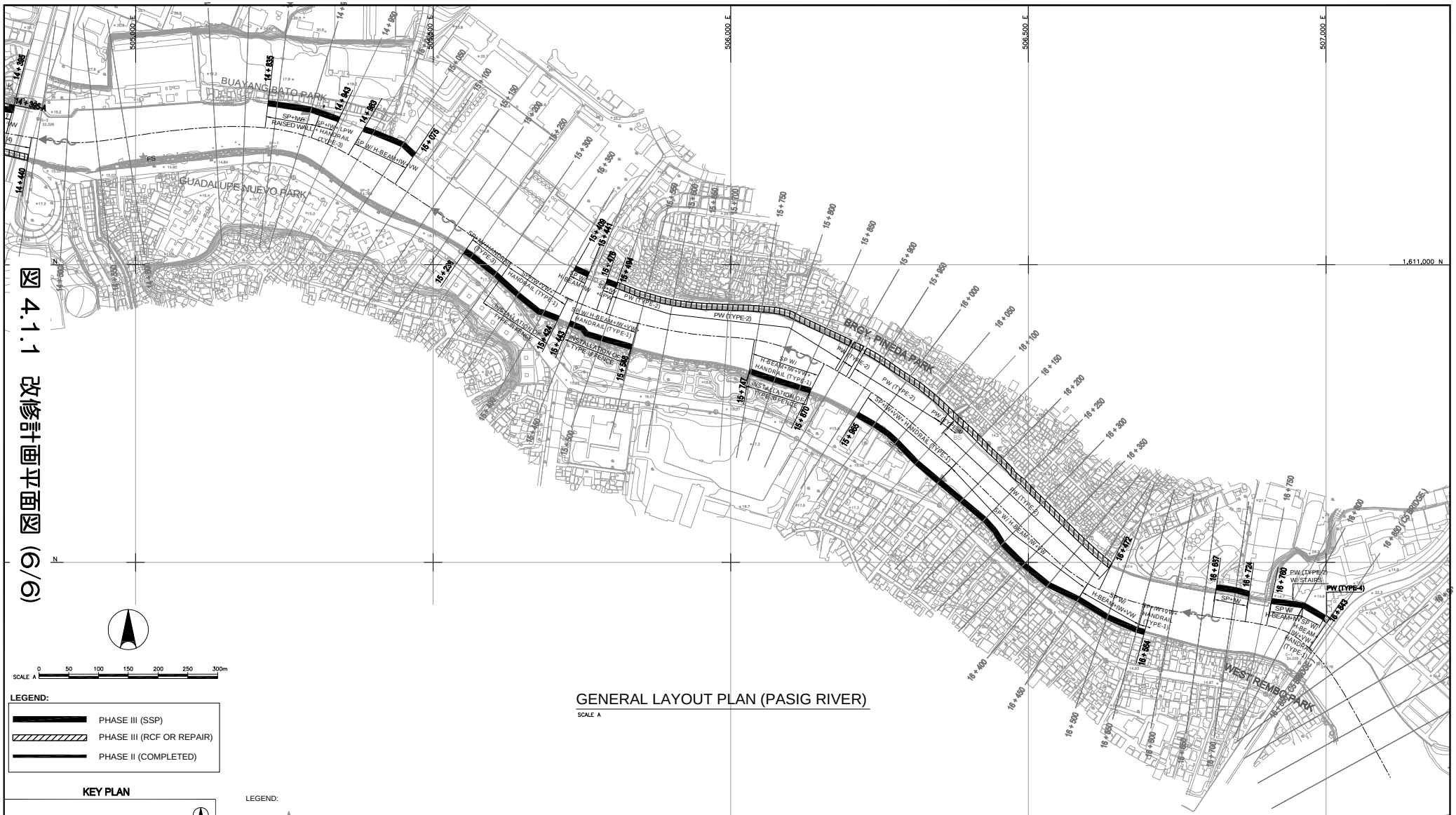


図 4.1.1 改修計画平面図 (6/6)

Fg 4.6

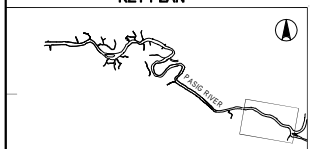
GENERAL LAYOUT PLAN (PASIG RIVER)

SCALE A

LEGEND:

- PHASE III (SSP)
- PHASE III (RCF OR REPAIR)
- PHASE II (COMPLETED)

KEY PLAN



LEGEND:

- FERRY STATION/COAST GUARD
- BOAT/BANCA STATION

NOTE :

*1 - ALL STATIONS ARE RECKONED AT Ç OF RIVER
*2 - LENGTHS SHOWN ARE LINEAR METRES UNLESS OTHERWISE SPECIFIED
*3 - FIGURES GOVERN OVER SCALED DIMENSIONS

REVISIONS			
NO.	DESCRIPTION	APPROVED	DATE

NOTE :

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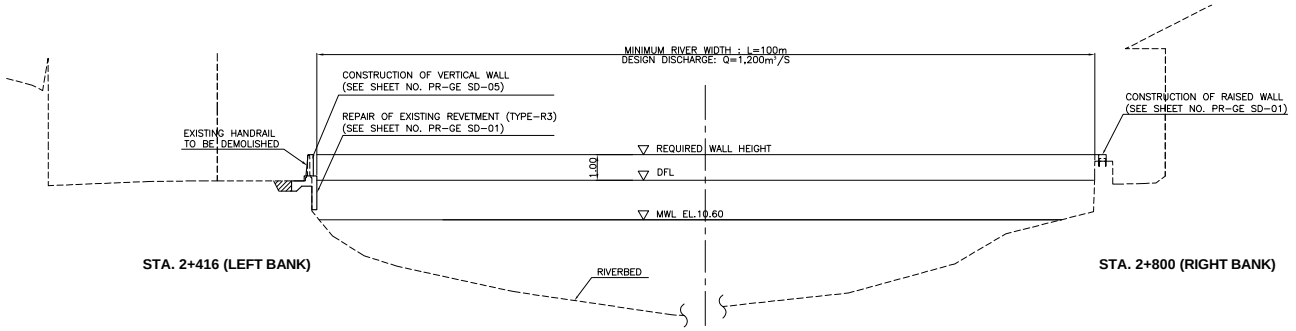
SHUJI KAKU
TEAM LEADER

JICA CONSULTANT FOR DETAILED ENGINEERING DESIGN				REPUBLIC OF THE PHILIPPINES						PROJECT & LOCATION	SHEET CONTENTS	SHEET NO.
CTI ENGINEERING INTERNATIONAL CO., LTD.	DESIGNED BY:	CHECKED BY:	SUBMITTED BY:	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	REVIEWED BY:	RECOMMENDING APPROVAL :			APPROVED BY:	PASIG-MARIKINA RIVER CHANNEL IMPROVEMENT PROJECT (PHASE III), METRO MANILA	GENERAL LAYOUT PLAN UPPER PASIG	UP-GE GL 03
	EIJI MOKI STRUCTURAL ENGINEER I	TOSHIKI KAWAKAMI THE CHECKER	SHUJI KAKU TEAM LEADER		PERFECTO L. ZAPLAN, JR. CHIEF, HYDRAULIC DIVISION, BOD	PATRICK B. GATAN PROJECT DIRECTOR PMO - MFCP	GILBERTO S. REYES DIRECTOR BOD	SEE COVER SHEET FOR THE SIGNATURE OF THE UNDERSECRETARY RAUL C. ASIS UNDERSECRETARY FOR TECHNICAL SERVICES	SEE COVER SHEET FOR THE SIGNATURE AND APPROVAL OF THE SECRETARY ROGELIO L. SINGSON SECRETARY			

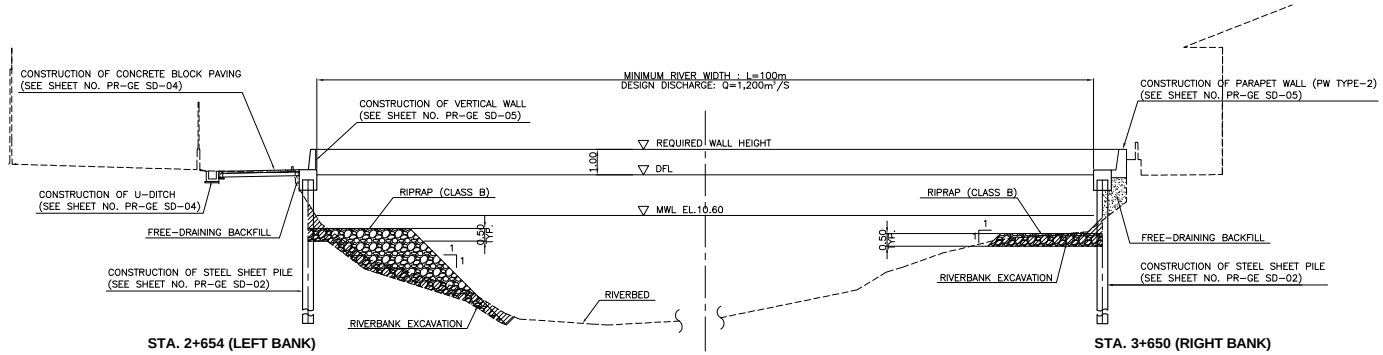
図 4.1.2 護岸標準断面図 (1/2)

Fg 4.7



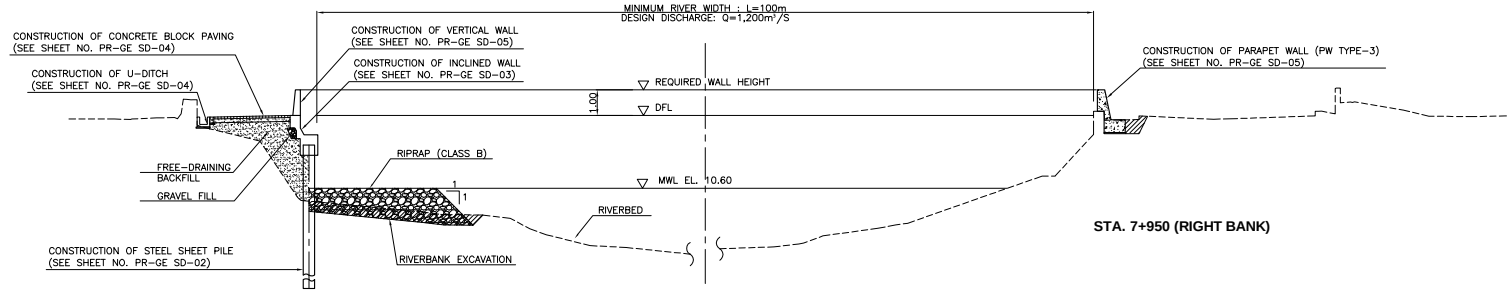
STA. 2+416 (LEFT BANK)

STA. 2+800 (RIGHT BANK)



STA. 2+654 (LEFT BANK)

STA. 3+650 (RIGHT BANK)



STA. 7+400 (LEFT BANK)

STA. 7+950 (RIGHT BANK)

SCALE A 0 2.0 4.0 6.0 8.0 10.0m

TYPICAL CROSS SECTION OF REVETMENT (LOWER PASIG)

SCALE : A

REVISIONS			
NO.	DESCRIPTION	APPROVED	DATE

NOTE :
PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATIONS OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

SHUJI KAKU
TEAM LEADER

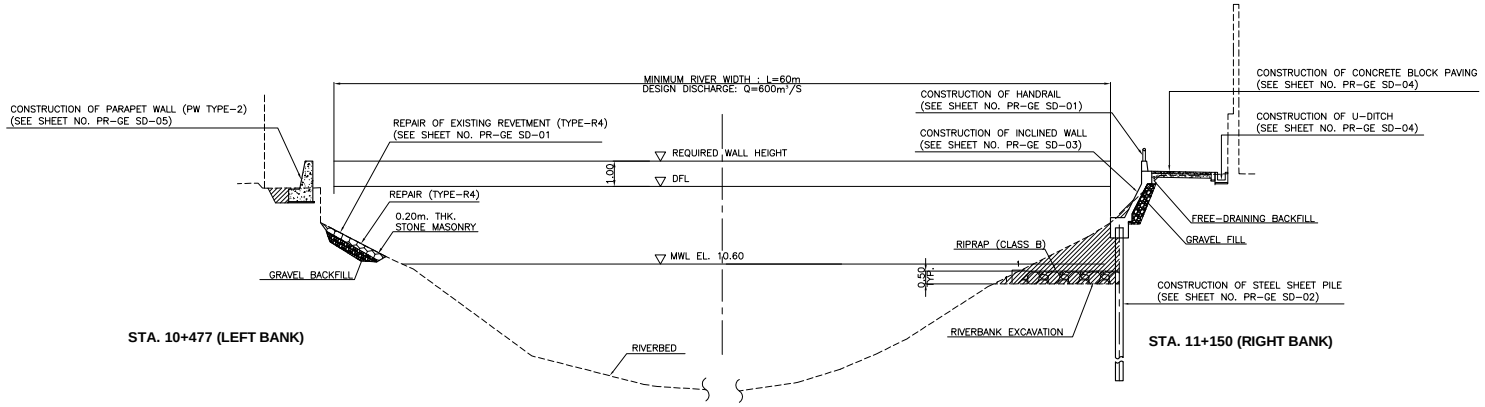
JICA CONSULTANT FOR DETAILED ENGINEERING DESIGN			
CTI ENGINEERING INTERNATIONAL CO., LTD.	DESIGNED BY:	CHECKED BY:	SUBMITTED BY:
	EIJI MOKI STRUCTURAL ENGINEER I	TOSHIKI KAWAKAMI THE CHECKER	SHUJI KAKU TEAM LEADER

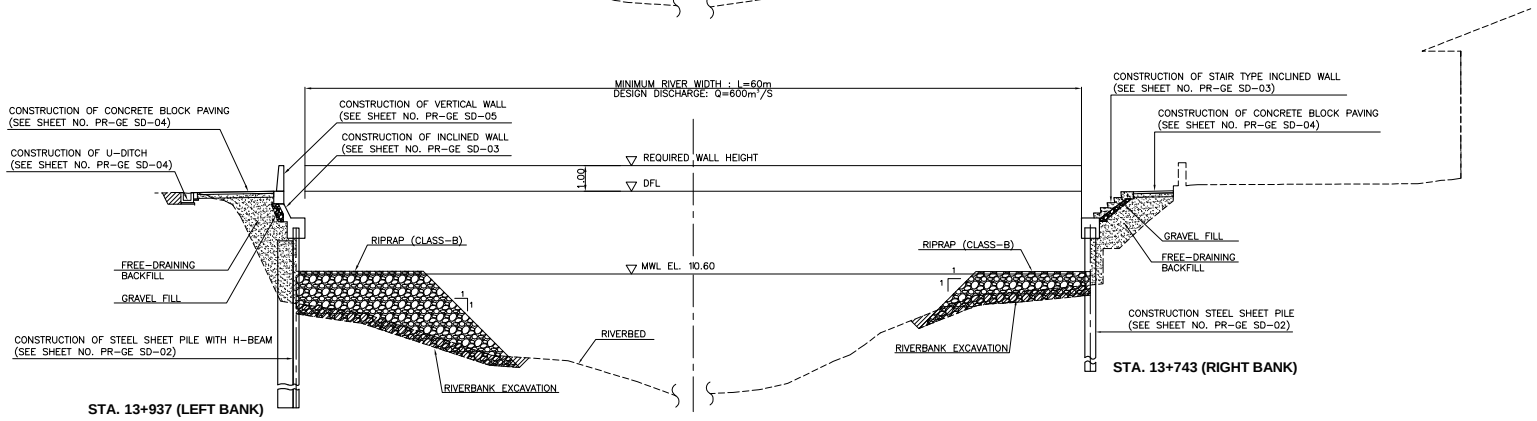
REPUBLIC OF THE PHILIPPINES					
REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	REVIEWED BY:	RECOMMENDING APPROVAL :			APPROVED BY:
				SEE COVER SHEET FOR THE SIGNATURE OF THE UNDERSECRETARY	SEE COVER SHEET FOR THE SIGNATURE AND APPROVAL OF THE SECRETARY
	PERFECTO L. ZAPLAN, JR. CHIEF, HYDRAULIC DIVISION, BOD	PATRICK B. GATAN PROJECT DIRECTOR PMO - MFCP	GILBERTO S. REYES DIRECTOR BOD	RAUL C. ASIS UNDERSECRETARY FOR TECHNICAL SERVICES	ROGELIO L. SINGSON SECRETARY

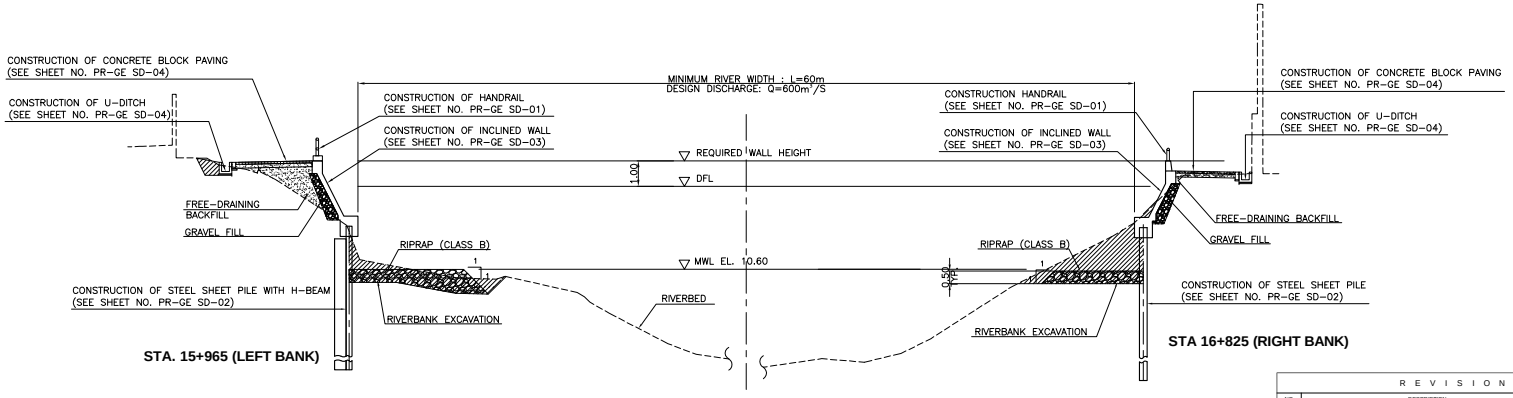
PROJECT & LOCATION	SHEET CONTENTS	SHEET NO.
PASIG-MARIKINA RIVER CHANNEL IMPROVEMENT PROJECT (PHASE III), METRO MANILA	TYPICAL CROSS SECTION OF REVETMENT (1/2) PASIG RIVER	PR-GE TR 01

図 4.1.2 護岸標準断面図 (2/2)

Fg 4.8







SCALE A 0 2.0 4.0 6.0 8.0 10.0m

TYPICAL CROSS SECTION OF REVETMENT (UPPER PASIG)

SCALE : A

REVISIONS			
NO.	DESCRIPTION	APPROVED	DATE

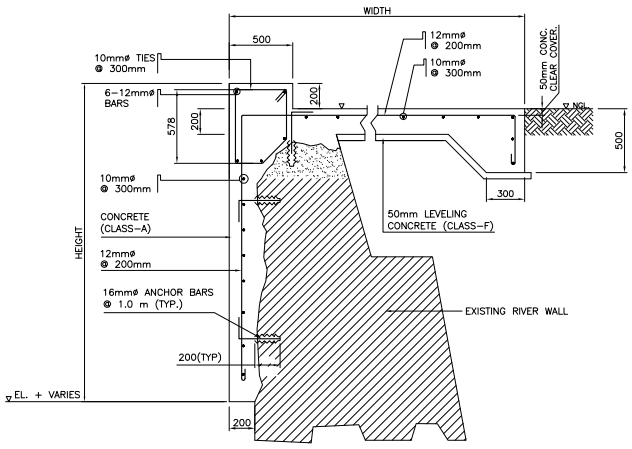
NOTE :
PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATIONS OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

SHUJI KAKU
TEAM LEADER

JICA CONSULTANT FOR DETAILED ENGINEERING DESIGN				REPUBLIC OF THE PHILIPPINES					PROJECT & LOCATION	SHEET CONTENTS	SHEET NO.
CTI ENGINEERING INTERNATIONAL CO., LTD.	DESIGNED BY:	CHECKED BY:	SUBMITTED BY:	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	REVIEWED BY:	RECOMMENDING APPROVAL :		APPROVED BY:	PASIG-MARIKINA RIVER CHANNEL IMPROVEMENT PROJECT (PHASE III), METRO MANILA	TYPICAL CROSS SECTION OF REVETMENT (2/2)	PR-GE TR 02
	EIJI MOKI STRUCTURAL ENGINEER	TOSHIKI KAWAKAMI THE CHECKER	SHUJI KAKU TEAM LEADER		PERFECTO L. ZAPLAN, JR. CHIEF, HYDRAULIC DIVISION, BOD	PATRICK B. GATAN PROJECT DIRECTOR PMO - MFCP	GILBERTO S. REYES DIRECTOR BOD	SEE COVER SHEET FOR THE SIGNATURE OF THE UNDERSECRETARY RAUL C. ASIS UNDERSECRETARY FOR TECHNICAL SERVICES	SEE COVER SHEET FOR THE SIGNATURE AND APPROVAL OF THE SECRETARY ROGELIO L. SINGSON SECRETARY		PASIG RIVER	

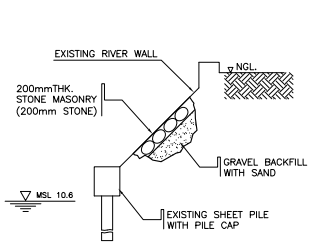
図 4.1.3 河川構造物護岸詳細図 (1/6)

Fg 4.9

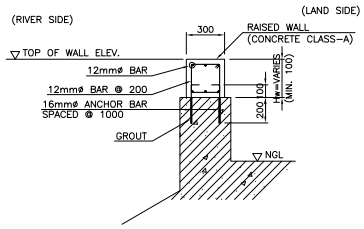


DETAIL OF REPAIR R3

SCALE: A



DETAIL OF REPAIR-R4



TYPICAL RW CROSS SECTION

SCALE: A

SCHEDULE OF REPAIR R3

STATIONS		HEIGHT (m)	WIDTH (m)	LENGTH (m)	BANK	REMARKS
START	END					
2+392	2+419	1.33	1.00	26.49	LEFT	
7+514	7+580	1.20	1.00	56.37	LEFT	

