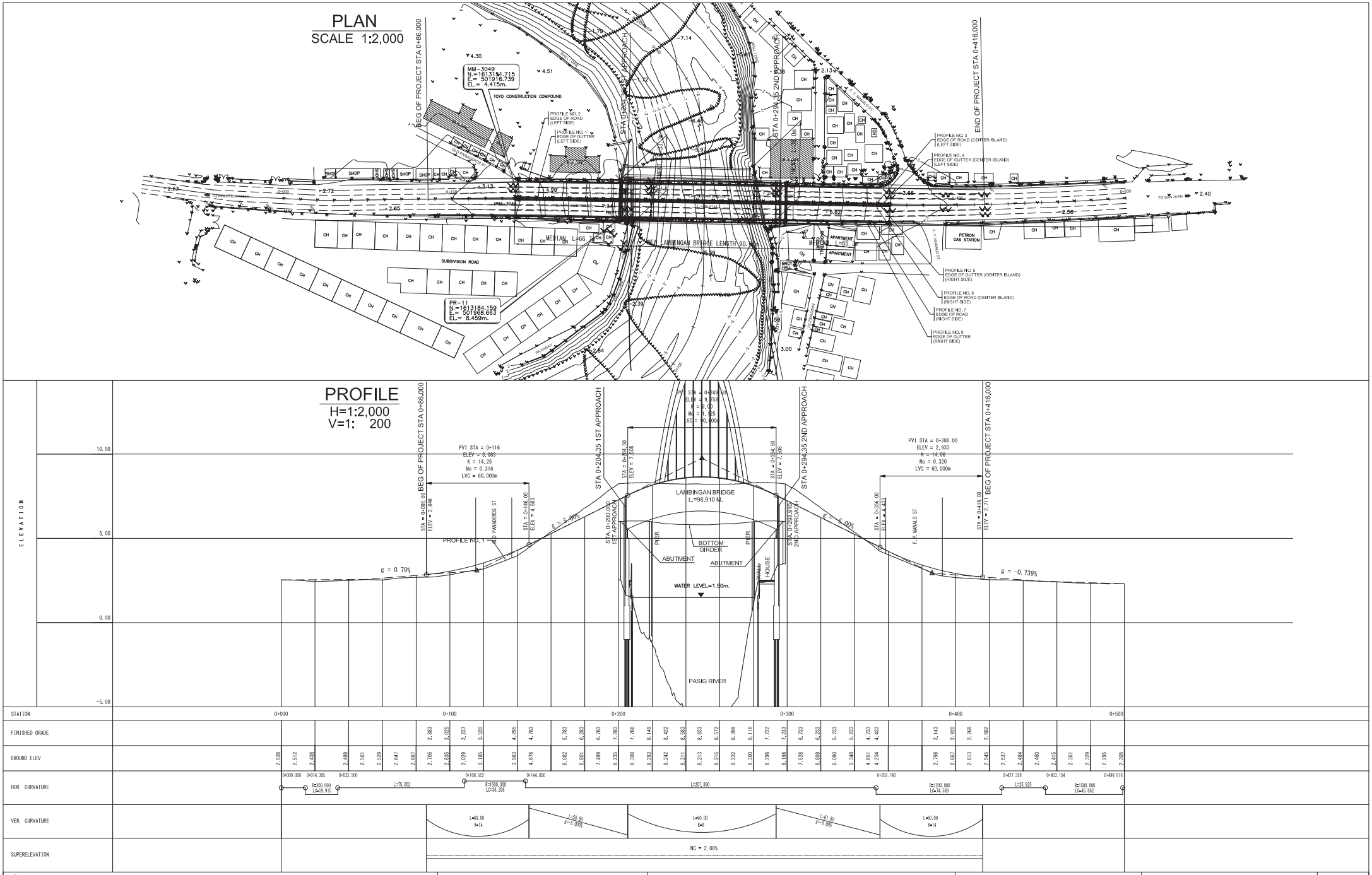
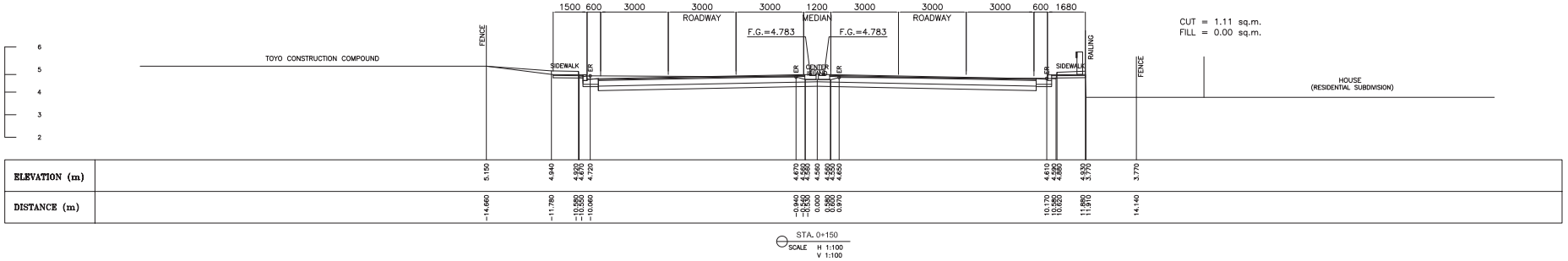
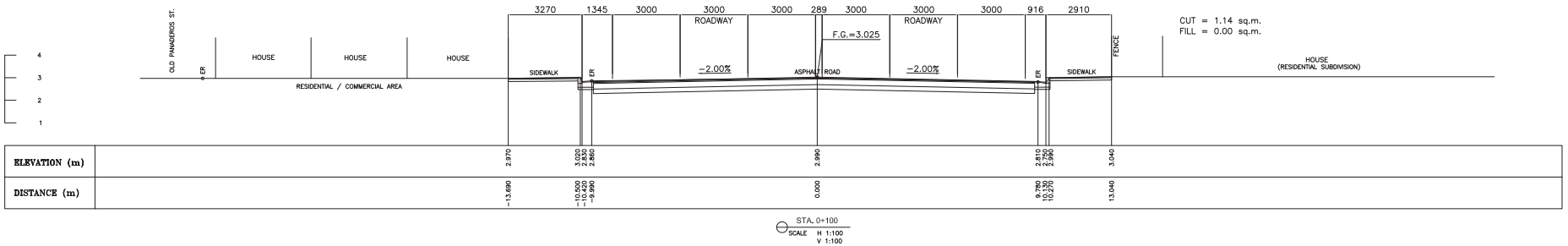


Clients:	Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitigating Measures for the Large Scale Earthquakes in the Republic of the Philippines	LAMBINGAN BRIDGE	PLAN AND PROFILE STA. 0+086.00 TO STA. 0+416.00	3-A1

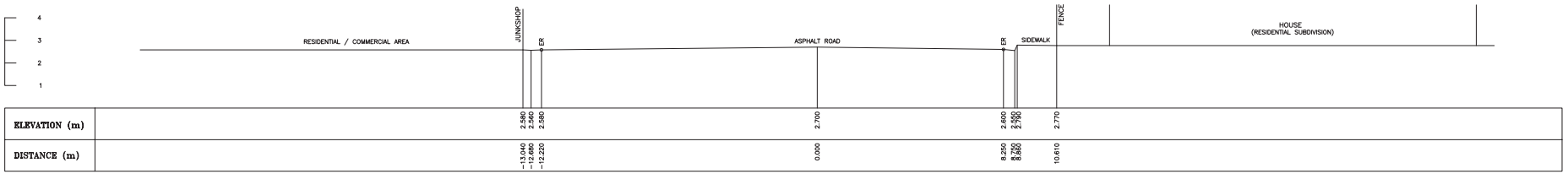
CROSS SECTION(1)



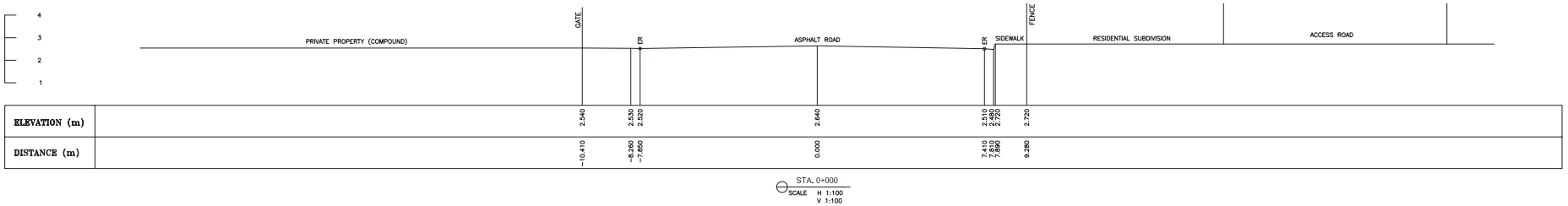
STA. 0+150
SCALE H 1:100 V 1:100



STA. 0+100
SCALE H 1:100 V 1:100



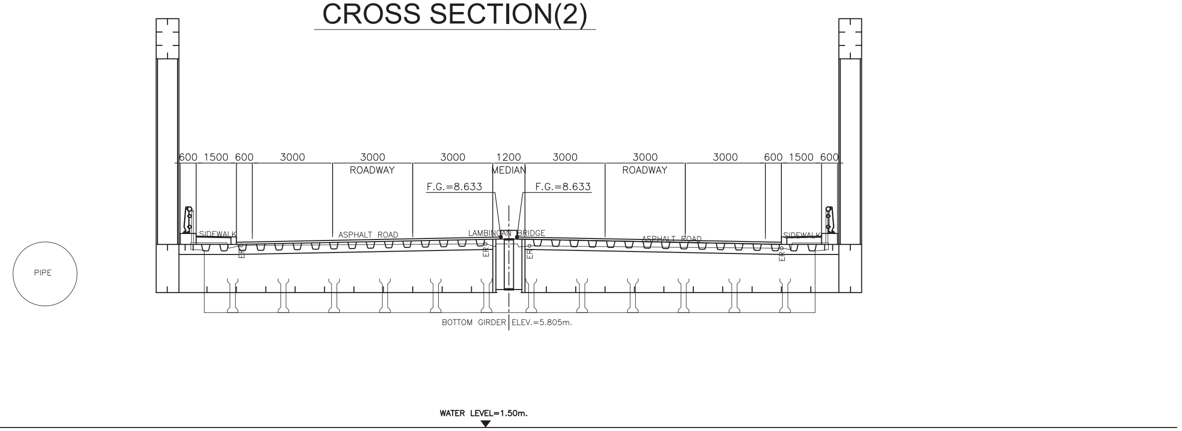
STA. 0+050
SCALE H 1:100 V 1:100



STA. 0+000
SCALE H 1:100 V 1:100

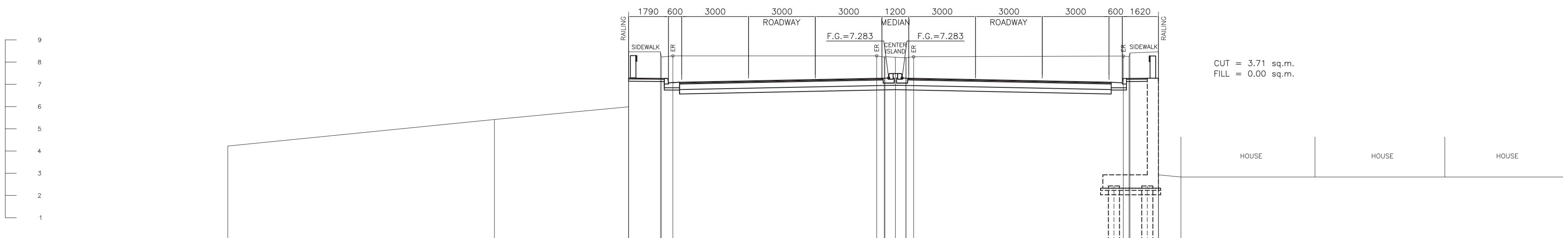
Clients:	Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitagating Measures for the Large Scale Earthquakes in the Republic of the Philippines	LAMBINGAN BRIDGE	ROAD CROSS SECTIONS(1) STA. 0+000 TO STA. 0+150	3-A2

CROSS SECTION(2)



ELEVATION (m)	-7.690	-7.750	-7.810	-7.740	-7.440	-7.100	-7.110	-7.120	-6.900	-6.530	-6.310	-6.120
DISTANCE (m)	-30.000	-25.000	-20.360	-12.880	-7.590	-3.450	0.000	2.650	8.230	16.750	25.000	30.000

0+250.00
SCALE H 1:100
V 1:100

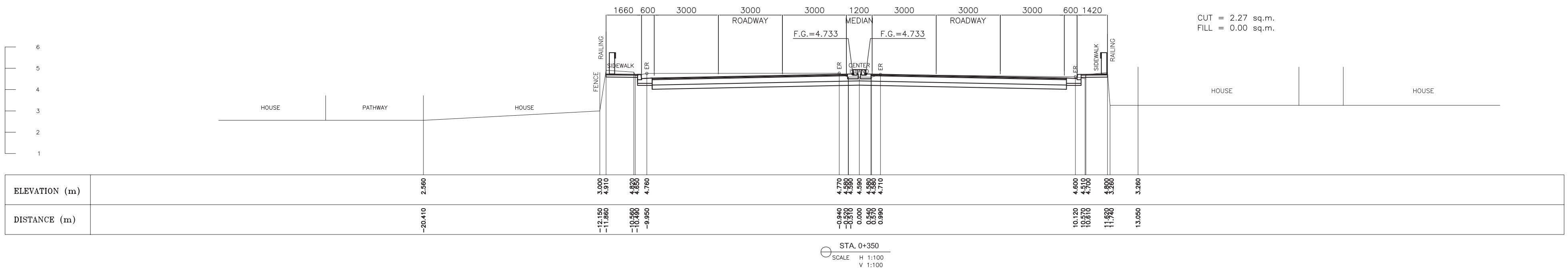


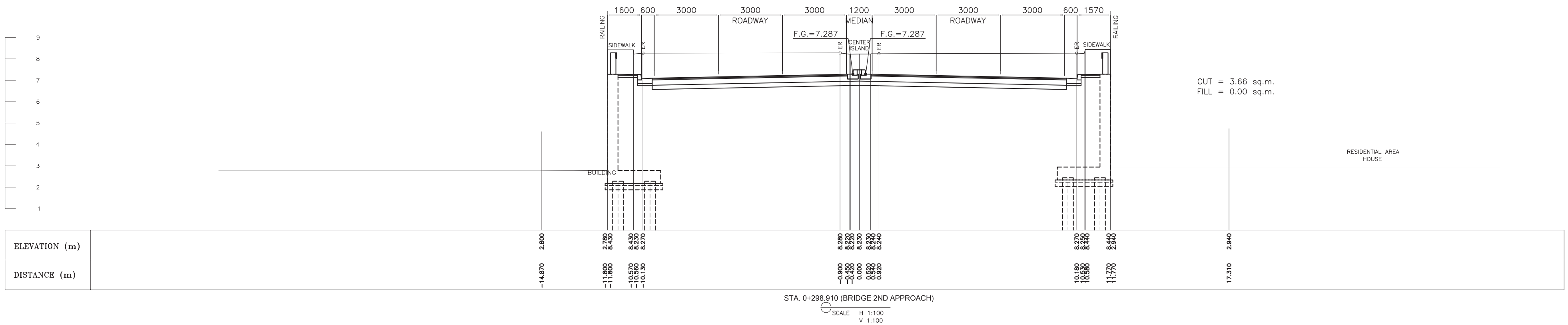
ELEVATION (m)	4.230	5.420	5.990	8.460	8.460	8.230	8.280	8.280	8.230	8.240	8.220	8.190	8.200	8.240	8.270	8.250	8.410	8.460	2.930	2.830
DISTANCE (m)	-30.000	-18.020	-11.990	-11.990	-10.560	-10.510	-10.000	-0.840	-0.500	-0.470	0.000	0.470	0.480	0.820	10.240	10.500	10.540	11.820	11.820	12.830

STA. 0+200 (BRIDGE 1ST APPROACH)
SCALE H 1:100

Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitagating Measures for the Large Scale Earthquakes in the Republic of the Philippines	LAMBINGAN BRIDGE	ROAD CROSS SECTIONS(2) STA. 0+200 TO STA. 0+250	3-A3

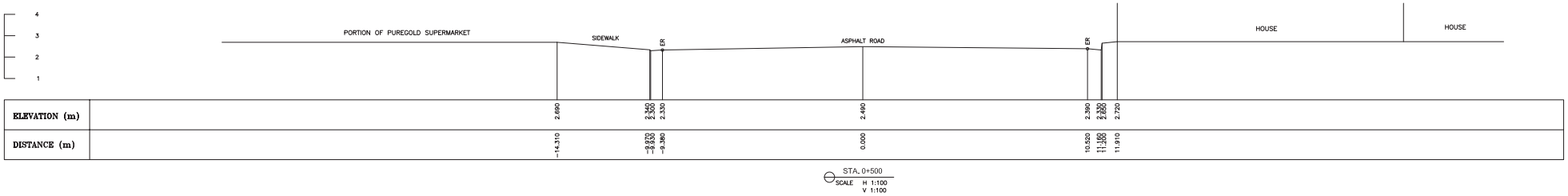
CROSS SECTION(3)



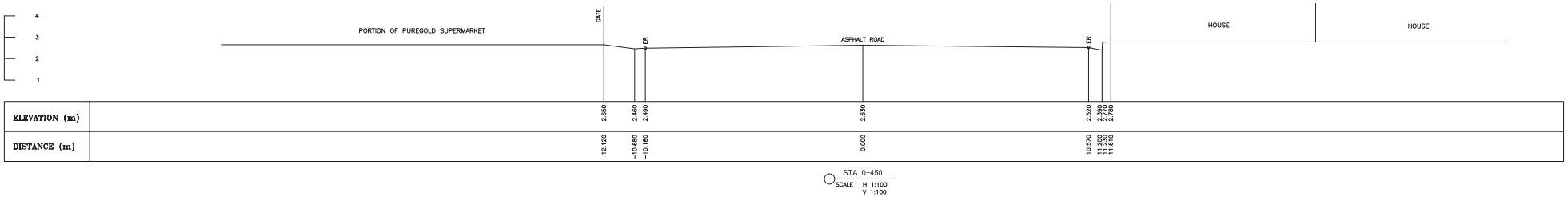


Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitagating Measures for the Large Scale Earthquakes in the Republic of the Philippines	LAMBINGAN BRIDGE	ROAD CROSS SECTIONS(3) STA. 0+298.91 TO STA. 0+350	3-A4