SCHEDULE OF REPAIR R4

STATIONS		BANK	NO. OF LOCATION	SURFACE AREA	REMARKS
START	END				
3+325	3+400	LEFT	1	254.00	HOSPICIO
10+310	10+323	LEFT	1	27.00	
10+405	10+497	LEFT	3	116.00	
14+287	14+440	LEFT	9	184.00	
3+410	3+492	RIGHT	1	291.00	HOSPICIO
STA. A	STA. C	RIGHT	1	157.00	QUINTA CHANNEL

SCHEDULE OF RAISED WALL LOCATIONS AND DIMENSIONS

STATIONS		BANK	Hw (m)	LENGTH (m)	REMARKS
START	END				
6+245	6+323	LEFT	0.20~0.20	82.27	WITH HANDRAIL
10+439	10+467	LEFT	0.11~0.11	30.45	
2+334	STA. A	RIGHT	0.32~0.37	187.94	
STA. D	3+069	RIGHT	0.11~0.42	594.85	
14+835	14+914	RIGHT	0.20~0.21	94.32	

SCHEDULE OF HANDRAIL LOCATIONS AND DIMENSIONS (TYPE-1)

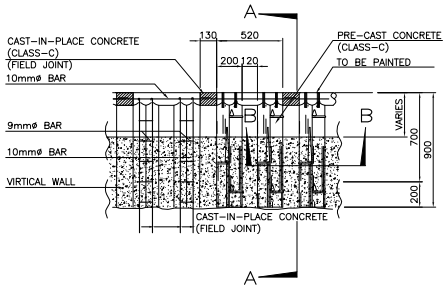
STATIONS		RANGE		BANK	REMARKS
START	END	HEIGHT	LENGTH (m)		
15+310	15+424	0.50	121.68	LEFT	
15+443	15+548	0.40	113.06	LEFT	
15+747	15+870	0.40	107.52	LEFT	
15+965	16+150	0.50	178.98	LEFT	
16+556	16+564	0.50	8.00	LEFT	
16+801	16+840	0.50	45.69	RIGHT	

SCHEDULE OF HANDRAIL LOCATIONS AND DIMENSIONS (TYPE-2)

STATION		RANGE		BANK	REMARKS
START	END	HEIGHT	LENGTH (m)		
6+245	6+323	0.70	82.27	LEFT	

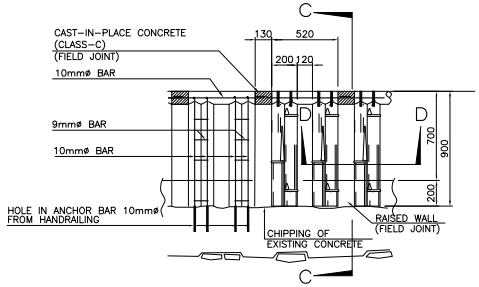
SCHEDULE OF HANDRAIL LOCATIONS AND DIMENSIONS (TYPE-3)

STATION		RANGE		BANK	REMARKS
START	END	HEIGHT	LENGTH (m)		
14+045	14+272	0.70	210.40	LEFT	
15+236	15+310	0.70	74.15	LEFT	W/ 50mmø WEEPHOLES @ 2.0m
14+914	14+943	0.70	32.88	RIGHT	



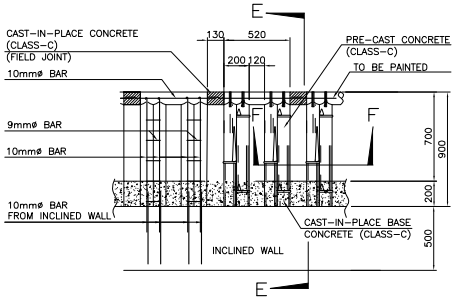
DETAIL OF PRECAST CONCRETE HANDRAILS TYPE-1

SCALE: A



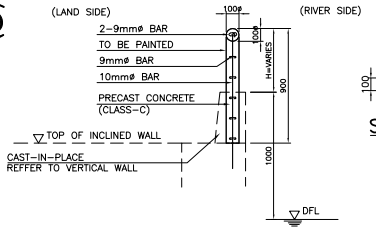
DETAIL OF PRECAST CONCRETE HANDRAILS TYPE-2 (INSTALLED IN EXSTING REVETMENT)

SCALE: A



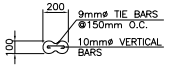
DETAIL OF PRECAST CONCRETE HANDRAILS TYPE-3 (INSTALLED IN INCLINED WALL)

SCALE: A



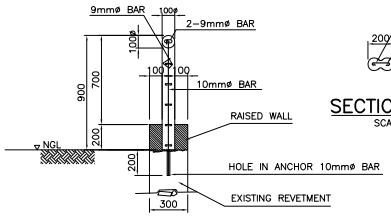
SECTION A-A

SCALE: A



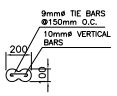
SECTION B-B

SCALE: A



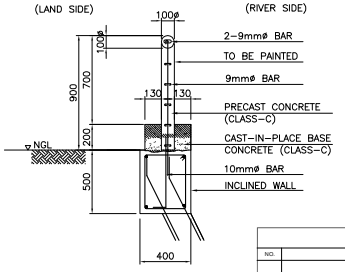
SECTION C-C

SCALE: A



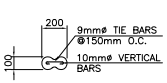
SECTION D-D

SCALE: A



SECTION E-E

SCALE: A



SECTION F-F

SCALE: A

SCALE A 0 0.4 0.8 1.2 1.6 2.0m

REVISIONS			
NO.	DESCRIPTION	APPROVED	DATE

NOTE :

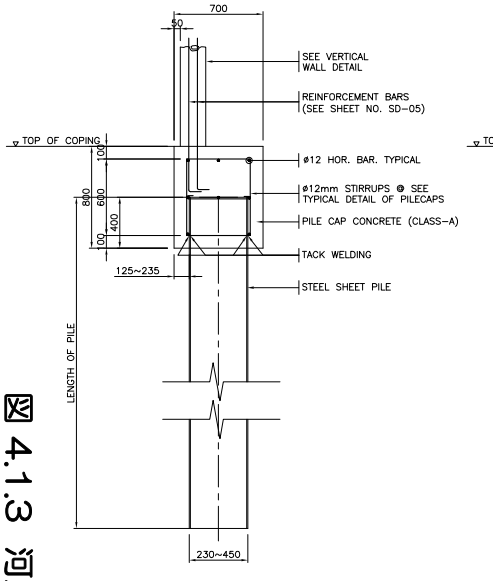
PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATIONS OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFERS ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

SHUJI KAKU
TEAM LEADER

JICA CONSULTANT FOR DETAILED ENGINEERING DESIGN				REPUBLIC OF THE PHILIPPINES					PROJECT & LOCATION	SHEET CONTENTS	SHEET NO.
CTI ENGINEERING INTERNATIONAL CO., LTD.	DESIGNED BY:	CHECKED BY:	SUBMITTED BY:	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	REVIEWED BY:	RECOMMENDING APPROVAL :		APPROVED BY:	PASIG-MARIKINA RIVER CHANNEL IMPROVEMENT PROJECT (PHASE III), METRO MANILA	TABLES AND DETAILS OF REPAIR OF R3, R4, RW, & HANDRAILS (TYPE 1,2&3)	PR-GE SD 01
	EIJI MOKI STRUCTURAL ENGINEER I	TOSHIKI KAWAKAMI THE CHECKER	SHUJI KAKU TEAM LEADER		PERFECTO L. ZAPLAN, JR. CHIEF, HYDRAULIC DIVISION, BOD	PATRICK B. GATAN PROJECT DIRECTOR PMO - MFCP	GILBERTO S. REYES DIRECTOR BOD	SEE COVER SHEET FOR THE SIGNATURE OF THE UNDERSECRETARY RAUL C. ASIS UNDERSECRETARY FOR TECHNICAL SERVICES	SEE COVER SHEET FOR THE SIGNATURE AND APPROVAL OF THE SECRETARY ROGELIO L. SINGSON SECRETARY			

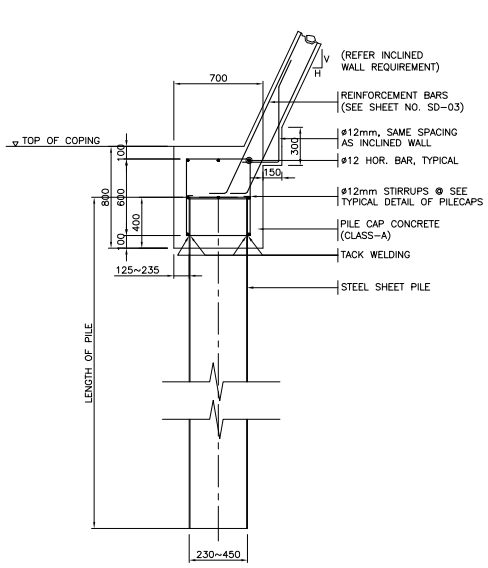
図 4.1.3 河川構造物標準詳細図 (2/6)

Fig 4.10



DETAIL OF STEEL SHEET PILE WITH VERTICAL WALL

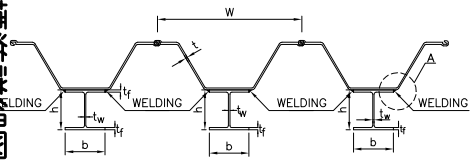
SCALE: A

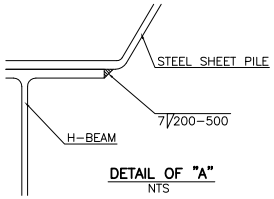


DETAIL OF STEEL SHEET PILE WITH INCLINED WALL

SCALE: A

NOTE:
EXPANSION JOINTS SHALL BE PROVIDED AT 20M INTERVAL FOR BOTH VERTICAL AND INCLINED WALL





DETAIL OF "A"

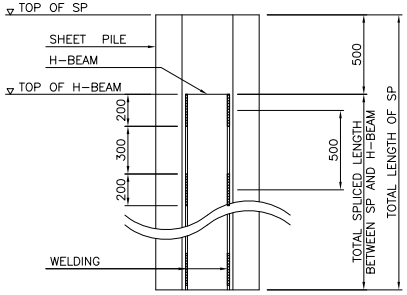
NTS

CROSS SECTION OF SP WITH H-BEAM REFER TO SCHEDULE OF COMBINED PILES (SP with H-BEAM)

SCALE: A

PROPERTIES OF H-BEAM

SECTION	h mm	b mm	t_w mm	t_f mm	Sx cm^3
1	400	200	9	22	1760
2	450	200	12	25	2320
3	450	250	9	22	2490
4	450	250	12	28	3070
5	500	200	12	25	2650
6	500	250	12	28	3500
7	550	250	12	28	3940
8	600	200	12	28	3630
9	600	250	12	28	4390
10	650	200	12	28	4020
11	650	250	12	28	4850
12	750	250	12	25	5390
13	850	250	16	28	7240



DETAIL OF WELDING BETWEEN SP AND H-BEAM

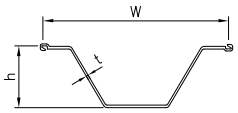
SCALE: A

SCHEDULE OF STEEL SHEET PILES (SP)

STATIONS START	STATIONS END	SECTION MODULUS		ESTIMATED LENGTH OF PILE (m)	BANK	LENGTH OF REVETMENT (m)	REMARKS
2+419	2+550	SP	Sx=2700cm^3/m	11.00	LEFT	139.80	
2+550	2+694	SP	Sx=2700cm^3/m	11.50	LEFT	139.00	
2+854	2+950	SP	Sx=3150cm^3/m	12.00	LEFT	100.30	
2+950	3+072	SP	Sx=2700cm^3/m	12.00	LEFT	130.40	
3+160	3+300	SP	Sx=1610cm^3/m	9.00	LEFT	124.70	
6+116	6+219	SP	Sx=1800cm^3/m	10.00	LEFT	100.90	
6+249	6+269	SP	Sx=3820cm^3/m	12.50	LEFT	20.30	
6+376	6+482	SP	Sx=3150cm^3/m	11.00	LEFT	114.40	
7+326	7+444	SP	Sx=3820cm^3/m	12.00	LEFT	121.30	
7+494	7+514	SP	Sx=3820cm^3/m	12.00	LEFT	19.40	
11+500	11+628	SP	Sx=3150cm^3/m	11.00	LEFT	128.50	
14+150	14+250	SP	Sx=2700cm^3/m	10.00	LEFT	98.40	
15+236	15+311	SP	Sx=3820cm^3/m	11.00	LEFT	75.80	
15+311	15+424	SP	Sx=3820cm^3/m	11.00	LEFT	120.10	
3+649	3+753	SP	Sx=2700cm^3/m	11.00	RIGHT	98.90	
5+046	5+100	SP	Sx=3150cm^3/m	12.00	RIGHT	33.30	
5+100	5+223	SP	Sx=3820cm^3/m	12.50	RIGHT	120.40	
5+262	5+340	SP	Sx=3820cm^3/m	13.00	RIGHT	87.20	
5+340	5+414	SP	Sx=3820cm^3/m	13.00	RIGHT	83.70	
6+337	6+510	SP	Sx=3150cm^3/m	12.00	RIGHT	151.20	
8+250	8+400	SP	Sx=3820cm^3/m	12.00	RIGHT	144.90	
8+510	8+650	SP	Sx=3820cm^3/m	12.50	RIGHT	121.10	
8+800	8+900	SP	Sx=3820cm^3/m	11.50	RIGHT	95.60	
8+900	9+000	SP	Sx=3820cm^3/m	12.00	RIGHT	99.10	
9+000	9+150	SP	Sx=3820cm^3/m	12.00	RIGHT	153.20	
9+200	9+341	SP	Sx=2700cm^3/m	10.50	RIGHT	159.80	
9+430	9+550	SP	Sx=3820cm^3/m	12.50	RIGHT	124.90	
9+550	9+650	SP	Sx=3820cm^3/m	12.00	RIGHT	103.10	
9+650	9+723	SP	Sx=3820cm^3/m	12.00	RIGHT	73.60	
9+750	9+770	SP	Sx=3820cm^3/m	12.00	RIGHT	20.30	
9+830	9+947	SP	Sx=3820cm^3/m	12.00	RIGHT	166.40	L=9.2m, SPLICED SP INTO 5 SEGMENTS NEAR STA.9+943
11+610	11+653	SP	Sx=2700cm^3/m	11.00	RIGHT	43.70	
11+788	11+803-A	SP	Sx=3820cm^3/m	11.50	RIGHT	19.90	
13+578	13+700	SP	Sx=2700cm^3/m	11.00	RIGHT	121.60	
13+700	13+801-B	SP	Sx=2700cm^3/m	10.00	RIGHT	105.10	L=8.0m, SPLICED SP INTO 4 SEGMENTS NEAR STA.13+772
13+804-A	13+900	SP	Sx=3820cm^3/m	11.50	RIGHT	98.50	
13+900	14+000	SP	Sx=3820cm^3/m	12.00	RIGHT	102.40	
14+000	14+100	SP	Sx=2700cm^3/m	10.00	RIGHT	105.00	
14+100	14+200	SP	Sx=1800cm^3/m	8.50	RIGHT	109.80	
14+200	14+225-A	SP	Sx=3150cm^3/m	10.00	RIGHT	32.90	
14+234-A	14+300	SP	Sx=3150cm^3/m	10.00	RIGHT	71.90	
14+835	14+943	SP	Sx=2700cm^3/m	10.00	RIGHT	125.80	
15+476	15+494	SP	Sx=2700cm^3/m	9.50	RIGHT	20.20	
16+667	16+724	SP	Sx=3820cm^3/m	11.00	RIGHT	56.30	L=8.0m, SPLICED SP INTO 2 SEGMENTS NEAR STA.16+700

SCHEDULE OF COMBINED PILES (SP with H-BEAM)

STATIONS START	STATIONS END	SECTION MODULUS		ESTIMATED LENGTH OF PILE (m)	BANK	LENGTH OF REVETMENT (m)	REMARKS
12+024	12+173	SP	Sx=902cm^3/m	16.50	LEFT	148.40	
		H-BEAM	Sx=5390cm^3	16.00			
13+806	13+900	SP	Sx=902cm^3/m	13.00	LEFT	94.70	
		H-BEAM	Sx=2490cm^3	12.50			
13+900	14+000	SP	Sx=902cm^3/m	14.50	LEFT	100.00	
		H-BEAM	Sx=3630cm^3	14.00			
14+000	14+150	SP	Sx=902cm^3/m	12.50	LEFT	139.60	
		H-BEAM	Sx=2320cm^3	12.00			
14+250	14+272	SP	Sx=902cm^3/m	11.50	LEFT	22.00	
		H-BEAM	Sx=1760cm^3	11.00			
15+443	15+548	SP	Sx=902cm^3/m	13.00	LEFT	113.10	
		H-BEAM	Sx=3070cm^3	12.50			
15+747	15+870	SP	Sx=902cm^3/m	13.50	LEFT	107.50	
		H-BEAM	Sx=2490cm^3	13.00			
15+965	16+150	SP	Sx=902cm^3/m	12.00	LEFT	179.00	
		H-BEAM	Sx=1760cm^3	11.50			
16+150	16+200	SP	Sx=902cm^3/m	12.50	LEFT	49.80	
		H-BEAM	Sx=1760cm^3	12.00			
16+200	16+300	SP	Sx=902cm^3/m	12.50	LEFT	101.70	
		H-BEAM	Sx=1760cm^3	12.00			
16+300	16+450	SP	Sx=902cm^3/m	13.00	LEFT	158.90	
		H-BEAM	Sx=1760cm^3	12.50			
16+450	16+552	SP	Sx=902cm^3/m	12.50	LEFT	113.70	
		H-BEAM	Sx=1760cm^3	12.00			
16+552	16+564	SP	Sx=1610cm^3/m	19.00	LEFT	11.80	
		H-BEAM	Sx=7240cm^3	18.50			
5+545	5+639	SP	Sx=902cm^3/m	14.00	RIGHT	103.30	
		H-BEAM	Sx=2320cm^3	13.50			
8+222	8+250	SP	Sx=902cm^3/m	15.00	RIGHT	25.10	
		H-BEAM	Sx=3940cm^3	14.50			
8+400	8+510	SP	Sx=902cm^3/m	13.50	RIGHT	83.20	
		H-BEAM	Sx=2490cm^3	13.00			
8+650	8+800	SP	Sx=902cm^3/m	13.00	RIGHT	115.60	
		H-BEAM	Sx=1760cm^3	12.50			
9+150	9+200	SP	Sx=902cm^3/m	16.50	RIGHT	51.30	
		H-BEAM	Sx=4850cm^3	16.00			
9+723	9+750	SP	Sx=902cm^3/m	12.50	RIGHT	27.30	
		H-BEAM	Sx=1760cm^3	12.00			
9+770	9+792	SP	Sx=902cm^3/m	15.50	RIGHT	30.80	
		H-BEAM	Sx=4390cm^3	15.00			
9+814	9+830	SP	Sx=902cm^3/m	15.50	RIGHT	21.40	
		H-BEAM	Sx=4390cm^3	15.00			
10+956-A	11+050	SP	Sx=902cm^3/m	14.00	RIGHT	112.30	
		H-BEAM	Sx=2650cm^3	13.50			
11+050	11+150	SP	Sx=902cm^3/m	18.00	RIGHT	102.50	
		H-BEAM	Sx=5390cm^3	17.50			
11+150	11+263	SP	Sx=902cm^3/m	15.00	RIGHT	113.10	
		H-BEAM	Sx=4020cm^3	14.50			
14+300	14+350	SP	Sx=902cm^3/m	12.00	RIGHT	50.60	
		H-BEAM	Sx=1760cm^3	11.50			
14+350	14+395-A	SP	Sx=902cm^3/m	13.50	RIGHT	51.50	L=18.5m,SPLICED SP INTO 3 SEGMENTS NEAR STA.14+395
		H-BEAM	Sx=3500cm^3	13.00			
14+983	15+075	SP	Sx=902cm^3/m	11.50	RIGHT	96.60	L=8.0m, SPLICED SP INTO 2 SEGMENTS NEAR STA.15+021
		H-BEAM	Sx=1760cm^3	11.00			
15+409	15+441	SP	Sx=902cm^3/m	11.50	RIGHT	24.90	
		H-BEAM	Sx=2490cm^3	11.00			
16+760	16+840	SP	Sx=902cm^3/m	13.00	RIGHT	101.80	
		H-BEAM	Sx=2490cm^3	12.50			



CROSS SECTION OF STEEL SHEET PILE

NTS

PROPERTIES OF STEEL SHEET PILES

TYPE		W mm (nominal)	h mm (nominal)	t mm (nominal)	Section Modules cm^3/m
SP-III$_W$	U-shape	600	180	13.4	1800
SP-IV$_W$	U-shape	600	210	18.0	2700
SP-V$_L$	U-shape	500	200	24.3	3150
SP-VI$_L$	U-shape	500	225	27.6	3820
SP-10H	Hat-shape	900	230	10.8	902
SP-25H	Hat-shape	900	300	13.2	1610

PILE LENGTHS ARE FOR ESTIMATES ONLY, ACTUAL LENGTHS SHALL BE INSTRUCTED BY THE ENGINEER BASED ON THE RESULTS OF THE ADDITIONAL FOUNDATION INVESTIGATION TO BE CARRIED OUT BY THE CONTRACTOR.

SCALE A 0 0.4 0.8 1.2 1.6 2.0m

REVISIONS

NO.	DESCRIPTION	APPROVED	DATE

NOTE:
PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATIONS OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEY'S AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

SHUJI KAKU
TEAM LEADER

JICA CONSULTANT FOR DETAILED ENGINEERING DESIGN

CTI ENGINEERING INTERNATIONAL CO., LTD.