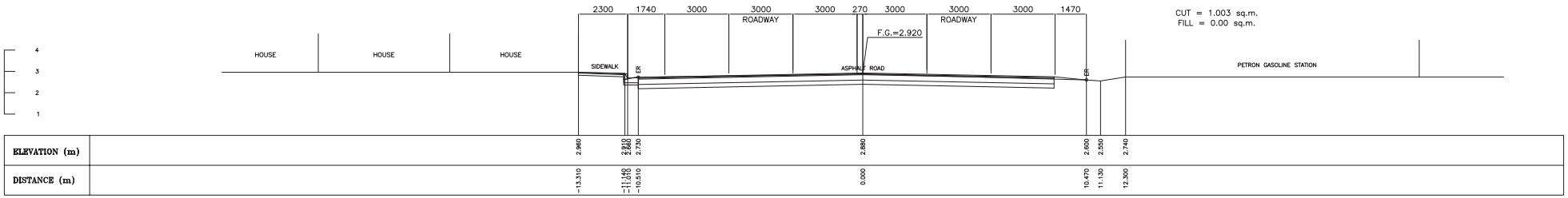
CROSS SECTION(4)



STA. 0+500
SCALE H 1:100
V 1:100

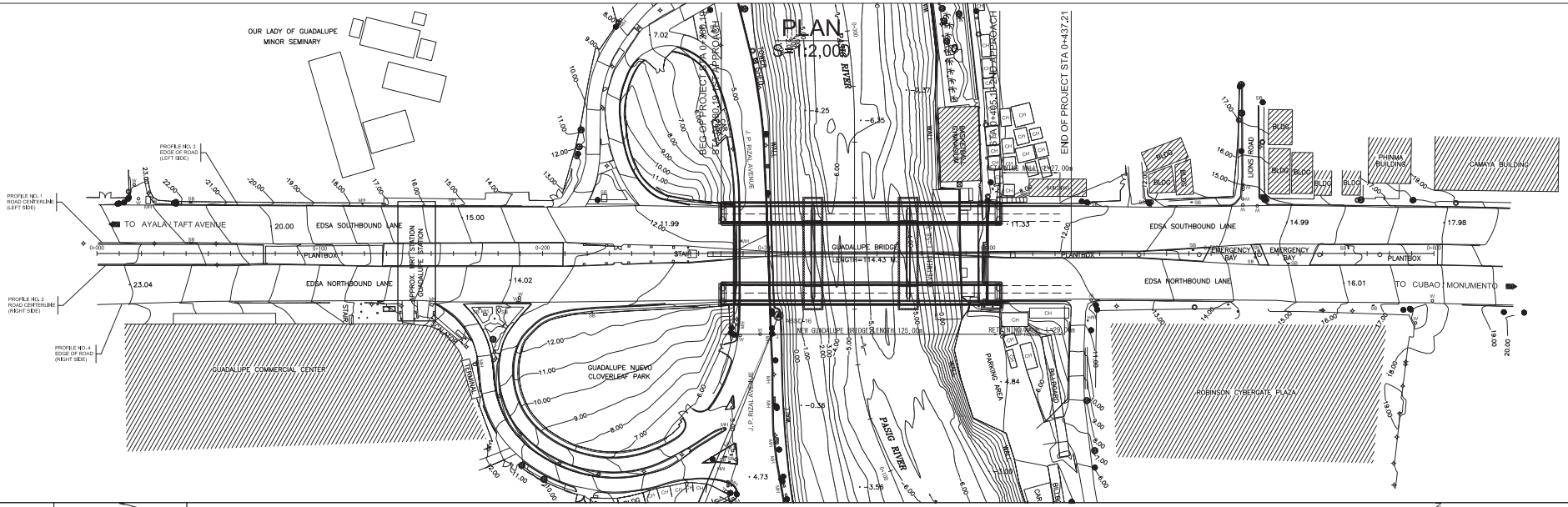


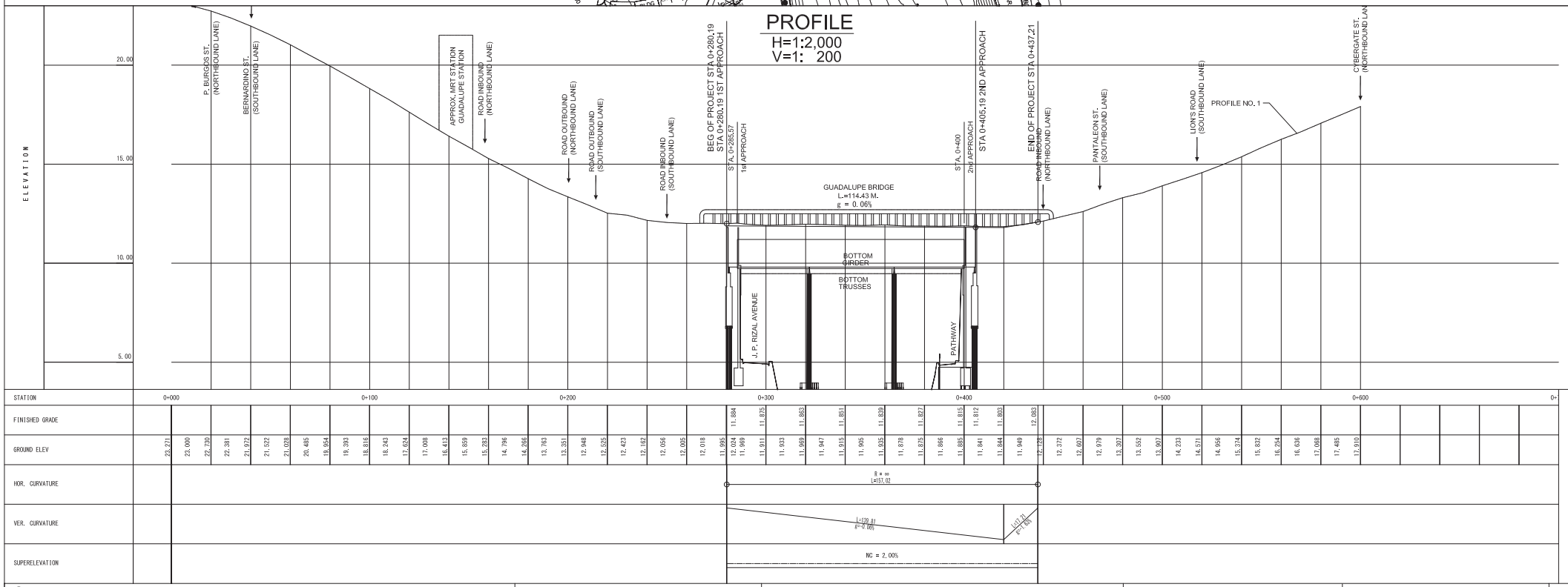
STA. 0+450
SCALE H 1:100
V 1:100



STA. 0+400
SCALE H 1:100
V 1:100

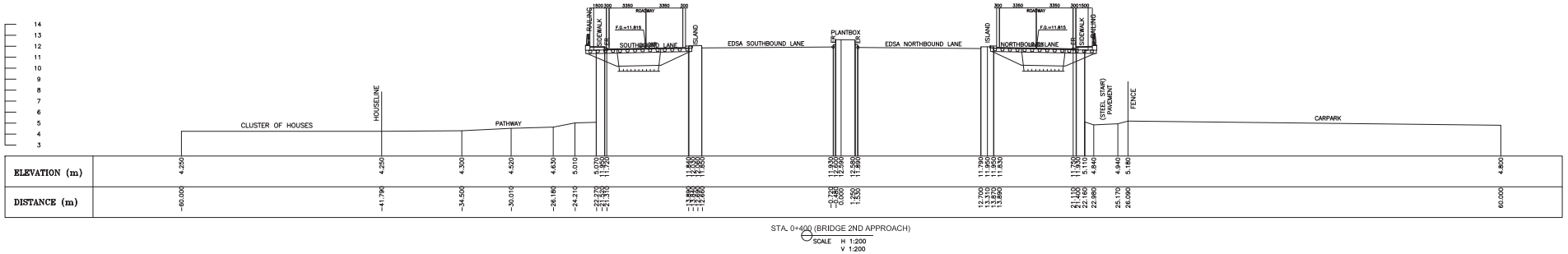
Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitagating Measures for the Large Scale Earthquakes in the Republic of the Philippines	LAMBINGAN BRIDGE	ROAD CROSS SECTIONS(4) STA. 0+400 TO STA. 0+500	3-A5





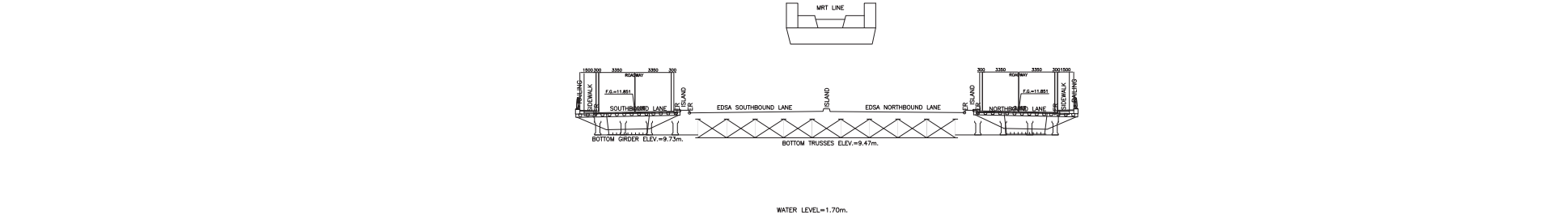
Clients:	Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitigating Measures for the Large Scale Earthquakes in the Republic of the Philippines	GUADALUPE BRIDGE	PLAN AND PROFILE STA. 0+280.19 TO STA. 0+437.21	3-B1

CROSS SECTION(1)



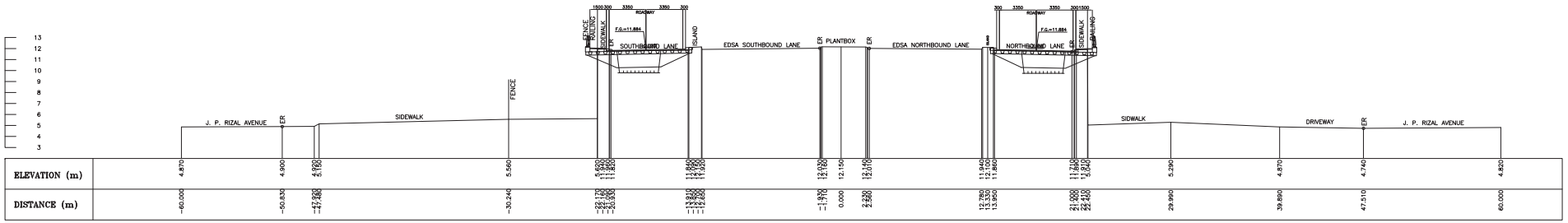
STA. 0+400 (BRIDGE 2ND APPROACH)

SCALE H 1:200
V 1:200



STA. 0+340.00

SCALE H 1:200
V 1:200

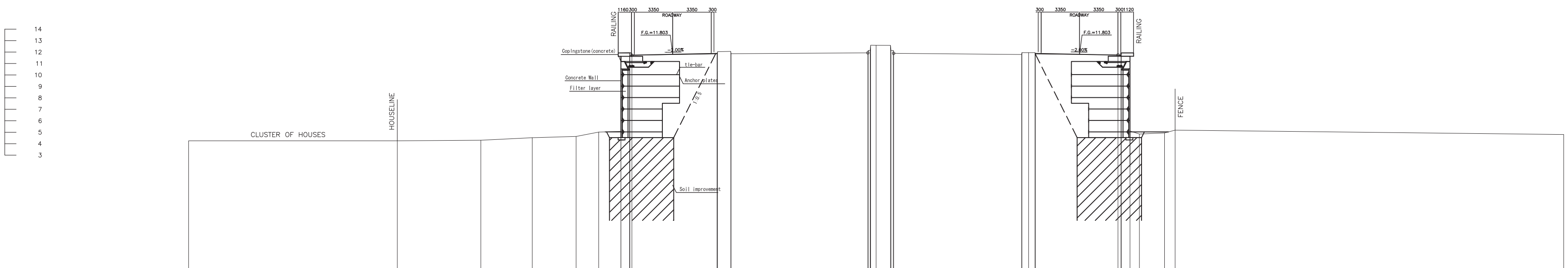


STA. 0+285.57 (BRIDGE 1ST APPROACH)

SCALE H 1:200
V 1:200

Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitagating Measures for the Large Scale Earthquakes in the Republic of the Philippines	GUADALUPE BRIDGE	ROAD CROSS SECTIONS(1) STA. 0+285.57 TO STA. 0+400	3-B2

CROSS SECTION(2)



ELEVATION (m)	4.250	4.250	4.300	4.520	4.630	5.010	5.070	11.950	11.720	11.840	12.030	12.060	11.850	11.930
DISTANCE (m)	-60.000	-41.790	-34.500	-30.010	-26.180	-24.210	-22.270	-21.520	-21.310	-13.890	-13.840	-13.690	-12.660	-0.720

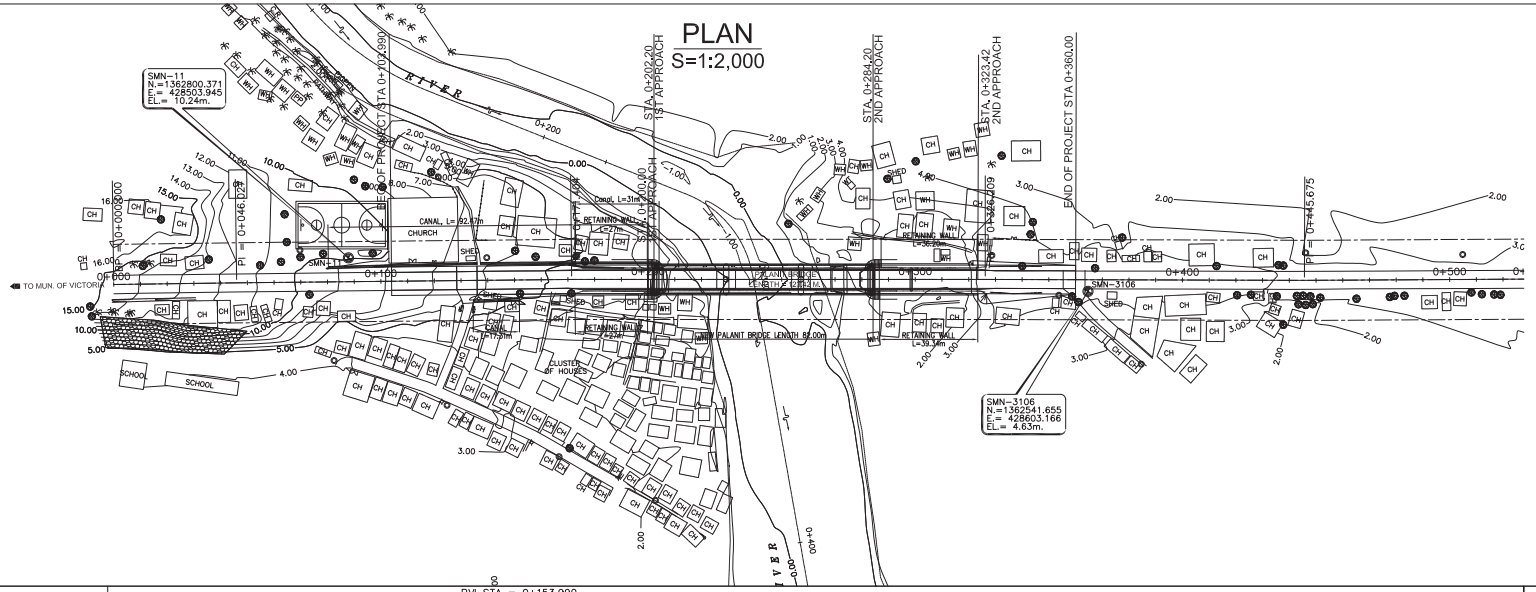
ELEVATION (m)	12.600	12.590	12.580	11.890	11.790	11.950	11.950	11.830	11.750	11.930	5.110	4.840	4.940	5.180	4.800
DISTANCE (m)	-0.480	0.000	1.250	1.530	12.700	13.310	13.870	13.890	21.110	21.400	22.160	22.980	25.170	26.090	60.000