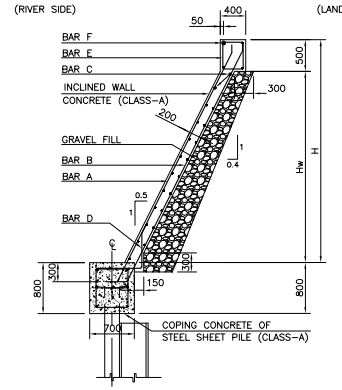
DESIGNED BY:	CHECKED BY:	SUBMITTED BY:
EIJI MOKI STRUCTURAL ENGINEER I	TOSHIKI KAWAKAMI THE CHECKER	SHUJI KAKU TEAM LEADER

REPUBLIC OF THE PHILIPPINES

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

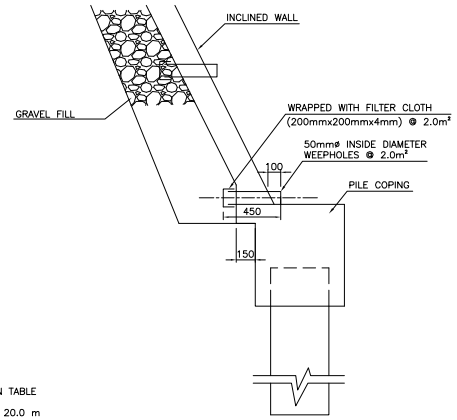
REVIEWED BY:	RECOMMENDING APPROVAL :		APPROVED BY:
		SEE COVER SHEET FOR THE SIGNATURE OF THE UNDERSECRETARY	SEE COVER SHEET FOR THE SIGNATURE AND APPROVAL OF THE SECRETARY
PERFECTO L. ZAPLAN, JR. CHIEF, HYDRAULIC DIVISION, BOD	PATRICK B. GATAN PROJECT DIRECTOR PMO - MFCP	GILBERTO S. REYES DIRECTOR BOD	RAUL C. ASIS UNDERSECRETARY FOR TECHNICAL SERVICES	ROGELIO L. SINGSON SECRETARY

PROJECT & LOCATION	SHEET CONTENTS	SHEET NO.
PASIG-MARIKINA RIVER CHANNEL IMPROVEMENT PROJECT (PHASE III), METRO MANILA	TABLES AND DETAILS OF STEEL PILES FOR REVETMENT	PR-GE SD 02

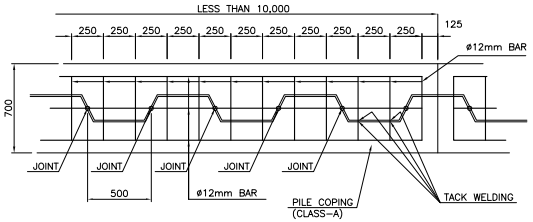


NOTE:
1. HORIZONTAL BARS SHALL BE 2-ø12mm @ 300mm SPACING
2. REFER TO INCLINED WALL DESIGN TABLE
3. INTERVAL OF EXPANSION JOINTS: 20.0 m
4. INTERVAL OF CONTRACTION JOINTS: 5.0 m

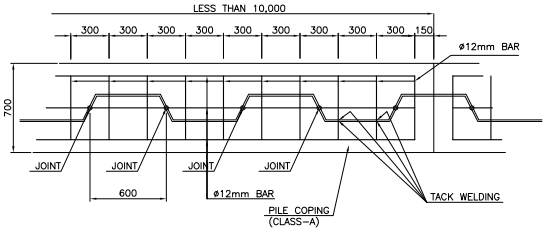
TYPICAL DETAIL OF INCLINED WALL
SCALE: A



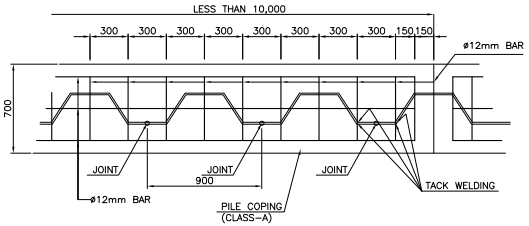
WEEPHOLE DETAIL
SCALE: A



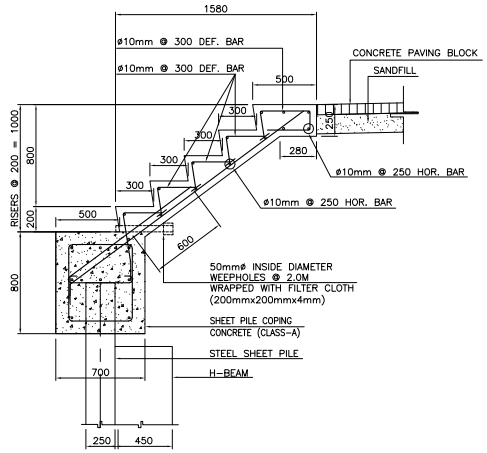
U-SHAPE STEEL SHEET PILE W/ SSP WIDTH=0.5M



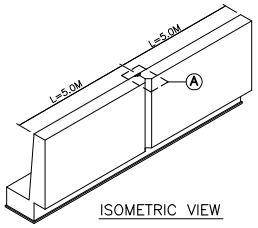
U-SHAPE STEEL SHEET PILE W/ SSP WIDTH=0.6M

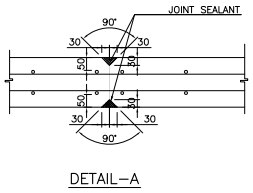


HAT-SHAPE / H-BEAM / SSP WIDTH=0.9M



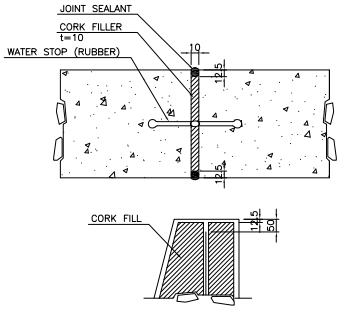
TYPICAL DETAIL OF INCLINED WALL (STAIR TYPE)
SCALE: B





TYPICAL CONTRACTION JOINT DETAIL
SCALE: C

TYPICAL DETAIL OF PILE COPING
SCALE: B



TYPICAL EXPANSION JOINT DETAIL
SCALE: C

SCHEDULE OF INCLINED WALL LOCATIONS AND DIMENSIONS

STATIONS		RANGE		SLOPE OF BACKWALL	ADJOINING MEMBERS		BANK	REMARKS
FROM	TO	Hw, (m)	L(m)	H:V	TOP	BOTTOM		
6+376	6+482	0.32~0.32	114.40	0.5:1	VW,SW	PC	LEFT	
7+326	7+444	0.26~0.27	121.28	0.5:1	VW,SW	PC	LEFT	
7+494	7+514	0.27~0.27	19.42	0.5:1	VW,SW	PC	LEFT	
11+500	11+628	0.41~0.42	128.49	0.5:1	PW,FC	PC	LEFT	
12+024	12+173	0.44~0.45	148.38	0.5:1	VW,SW	PC	LEFT	
13+806	14+043	0.54~0.55	237.55	0.5:1	VW,SW	PC	LEFT	
14+043	14+045	0.55~1.56	6.41	0.5:1	RL,SW	PC	LEFT	
14+045	14+272	1.56~1.56	210.40	0.5:1	RL,SW	PC	LEFT	
15+236	15+310	1.63~1.63	74.15	0.5:1	RL,SW	PC	LEFT	
15+310	15+311	1.23~1.63	1.60	0.5:1	VW,SW	PC	LEFT	
15+311	15+424	1.23~1.23	120.08	0.5:1	VW,SW	PC	LEFT	
15+443	15+548	0.94~0.94	113.06	0.5:1	VW,SW	PC	LEFT	
15+747	15+870	0.95~0.96	107.52	0.5:1	VW,SW	PC	LEFT	
15+965	15+973	1.27~1.67	8.04	0.5:1	VW,SW	PC	LEFT	
15+973	16+142	1.27~1.28	162.94	0.5:1	VW,SW	PC	LEFT	
16+142	16+150	1.28~0.88	8.01	0.5:1	VW,SW	PC	LEFT	
16+150	16+450	0.88~0.90	310.41	0.5:1	VW,SW	PC	LEFT	
16+450	16+454	0.70~0.90	4.00	0.5:1	VW,SW	PC	LEFT	
16+454	16+552	0.70~0.70	109.73	0.5:1	VW,SW	PC	LEFT	
16+552	16+564	0.70~1.30	11.82	0.5:1	VW,SW	PC	LEFT	
8+222	9+341	0.31~0.38	1048.65	0.5:1	VW,SW	PC	RIGHT	
9+430	9+792	0.39~0.40	380.67	0.5:1	VW,SW	PC	RIGHT	
9+814	9+947	0.41~0.41	187.85	0.5:1	VW,SW	PC	RIGHT	
10+956-A	11+263	0.37~0.39	327.85	0.5:1	PW,SW	PC	RIGHT	
11+610	11+653	0.41~0.41	43.65	0.5:1	SW	PC	RIGHT	
11+788	11+803-A	0.42~0.42	20.46	0.5:1	SW	PC	RIGHT	
13+578	13+801-B	1.03~1.04	226.75	1.0:0.7	SW	PC	RIGHT	STAIR TYPE
13+804-A	14+225-A	0.54~0.56	448.58	0.5:1	SW	PC	RIGHT	
14+234-B	14+365	0.56~0.57	138.22	0.5:1	SW	PC	RIGHT	
14+835	14+943	0.60~0.61	125.83	0.5:1	SW	PC	RIGHT	
14+983	15+075	0.61~0.62	96.55	0.5:1	VW,SW	PC	RIGHT	
15+409	15+441	1.64~1.64	25.10	0.5:1	SW	PC	RIGHT	
15+476	15+494	0.64~0.64	20.17	0.5:1	SW	PC	RIGHT	
16+667	16+724	0.71~0.71	56.26	0.5:1	SW	PC	RIGHT	
16+760	16+801	1.32~1.32	56.06	0.5:1	SW	PC	RIGHT	
16+801	16+840	1.32~1.32	45.69	0.5:1	VW,SW	PC	RIGHT	

*ADJOINING MEMBERS:
VW - VERTICAL WALL
PW - PARAPET WALL
SW - SIDEWALK (CONCRETE BLOCK PAVING)
PC - PILE COPING
RL - RAILING
FC - FILLER CONCRETE
EPC - EXISTING PILE CAP

SCHEDULE OF INCLINED WALL REINFORCEMENT

HEIGHT RANGE		REINFORCEMENT											
		BAR A		BAR B		BAR C		BAR D		BAR E		BAR F	
HW (m)	H (m)	DIA (mm)	SPACING (mm)	DIA (mm)	SPACING (mm)	DIA (mm)	SPACING (mm)	DIA (mm)	SPACING (mm)	DIA (mm)	SPACING (mm)	DIA (mm)	SPACING (mm)
0.0~1.5	0.5~2.0	16	250	16	250	12	300	12	250	12	250	12	–
1.5~2.5	2.0~3.0	16	125	16	125	12	300	12	125	12	125	12	–
2.5~2.75	3.0~3.25	16	125	16	125	12	300	12	125	12	125	12	–
2.75~3.0	3.25~3.5	20	125	20	125	12	300	12	125	12	125	12	–

SCALE A 0 0.8 1.6 2.4 3.2 4.0m
SCALE B 0 0.4 0.8 1.2 1.6 2.0m
SCALE C 0 0.2 0.4 0.6 0.8 1.0m

REVISIONS

NO.	DESCRIPTION	APPROVED	DATE

NOTE:
PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATIONS OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

SHUJI KAKU
TEAM LEADER

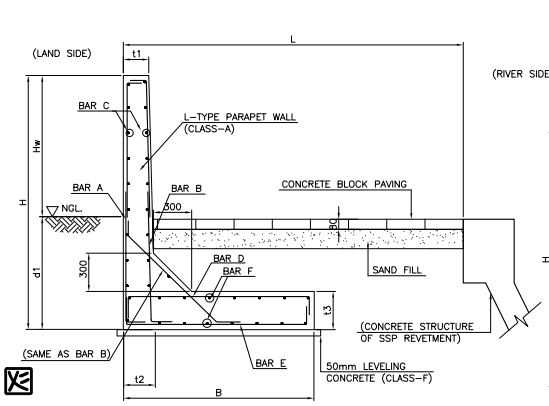
図 4.1.3 河川構造物標準詳細図 (3/6)

Fg 4.11

JICA CONSULTANT FOR DETAILED ENGINEERING DESIGN				REPUBLIC OF THE PHILIPPINES					PROJECT & LOCATION	SHEET CONTENTS	SHEET NO.
CTI ENGINEERING INTERNATIONAL CO., LTD.	DESIGNED BY:	CHECKED BY:	SUBMITTED BY:	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	REVIEWED BY:	RECOMMENDING APPROVAL :		APPROVED BY:	PASIG-MARIKINA RIVER CHANNEL IMPROVEMENT PROJECT (PHASE III), METRO MANILA	TABLES AND DETAILS OF INCLINED WALL, WEEPHOLE, PILE CAPS, & EXPANSION JOINT	PR-GE SD 03
	EIJI MOKI STRUCTURAL ENGINEER I	TOSHIKI KAWAKAMI THE CHECKER	SHUJI KAKU TEAM LEADER		PERFECTO L. ZAPLAN, JR. CHIEF, HYDRAULIC DIVISION, BOD	PATRICK B. GATAN PROJECT DIRECTOR PMO - MFCP	GILBERTO S. REYES DIRECTOR BOD	SEE COVER SHEET FOR THE SIGNATURE OF THE UNDERSECRETARY RAUL C. ASIS UNDERSECRETARY FOR TECHNICAL SERVICES	SEE COVER SHEET FOR THE SIGNATURE AND APPROVAL OF THE SECRETARY ROGELIO L. SINGSON SECRETARY			

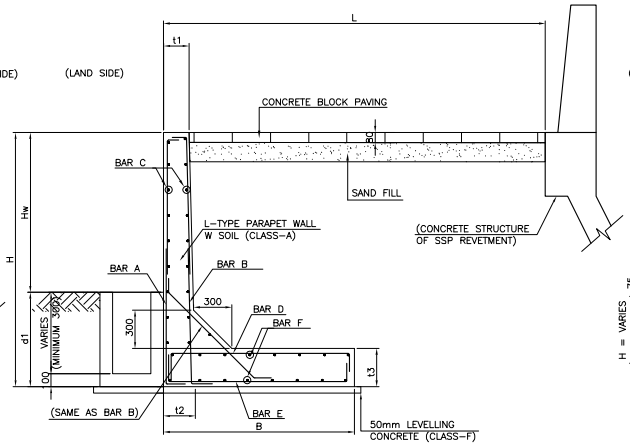
図 4.1.3 河川構造物標準詳細図 (4/6)

Fg 4.12



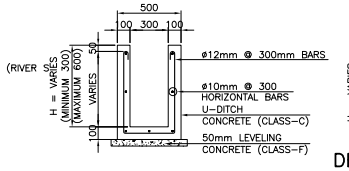
DETAIL OF L TYPE PARAPET WALL (LPW)

SCALE: A



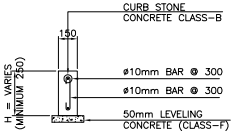
DETAIL OF L TYPE PARAPET WALL W/ SOIL (LPW-SE)

SCALE: A



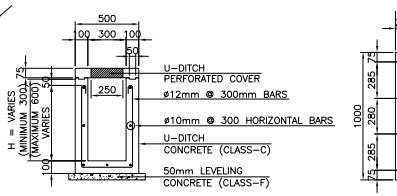
DETAIL OF U-DITCH

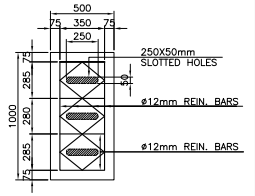
SCALE: A



DETAIL OF CURB STONE

SCALE: A





DETAIL OF U-DITCH W/ COVER

SCALE: A

SCHEDULE OF U-DITCH
LOCATIONS AND DIMENSIONS

STATION		RANGE	BANK	REMARKS
START	END	LENGTH (m)		
2+654	2+694	43.17	LEFT	
2+854	3+072	232.57	LEFT	
6+376	6+482	114.74	LEFT	
7+326	7+444	115.72	LEFT	
7+494	7+514	18.86	LEFT	
10+232	10+269	36.14	LEFT	
10+285	10+325	38.97	LEFT	
12+024	12+173	146.74	LEFT	
13+806	14+272	455.67	LEFT	
15+311	15+424	118.12	LEFT	
15+443	15+548	113.70	LEFT	
15+747	15+870	105.04	LEFT	
15+965	16+564	616.41	LEFT	
5+545	5+602	67.34	RIGHT	
6+396	6+510	125.09	RIGHT	
8+222	9+341	1042.16	RIGHT	
9+430	9+792	380.69	RIGHT	
9+814	9+947	195.28	RIGHT	
10+140	10+179	41.96	RIGHT	
14+983	15+024	42.48	RIGHT	W/ COVER
15+024	15+075	54.42	RIGHT	
16+801	16+838	43.30	RIGHT	

SCHEDULE OF LPW SIZE AND RIENFORCEMENT (CASE OF L > 2.0m)

Ht. FROM SOIL TO TOP OF WALL, Hw, RANGE (m)	B, BASE (m)	EMBEDMENT, d1	t1	t2	t3	REINFORCEMENTS											
						LANDSIDE		RIVERSIDE				TOPSIDE		BOTTOMSIDE			
						BAR A		BAR B		BAR C		BAR D		BAR E		BAR F	
						DIA	SPACING	DIA	SPACING	DIA	SPACING	DIA	SPACING	DIA	SPACING	DIA	SPACING
0.00~0.50	1.00	0.50	0.20	0.20	0.20	**12**	**250**	12	250	12	300	12	250	12	250	12	300
0.51~1.00	1.35	0.50	0.20	0.20	0.20	**12**	**250**	12	250	12	300	12	250	12	250	12	300
1.01~1.10	1.50	0.50	0.20	0.20	0.20	**12**	250	12	250	12	300	12	250	12	250	12	300
1.11~1.20	1.65	0.50	0.20	0.20	0.20	**12**	250	12	250	12	300	12	250	12	250	12	300
1.21~1.30	1.80	0.50	0.20	0.20	0.20	**12**	250	12	250	12	300	12	250	12	250	12	300
1.31~1.40	1.90	0.50	0.20	0.20	0.20	12	250	16	250	12	300	16	250	12	250	12	300
1.41~1.50	2.05	0.50	0.20	0.20	0.20	12	250	16	250	12	300	16	250	12	250	12	300
1.51~1.60	2.20	0.50	0.20	0.20	0.20	12	250	16	250	12	300	16	250	12	250	12	300
1.61~1.70	2.35	0.50	0.20	0.20	0.20	**12**	250	12	125	12	300	12	125	12	250	12	300
1.71~1.80	2.45	0.50	0.20	0.20	0.20	12	250	20	250	12	300	20	250	12	250	12	300
1.81~1.90	2.60	0.50	0.20	**0.20**	0.20	12	250	20	250	12	300	20	250	12	250	12	300
1.91~2.00	2.75	0.50	0.20	0.20	0.20	12	250	16	125	12	300	16	125	12	250	12	300

SCHEDULE OF LPW-SE SIZE AND REINFORCEMENTS

Ht. FROM SOIL TO TOP OF WALL, Hw, RANGE (m)	B, BASE (m)	EMBEDMENT, d1	t1	t2	t3	REINFORCEMENTS											
						LANDSIDE		RIVERSIDE				TOPSIDE		BOTTOMSIDE			
						BAR A		BAR B		BAR C		BAR D		BAR E		BAR F	
						DIA	SPACING	DIA	SPACING	DIA	SPACING	DIA	SPACING	DIA	SPACING	DIA	SPACING
0.00~0.50	0.50	0.40	0.20	0.20	0.20	12	250	12	250	12	300	12	250	12	250	12	300
0.51~0.60	0.50	0.40	0.20	0.20	0.20	12	250	12	250	12	300	12	250	12	250	12	300
0.61~0.70	0.55	0.40	0.20	0.20	0.20	12	250	16	250	12	300	16	250	12	250	12	300
0.71~0.80	0.65	0.40	0.20	0.20	0.20	12	250	16	250	12	300	16	250	12	250	12	300
0.81~0.90	0.75	0.40	0.20	0.20	0.20	12	250	20	250	12	300	20	250	12	250	12	300
0.91~1.00	0.85	0.40	0.20	0.20	0.20	12	250	16	125	12	300	16	125	12	250	12	300
1.01~1.10	0.95	0.40	0.20	0.20	0.20	12	250	25	250	12	300	25	250	12	250	12	300
1.11~1.20	1.00	0.40	0.20	0.30	0.30	12	250	20	250	12	300	20	250	12	250	12	300
1.21~1.30	1.15	0.40	0.20	0.30	0.30	12	250	16	125	12	300	16	125	12	250	12	300
1.31~1.40	1.25	0.40	0.20	0.30	0.30	12	250	25	250	12	300	25	250	12	250	12	300
1.41~1.50	1.35	0.40	0.20	0.30	0.30	12	250	20	125	12	250	20	125	12	250	12	250
1.51~1.60	1.45	0.40	0.20	0.35	0.35	16	250	20	125	12	250	20	125	16	250	12	250

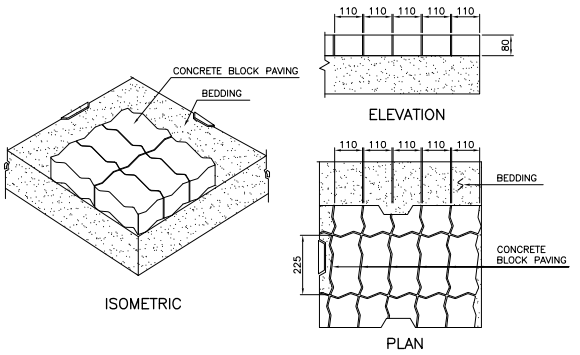
NOTE:
HORIZONTAL ALIGNMENTS OF L-TYPE PARAPET WALLS WAS BASED ON THE ALIGNMENT OF EXISTING RIVER SHORELINE AND OFFSET DISTANCE SHOWN IN THE DRAWINGS ARE FOR ESTIMATES ONLY. ACTUAL ALIGNMENT SHALL BE CONFIRMED BY THE ENGINEER DURING CONSTRUCTION.