STA. 0+420
SCALE H 1:200
V 1:200

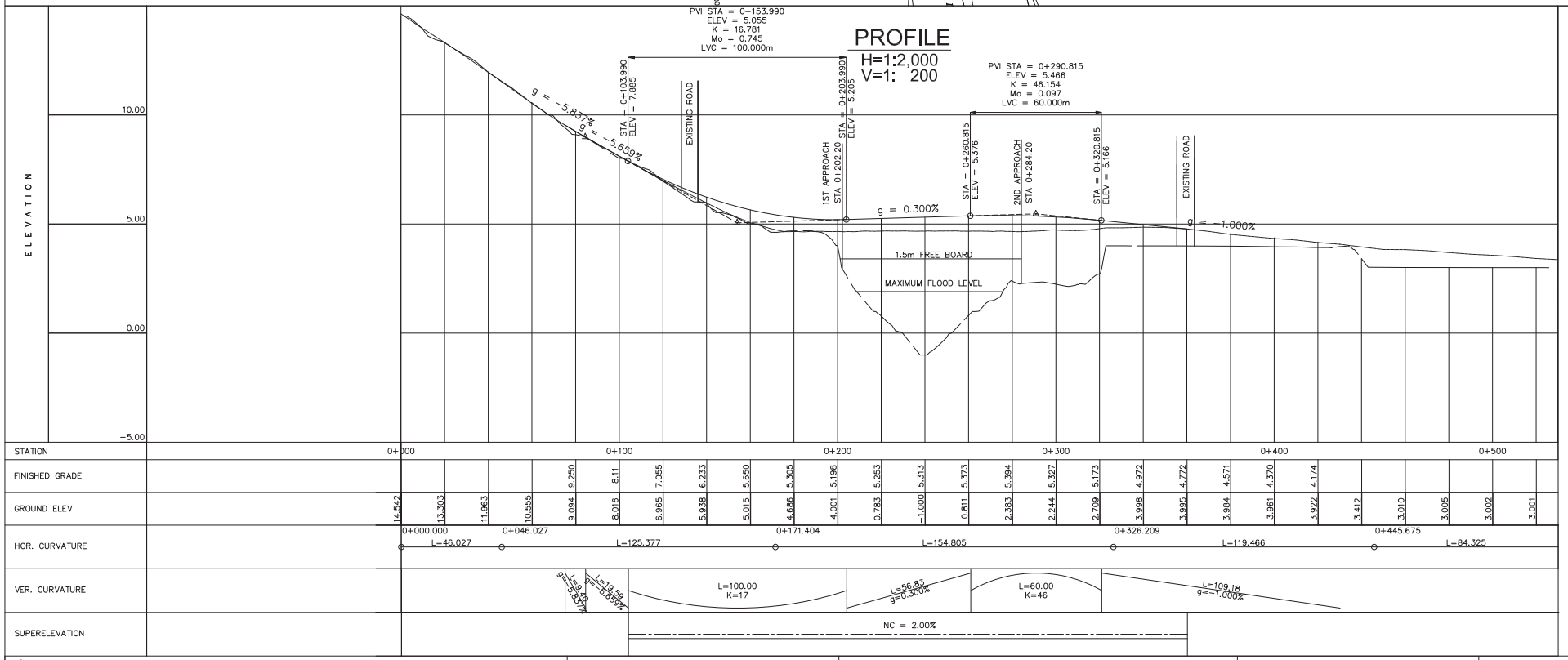
NOTE : This cross section is drawn based on STA.0+400

Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitagating Measures for the Large Scale Earthquakes in the Republic of the Philippines	GUADALUPE BRIDGE	ROAD CROSS SECTIONS(2) STA. 0+420	3-B3

# PLAN
S=1:2,000



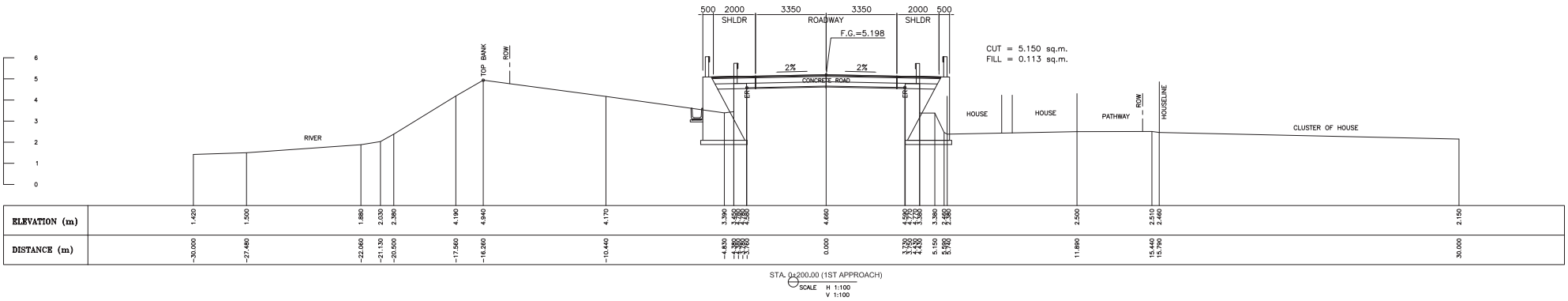
# PROFILE
H=1:2,000
V=1: 200



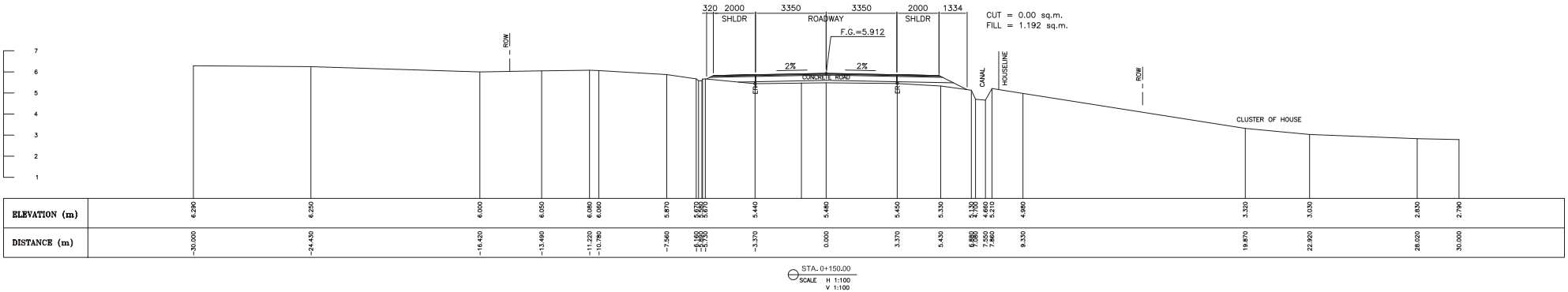
STATION	0+000				0+100					0+200					0+300					0+400					0+500
FINISHED GRADE				9.250	8.11	7.055	6.233	5.650	5.305	5.198	5.253	5.313	5.373	5.394	5.327	5.173	4.972	4.772	4.571	4.370	4.174				
GROUND ELEV	14.542	13.303	11.963	10.555	9.094	8.016	6.965	5.938	5.015	4.686	4.001	0.783	-1.000	0.811	2.383	2.244	2.709	3.998	3.995	3.984	3.961	3.922	3.412	3.010	3.005	3.002	3.001
HOR. CURVATURE	0+000.000	L=46.027	0+046.027	L=125.377						0+171.404	L=154.805					0+326.209	L=119.466					0+445.675	L=84.325				
VER. CURVATURE	g=-5.837%	L=19.990	g=-5.650%	L=100.00 K=17						L=56.83 g=0.300%		L=60.00 K=46				L=109.18 g=-1.000%											
SUPERELEVATION	NC = 2.00%																										

Clients:	Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitigating Measures for the Large Scale Earthquakes in the Republic of the Philippines	PALANIT BRIDGE	PLAN AND PROFILE STA. 103+990 TO STA. 320+815	3-C1

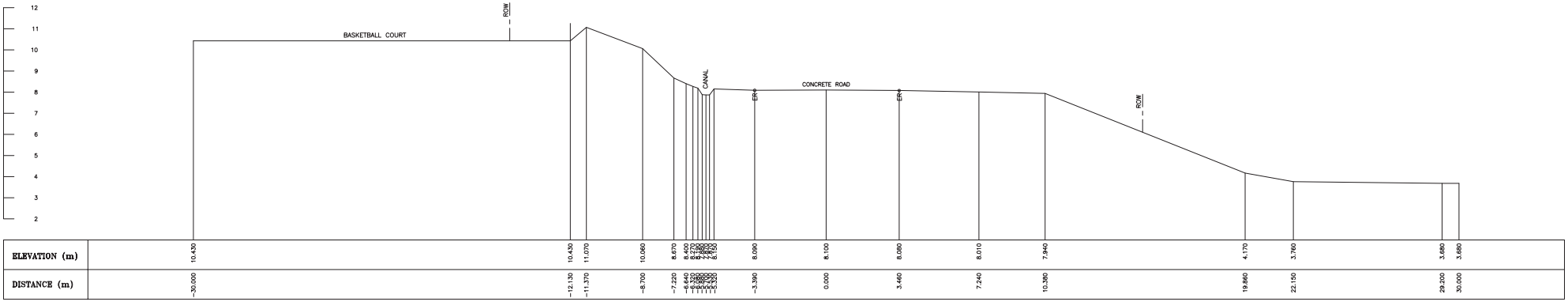
CROSS SECTION(1)



STA. 0+200.00 (1ST APPROACH)
SCALE H 1:100
V 1:100



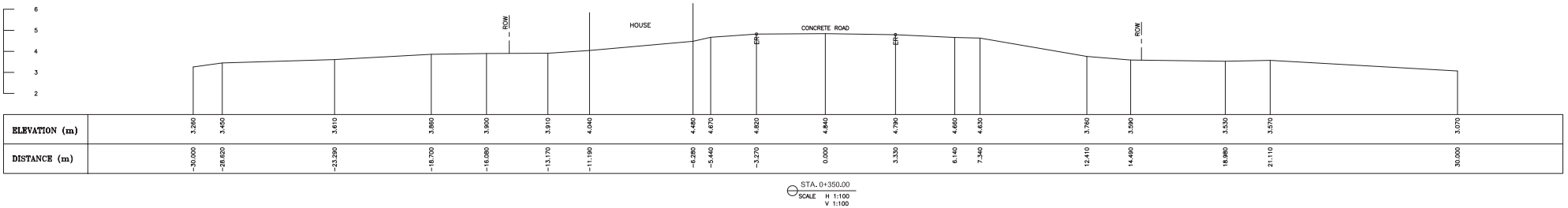
STA. 0+150.00
SCALE H 1:100
V 1:100



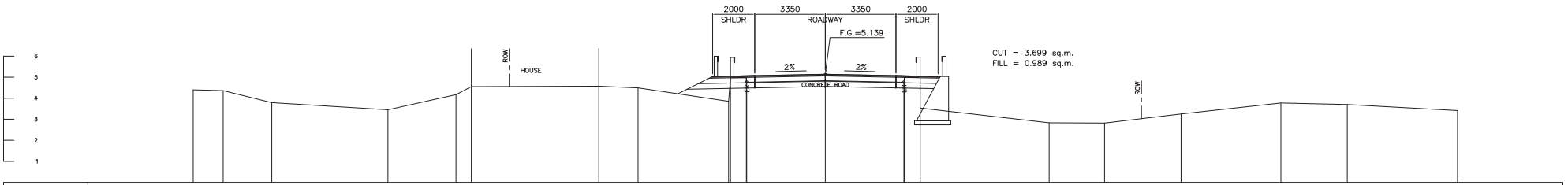
STA. 0+100.00
SCALE H 1:100
V 1:100

Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitagating Measures for the Large Scale Earthquakes in the Republic of the Philippines	PALANIT BRIDGE	ROAD CROSS SECTIONS(1) STA. 0+100 TO STA. 0+200	3-C2

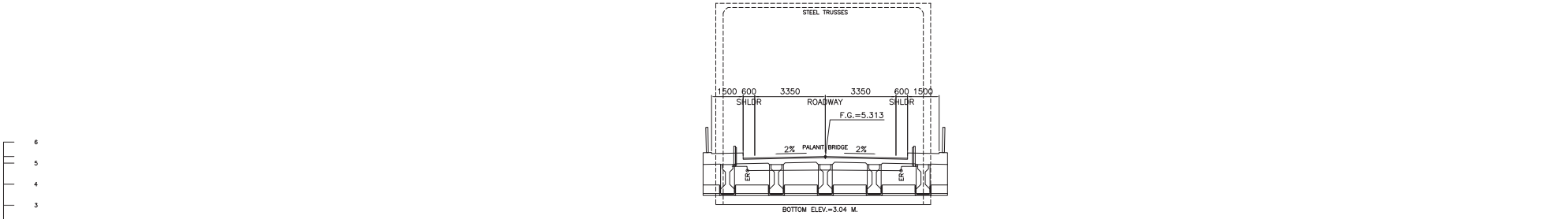
CROSS SECTION(2)



STA. 0+350.00
SCALE H 1:100
V 1:100

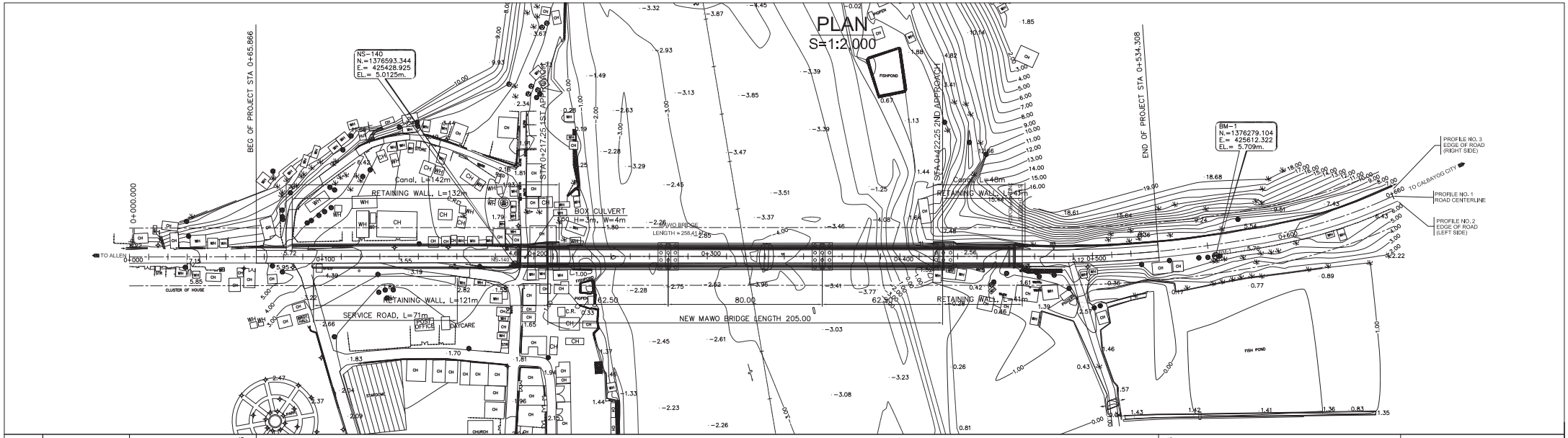


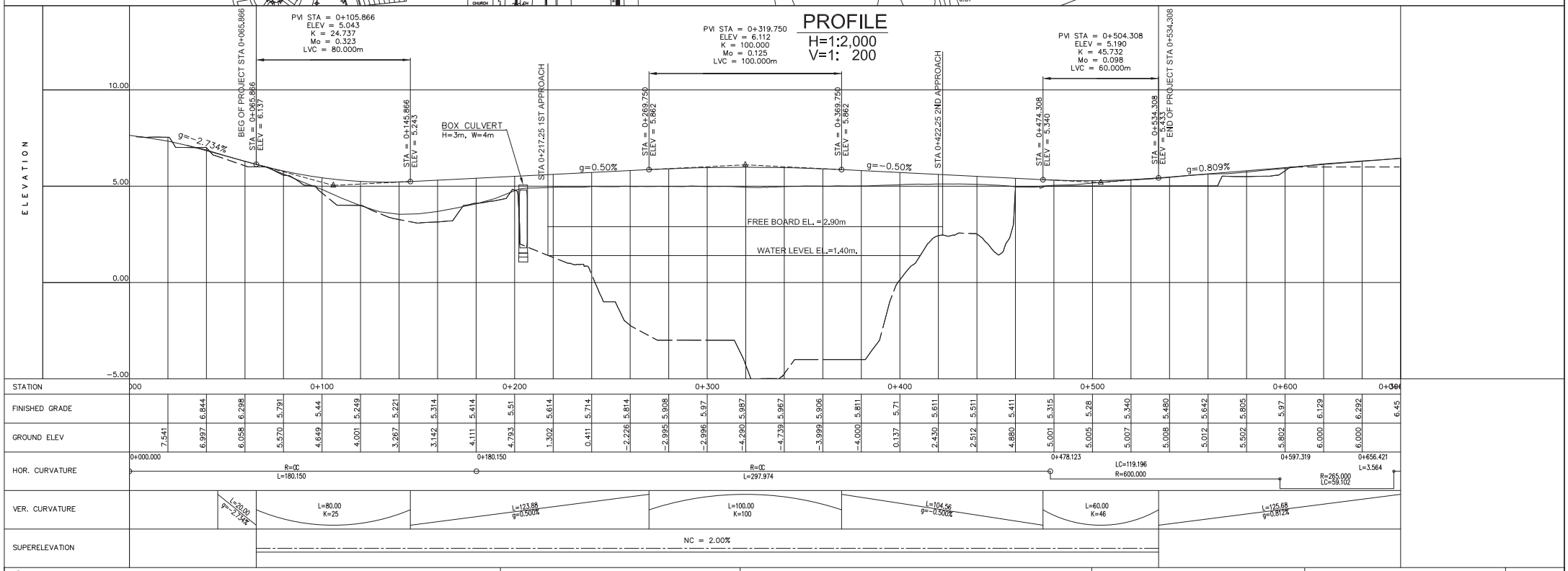
STA. 0+323.42 (2ND APPROACH)
SCALE H 1:100
V 1:100



STA. 0+240.00
SCALE H 1:100
V 1:100

Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitigating Measures for the Large Scale Earthquakes in the Republic of the Philippines	PALANIT BRIDGE	ROAD CROSS SECTIONS(2) STA. 0+240 TO STA. 0+350	3-C3