SCHEDULE OF L TYPE PARAPET WALL (LPW) LOCATIONS AND DIMENSIONS

STATION		RANGE		ADJOINING MEMBERS		WIDTH OF SIDEWALK (m)	BANK	REMARKS
START	END	HEIGHT, Hw (m)	LENGTH (m)	LAND SIDE	RIVER SIDE			
2+283	2+334	0.94~0.96	62.45	–	SIDEWALK	VARIES	RIGHT	
11+800	11+803	0.96~0.98	3.07	–	SIDEWALK	VARIES	RIGHT	
14+914	14+943	1.30~1.30	32.88	SIDEWALK	SIDEWALK	VARIES	RIGHT	WITH HANDRAIL
15+483	15+494	0.96~0.96	10.35	–	SIDEWALK	VARIES	RIGHT	

SCHEDULE OF L TYPE PARAPET WALL WITH SOIL
EMBANKMENT (LPW-SE) LOCATION AND DIMENSIONS

STATION		RANGE		ADJOINING MEMBERS		WIDTH OF SIDEWALK (m)	BANK	REMARKS
START	END	HEIGHT, Hw (m)	LENGTH (m)	LAND SIDE	RIVER SIDE			
3+062	3+072	0.00~0.32	11.27	U-DITCH	SIDEWALK	VARIES	LEFT	
6+376	6+482	0.00~0.50	114.64	U-DITCH	SIDEWALK	VARIES	LEFT	
13+806	13+926	0.00~0.26	121.54	U-DITCH	SIDEWALK	VARIES	LEFT	
14+072	14+272	0.18~0.48	180.39	U-DITCH	SIDEWALK	3.00	LEFT	
16+152	16+203	0.00~0.28	50.76	U-DITCH	SIDEWALK	3.00	LEFT	
16+516	16+564	0.00~0.27	51.38	U-DITCH	SIDEWALK	3.00	LEFT	
5+571	5+602	0.46~0.57	36.61	U-DITCH	SIDEWALK	VARIES	RIGHT	
8+222	9+341	0.00~0.50	1042.57	U-DITCH	SIDEWALK	3.00	RIGHT	
9+430	9+792	0.23~0.82	380.90	U-DITCH	SIDEWALK	3.00	RIGHT	
9+814	9+947	0.58~1.10	195.01	U-DITCH	SIDEWALK	3.00	RIGHT	
10+140	10+179	0.35~0.39	29.31	U-DITCH	SIDEWALK	VARIES	RIGHT	



DETAIL SECTION OF CONCRETE BLOCK PAVING

SCALE: B

SCALE A 0 0.4 0.8 1.2 1.6 2.0m

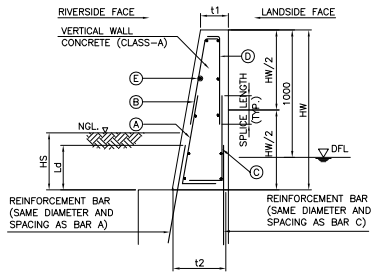
SCALE B 0 0.2 0.4 0.6 0.8 1.0m

REVISIONS			
NO.	DESCRIPTION	APPROVED	DATE

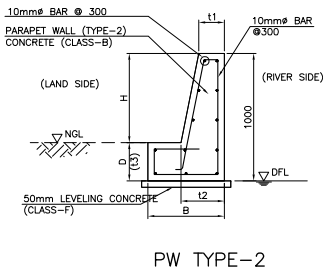
NOTE:
PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATIONS OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

SHUJI KAKU
TEAM LEADER

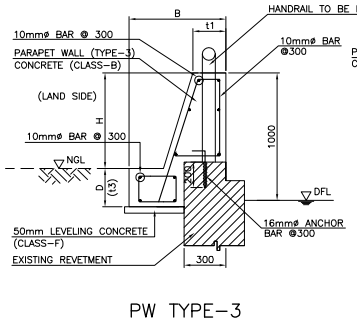
JICA CONSULTANT FOR DETAILED ENGINEERING DESIGN				REPUBLIC OF THE PHILIPPINES					PROJECT & LOCATION	SHEET CONTENTS	SHEET NO.
CTI ENGINEERING INTERNATIONAL CO., LTD.	DESIGNED BY:	CHECKED BY:	SUBMITTED BY:	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	REVIEWED BY:	RECOMMENDING APPROVAL :		APPROVED BY:	PASIG-MARIKINA RIVER CHANNEL IMPROVEMENT PROJECT (PHASE III), METRO MANILA	TABLES AND DETAILS OF LPW , LPW-SE AND U-DITCH	PR-GE SD 04
	EIJI MOKI STRUCTURAL ENGINEER I	TOSHIKI KAWAKAMI THE CHECKER	SHUJI KAKU TEAM LEADER		PERFECTO L. ZAPLAN, JR. CHIEF, HYDRAULIC DIVISION, BOD	PATRICK B. GATAN PROJECT DIRECTOR PMO - MFCP	GILBERTO S. REYES DIRECTOR BOD	SEE COVER SHEET FOR THE SIGNATURE OF THE UNDERSECRETARY RAUL C. ASIS UNDERSECRETARY FOR TECHNICAL SERVICES SEE COVER SHEET FOR THE SIGNATURE AND APPROVAL OF THE SECRETARY ROGELIO L. SINGSON SECRETARY			



DETAIL OF VERTICAL WALL (VW)
SCALE: A



PW TYPE-2



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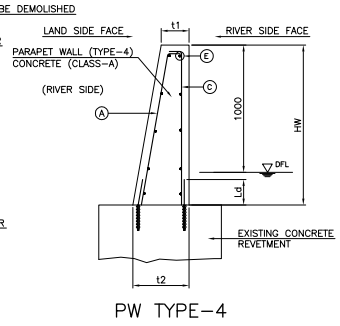
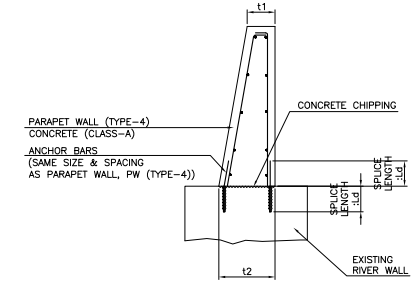


PW TYPE-4

DETAIL OF PARAPET WALL (PW TYPE-4)
CONNECTION TO EXISTING STRUCTURE
SCALE: A



TYPICAL DETAIL OF PARAPET WALL (PW)
SCALE: A

図 4.1.3 河川構造物標準詳細図 (5/6)

Fig 4.13

SCHEDULE OF VERTICAL WALL AND PARAPET WALLS TYPE 4 THICKNESS AND REINFORCEMENT
(REFER DRAWING DETAIL OF VERTICAL WALL AND DETAIL OF PARAPET WALL TYPE-4 PW)

HEIGHT RANGE		THICKNESS		REINFORCEMENT									
				BAR A		BAR B		BAR C		BAR D		BAR E	
WALL HEIGHT (m)	SOIL HEIGHT (m)	t1 (mm)	t2 (mm)	DIA (mm)	SPACING (mm)	DIA (mm)	SPACING (mm)	DIA (mm)	SPACING (mm)	DIA (mm)	SPACING (mm)	DIA (mm)	SPACING (mm)
0.5~1.5	0~0.1	0.2	t1+H*0.1	12	250	12	250	12	250	12	250	12	300
0.5~1.5	0.11~1.0	0.2	t1+H*0.1	12	250	12	250	12	250	12	250	12	300
0.5~1.5	1.2~1.5	0.2	t1+H*0.1	12	250	12	250	12	250	12	250	12	300
1.51~1.6	0~0.1	0.2	t1+H*0.1	12	250	12	250	16	250	12	250	12	300
1.51~1.6	1.2~1.6	0.2	t1+H*0.1	16	250	12	250	12	250	12	250	12	300
1.61~2.0	0~0.1	0.2	t1+H*0.1	12	250	12	250	20	250	12	250	12	300
1.61~2.0	0.11~0.5	0.2	t1+H*0.1	12	250	12	250	20	250	12	250	12	300
1.61~2.0	1.01~1.5	0.2	t1+H*0.1	16	250	12	250	12	250	12	250	12	300
1.61~2.0	1.51~2.0	0.2	t1+H*0.1	20	250	12	250	12	250	12	250	12	300
2.11~2.5	0~0.5	0.2	t1+H*0.1	12	250	12	250	20	125	12	250	12	300
2.11~2.5	0.51~1.0	0.2	t1+H*0.1	12	250	12	250	20	125	12	250	12	300
2.11~2.5	1.51~2.0	0.2	t1+H*0.1	20	250	12	250	12	250	12	250	12	300
2.51~2.6	0~0.50	0.2	t1+H*0.1	12	250	12	250	20	125	12	250	12	300
2.51~2.6	0.51~1.0	0.2	t1+H*0.1	12	250	12	250	20	125	12	250	12	300
2.51~2.6	1.01~1.5	0.2	t1+H*0.1	16	250	12	250	20	250	12	250	12	300
2.61~3.0	0~0.50	0.2	t1+H*0.1	16	250	12	250	20	125	12	250	12	300
2.61~3.0	0.51~1.0	0.2	t1+H*0.1	16	250	12	250	20	125	12	250	12	300
2.61~3.0	1.01~1.5	0.2	t1+H*0.1	16	250	12	250	20	125	12	250	12	300

SCHEDULE OF PARAPET WALL LOCATION, HEIGHTS AND LENGTH (TYPE-2)

STATIONS		RANGE		BANK	REMARKS
START	END	WALL HEIGHT H	LENGTH (m)		
10+232	10+341	0.60~1.40	110.20	LEFT	
10+425	10+434	1.00~1.20	9.44	LEFT	WITH STEPS
10+467	10+477	1.10~1.10	10.37	LEFT	WITH STEPS
11+500	11+628	1.00~1.00	128.49	LEFT	
12+024		1.00~1.00	4.30	LEFT	CLOSURE WALL
3+069	3+100	0.27~1.48	30.60	RIGHT	
3+649	3+753	0.81~0.83	98.89	RIGHT	
5+602		1.22~1.22	1.91	RIGHT	CLOSURE WALL
6+396		1.30~1.30	1.16	RIGHT	CLOSURE WALL
10+140	10+179	1.34~1.34	15.68	RIGHT	
10+956-A	11+055	1.00~1.00	117.28	RIGHT	
11+150	11+263	0.96~0.99	113.08	RIGHT	
11+610	11+643	0.95~0.99	33.63	RIGHT	
11+643	11+653	0.67~0.67	21.22	RIGHT	
11+788	11+800	0.96~0.99	15.60	RIGHT	
15+411		0.38~0.38	3.10	RIGHT	
15+494	16+086	0.30~0.60	606.87	RIGHT	
16+095	16+472	0.60~0.80	363.82	RIGHT	
16+789		0.40~0.40	5.80	RIGHT	WITH STEPS

SCHEDULE OF VERTICAL WALL LOCATION, HEIGHTS AND LENGTH

STATIONS		RANGE			BANK	REMARKS
START	END	WALL HEIGHT Hw	SOIL HEIGHT Hs	LENGTH (m)		
2+392	2+419	0.82~0.83	0.09~0.27	26.49	LEFT	
2+419	2+694	0.76~0.80	0.0~0.27	278.87	LEFT	
2+854	3+072	0.86~0.89	0.0~0.28	230.66	LEFT	
6+376	6+482	0.47~0.53	0.0	114.40	LEFT	
7+326	7+444	1.00~1.00	0.0	121.28	LEFT	
7+494	7+514	1.00~1.00	0.0	19.42	LEFT	
7+514	7+580	0.47~0.56	0.0	56.35	LEFT	
12+024	12+173	1.00~1.00	0.0	148.38	LEFT	
13+806	14+043	1.00~1.00	0.0	237.55	LEFT	
14+043	14+045	0.00~1.00	0.0	6.41	LEFT	
15+310	15+311	0.00~0.40	0.0	1.60	LEFT	
15+311	15+424	0.40~0.40	0.0	120.08	LEFT	+HANDRAIL
15+443	15+548	0.50~0.50	0.0	113.06	LEFT	+HANDRAIL
15+747	15+870	0.50~0.50	0.0	107.52	LEFT	+HANDRAIL
15+965	15+973	0.00~0.40	0.0	8.04	LEFT	+HANDRAIL
15+973	16+142	0.40~0.40	0.0	162.94	LEFT	+HANDRAIL
16+142	16+150	0.40~0.80	0.0	8.01	LEFT	
16+150	16+450	0.80~0.80	0.0	310.41	LEFT	
16+450	16+454	0.80~1.00	0.0	4.00	LEFT	
16+454	16+552	1.00~1.00	0.0	109.73	LEFT	
16+552	16+564	0.40~1.00	0.0	11.82	LEFT	+HANDRAIL
5+545	5+602	1.21~1.22	0.21~0.22	67.45	RIGHT	
6+396	6+510	1.30~1.37	0.30~0.37	113.18	RIGHT	
8+222	9+341	1.00~1.00	0.0	1048.65	RIGHT	
9+430	9+792	1.00~1.00	0.0	380.67	RIGHT	
9+814	9+947	1.00~1.00	0.0	187.85	RIGHT	
14+365	14+395-A	1.07~1.08	1.07~1.08	35.76	RIGHT	
14+983	15+075	1.00~1.00	0.0	96.55	RIGHT	
16+801	16+840	0.40~0.40	0.0	45.69	RIGHT	+HANDRAIL

SCHEDULE OF PARAPET SIZE (TYPE-2 & TYPE-3)

H	B	D	t1	t2	t3
0.30	0.36	0.20	0.30	0.36	0.20
0.40	0.38	0.20	0.30	0.38	0.20
0.50	0.40	0.20	0.30	0.40	0.20
0.60	0.45	0.20	0.30	0.42	0.20
0.70	0.50	0.20	0.30	0.44	0.20
0.80	0.60	0.30	0.30	0.46	0.30
0.90	0.75	0.40	0.30	0.48	0.40
1.00	0.85	0.40	0.30	0.50	0.40
1.10	0.95	0.50	0.30	0.52	0.50
1.20	1.10	0.55	0.30	0.54	0.55
1.30	1.20	0.60	0.30	0.56	0.60
1.40	1.40	0.70	0.30	0.58	0.70
1.50	1.60	0.70	0.30	0.60	0.70

SCHEDULE OF PARAPET WALL LOCATION, HEIGHTS AND LENGTH (TYPE-4)

STATIONS		RANGE		BANK	REMARKS
START	END	WALL HEIGHT Hw	LENGTH (m)		
7+326-A	7+326	0.57~0.57	6.72	LEFT	
10+140	10+179	1.37~1.40	27.80	RIGHT	
11+788		0.55~1.00	4.00	RIGHT	
16+086	16+095	0.56~0.56	8.95	RIGHT	
16+840	16+843	0.89~0.89	2.85	RIGHT	

SCHEDULE OF PARAPET WALL LOCATION, HEIGHTS AND LENGTH (TYPE-3)

STATIONS		RANGE		BANK	REMARKS
START	END	WALL HEIGHT Hw	LENGTH (m)		
10+405	10+425	1.08~1.08	20.74	LEFT	
7+516	8+219	1.08~1.46	612.65	RIGHT	
11+055	11+150	0.96~0.98	97.49	RIGHT	
11+788		0.55~0.55	4.00	RIGHT	WITH STEPS
13+804-A	14+193	0.59~0.81	396.92	RIGHT	

SCALE A 0 0.4 0.8 1.2 1.6 2.0m

NOTE :
PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATIONS OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEY'S AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

SHUJI KAKU
TEAM LEADER

REVISIONS

NO.	DESCRIPTION	APPROVED	DATE

JICA CONSULTANT FOR DETAILED ENGINEERING DESIGN

CTI ENGINEERING INTERNATIONAL CO., LTD.

DESIGNED BY:	CHECKED BY:	SUBMITTED BY:
EIJI MOKI STRUCTURAL ENGINEER I	TOSHIKI KAWAKAMI THE CHECKER	SHUJI KAKU TEAM LEADER

REPUBLIC OF THE PHILIPPINES

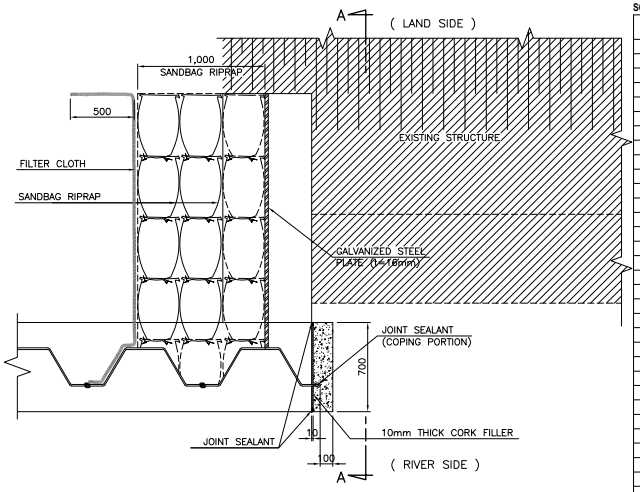
REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

REVIEWED BY:	RECOMMENDING APPROVAL :			APPROVED BY:
			SEE COVER SHEET FOR THE SIGNATURE OF THE UNDERSECRETARY	SEE COVER SHEET FOR THE SIGNATURE AND APPROVAL OF THE SECRETARY
PERFECTO L. ZAPLAN, JR. CHIEF, HYDRAULIC DIVISION, BOD	PATRICK B. GATAN PROJECT DIRECTOR PMO - MFCP	GILBERTO S. REYES DIRECTOR BOD	RAUL C. ASIS UNDERSECRETARY FOR TECHNICAL SERVICES	ROGELIO L. SINGSON SECRETARY

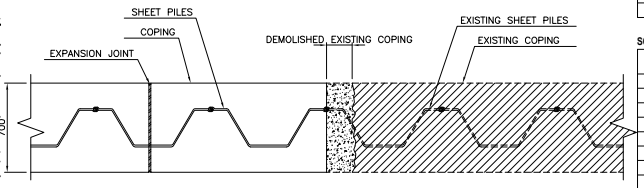
PROJECT & LOCATION	SHEET CONTENTS	SHEET NO.
PASIG-MARIKINA RIVER CHANNEL IMPROVEMENT PROJECT (PHASE III), METRO MANILA	TABLES AND DETAILS OF VW AND PW	PR-GE SD 05

図 4.1.3 河川構造物標準詳細図 (6/6)

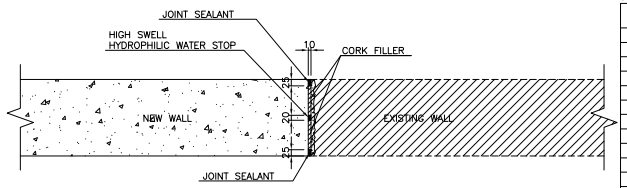
Fig 4.14



TYPICAL SHEET PILE
END CONNECTION DETAIL (TYPE-1)
SCALE: A



TYPICAL SHEET PILE
END CONNECTION DETAIL (TYPE-2)
SCALE: A



TYPICAL DETAIL OF WALL
END CONNECTION TO EXISTING WALL
SCALE: B

SCHEDULE OF SHEET PILES END CONNECTION (TYPE-1)

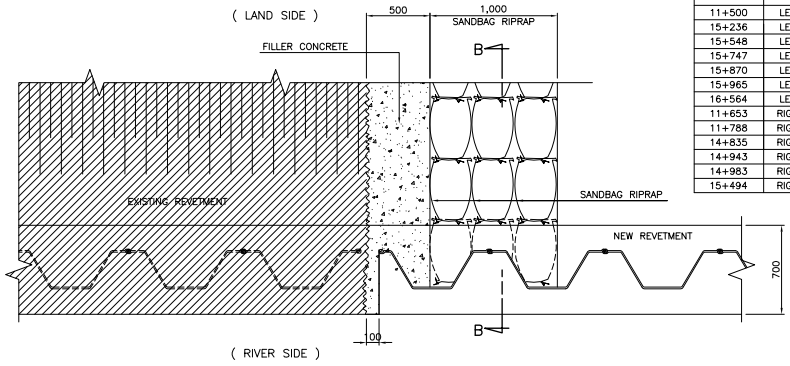
STATION	BANK	REMARKS
2+419	LEFT BANK	
3+072	LEFT BANK	
3+160	LEFT BANK	
3+300	LEFT BANK	
6+116	LEFT BANK	
6+249	LEFT BANK	
6+269	LEFT BANK	
7+326	LEFT BANK	
7+514	LEFT BANK	
12+173	LEFT BANK	
13+806	LEFT BANK	
14+272	LEFT BANK	
15+424	LEFT BANK	
15+443	LEFT BANK	
3+753	RIGHT BANK	
5+046	RIGHT BANK	
5+223	RIGHT BANK	
5+262	RIGHT BANK	
5+414	RIGHT BANK	
5+639	RIGHT BANK	
6+337	RIGHT BANK	
6+510	RIGHT BANK	
8+222	RIGHT BANK	
9+341	RIGHT BANK	
9+430	RIGHT BANK	
9+792	RIGHT BANK	
9+814	RIGHT BANK	
9+947	RIGHT BANK	
10+956-A	RIGHT BANK	
11+803-A	RIGHT BANK	
13+801-B	RIGHT BANK	
13+804-A	RIGHT BANK	
14+225-A	RIGHT BANK	
14+234-A	RIGHT BANK	
14+395-A	RIGHT BANK	
15+075	RIGHT BANK	
15+409	RIGHT BANK	
15+441	RIGHT BANK	
15+476	RIGHT BANK	
16+667	RIGHT BANK	
16+724	RIGHT BANK	
16+760	RIGHT BANK	
16+840	RIGHT BANK	

SCHEDULE OF SHEET PILES END CONNECTION (TYPE-2)

STATION	BANK	REMARKS
2+694	LEFT BANK	
2+854	LEFT BANK	
6+219	LEFT BANK	
6+376	LEFT BANK	
6+482	LEFT BANK	
7+444	LEFT BANK	
7+494	LEFT BANK	
11+628	LEFT BANK	
12+024	LEFT BANK	
3+649	RIGHT BANK	
5+545	RIGHT BANK	
11+263	RIGHT BANK	
11+610	RIGHT BANK	
13+578	RIGHT BANK	

SCHEDULE OF WALL END CONNECTION (RCF)

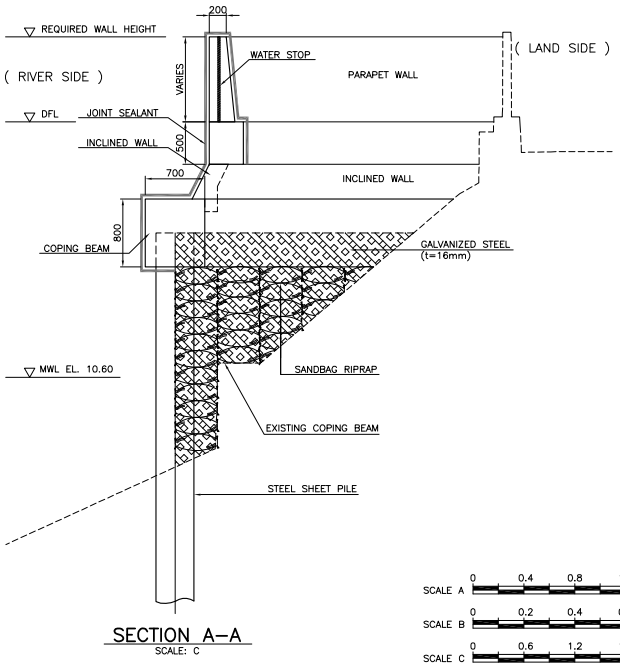
STATION	BANK	REMARKS
2+392	LEFT BANK	
7+326-A	LEFT BANK	
7+580	LEFT BANK	
10+232	LEFT BANK	
10+341	LEFT BANK	
10+405	LEFT BANK	
10+434	LEFT BANK	
10+467	LEFT BANK	
10+477	LEFT BANK	
2+283	RIGHT BANK	
STA. A	RIGHT BANK	QUINTA CHANNEL
STA. D	RIGHT BANK	QUINTA CHANNEL
3+100	RIGHT BANK	
7+516	RIGHT BANK	
8+219	RIGHT BANK	
10+140	RIGHT BANK	
10+179	RIGHT BANK	
16+472	RIGHT BANK	
16+843	RIGHT BANK	



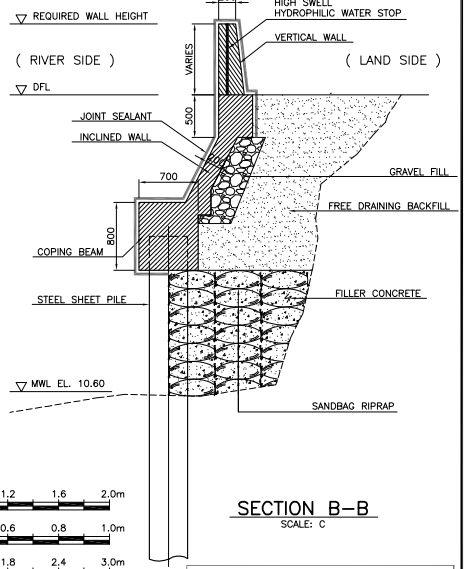
TYPICAL SHEET PILE
END CONNECTION DETAIL (TYPE-3)
SCALE: A

SCHEDULE OF SHEET PILES END CONNECTION (TYPE-3)

STATION	BANK	REMARKS
11+500	LEFT BANK	
15+236	LEFT BANK	
15+548	LEFT BANK	
15+747	LEFT BANK	
15+870	LEFT BANK	
15+965	LEFT BANK	
16+564	LEFT BANK	
11+653	RIGHT BANK	
11+788	RIGHT BANK	
14+835	RIGHT BANK	
14+943	RIGHT BANK	
14+983	RIGHT BANK	
15+494	RIGHT BANK	



SECTION A-A
SCALE: C



SECTION B-B
SCALE: C

SCALE A 0 0.4 0.8 1.2 1.6 2.0m
SCALE B 0 0.2 0.4 0.6 0.8 1.0m
SCALE C 0 0.6 1.2 1.8 2.4 3.0m

R E V I S I O N S

NO.	DESCRIPTION	APPROVED	DATE

NOTE :
PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATIONS OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

SHUJI KAKU
TEAM LEADER

JICA CONSULTANT FOR DETAILED ENGINEERING DESIGN

CTI ENGINEERING INTERNATIONAL CO., LTD.