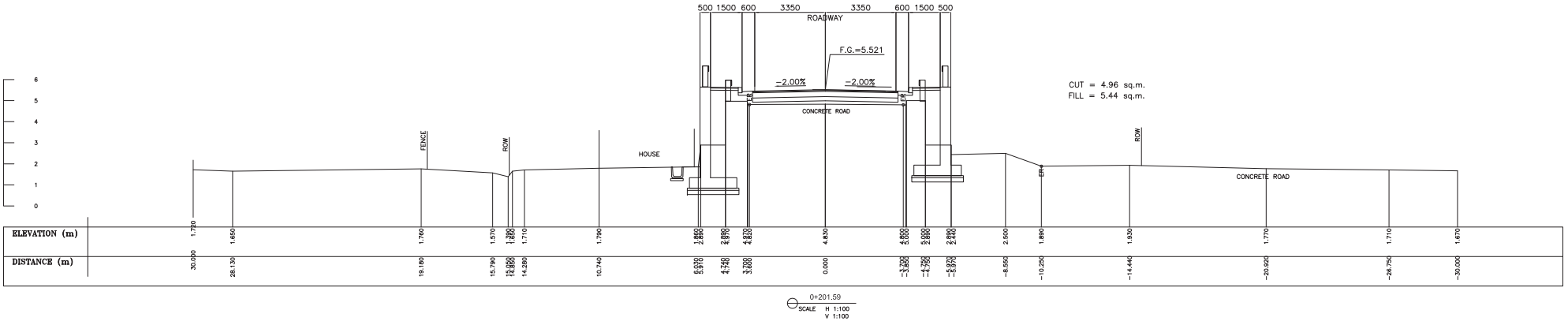


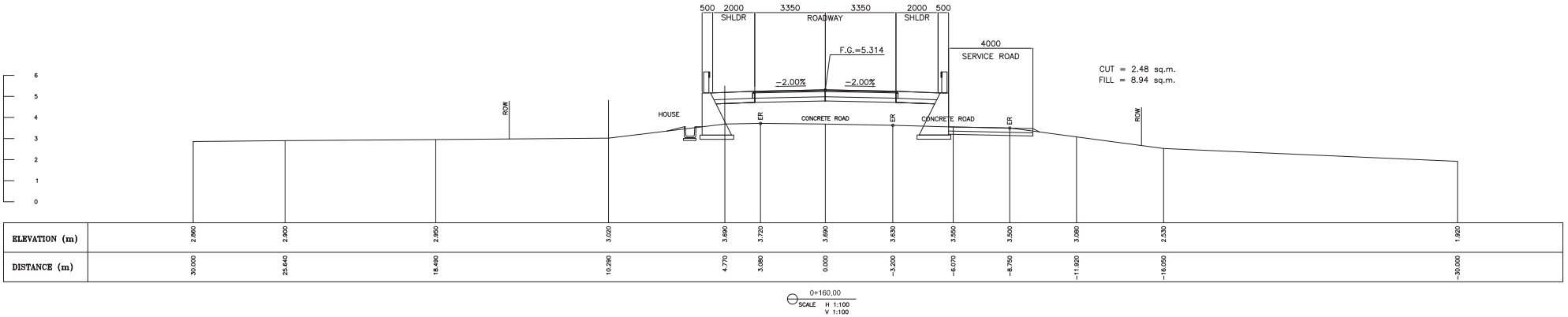


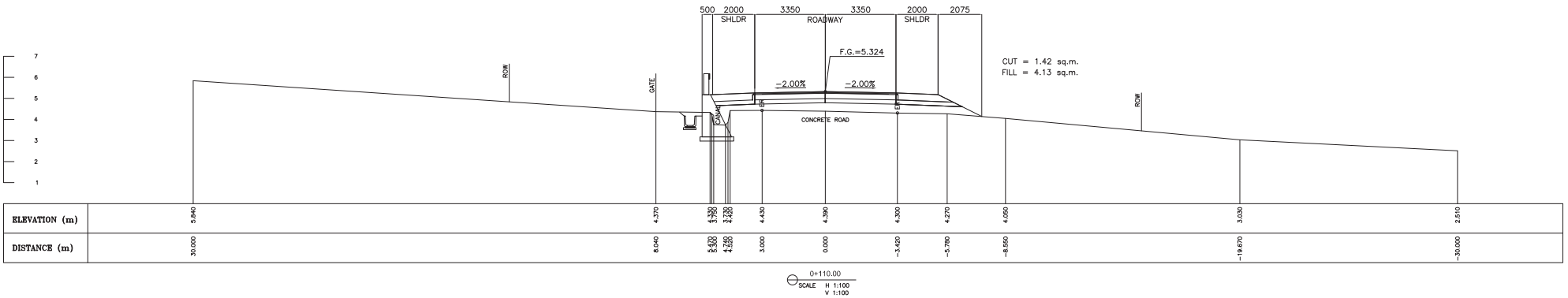
STATION	FINISHED GRADE	GROUND ELEV
0+000.000	7.541	7.541
0+010.000	6.844	6.997
0+020.000	6.298	6.058
0+030.000	5.791	5.670
0+040.000	5.44	4.649
0+050.000	5.249	4.001
0+060.000	5.221	3.267
0+065.866	5.314	3.142
0+080.000	5.414	4.111
0+090.000	5.51	4.793
0+100.000	5.614	1.302
0+110.000	5.714	0.411
0+120.000	5.814	-2.226
0+130.000	5.908	-2.995
0+140.000	5.97	-2.996
0+150.000	5.987	-4.290
0+160.000	5.967	-4.739
0+170.000	5.906	-3.999
0+180.150	5.811	-4.000
0+190.000	5.71	0.137
0+200.000	5.611	2.430
0+210.000	5.511	2.512
0+220.000	5.411	4.880
0+230.000	5.315	5.001
0+240.000	5.28	5.005
0+250.000	5.340	5.007
0+260.000	5.480	5.008
0+270.000	5.642	5.012
0+280.000	5.805	5.502
0+290.000	5.97	5.802
0+300.000	6.129	6.000
0+310.000	6.292	6.000
0+319.750	6.45	

Clients:	Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitigating Measures for the Large Scale Earthquakes in the Republic of the Philippines	MAWO BRIDGE	PLAN AND PROFILE STA. 0+65.866 TO STA. 0+534.308	3-D1

CROSS SECTION(1)

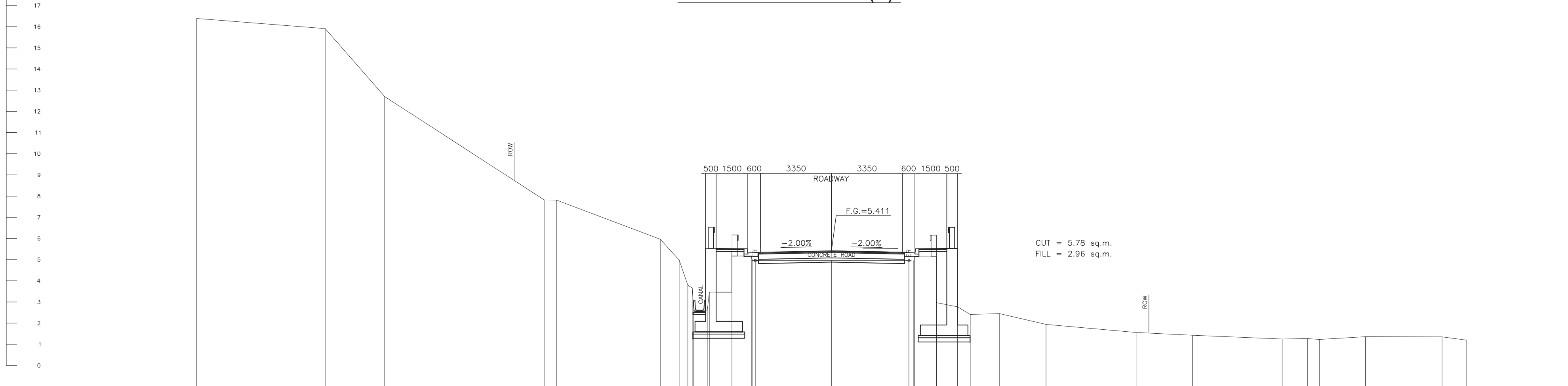






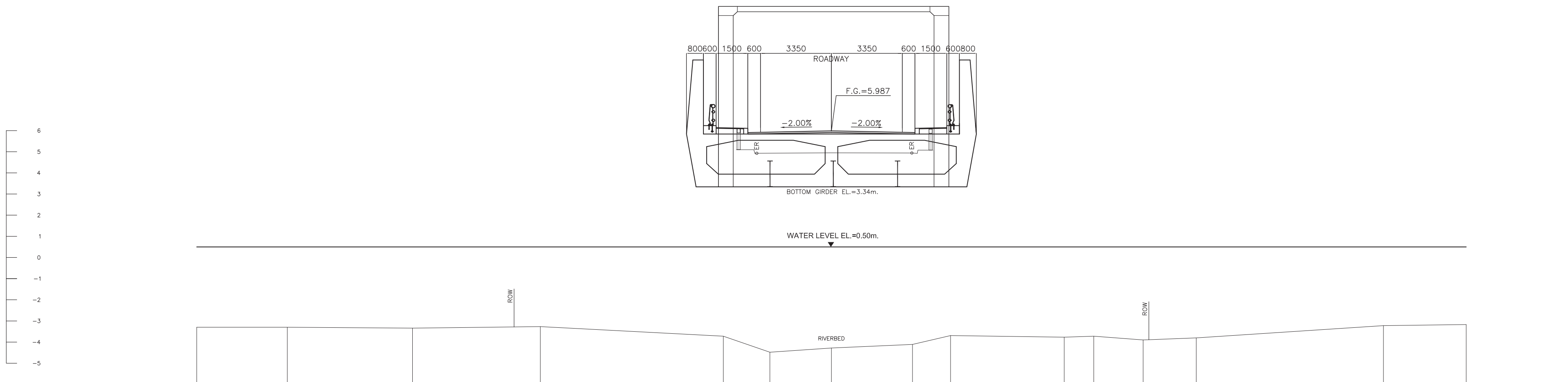
Clients:	Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitigating Measures for the Large Scale Earthquakes in the Republic of the Philippines	MAWO BRIDGE	ROAD CROSS SECTIONS(1) STA. 0+110 TO STA. 0+201.59	3-D2

CROSS SECTION(2)



ELEVATION (m)	16.390	15.910	12.700	7.820	7.810	5.960	4.980	3.790	3.660	2.610	2.610	3.470	3.470	5.170	5.170	4.960	4.960	4.960	5.160	5.160	2.970	2.770	2.410	2.450	1.940	1.560	1.430	1.250	1.270	1.230	1.360	1.350	1.200
DISTANCE (m)	30.000	23.930	21.120	13.580	13.000	8.090	7.200	6.790	6.580	6.510	5.870	5.770	4.700	4.700	3.770	3.600	0.000	-3.660	-3.920	-4.960	-4.960	-5.960	-6.560	-7.950	-10.140	-14.400	-17.060	-21.300	-22.500	-23.060	-25.240	-28.860	-30.000

0+460.00
SCALE H 1:100
V 1:100

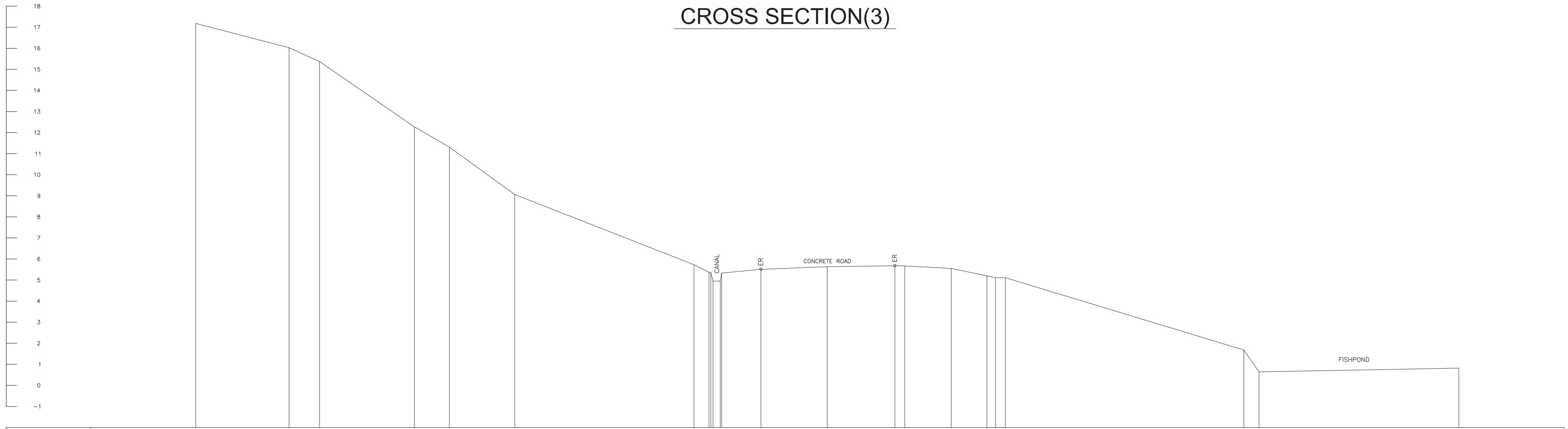


ELEVATION (m)	-3.300	-3.300	-3.340	-3.270	-3.720	-4.480	-4.280	-4.110	-3.690	-3.770	-3.720	-3.900	-3.800	-3.220	-3.170
DISTANCE (m)	30.000	25.720	19.800	13.760	5.110	2.910	0.000	-3.830	-5.630	-11.000	-12.400	-14.730	-17.240	-26.090	-30.000

0+320.00
SCALE H 1:100

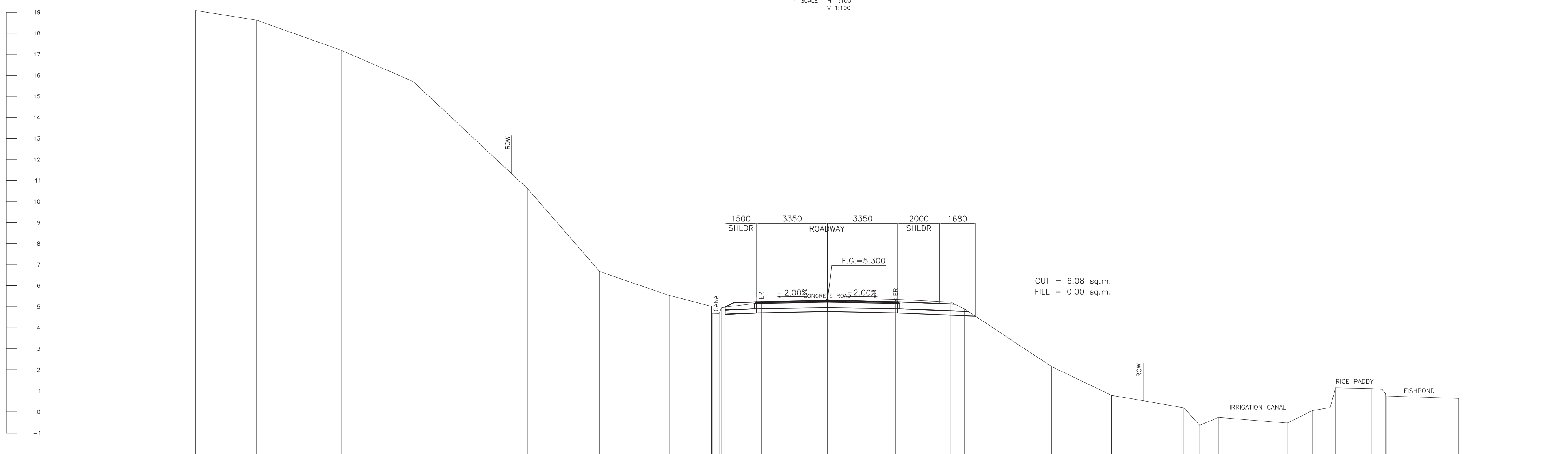
Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitigating Measures for the Large Scale Earthquakes in the Republic of the Philippines	MAWO BRIDGE	ROAD CROSS SECTIONS(2) STA. 0+320 TO STA. 0+460	3-D3

CROSS SECTION(3)



ELEVATION (m)	17.180	16.030	15.370	12.270	11.310	9.060	5.730	5.370	4.960	4.950	5.330	5.510	5.630	5.680	5.670	5.550	5.200	5.110	5.110	1.680	0.640	0.820
DISTANCE (m)	30.000	25.570	24.120	19.610	17.950	14.850	6.330	5.620	5.430	5.080	5.020	3.150	0.000	−3.210	−3.680	−5.890	−7.580	−7.990	−8.460	−19.790	−20.510	−30.000

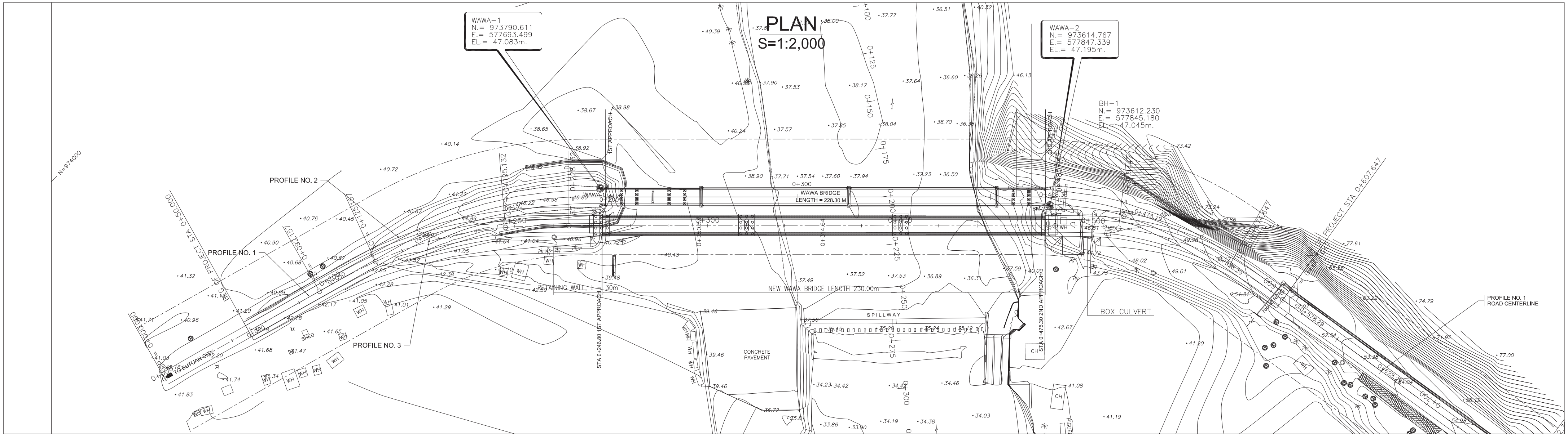
0+560.00
SCALE H 1:100
V 1:100

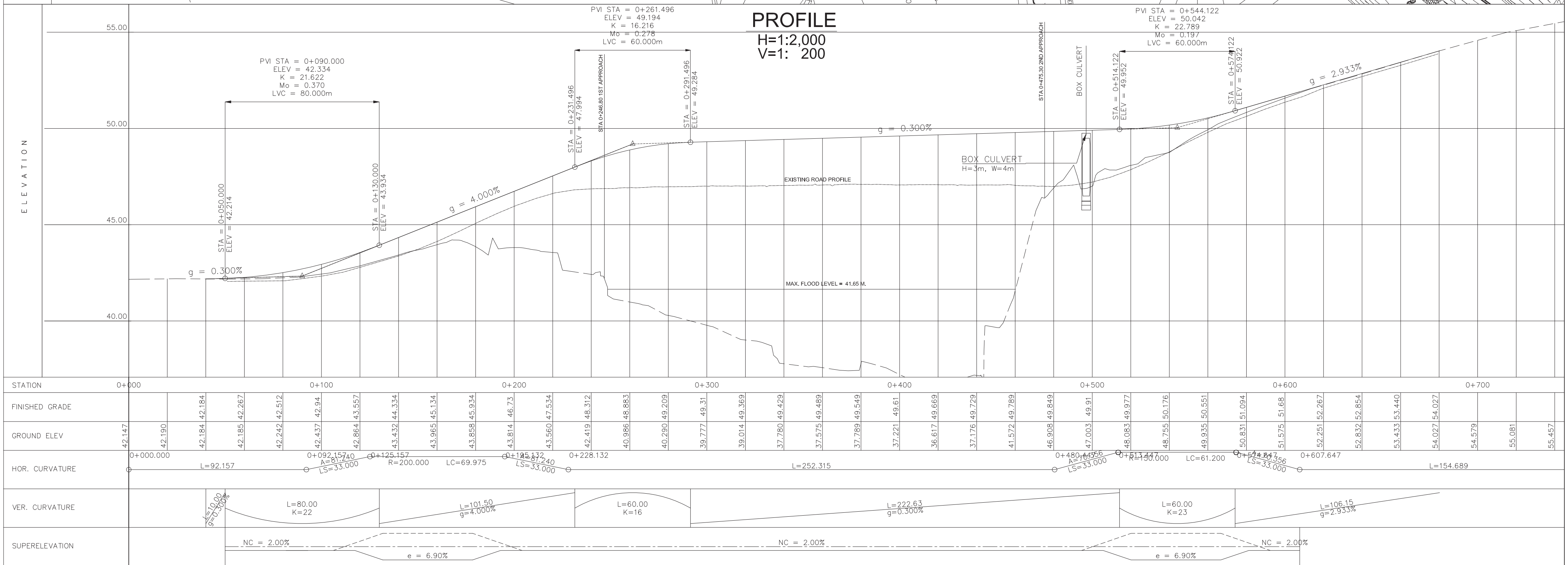


ELEVATION (m)	19.080	18.630	17.190	15.710	10.610	6.670	5.530	5.020	4.660	4.670	4.970	5.190	5.250	5.350	5.220	4.900	2.160	0.790	0.200	−0.640	−0.260	−0.530	0.070	0.210	1.140	1.110	1.070	0.760	0.640
DISTANCE (m)	30.000	27.130	23.090	19.680	14.230	10.810	7.490	5.500	5.460	5.140	5.020	3.130	0.000	−3.250	−5.880	−6.510	−10.650	−13.500	−16.940	−17.690	−18.580	−21.850	−23.060	−23.890	−24.140	−25.840	−26.360	−26.550	−30.000

0+510.00
SCALE V 1:100
H 1:100

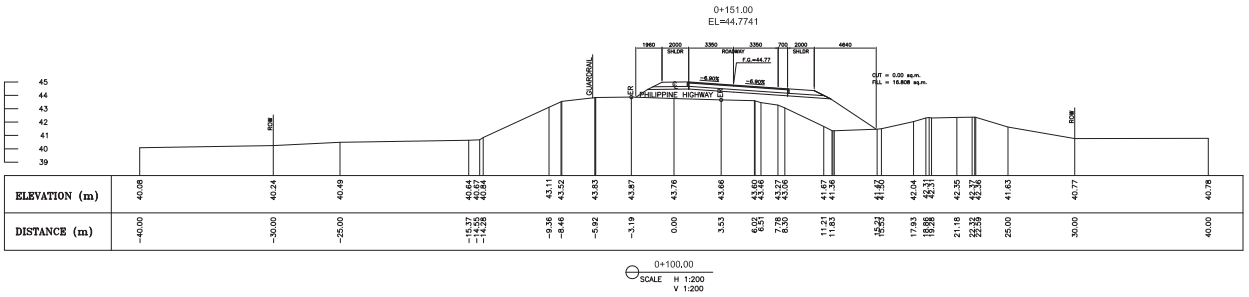
Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitigating Measures for the Large Scale Earthquakes in the Republic of the Philippines	MAWO BRIDGE	ROAD CROSS SECTIONS(3) STA. 0+510 TO STA. 0+560	3-D4

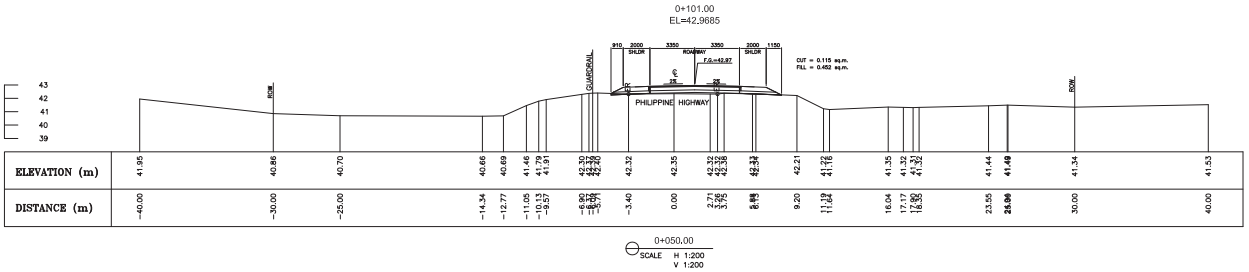


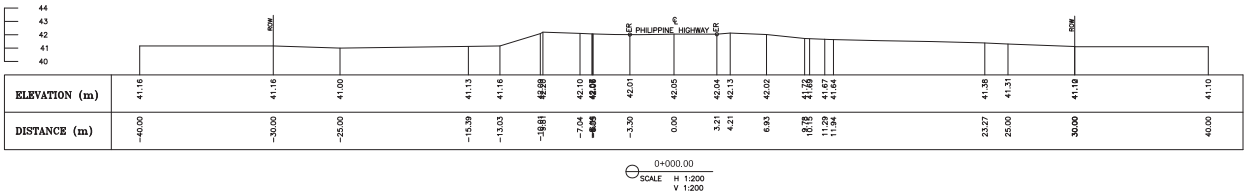


Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitagating Measures for the Large Scale Earthquakes in the Republic of the Philippines	WAWA BRIDGE	PLAN AND PROFILE STA. 0+050 TO STA. 0+607.647	3-E1

CROSS SECTION(1)

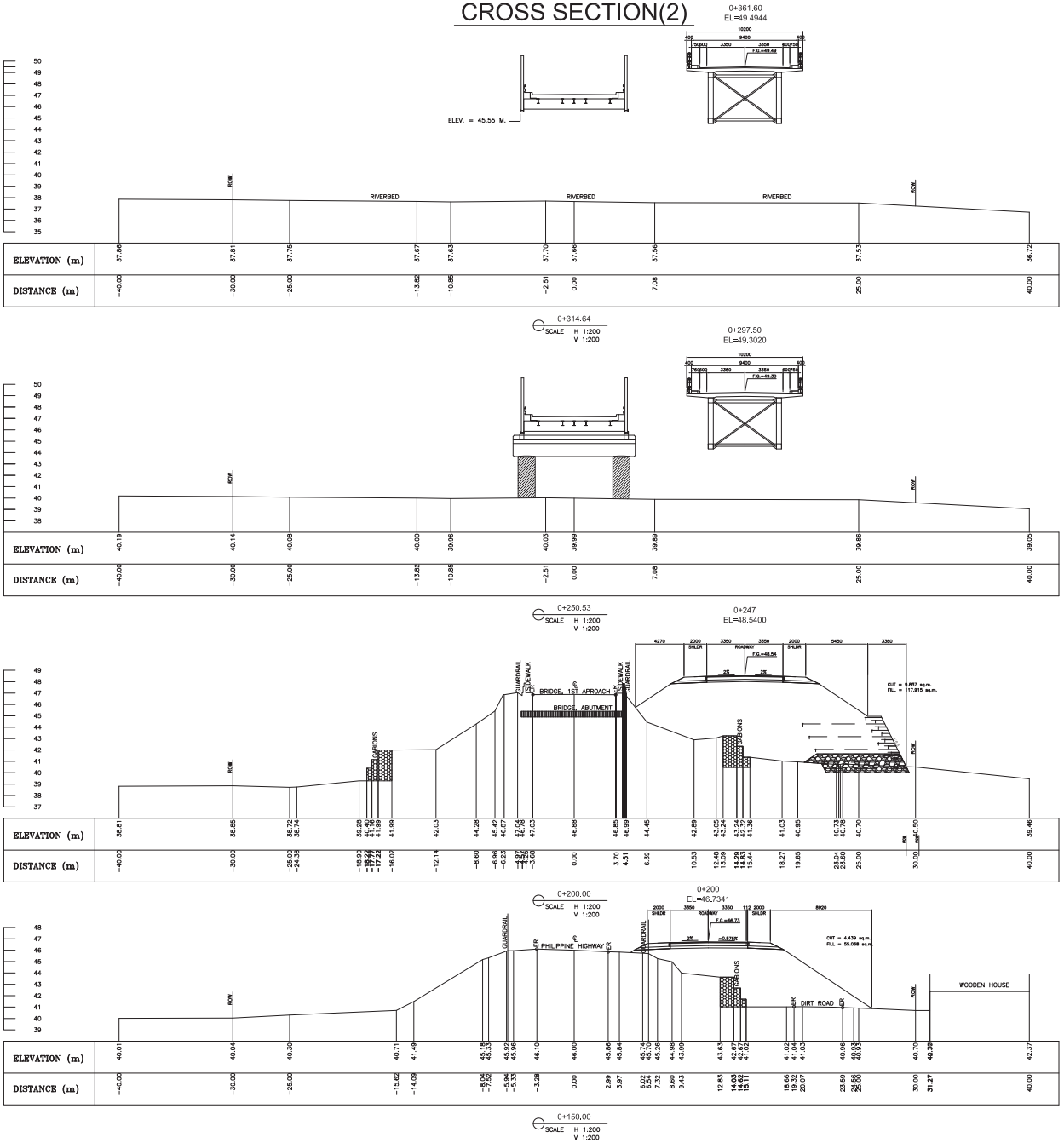






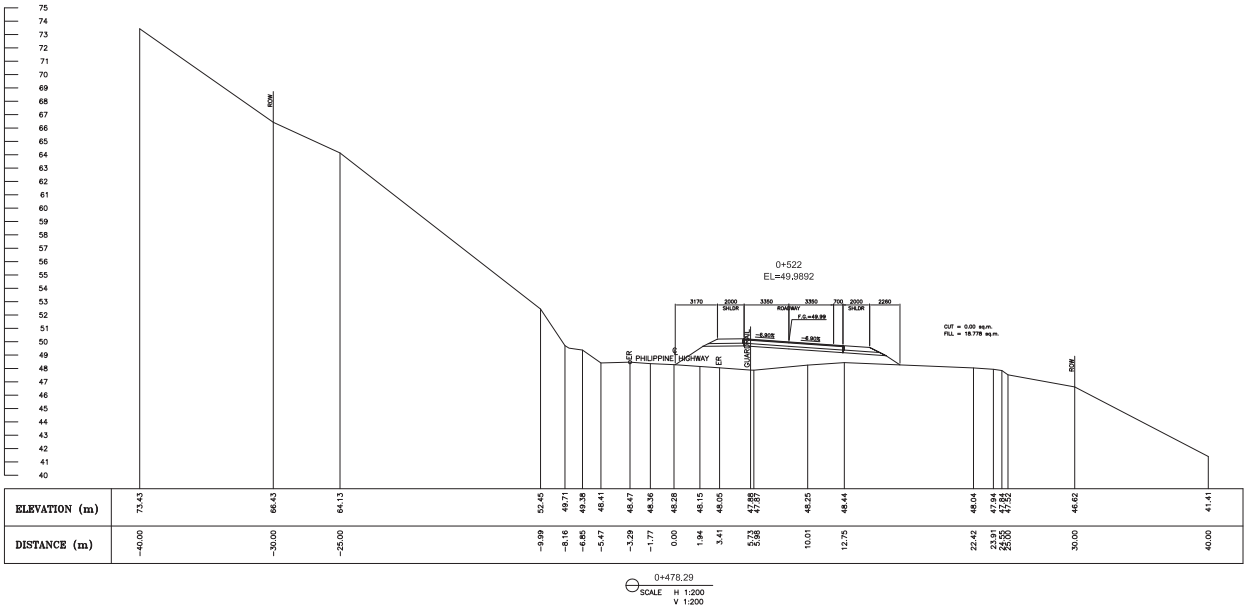
Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitigating Measures for the Large Scale Earthquakes in the Republic of the Philippines	WAWA BRIDGE	ROAD CROSS SECTIONS(1) STA. 0+000 TO STA. 0+100	3-E2

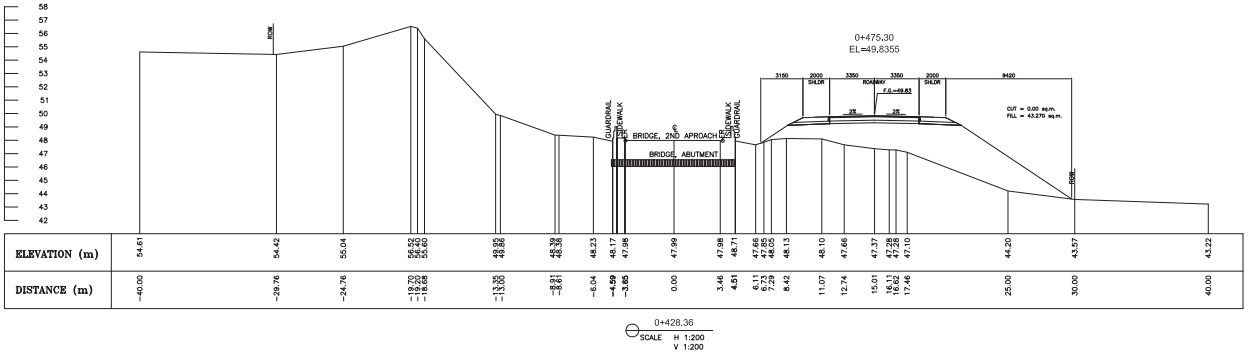
CROSS SECTION(2)



Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitigating Measures for the Large Scale Earthquakes in the Republic of the Philippines	WAWA BRIDGE	ROAD CROSS SECTIONS(2) STA. 0+150 TO STA. 0+314.64	3-E3

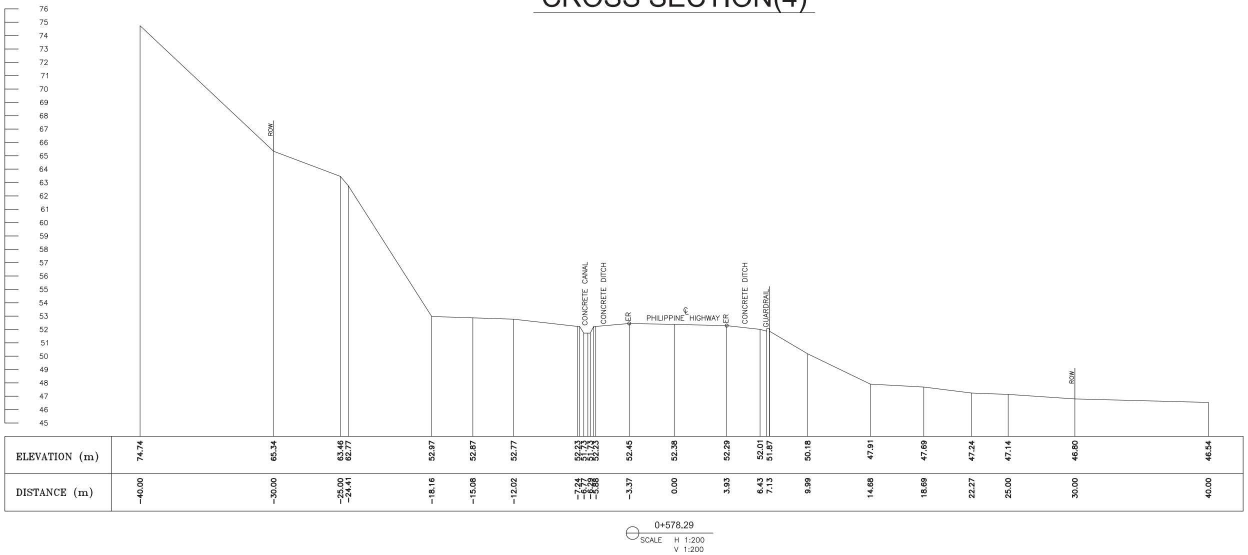
CROSS SECTION(3)