DESIGNED BY:	CHECKED BY:	SUBMITTED BY:
EIJI MOKI STRUCTURAL ENGINEER I	TOSHIKI KAWAKAMI THE CHECKER	SHUJI KAKU TEAM LEADER

REPUBLIC OF THE PHILIPPINES

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

REVIEWED BY:	RECOMMENDING APPROVAL :			APPROVED BY:
			SEE COVER SHEET FOR THE SIGNATURE OF THE UNDERSECRETARY	SEE COVER SHEET FOR THE SIGNATURE AND APPROVAL OF THE SECRETARY
PERFECTO L. ZAPLAN, JR. CHIEF, HYDRAULIC DIVISION, BOD	PATRICK B. GATAN PROJECT DIRECTOR PMO - MFCP	GILBERTO S. REYES DIRECTOR BOD	RAUL C. ASIS UNDERSECRETARY FOR TECHNICAL SERVICES	ROGELIO L. SINGSON SECRETARY

PROJECT & LOCATION	SHEET CONTENTS	SHEET NO.
PASIG-MARIKINA RIVER CHANNEL IMPROVEMENT PROJECT (PHASE III), METRO MANILA	TABLES & TYPICAL SHEET PILE END CONNECTION DETAILS LOWER & UPPER PASIG	PR-GE SD 06

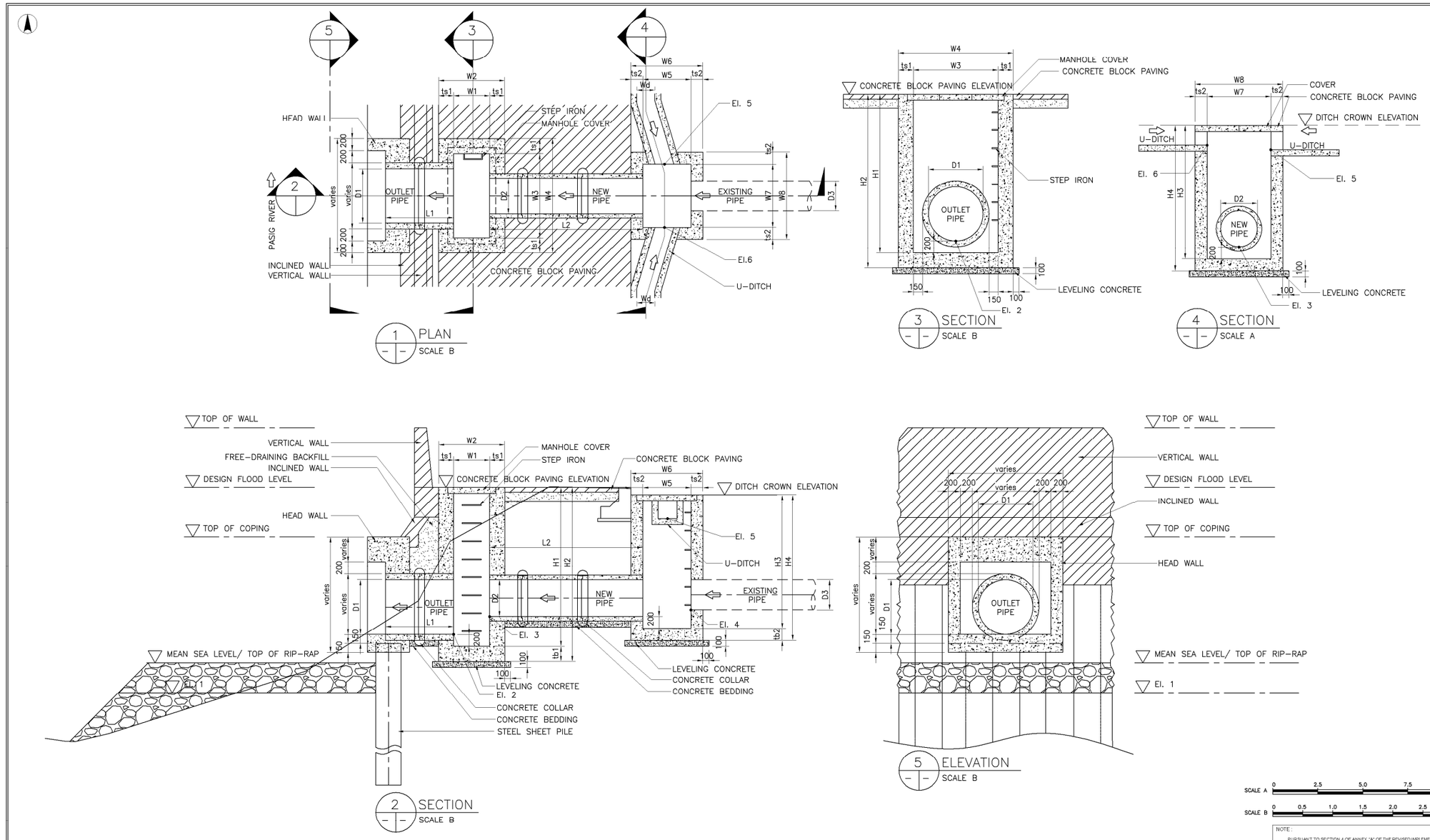


図 4.1.4 排水施設一般図（パッシグ川）（1/2）

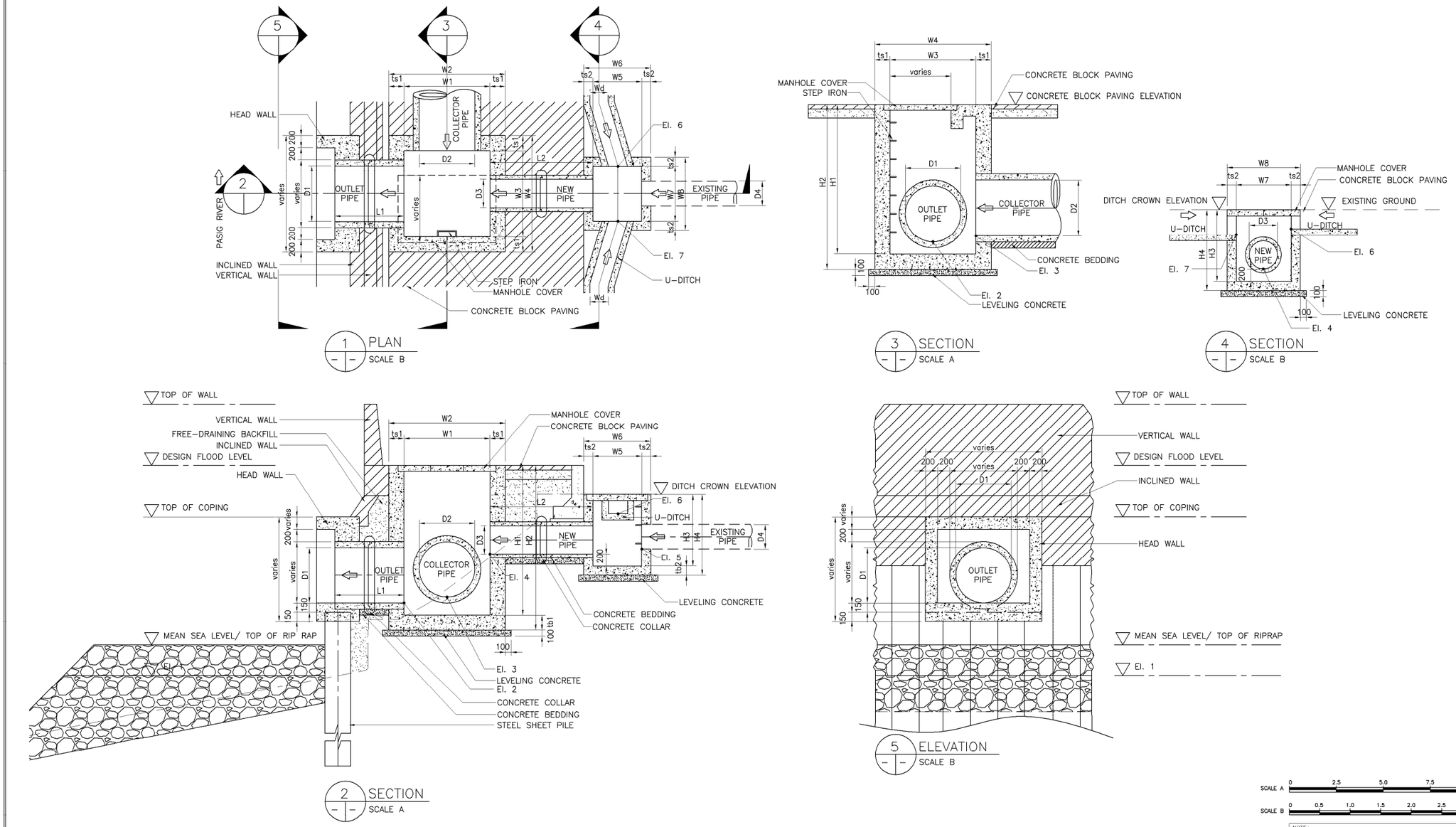


図 4.1.4 排水施設一般図（パッシグ川） (2/2)

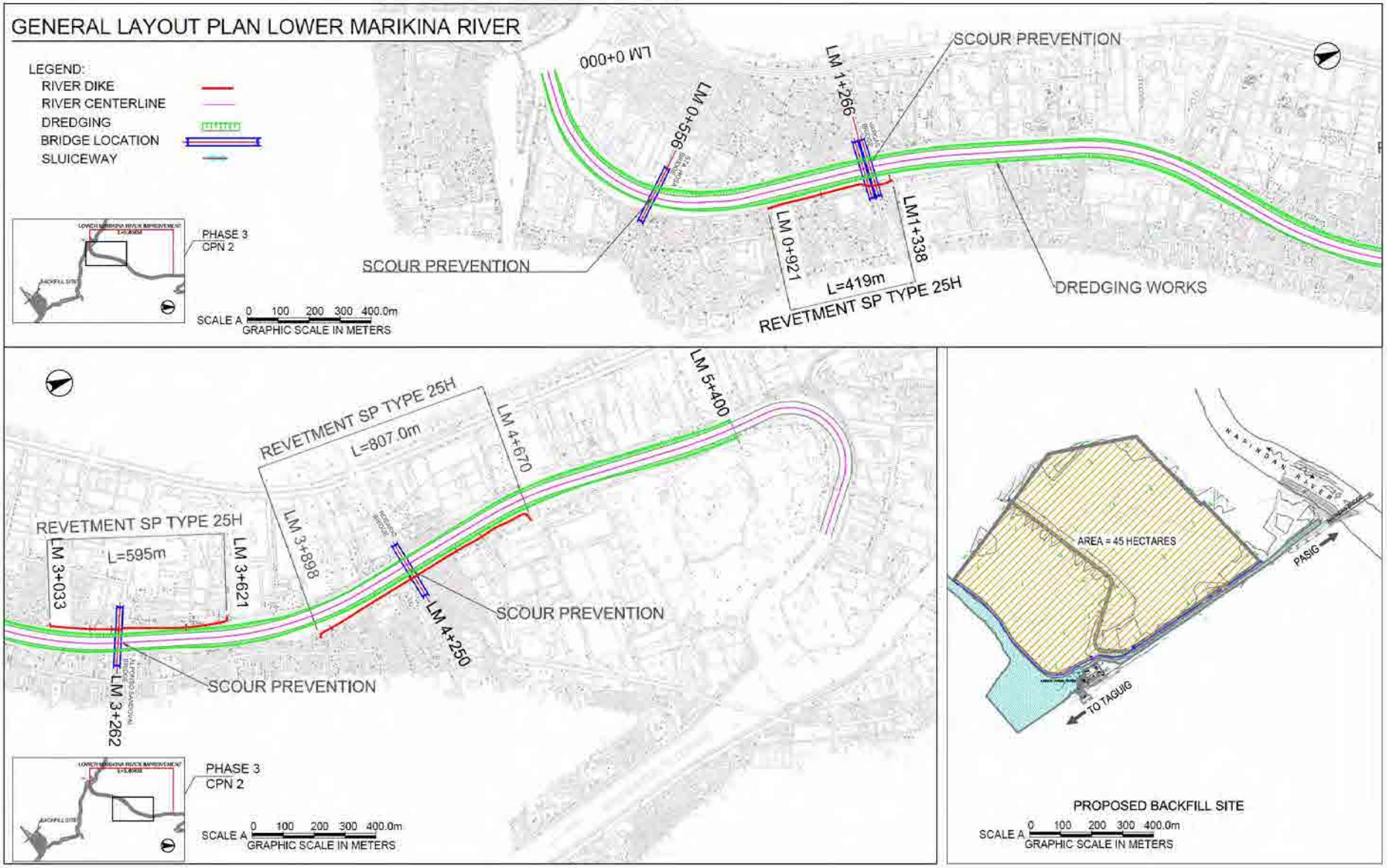


図 4.2.1　改修計画平面図（マリキナ川下流）

Fg 4. 17

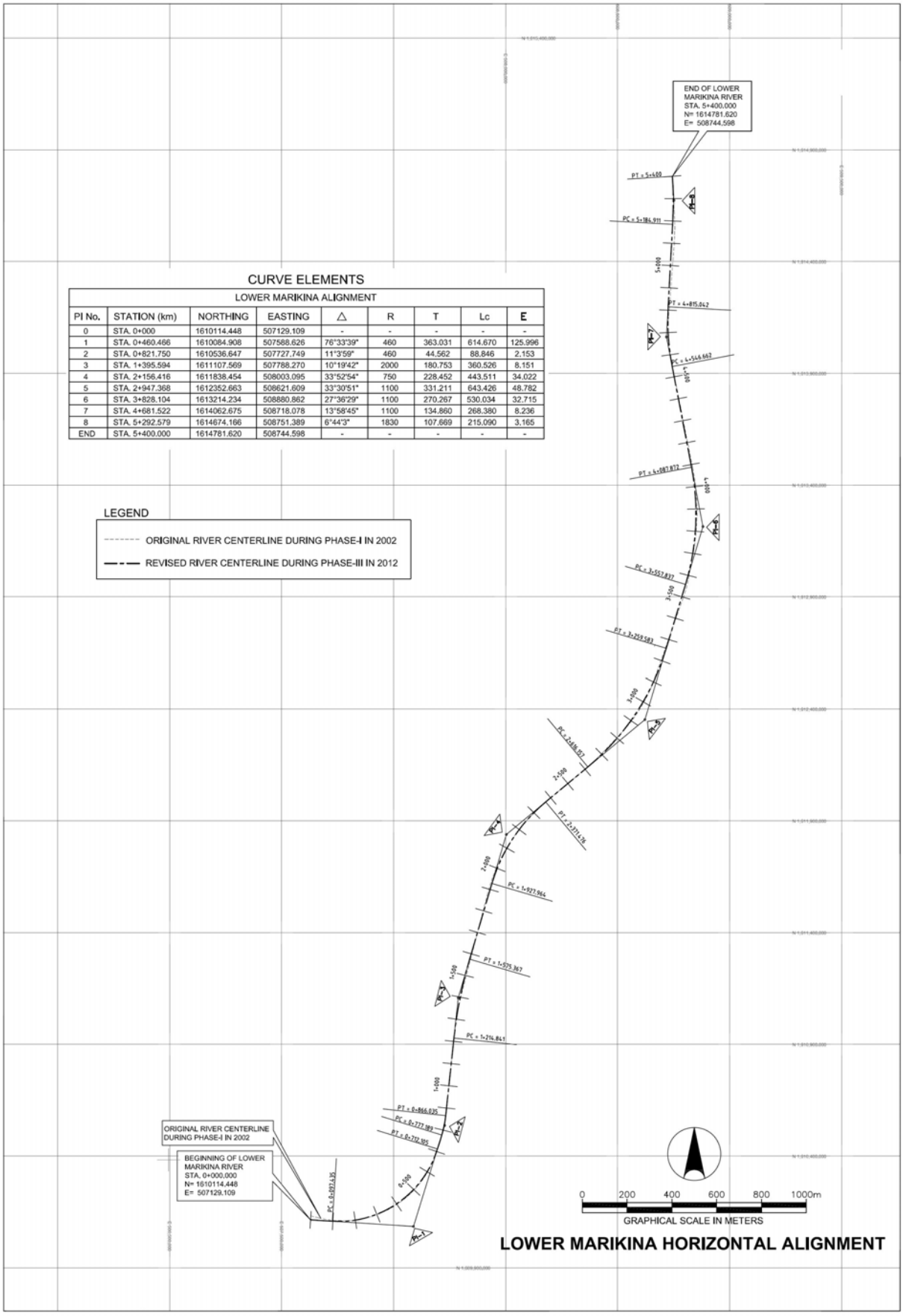


図 4.2.2 河道中心線（水平線形）

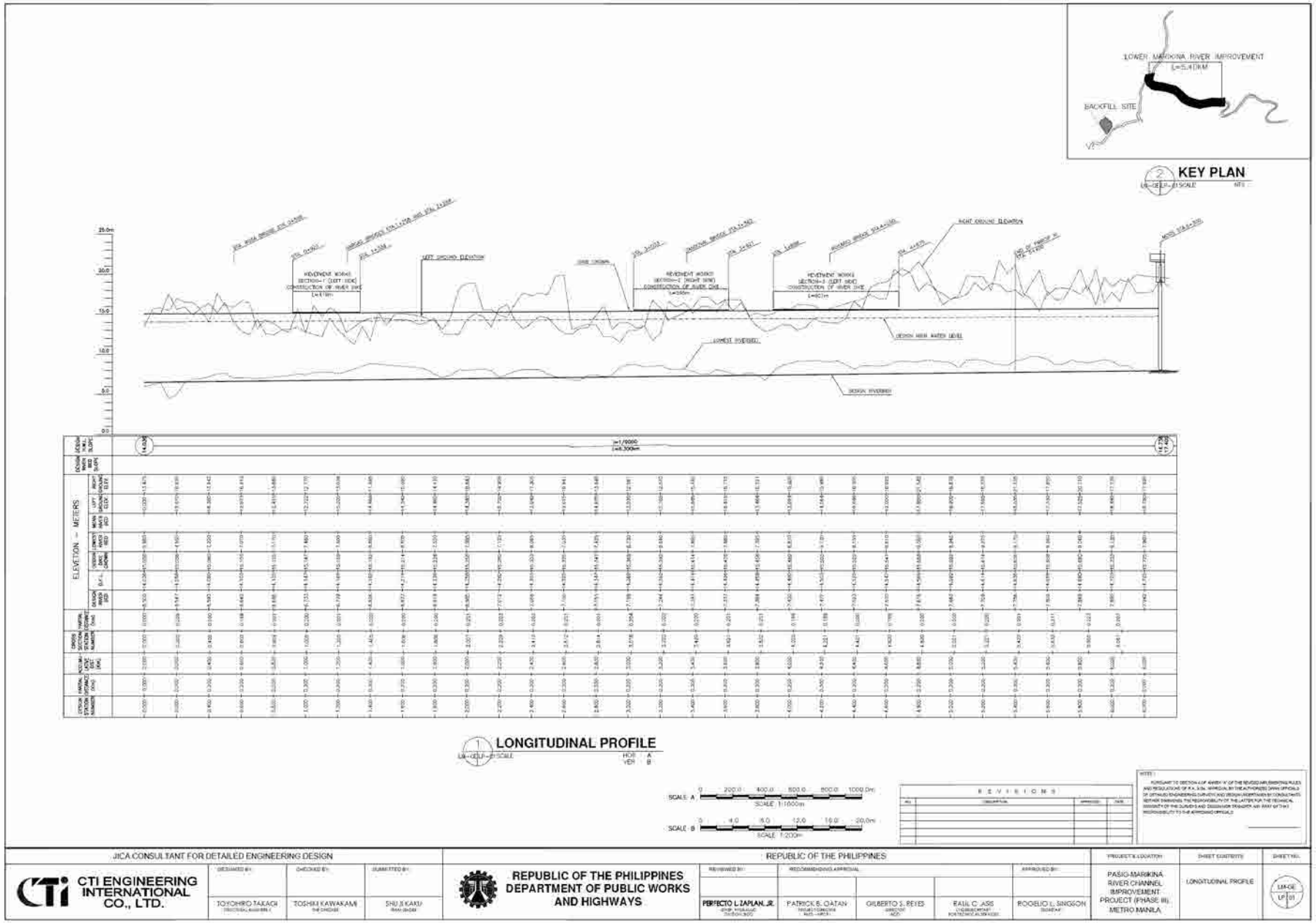


Fig 4.19

図 4.2.3 マリキナ川下流の縦断図

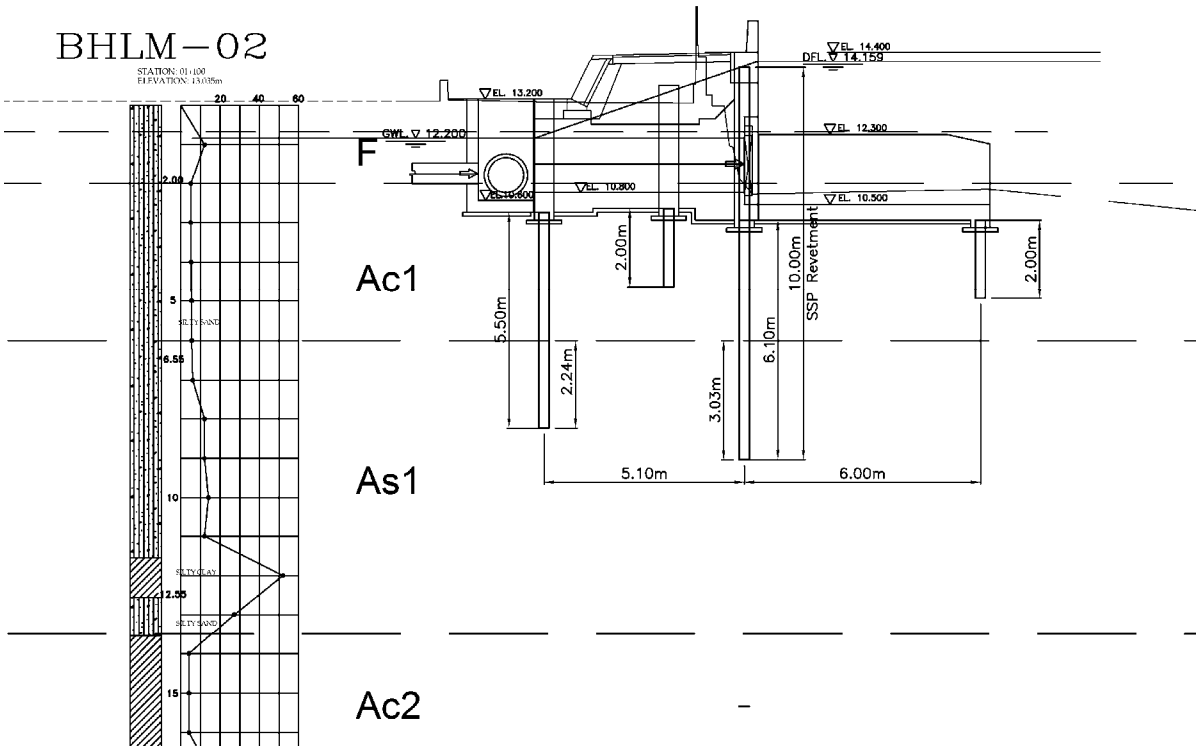


図 4.2.4　遮水矢板長の検討 (1/9) (MSL-1)

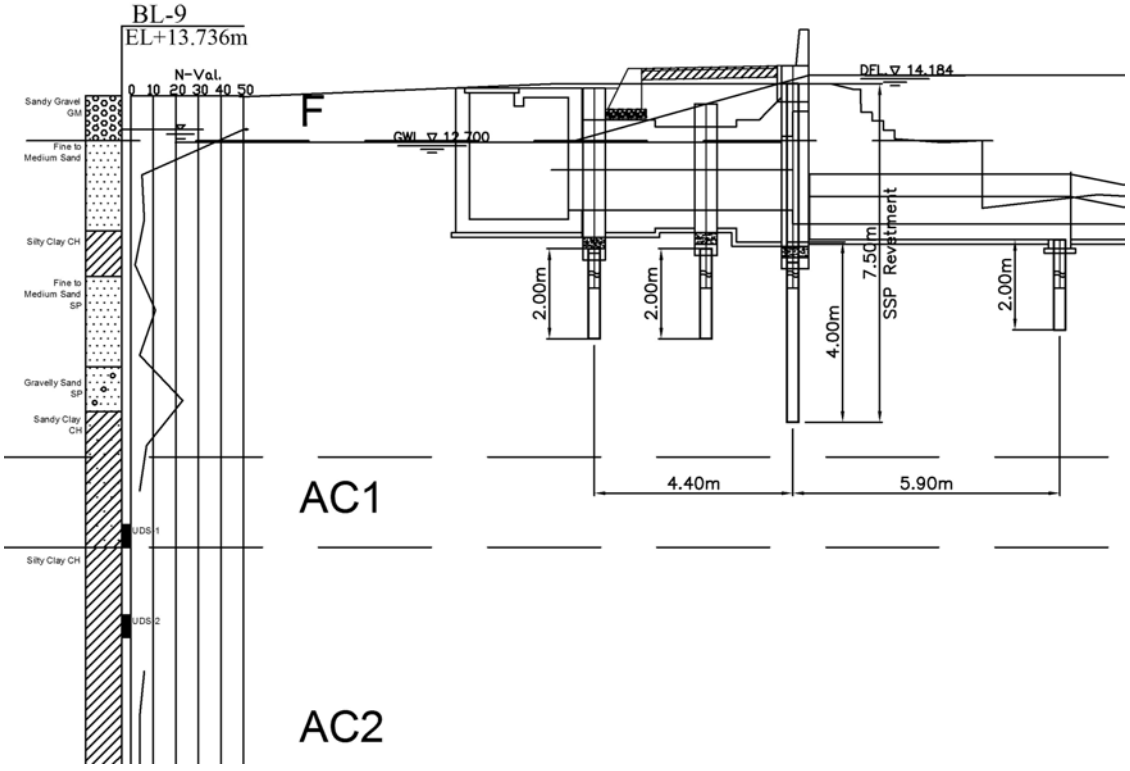


図 4.2.4　遮水矢板長の検討 (2/9) (MSL-2)

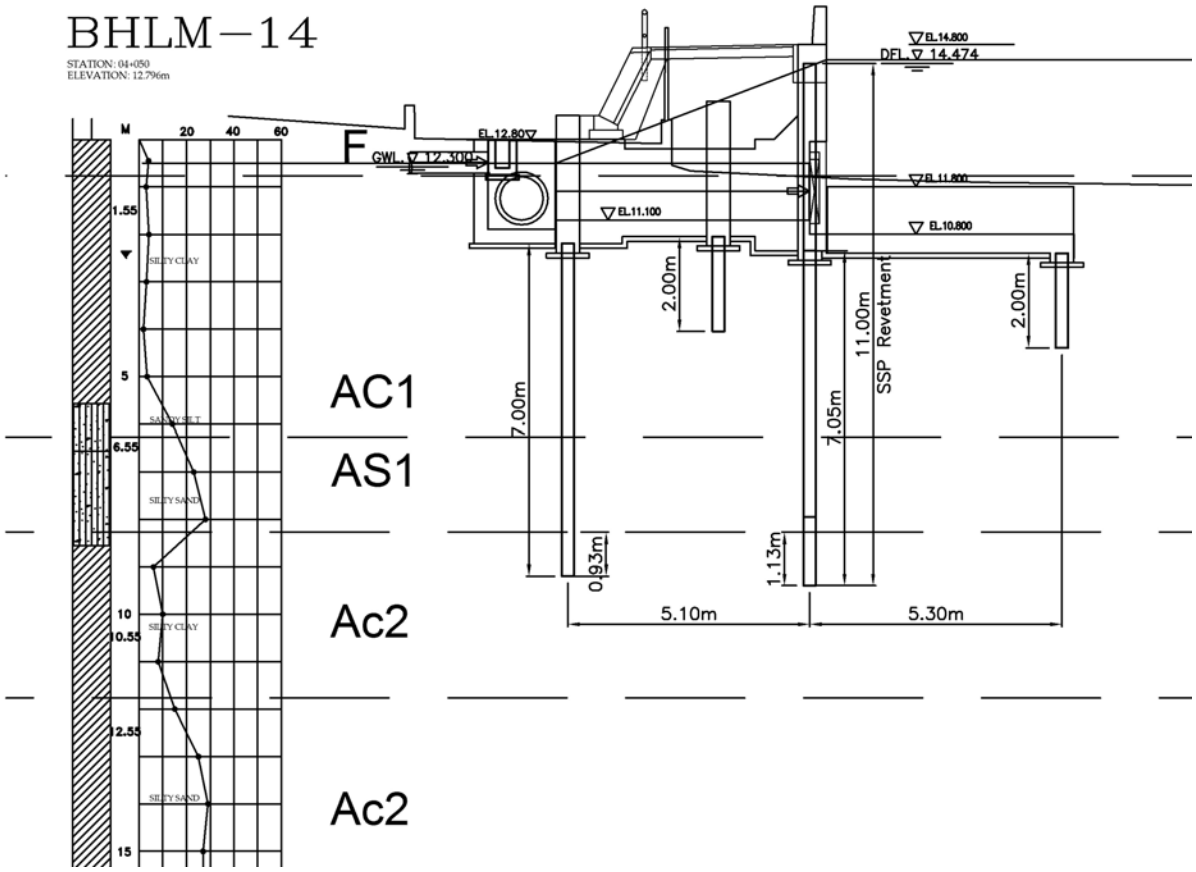


図 4.2.4　遮水矢板長の検討 (3/9) (MSL-3)

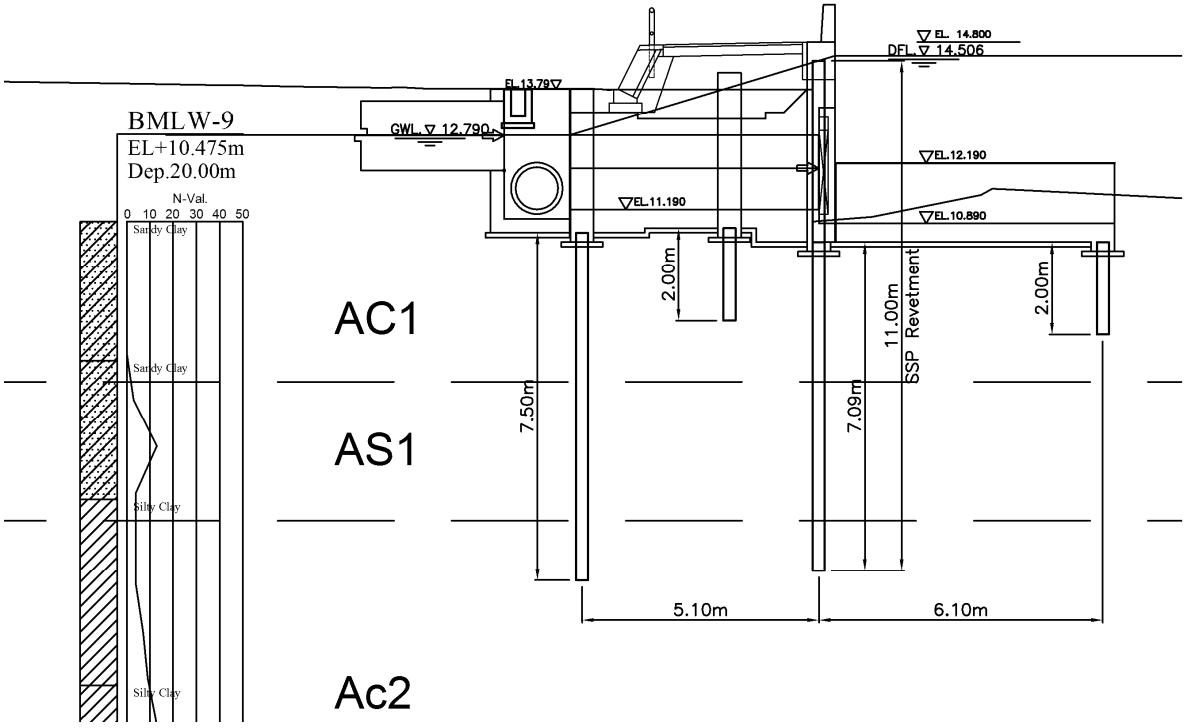


図 4.2.4　遮水矢板長の検討 (4/9) (MSL-4)

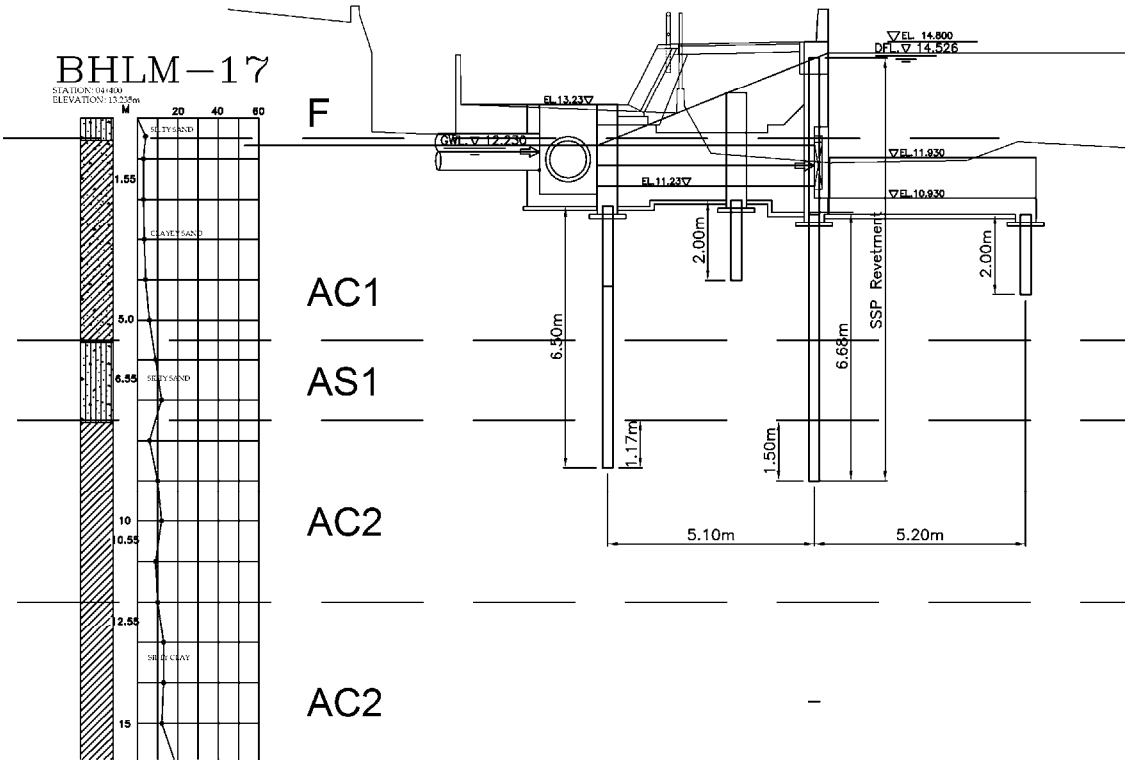


図 4.2.4　遮水矢板長の検討 (5/9) (MSL-5)

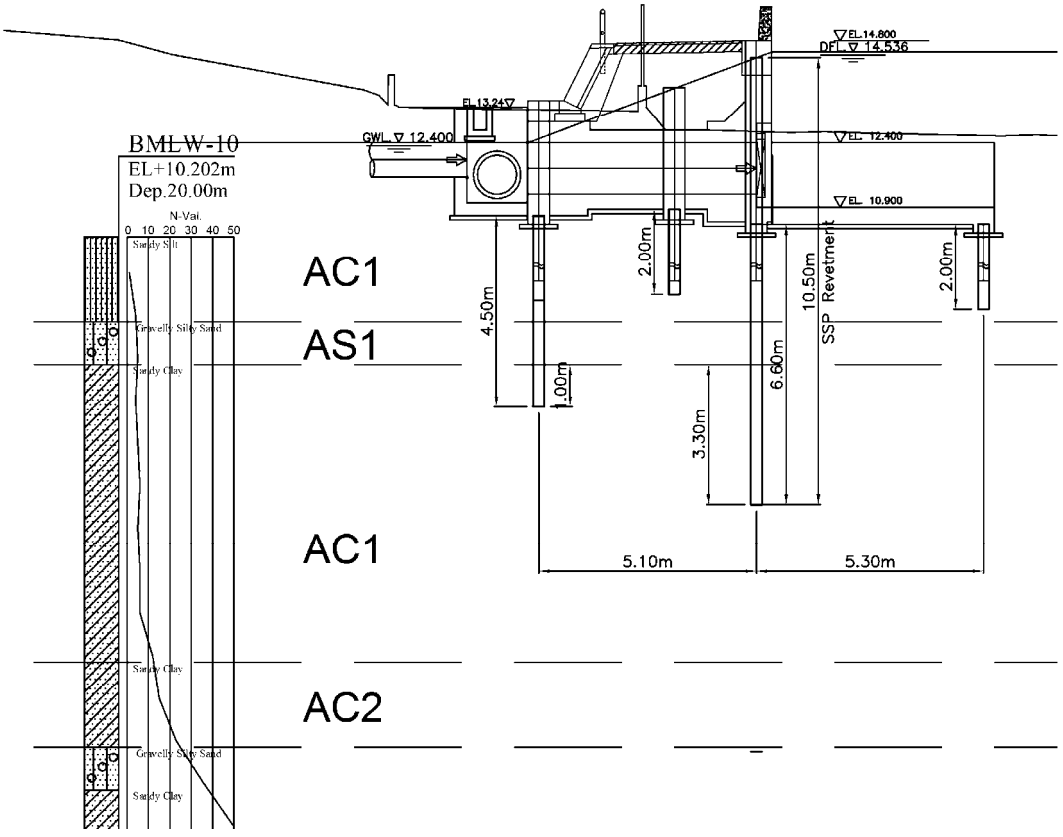


図 4.2.4　遮水矢板長の検討 (6/9) (MSL-6)

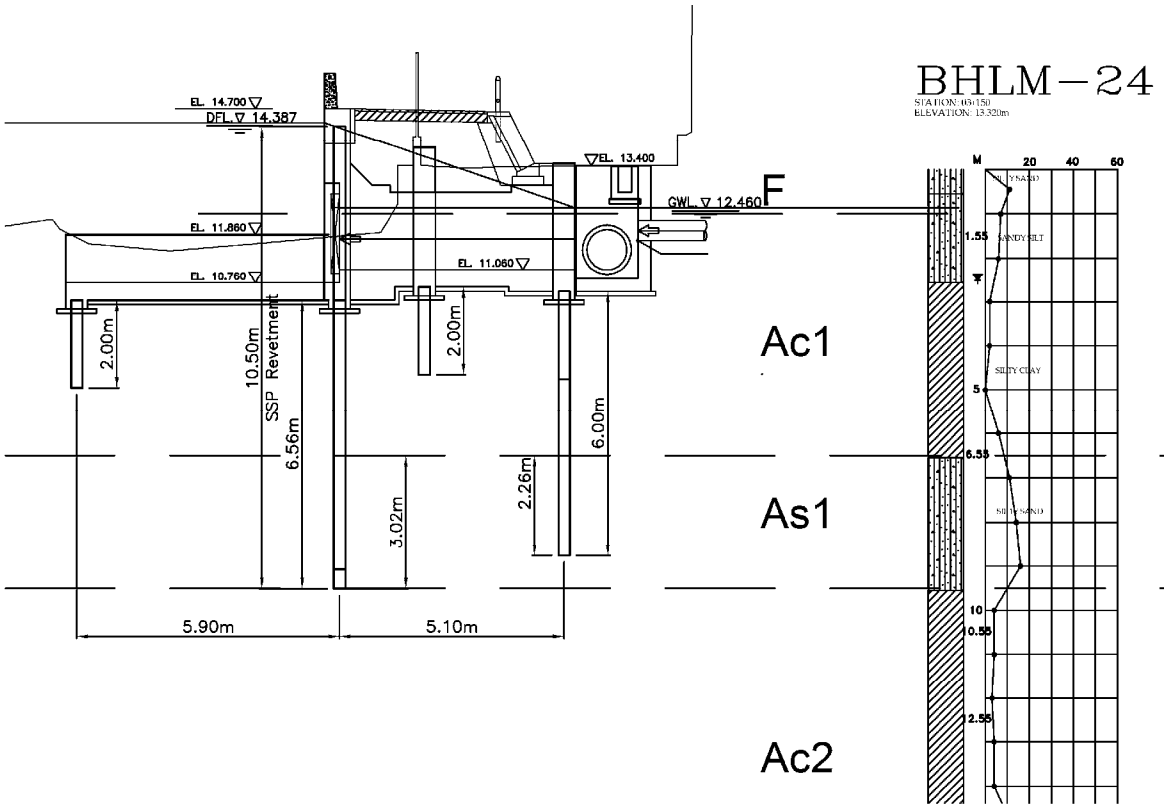


図 4.2.4　遮水矢板長の検討 (7/9) (MSR-2)