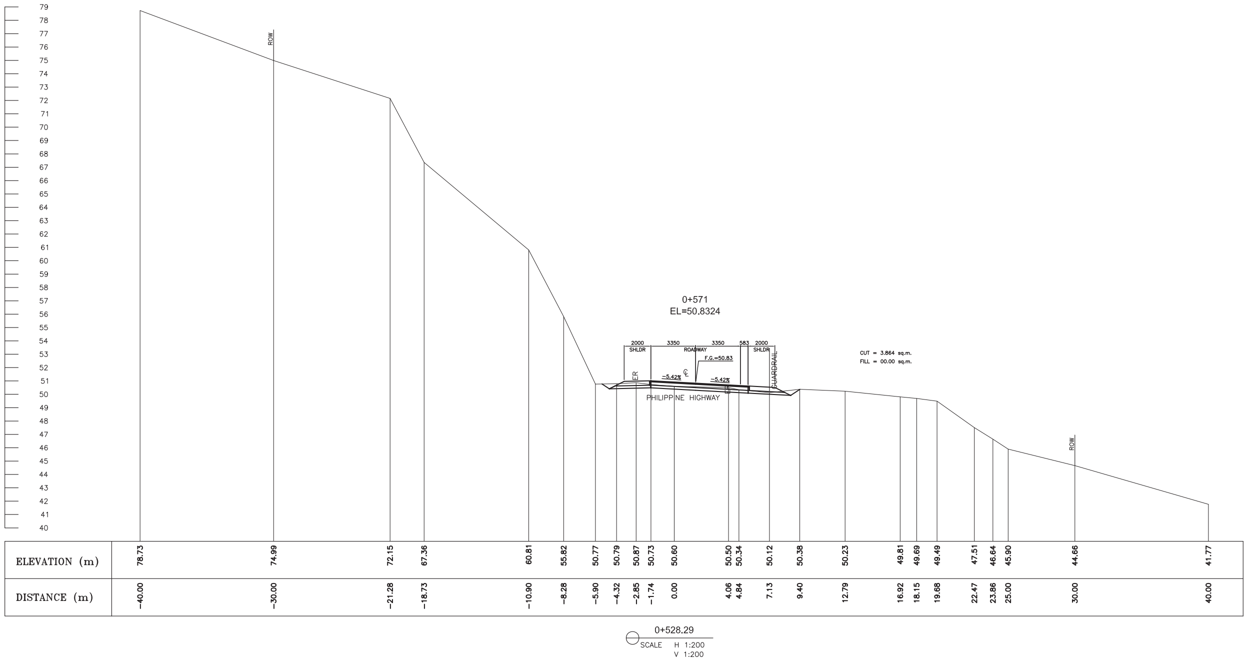




Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitigating Measures for the Large Scale Earthquakes in the Republic of the Philippines	WAWA BRIDGE	ROAD CROSS SECTIONS(3) STA. 0+428.36 TO STA. 0+478.29	3-E4

CROSS SECTION(4)

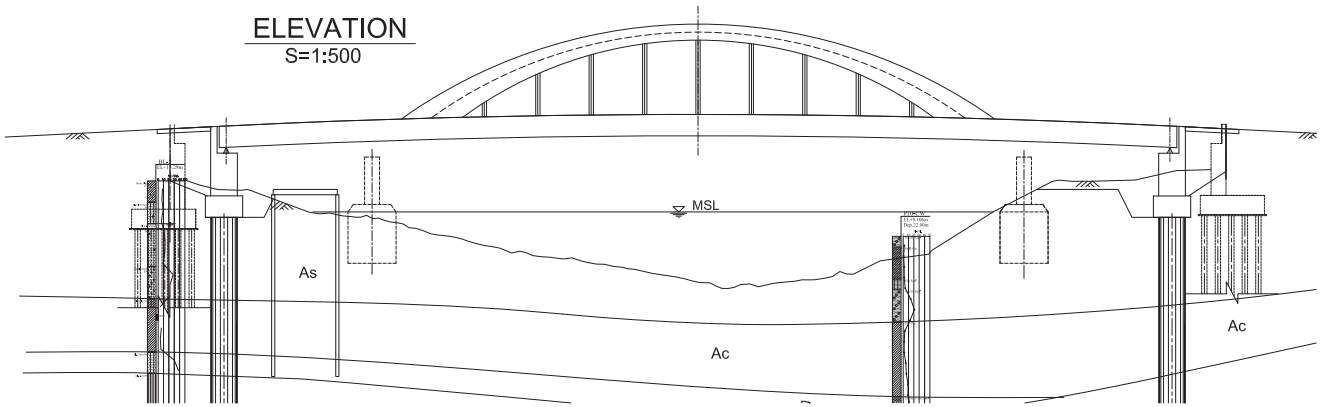




Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitagating Measures for the Large Scale Earthquakes in the Republic of the Philippines	WAWA BRIDGE	ROAD CROSS SECTIONS(4) STA. 0+528.29 TO STA. 0+578.29	3-E5

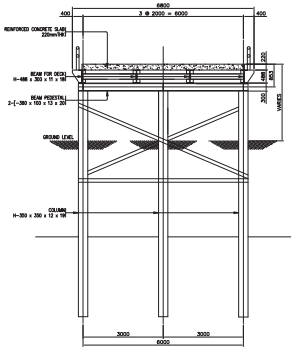
TEMPORARY ROAD OF LAMBINGAN BRIDGE

ELEVATION
S=1:500

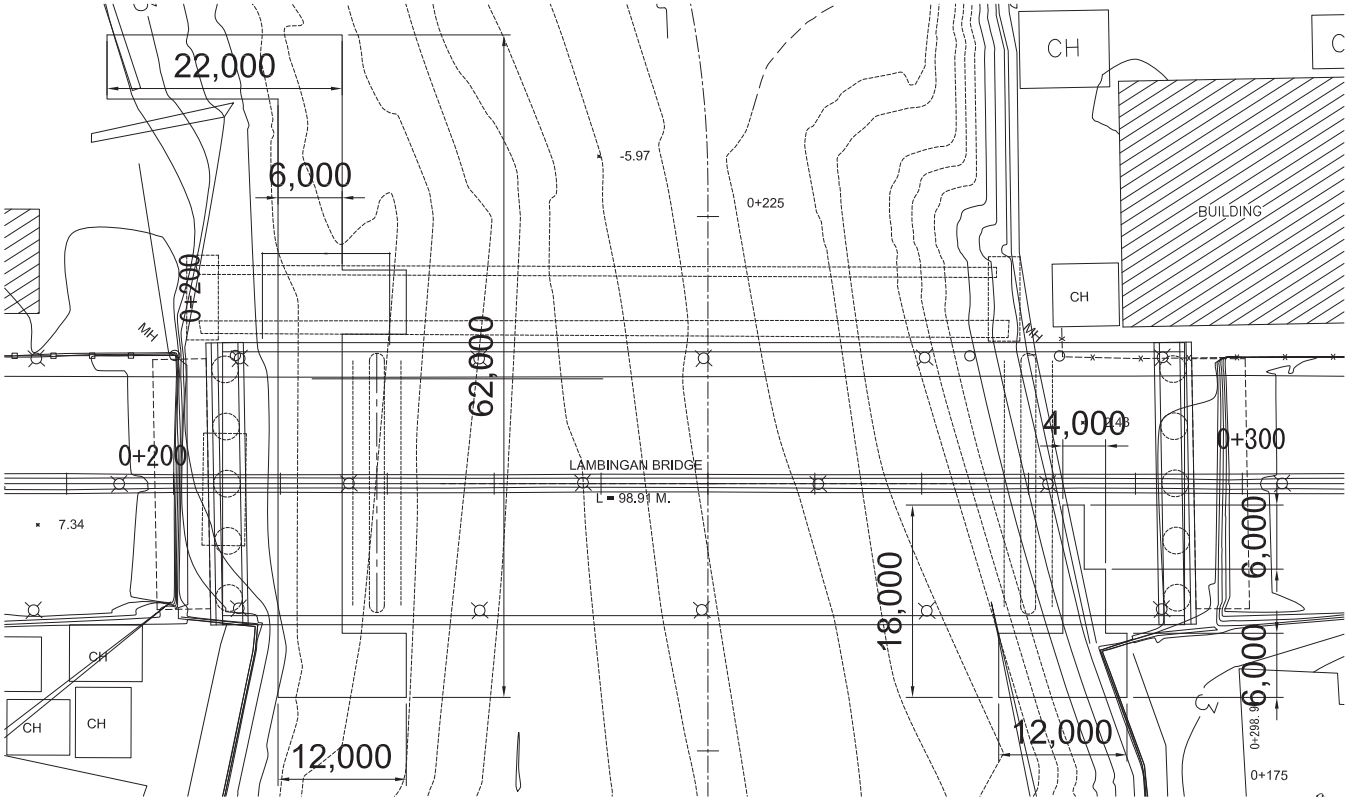


CROSS SECTION
S=1:200

Temporary Bridge



PLAN
S=1:500

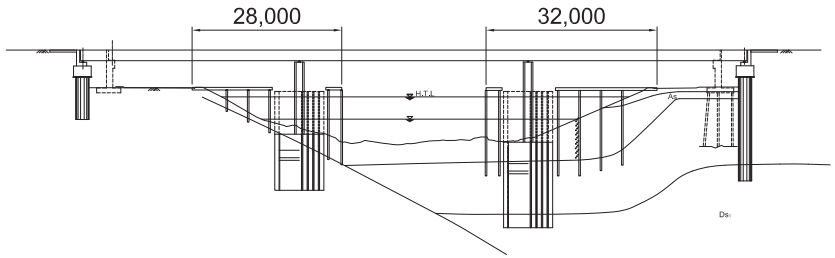


Temporary Stage for Girder Casting
(Upper Stream from Lambingan Br.)
Area = 100m * 20m

Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitigating Measures for the Large Scale Earthquakes in the Republic of the Philippines	LAMBINGAN BRIDGE	TEMPORARY ROAD	4-A1

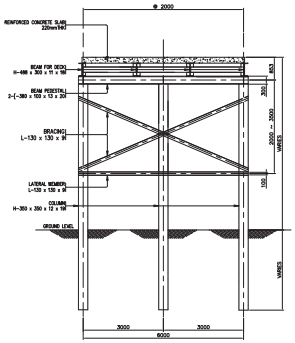
TEMPORARY ROAD OF GUADALUPE BRIDGE

ELEVATION
S=1:1000

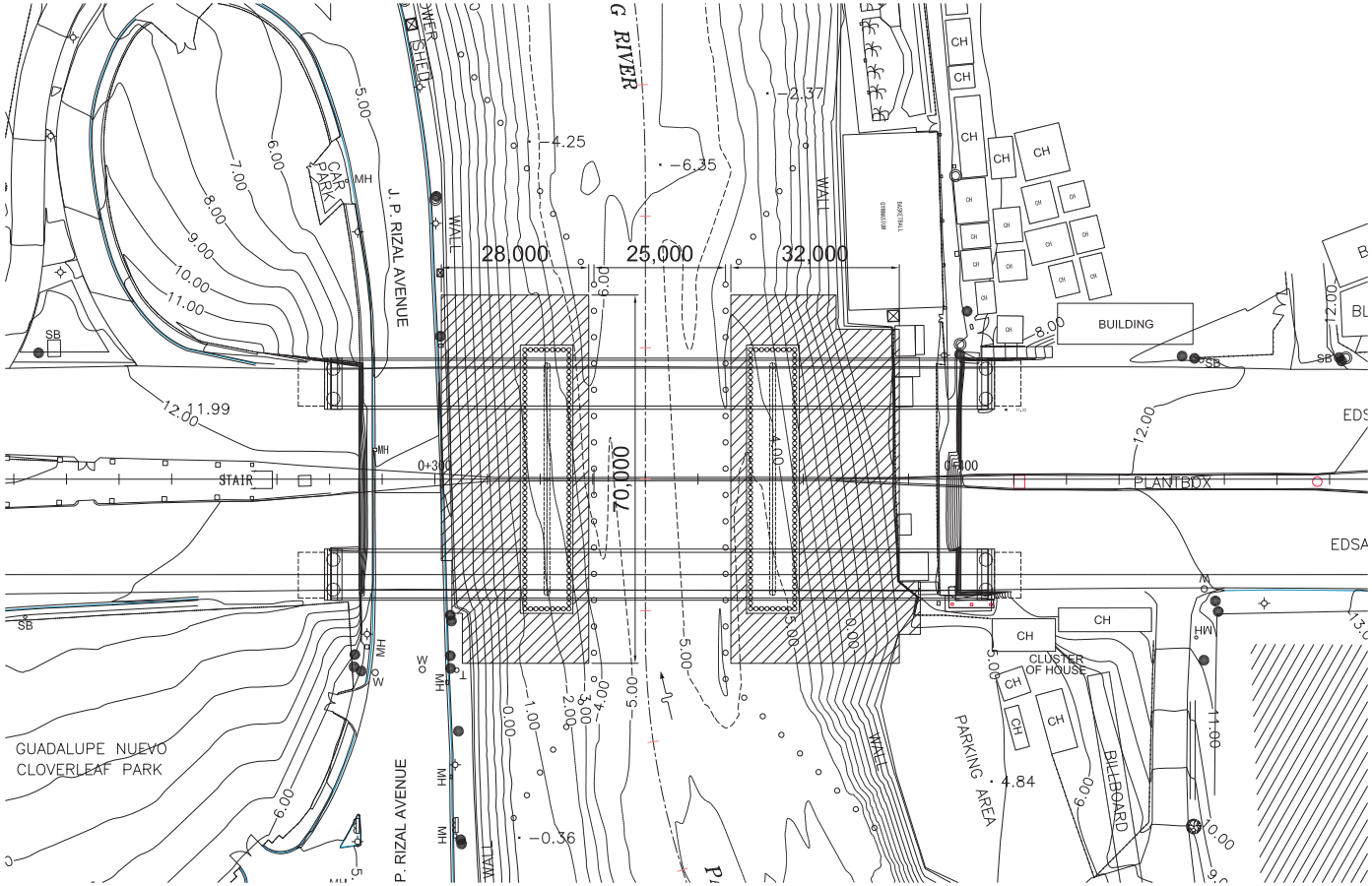


CROSS SECTION
S=1:200

TEMPORARY STAGE



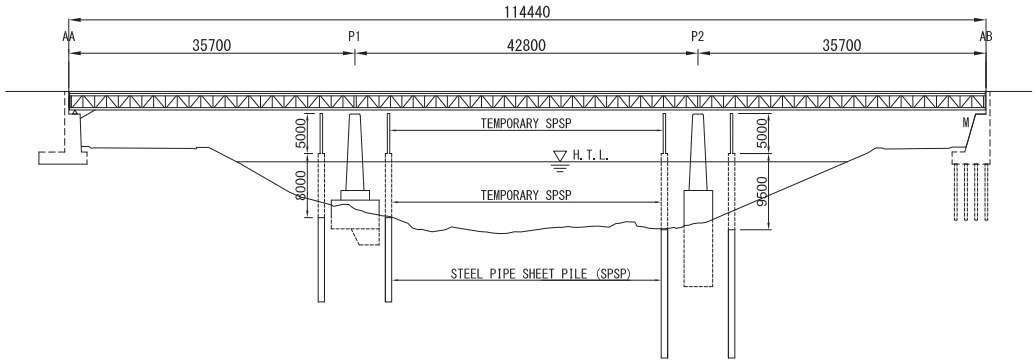
PLAN
S=1:1000



Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitagating Measures for the Large Scale Earthquakes in the Republic of the Philippines	GUADALUPE BRIDGE	TEMPORARY ROAD	4-B1

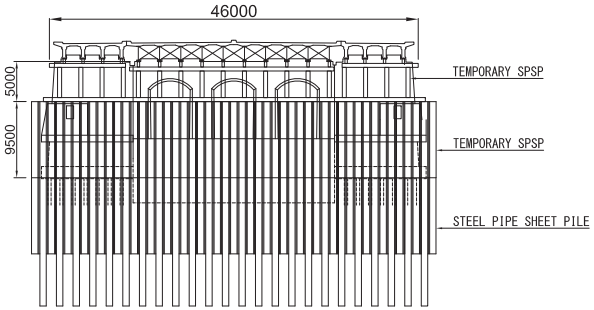
TEMPORARY SUPPORT OF GUADALUPE BRIDGE

ELEVATION
SCALE 1:600

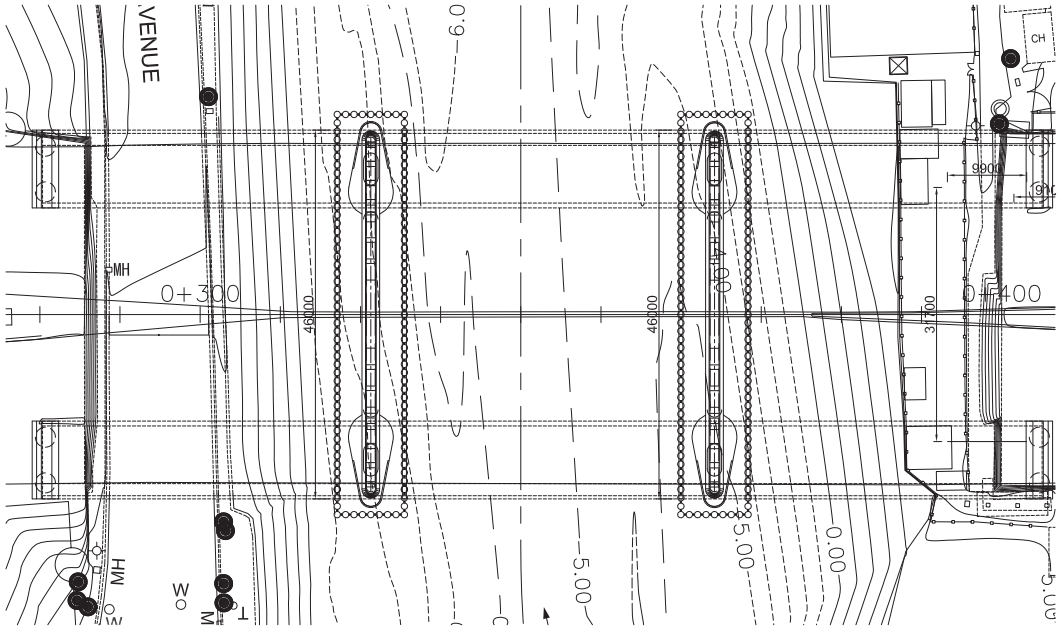


CROSS SECTION
TEMPORARY SUPPORT FOR SUPERSTRUCTURE
SCALE 1:600

P2



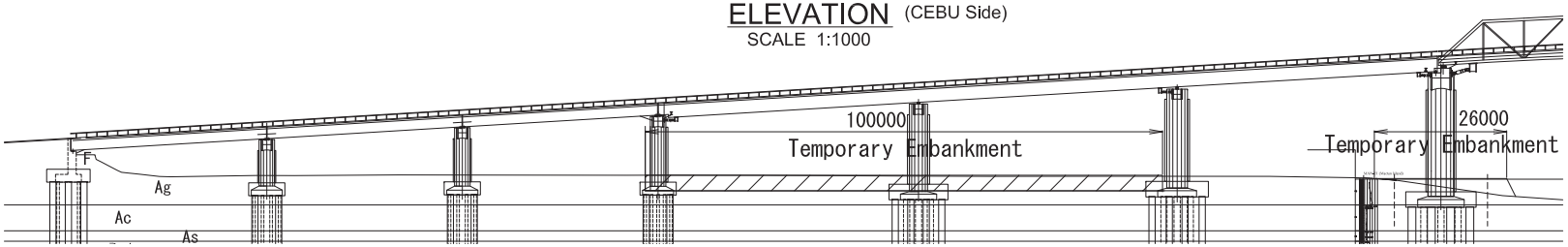
PLAN
SCALE 1:600



Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitigating Measures for the Large Scale Earthquakes in the Republic of the Philippines	GUADALUPE BRIDGE	TEMPORARY SUPPORT	4-B2

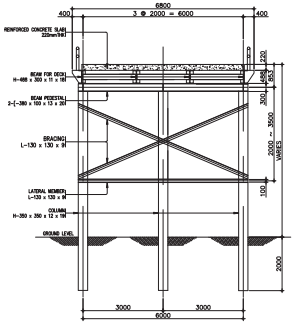
TEMPORARY ROAD of 1st MANDAUE-MACTAN BRIDGE

ELEVATION (CEBU Side)
SCALE 1:1000

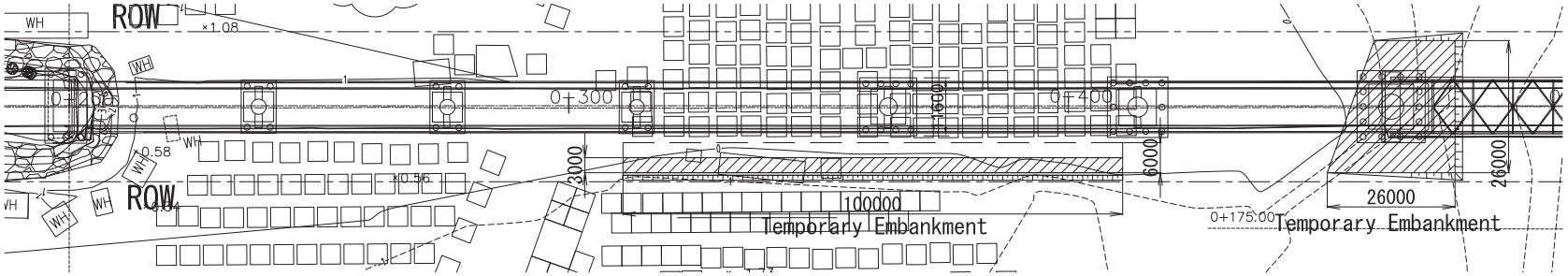


CROSS SECTION
SCALE 1:200

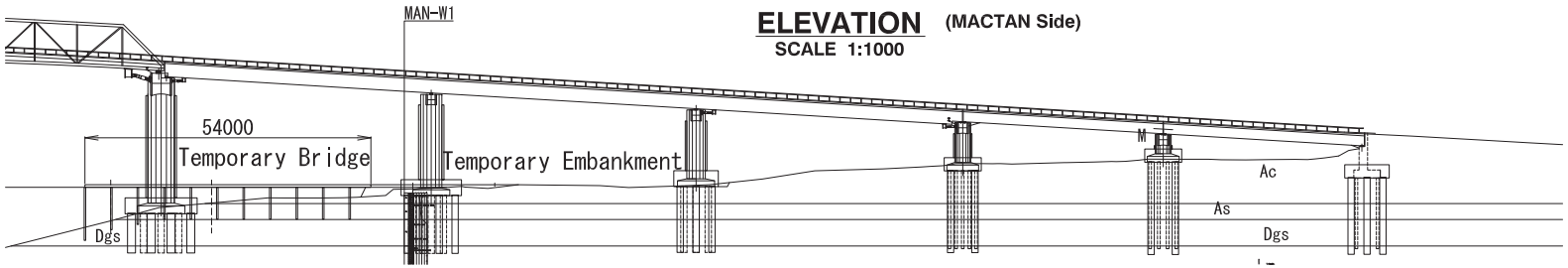
Temporary Bridge



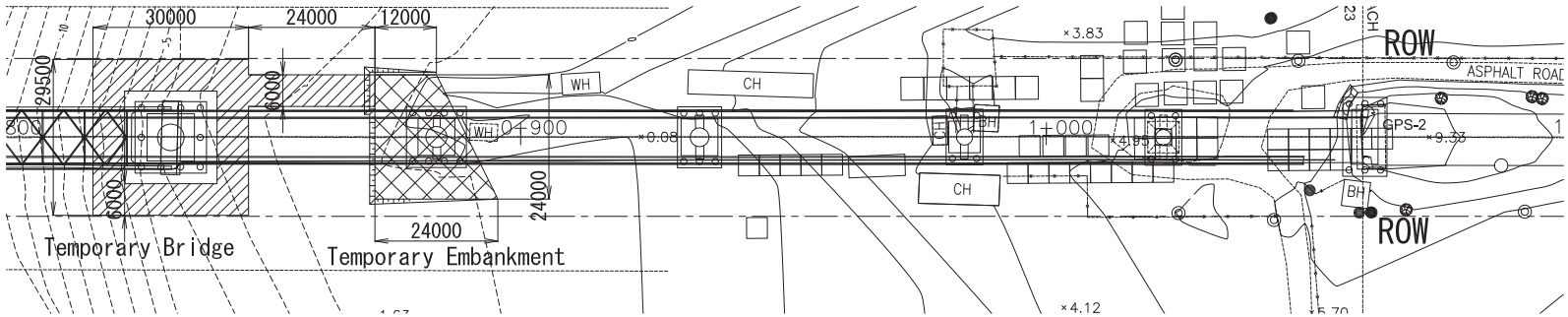
PLAN (CEBU Side)
SCALE 1:500



ELEVATION (MACTAN Side)
SCALE 1:1000



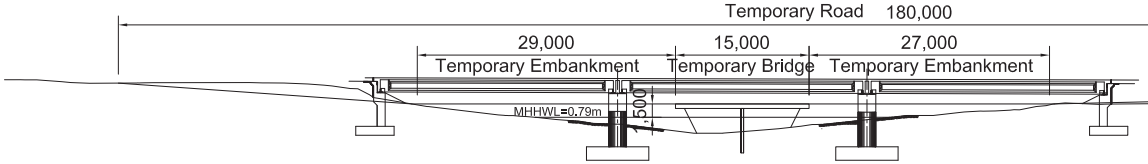
PLAN (MACTAN Side)
SCALE 1:500



				Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitagating Measures for the Large Scale Earthquakes in the Republic of the Philippines	1st MANDAUE - MACTAN BRIDGE	TEMPORARY ROAD	4-C1

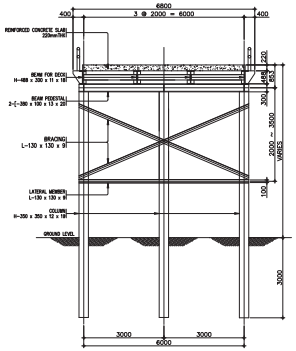
TEMPORARY ROAD OF PALANIT BRIDGE

ELEVATION
S=1:600

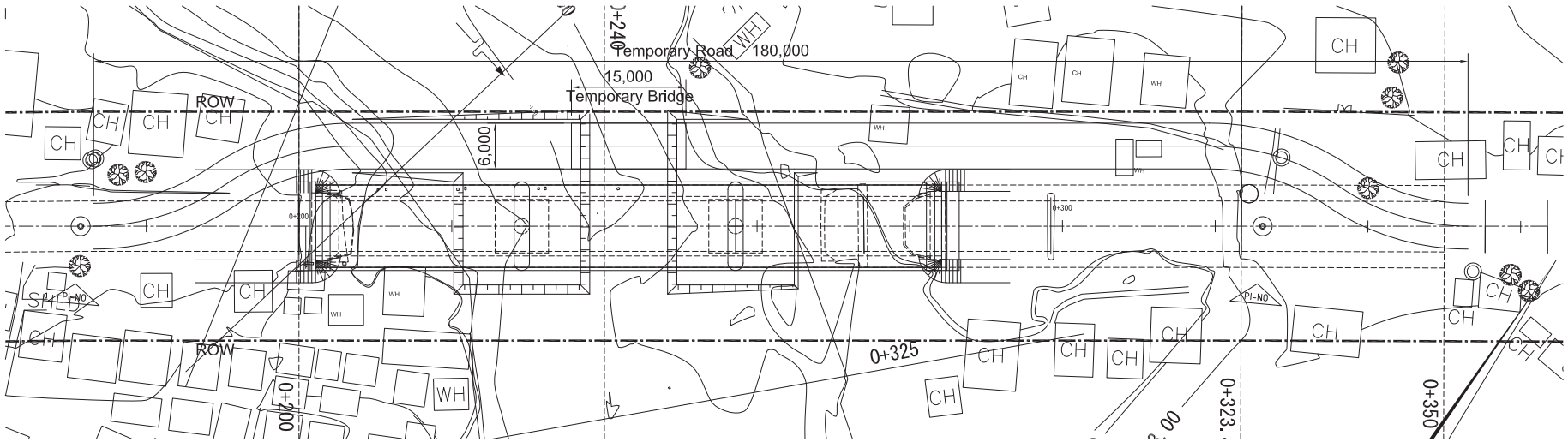


CROSS SECTION
S=1:200

Temporary Bridge



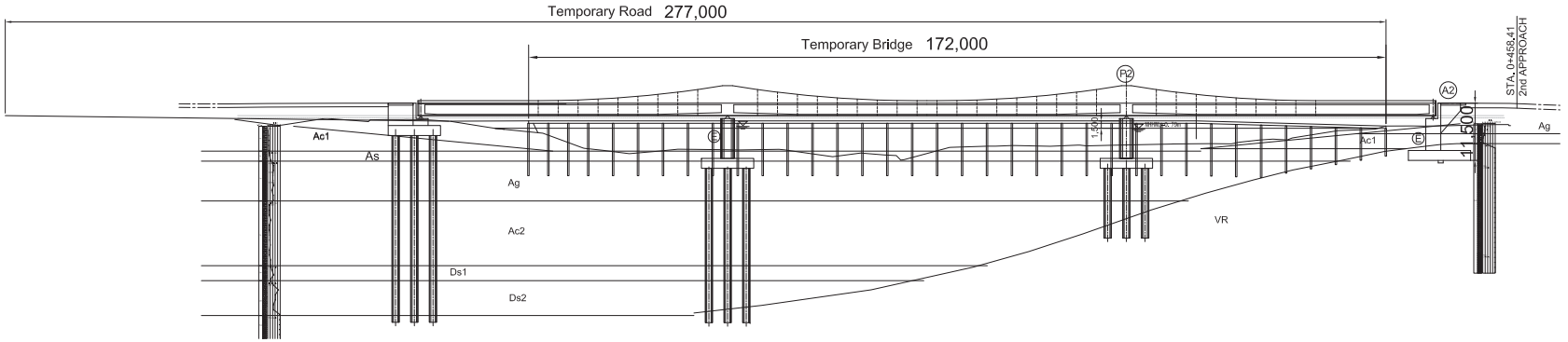
PLAN
S=1:600



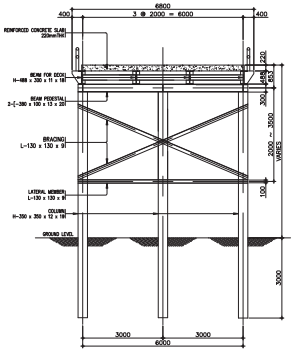
Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitagating Measures for the Large Scale Earthquakes in the Republic of the Philippines	PALANIT BRIDGE	TEMPORARY ROAD	4-D1

TEMPORARY ROAD OF MAWO

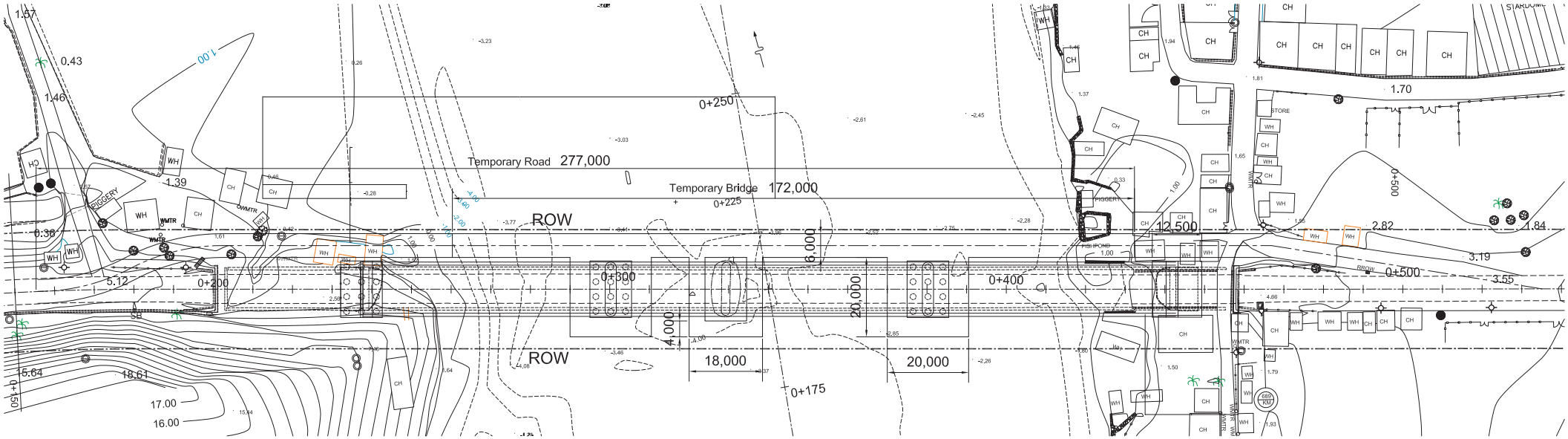
ELEVATION
S=1:1000



CROSS SECTION
S=1:200



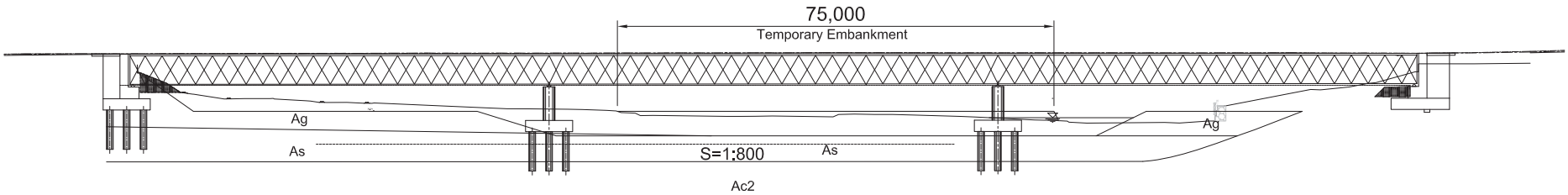
PLAN
S=1:1000



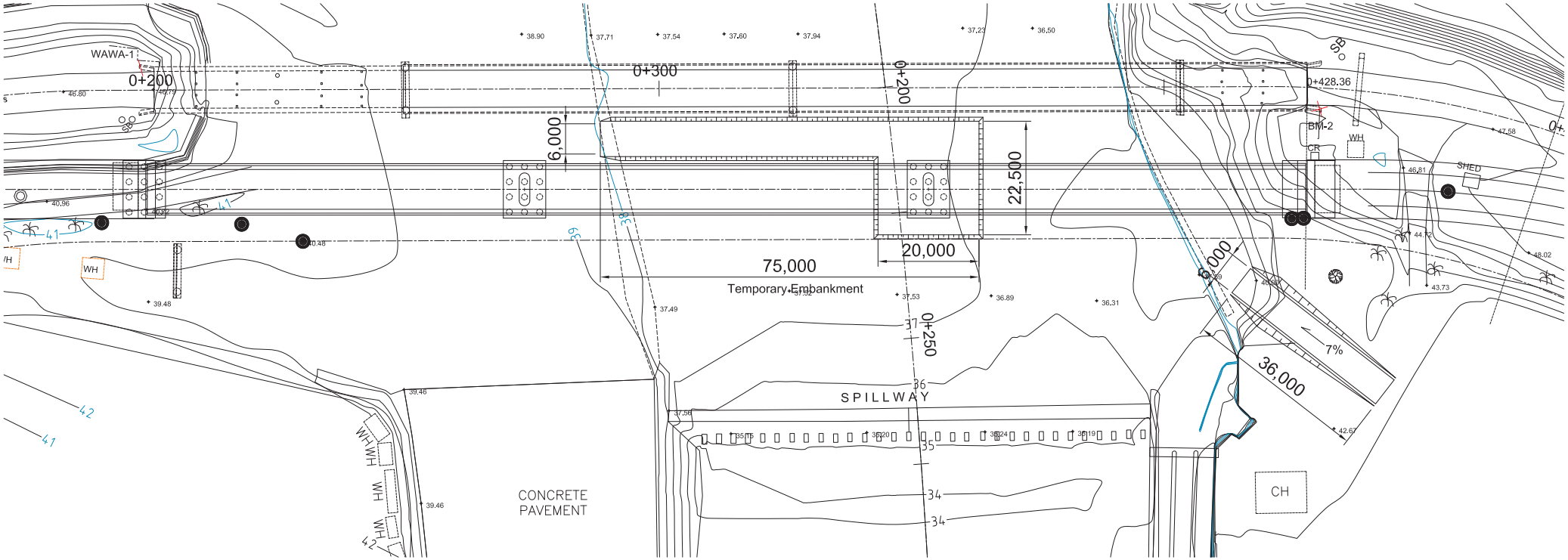
Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitagating Measures for the Large Scale Earthquakes in the Republic of the Philippines	MAWO BRIDGE	TEMPORARY ROAD	4-E1