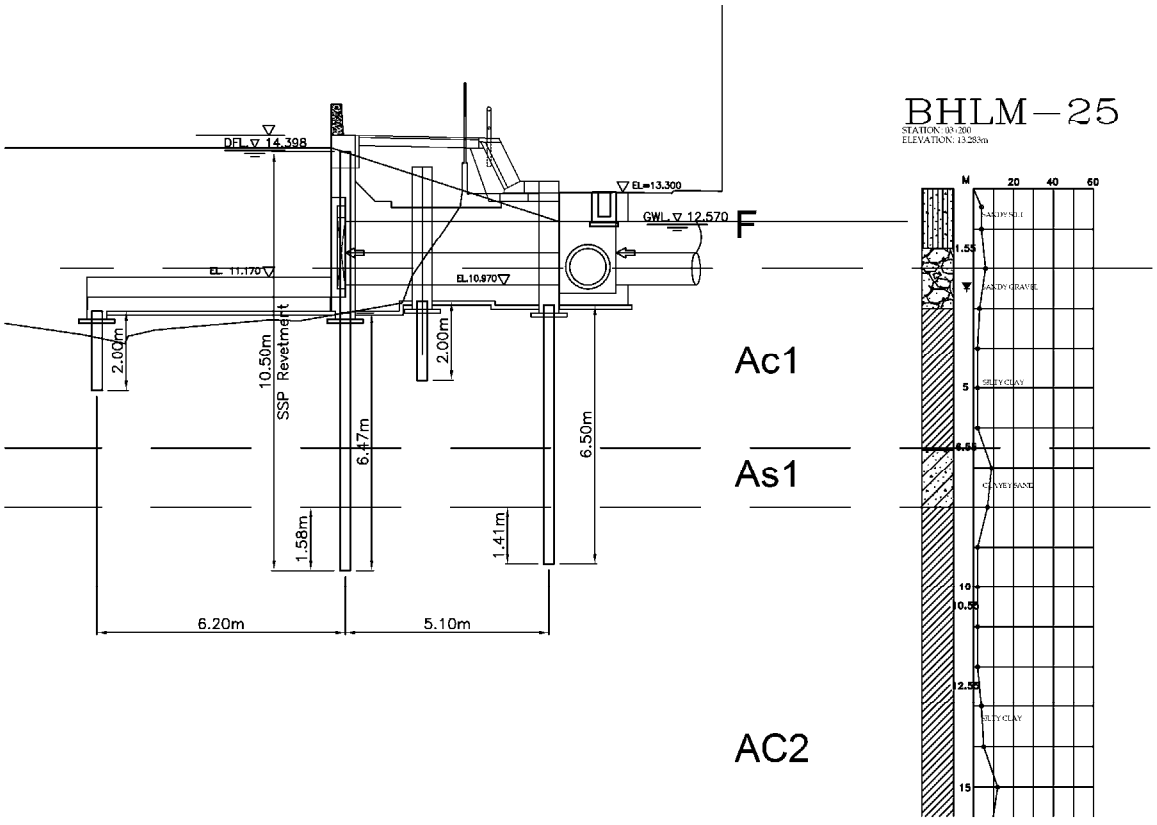


図 4.2.4　遮水矢板長の検討 (8/9) (MSR-3)

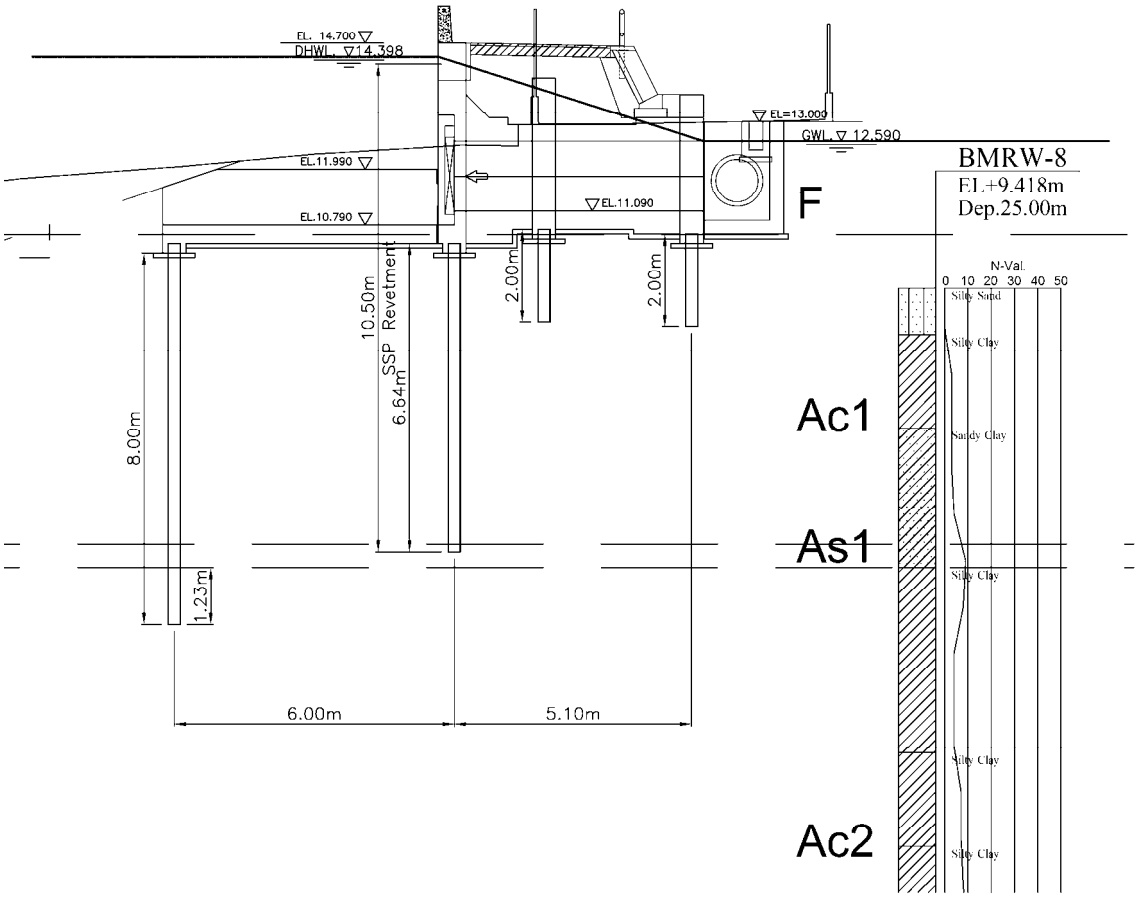


図 4.2.4　遮水矢板長の検討　(9/9)　(MSR-4)

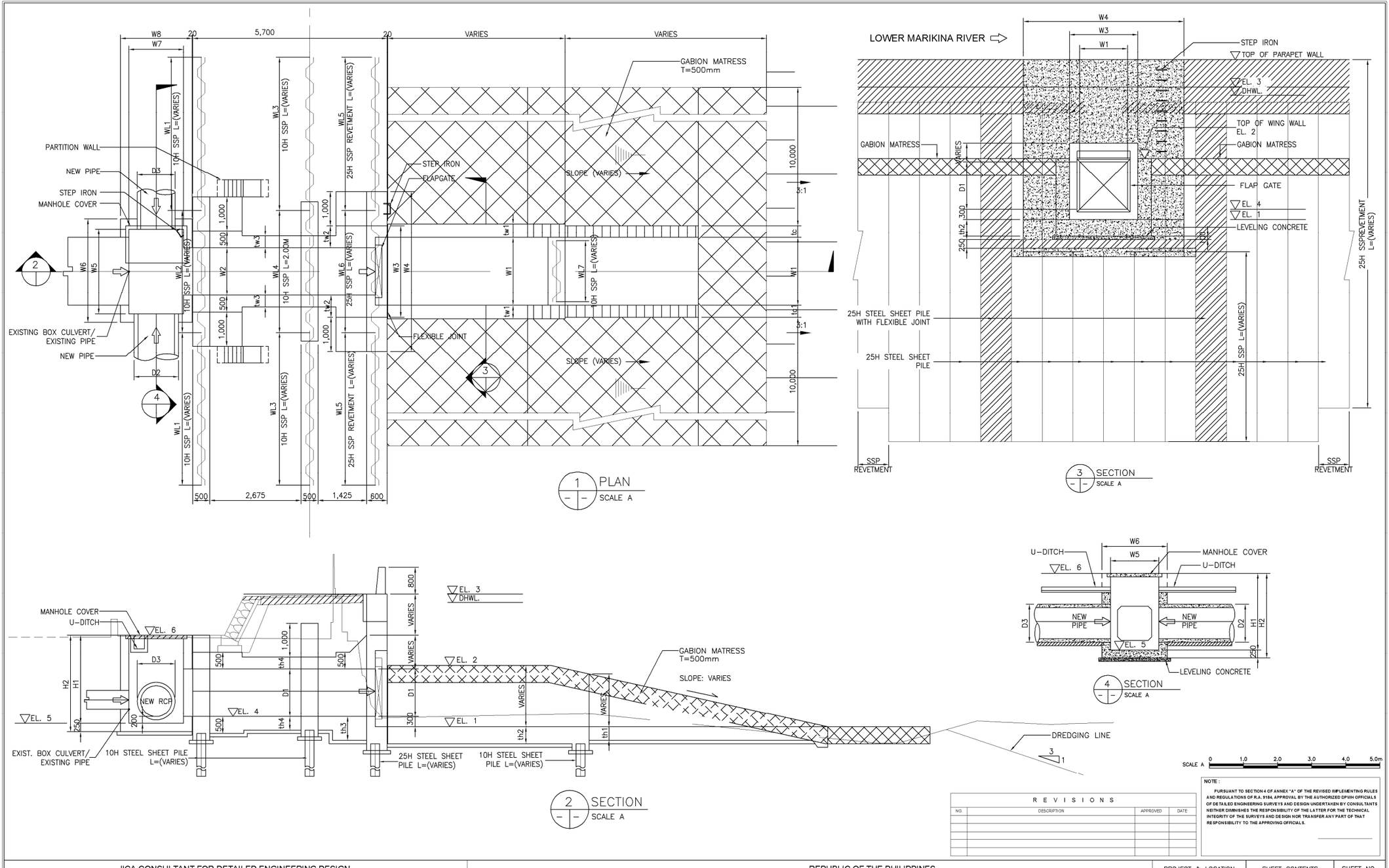

W8
W7
20
5,700
20
VARIES
VARIES
GABION MATRESS
T=500mm
PARTITION WALL
NEW PIPE
STEP IRON
MANHOLE COVER
EXISTING BOX CULVERT/
EXISTING PIPE
NEW PIPE
STEP IRON
FLAPGATE
SLOPE (VARIES)
FLEXIBLE JOINT
SLOPE (VARIES)
10H SSP L=(VARIES)
10H SSP L=2.0DM
25H SSP REVETMENT L=(VARIES)
25H SSP L=(VARIES)
10H SSP L=(VARIES)
500
2,675
500
1,425
600
10,000
10,000
3:1
3:1
1 PLAN SCALE A
LOWER MARIKINA RIVER
W4
W3
W1
STEP IRON
TOP OF PARAPET WALL
EL. 3
DHWL.
TOP OF WING WALL
EL. 2
GABION MATRESS
GABION MATRESS
FLAP GATE
EL. 4
EL. 1
LEVELING CONCRETE
25H STEEL SHEET PILE
WITH FLEXIBLE JOINT
25H STEEL SHEET
PILE
25H SSP L=(VARIES)
25H SSPREVETMENT
L=(VARIES)
SSP
REVETMENT
SSP
REVETMENT
3 SECTION SCALE A
MANHOLE COVER
U-DITCH
EL. 6
D3
NEW RCB
EL. 5
EXIST. BOX CULVERT/
EXISTING PIPE
10H STEEL SHEET PILE
L=(VARIES)
EL. 3
DHWL.
EL. 2
EL. 4
EL. 1
GABION MATRESS
T=500mm
SLOPE: VARIES
25H STEEL SHEET
PILE L=(VARIES)
10H STEEL SHEET
PILE L=(VARIES)
DREDGING LINE
3
1
2 SECTION SCALE A
U-DITCH
EL. 6
W6
W5
MANHOLE COVER
U-DITCH
NEW
PIPE
NEW
PIPE
EL. 5
LEVELING CONCRETE
4 SECTION SCALE A
SCALE A 0 1.0 2.0 3.0 4.0 5.0m
NOTE :
PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATIONS OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.
REVISIONS
NO. DESCRIPTION APPROVED DATE
JICA CONSULTANT FOR DETAILED ENGINEERING DESIGN
CTI ENGINEERING INTERNATIONAL CO., LTD.
DESIGNED BY: CHECKED BY: SUBMITTED BY:
REPUBLIC OF THE PHILIPPINES
REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REVIEWED BY: RECOMMENDING APPROVAL : APPROVED BY:
PROJECT & LOCATION
PASIG-MARIKINA RIVER CHANNEL IMPROVEMENT PROJECT (PHASE III), METRO MANILA
SHEET CONTENTS
GENERAL LAYOUT PLAN AND SECTION OF SLUICEWAY
SHEET NO.

図 4.2.5　樋門一般図

図 5.2.1　試料採取位置

Fg 5.1

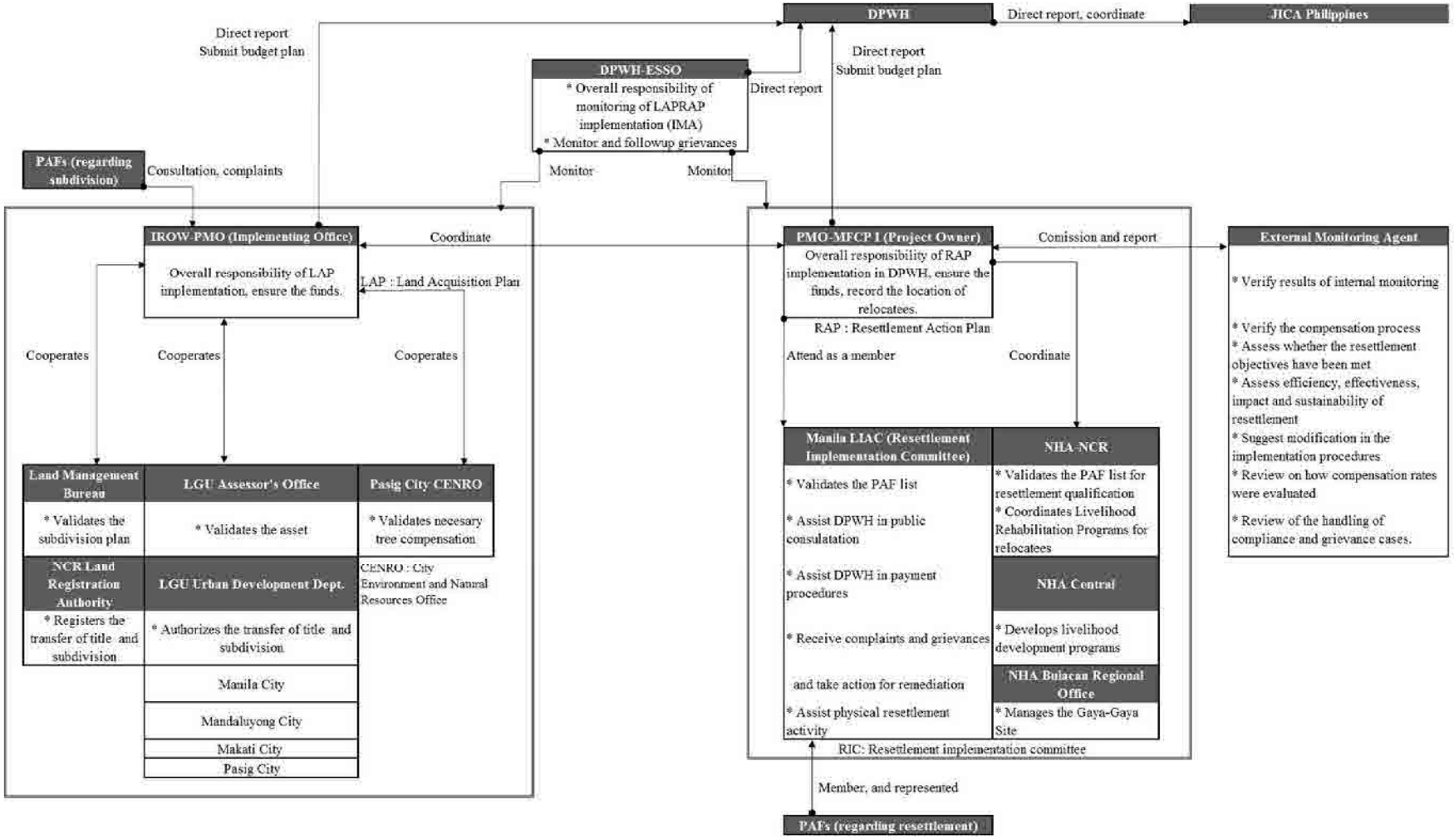


図 5.5.1　用地買収及び住民移転の実施に係る組織体制

Fg 5.2

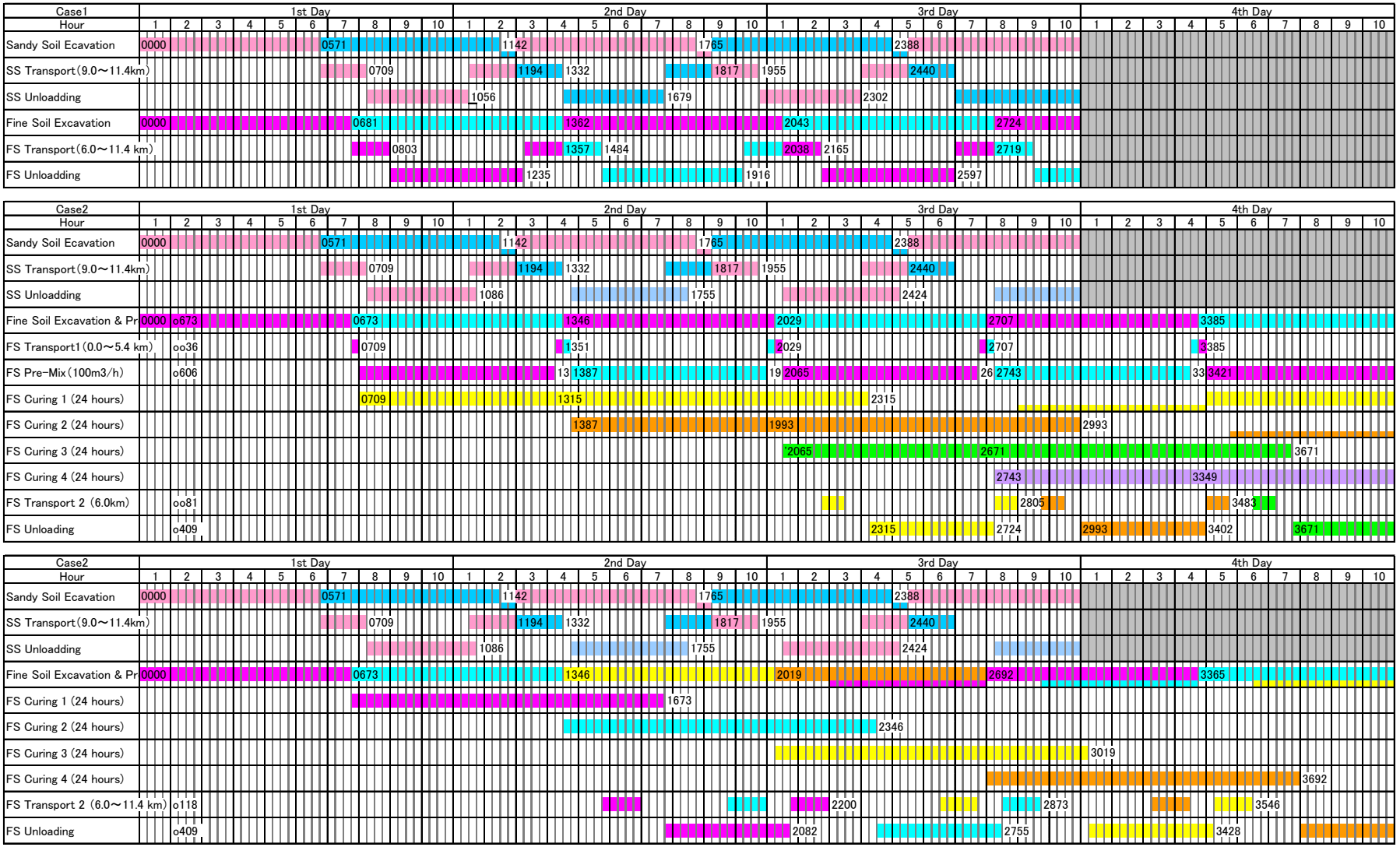


図 6.4.1 台船スケジュール例

Fg 6.1

Fg 6.2

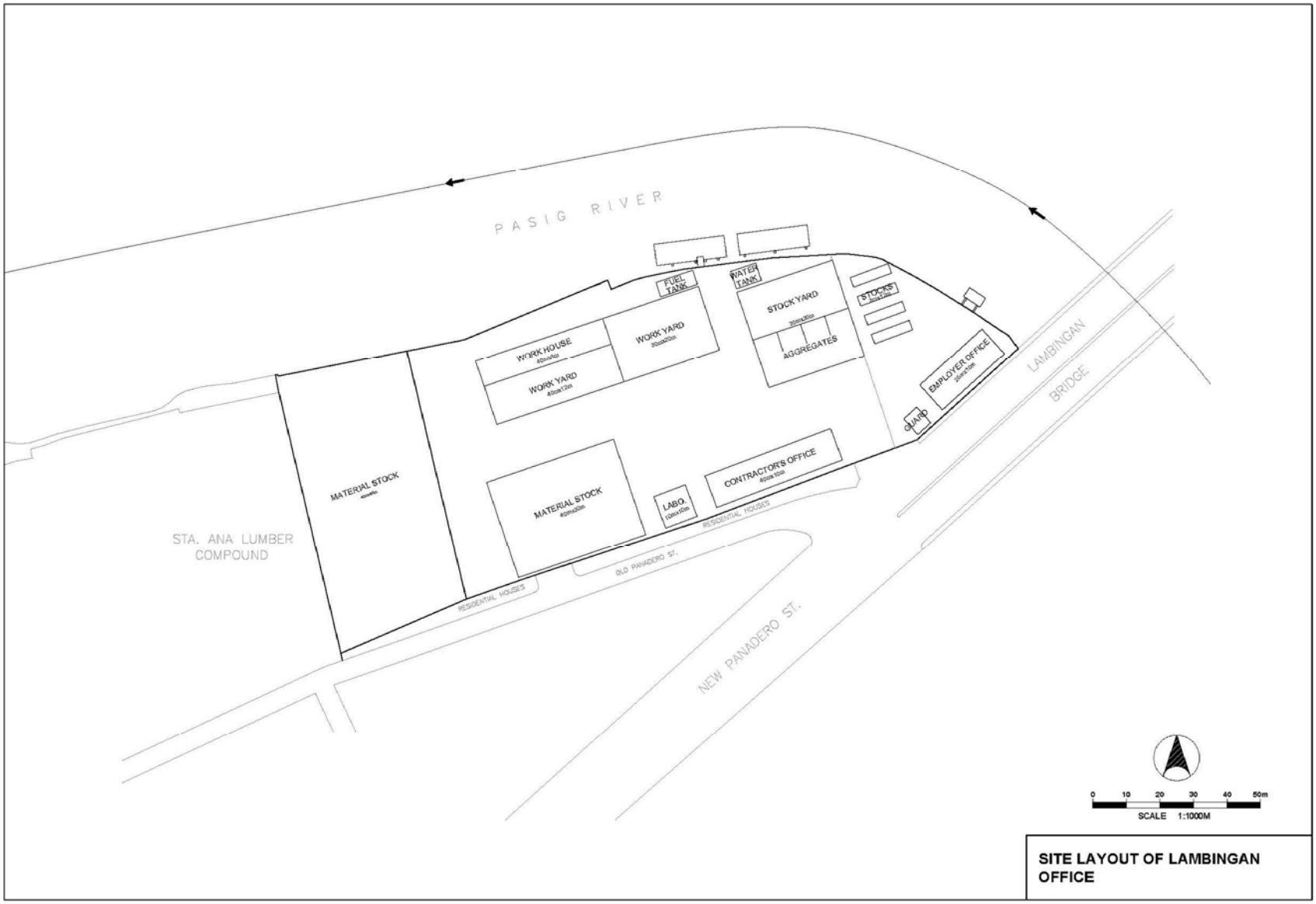


図 6.4.2 施工ヤード（ランビンガン）

Fg 6.3

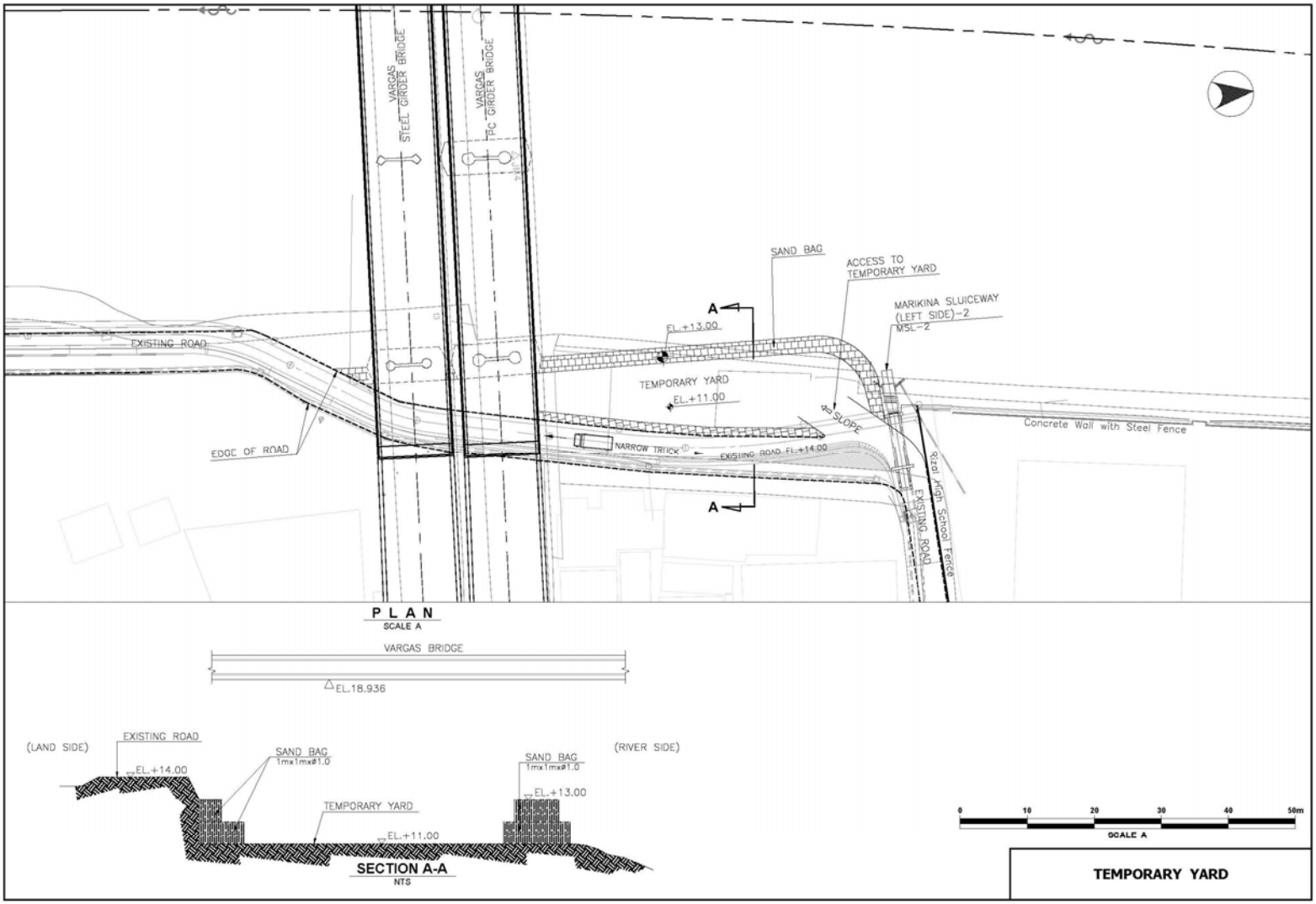


図 6.4.3　施工ヤード（マリキナ川下流　西）

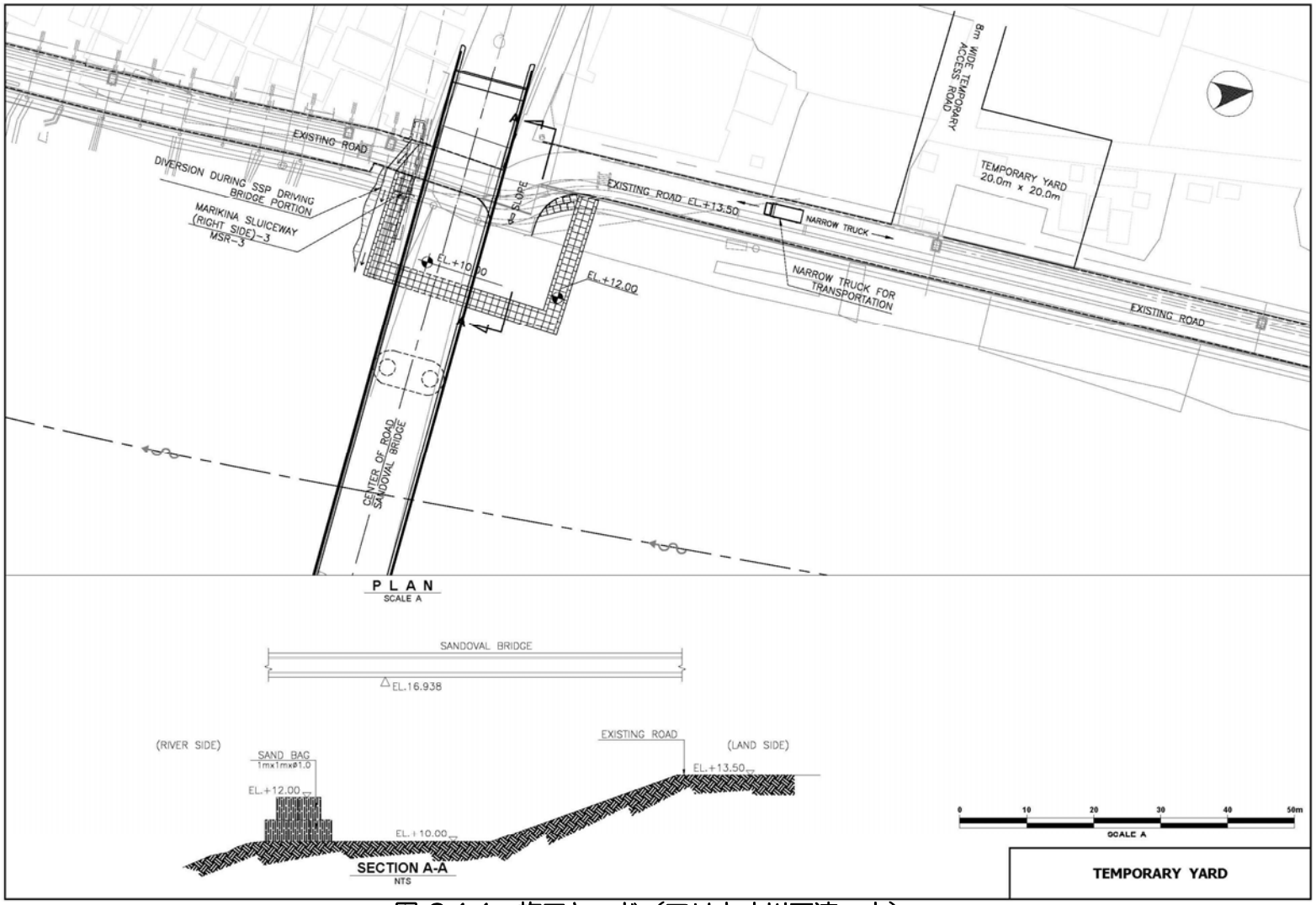


図 6.4.4　施工ヤード（マリキナ川下流　中）

Fg 6.4

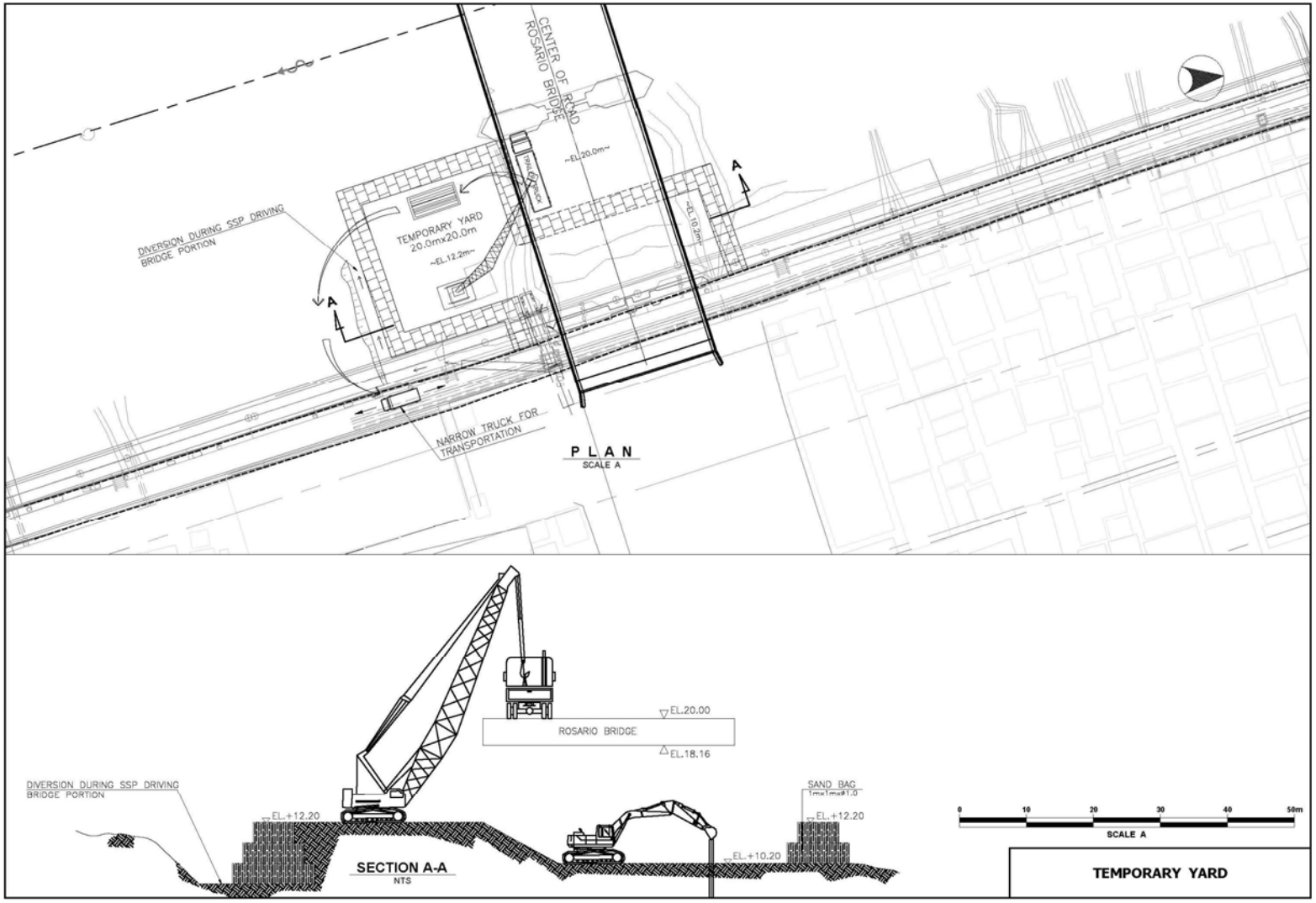
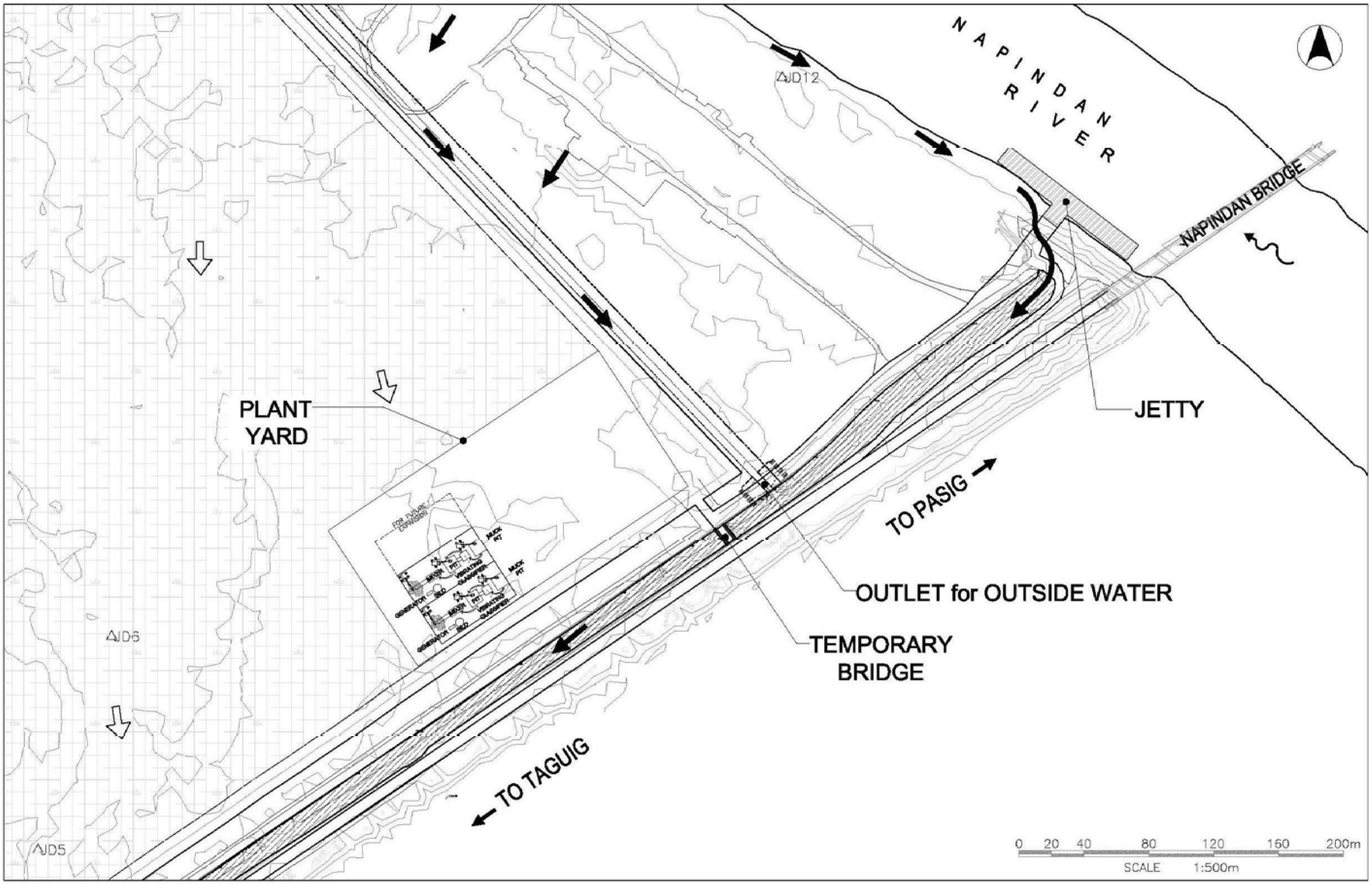


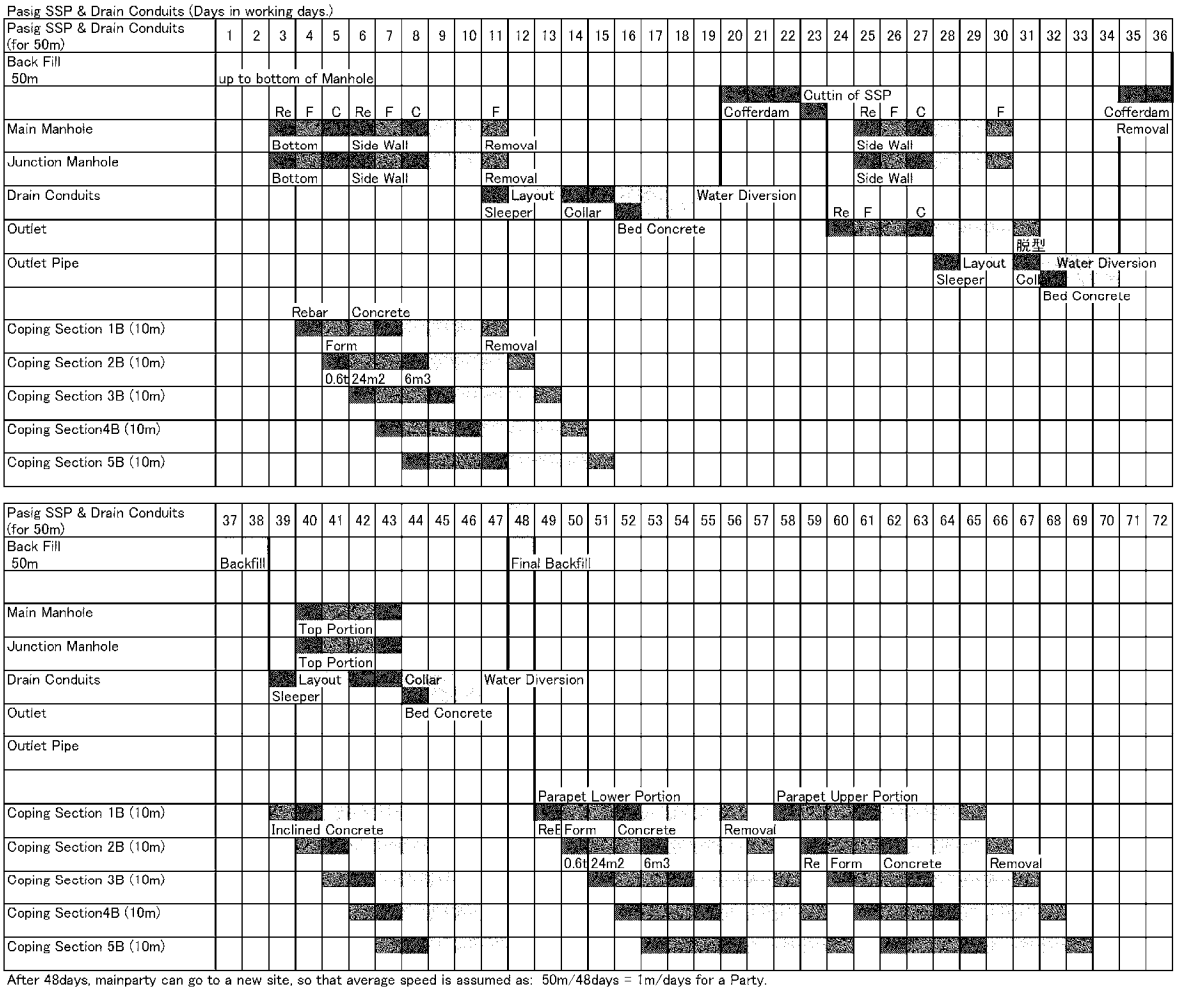
図 6.4.5　施工ヤード（マリキナ川下流　東）

Fg 6.5

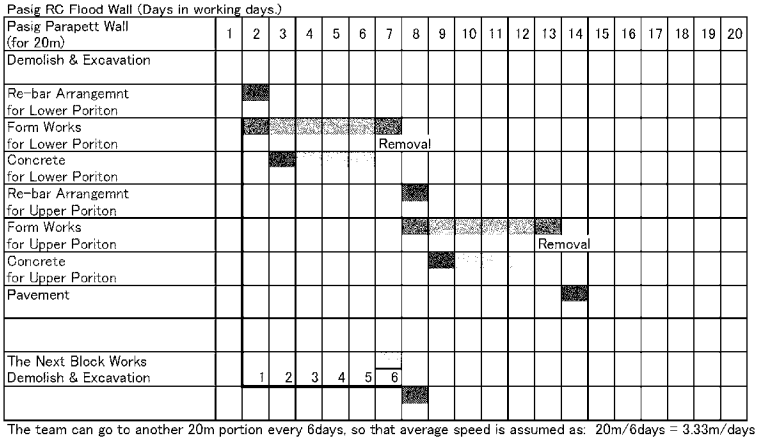


Fg 6.6

図 6.4.6　施工ヤード（土捨て場）



After 48days, mainparty can go to a new site, so that average speed is assumed as: 50m/48days = 1m/days for a Party.



The team can go to another 20m portion every 6days, so that average speed is assumed as: 20m/6days = 3.33m/days for a Party

図 6.5.1　詳細施工工程（パッシグ川）

Marikina Sluiceway (Days in working days.)

Sluiceway (for 1 unit)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Embankment Removal 10L*15B*5D=750c.m.																														
Install SSP L=2.to6.0m, Total 40m																														
Foundation Prepareation 130ms.m.																														
Re-Bar for Bottom Slab 2.5t																														
Concreting for Bottom Slab 25mc.m.																														
Scafold 2mH*20s.m.																														
Re-Bar for Side Wall 2.4t																														
Form for Side Wall 60s.m.=30*2*2																					Outside Removal						Inside Removal			
Concreting for Side Wall 24m3=30*2*0.4																														
Re-Bar for Top Slab 1.4t																														
Form for Top Slab 20s.m.=10*2																											Removal			
Concreting for Top Slab 14c.m.=10*2.8*0.5																														
Micselaneous Re-Bar																														
Micselaneous Form																														
Micselaneous Concreting																														
Backfill 650c.m.																														

Marikina Block Work for Embankment (Days in working days.)

Marikina Block Work (for20m*0.9/3person)	1	2	3	4	5	6	7	8	9
Form 20*0.9*2=28s.m.									
Concreting 20*0.9*0.1=1.8c.m.									
Gravel Backh¥fill 20*0.9*0.4=7.2c.m.									
Block Prefabrication 198pieces			Form		Removal				
Block Prefabrication 198pieces				Concrete					
Block Prefabrication 198個									
Concrete Backfill									

Average speed is assumed as: 60*0.9m2/9person/9day

図 6.5.2 詳細施工工程（マリキナ川下流）