TEMPORARY ROAD OF WAWA BRIDGE

ELEVATION
S=1:800



PLAN
S=1:800



Clients:		Consultants:	Project Title:	Bridge Name:	Sheet Contents:	SHT. NO.
Japan International Cooperation Agency	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REPUBLIC OF THE PHILIPPINES	CTI Engineering Co., Ltd. Chodai Co., Ltd. Nippon Koei	Project for Study on Improvement of Bridges Through Disaster Mitagating Measures for the Large Scale Earthquakes in the Republic of the Philippines	WAWA BRIDGE	TEMPORARY ROAD	4-F1

COST ESTIMATE FOR SELECTED BRIDGES

Appendix 4 (1)Unit Cost

Local Items

Price : Not Include Overhead Cost and VAT

Item		Unit	Price (Php)		
			Labor	Others	Total
Temporary Work					
Temporary Embankment		cu-m	3.65	670.47	674.12
Temporary Bridge		sq-m	1,479.05	26,270.50	27,749.55
Sheet pile		sq-m	19.08	21,162.90	21,181.98
Flag man		hr	88.00		88.00
Demolish Work					
Concrete		cu-m	312.74	1,159.04	1,471.78
Industrial waste Disposal		ton	136.83	710.19	847.02
Existing Girder		ton	5,967.05	30,398.63	36,365.68
Concrete Work					
Concrete	28 Mpa	cu-m	85.03	7,474.73	7,559.76
Reinforcement steel	Grade60	kg	6.76	45.87	52.64
Existing Surface Treatment		sq-m	121.03	397.73	518.77
Pile Work					
Cast-in-place Concrete Pile	D=1.0m	m	1,966.73	39,808.96	41,775.68
Cast-in-place Concrete Pile	D=1.2m	m	1,995.11	43,903.36	45,898.48
Cast-in-place Concrete Pile	D=1.5m	m	2,047.83	50,190.76	52,238.59
Cast-in-place Concrete Pile	D=2.0m	m	2,825.85	85,343.66	88,169.51
Cast-in-place Concrete Pile	D=2.5m	m	4,019.85	112,967.37	116,987.22
Bridge Surface Work		sq-m	194.20	1,747.78	1,941.98
Other Work					
Embankment		cu-m	3.65	670.47	674.12
Pavement		sq-m	135.54	1,219.90	1,355.44
Injection of Deck Slab		m	234.96	1,671.99	1,906.95
PC Girder					
L=27m modified AASHTO Type IV		nos	330,018.00	876,541.66	1,206,559.66

Imoirted Items 1/2 Price : Not Include Overhead Cost and VAT

Item		Unit	Price (Php)	Quotation	
				Price (Yen)	Remark
superstructure					
Lambingan					
Material		ton	67,000.00	147,267	
Fabrication		ton	127,000.00	420,000	adjust same as Gudalupe
Transportation		ton	6,000.00	25,531	
Erection		ton	150,000.00	331,188	
Guadalupe					
Material		ton	64,000.00	141,305	
Fabrication		ton	127,000.00	282,000	
Transportation		ton	6,000.00	5,000	
Erection		ton	184,000.00	408,062	
Temporary Support of Inner Superstructure		ton	10,000.00	22,000	Support Weight
Wawa					
Material		ton	84,000.00	186,428	
Fabrication		ton	127,000.00	284,592	
Transportation		ton	16,000.00	35,000	
Erection		ton	96,000.00	212,329	
PC deck slab		cu-m	115,000.00	170,000	
Steel Pipe Sheet Pile					
Material	D=0.8m,t=9mm	m	27,000.00	58,604	Import From Vietnam
	D=0.8m,t=12mm	m	31,000.00	67,781	Import From Vietnam
	D=0.8m,t=16mm	m	36,000.00	80,017	Import From Vietnam
	D=1.0m	m	44,000.00	96,761	Import From Vietnam
Permanent, Hard Later	D=0.8m	m	214,000.00	475,333	
	D=1.0m	m	65,000.00	142,854	
Permanent, sand Later	D=0.8m	m	81,000.00	178,646	
	D=1.0m	m	50,000.00	108,914	
Pile Work (Under Limited Space)					
Cast-in-place Concrete Pile	D=1.0m	m	78,070.46		DUPA
Cast-in-place Concrete Pile	D=1.2m	m	82,374.10		DUPA
Cast-in-place Concrete Pile	D=1.5m	m	89,050.08		DUPA
Cast-in-place Concrete Pile	D=2.0m	m	132,727.40		DUPA
Cast-in-place Concrete Pile	D=2.5m	m	171,304.47		DUPA
Grand Improvement					
Anti-liquefaction		cu-m	20,300.00	45,000	
Force reduction		cu-m	59,000.00	130,000	
Goose Asphalt		sq-m	11,700.00		22500Yen + other surface work
Re-Paint		sq-m	2,700.00	6,000	

Imoirted Items 2/2 Price : Not Include Overhead Cost and VAT

Item	Unit	Price (Php)	Quotation	
			Price (Yen)	Remark
Imported Material				
Bearing				
NRB G14-320x320x10x5	nos	233,000.00	430,805	
NRB G14-700x700x17x6	nos	922,000.00	1,706,460	
NRB; G14-900x900x22x5	nos	1,560,000.00	2,877,505	
NRB G14-1500x1500x37x5	nos	1,360,000.00	2,502,730	
Mov; BPB 650kN	nos	368,000.00	817,200	Price in the price list at Japan + 20%(Transportation,accessorys)
Mov; BPB 800kN	nos	478,000.00	1,060,800	Price in the price list at Japan + 20%(Transportation,accessorys)
Mov; BPB 850kN	nos	478,000.00	1,060,800	Price in the price list at Japan + 20%(Transportation,accessorys)
Mov; BPB 900kN	nos	478,000.00	1,060,800	Price in the price list at Japan + 20%(Transportation,accessorys)
Mov; BPB 950kN	nos	478,000.00	1,060,800	Price in the price list at Japan + 20%(Transportation,accessorys)
Mov; BPB 1000kN	nos	478,000.00	1,060,800	Price in the price list at Japan + 20%(Transportation,accessorys)
Mov; BPB 1100kN	nos	630,000.00	1,398,000	Price in the price list at Japan + 20%(Transportation,accessorys)
Mov; BPB 1500kN	nos	630,000.00	1,398,000	Price in the price list at Japan + 20%(Transportation,accessorys)
Mov; BPB 2250kN	nos	1,300,000.00	2,884,000	Price in the price list at Japan + 20%(Transportation,accessorys)
Fix; BPB 650kN	nos	337,000.00	747,600	Price in the price list at Japan + 20%(Transportation,accessorys)
Fix; BPB 750kN	nos	337,000.00	747,600	Price in the price list at Japan + 20%(Transportation,accessorys)
Fix; BPB 800kN	nos	429,000.00	952,800	Price in the price list at Japan + 20%(Transportation,accessorys)
Fix; BPB 850kN	nos	429,000.00	952,800	Price in the price list at Japan + 20%(Transportation,accessorys)
Fix; BPB 900kN	nos	429,000.00	952,800	Price in the price list at Japan + 20%(Transportation,accessorys)
Fix; BPB 1000kN	nos	429,000.00	952,800	Price in the price list at Japan + 20%(Transportation,accessorys)
Fix; BPB 2250kN	nos	1,170,000.00	2,590,000	Price in the price list at Japan + 20%(Transportation,accessorys)
Fix; BPB 3000kN	nos	1,560,000.00	3,453,000	Price in the price list at Japan + 20%(Transportation,accessorys)
Damper				
Cylinder type 1000 kN	nos	2,710,000.00	6,020,000	Price in the price list at Japan + 20%(Transportation,accessorys)
Cylinder type 1500 kN	nos	3,860,000.00	8,568,000	Price in the price list at Japan + 20%(Transportation,accessorys)
Cylinder type 2000 kN	nos	4,330,000.00	9,620,000	Price in the price list at Japan + 20%(Transportation,accessorys)
Shear panel 1000 kN	nos	2,710,000.00		Same as Cylinder type 1000 kN
Unseating Prevention System				
PC cable F50TD	nos	136,000.00	301,404	Price in the price list at Japan + 20%(Transportation,accessorys)
PC cable F100TD	nos	219,000.00	486,012	Price in the price list at Japan + 20%(Transportation,accessorys)
PC cable F270TD	nos	470,000.00	1,044,132	Price in the price list at Japan + 20%(Transportation,accessorys)
PC cable F310TD	nos	532,000.00	1,181,040	Price in the price list at Japan + 20%(Transportation,accessorys)
PC cable F360TD	nos	617,000.00	1,370,760	Price in the price list at Japan + 20%(Transportation,accessorys)
Chain 450kN	nos	173,000.00	382,800	Price in the price list at Japan + 20%(Transportation,accessorys)
Chain 615kN + Cross beam	nos	349,000.00	774,000	Price in the price list at Japan + 20%(Transportation,accessorys)
Chain 825kN	nos	296,000.00	657,600	Price in the price list at Japan + 20%(Transportation,accessorys)
Chain 975kN	nos	402,000.00	892,800	Price in the price list at Japan + 20%(Transportation,accessorys)
Chain 1350kN + Cross beam	nos	1,080,000.00	2,392,000	Price in the price list at Japan + 20%(Transportation,accessorys)
Belt 900 kN	nos	194,000.00	429,600	Price in the price list at Japan + 20%(Transportation,accessorys)
Seat Extender Bracket	nos	50,000.00		
Expansion Joint				
10cm, +-5cm	nos	46,000.00	100,200	Price in the price list at Japan + 20%(Transportation,accessorys)
15cm, +-10cm	nos	72,000.00	158,400	Price in the price list at Japan + 20%(Transportation,accessorys)
20cm, +-10cm	nos	72,000.00	158,400	Price in the price list at Japan + 20%(Transportation,accessorys)
30cm, +-15cm	nos	112,000.00	247,500	Price in the price list at Japan + 20%(Transportation,accessorys)
40cm, +-10cm	nos	112,000.00	247,500	Price in the price list at Japan + 20%(Transportation,accessorys)

UNIT PRICE ANALYSIS

ITEM NO.: Temporary Bridge
WORK ITEM : Structural Steel - Grade A572 (Furnished, Fabricated & Erected)
QUANTITY : 29,200.00 kg.

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
E344	Cargo Truck, 160 HP	1.00	80.00	712.00	56,960.00
E326b	Oxyacetylene Cutting Outfit	1.00	80.00	586.50	46,920.00
E313b	Generator Set	1.00	80.00	739.75	59,179.72
E340	Heavy Duty Electric Drill	1.00	80.00	350.00	28,000.00
E325b	Pile Driver, Vibratory Hydraulic Driven	1.00	16.00	1,800.00	28,800.00
E326	Welding Machine, Electric Driven	1.00	80.00	391.00	31,280.00
E215	Truck Mounted Crane, 200 HP	1.00	80.00	1,278.00	102,240.00
	(Miscellaneous Tools/Equipment, 10% of Above)				35,337.97
	SUB-TOTAL (1)	4,858.97	PhP/sq.m.	13.31	388,717.69
REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
L01	Foreman	1.00	80.00	119.93	9,594.40
L10	Skilled Labor	6.00	80.00	87.97	42,225.60
L11	Unskilled Labor	8.00	80.00	67.75	43,360.00
	SUB-TOTAL (2)	1,189.75	PhP/sq.m.	3.26	95,180.00
REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
M06	Structural Steel	29,200.00	kg.	47.00	1,372,400.00
	Misc. Materials (5% of Above Cost)				68,620.00
	SUB-TOTAL (3)	18,012.75	PhP/sq.m.	49.35	1,441,020.00
4)	ESTIMATED DIRECT COST (EDC)			65.92	1,924,917.69

	Labor	Others
Steel	1,189.75	22,871.72
Conc. (DUPA 28Mpa , Super)	34.98	1,678.38
Rebar (DUPA Rebar)	254.32	1,720.40
	1,479.05	26,270.50
Per Sq.m	27,749.55	

UNIT PRICE ANALYSIS

ITEM NO. :
WORK ITEM : Concrete Surface Treatment (For Concrete Jacket)
QUANTITY : 6.00 m2

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
	Chipping Hammer	2.00	1.00	104.93	209.86
	Electric Drill	2.00	1.00	35.00	70.00
	Minor Tools (10% of Labor)				42.19
	SUB-TOTAL (1)			53.67	322.05
REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
L01	Leadman	1.00	1.00	110.41	110.41
L10	Skilled Labor	2.00	1.00	87.97	175.94
L11	Unskilled Labor	2.00	1.00	67.75	135.50
	SUB-TOTAL (2)			70.31	421.85
REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
	SUB-TOTAL (3)				0.00
4)	ESTIMATED DIRECT COST (EDC)				743.90

	Re-bor (7.5kg/sq·	Total
Labor	70.31	50.72	121.03
others	53.67	344.06	397.73

UNIT PRICE ANALYSIS

ITEM NO. : 101(1)
WORK ITEM : DEMOLITION OF CONCRETE STRUCTURES
QUANTITY : 25.00 m3

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
	Demolition of existing structure				
E209	Backhoe, CAT 312BL, 84 HP	1.00	4.00	2,245.00	8,980.00
	Breaker, Pneumatic Handheld	1.00	16.00	785.75	12,572.00
	Portable Air Compressor, 185 CFM	1.00	16.00	464.00	7,424.00
	SUB-TOTAL (1)			1,159.04	28,976.00
REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
L01	Foreman	1.00	20.00	119.93	2,398.60
L10	Skilled Labor				0.00
L11	Unskilled Labor	4.00	20.00	67.75	5,420.00
	SUB-TOTAL (2)			312.74	7,818.60
REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
	SUB-TOTAL (3)				0.00
4)	ESTIMATED DIRECT COST (EDC)				36,794.60

UNIT PRICE ANALYSIS

ITEM NO.:
WORK ITEM : Demolition of Super Structure (Steel)
QUANTITY : 190.00 kg.

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
E344	Cargo Truck, 160 HP	1.00	2.00	712.00	1,424.00
E326b	Oxyacetylene Cutting Outfit	1.00	2.00	586.50	1,173.00
E313b	Generator Set	1.00	2.00	739.75	1,479.49
E340	Heavy Duty Electric Drill	1.00		350.00	0.00
E340b	Electric Grinder	1.00		500.00	0.00
E326	Welding Machine, Electric Driven	1.00		391.00	0.00
E215	Truck Mounted Crane, 200 HP	1.00	2.00	1,278.00	2,556.00
	(Miscellaneous Tools/Equipment, 10% of Above)				663.25
	SUB-TOTAL (1)			38.40	7,295.74
REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
L01	Foreman	1.00	2.00	119.93	239.86
L10	Skilled Labor	2.00	2.00	87.97	351.88
L11	Unskilled Labor	4.00	2.00	67.75	542.00
	SUB-TOTAL (2)			5.97	1,133.74
REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
	Structural Steel (Scrap Cost)	190.00	kgs	-8.00	-1,520.00
	SUB-TOTAL (3)			-8.00	-1,520.00
4)	ESTIMATED DIRECT COST (EDC)			36.37	6,909.48

UNIT PRICE ANALYSIS

ITEM NO. : 101(3)b
WORK ITEM : Waste Disposal
QUANTITY : 20.00 ton

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
	Hauling and Disposal of surplus material				
E209	Backhoe, CAT 312BL, 84 HP	1.00	2.00	2,245.00	4,490.00
E343	Dump Truck, 9.00 m3, 275 HP (1 km. radius)	2.00	3.75	1,205.00	9,037.50
	Miscellaneous Equipment/Tools , 5% of above				676.38
	SUB-TOTAL (1)			710.19	14,203.88

REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
L01	Foreman	1.00	7.00	119.93	839.51
L11	Unskilled Labor	4.00	7.00	67.75	1,897.00
	SUB-TOTAL (2)			136.83	2,736.51

REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
	SUB-TOTAL (3)				0.00
4)	ESTIMATED DIRECT COST (EDC)				16,940.39

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UNIT PRICE ANALYSIS

ITEM NO. : 301
WORK ITEM : PRIME COAT (MC-70 CUT-BACK ASPHALT)
QUANTITY : 11,718.75 sq.m.

REF. NO.	1) EQUIPMENT COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
	SUB-TOTAL (1)				0.00

REF. NO.	2) LABOR COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
	SUB-TOTAL (2)				0.00

REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
M31	Prime Coat, MC-70 Cutback Asphalt (Supplied, Delivered, & Applied) Quantity: Area = 25,000.00 m2; Application Rate = 1.50 Li/m2; Volume = 37,500.00 Li.; Weight = 37.50 tons	39.38	t	71,400.00	2,811,375.00
	SUB-TOTAL (3)			239.90	2,811,375.00
4)	ESTIMATED DIRECT COST (EDC)				2,811,375.00

UNIT PRICE ANALYSIS

ITEM NO. : 302
WORK ITEM : TACK COAT
QUANTITY : 22,222.22 sq.m

REF. NO.	1) EQUIPMENT COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
	SUB-TOTAL (1)				0.00
REF. NO.	2) LABOR COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
	SUB-TOTAL (2)				0.00
REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
M32	Tack Coat (Supplied, Delivered, & Applied) Quantity: Area = 25,000.00 m2 Application Rate = 0.40 Li/m2 Volume = 10,000.00 Li. Weight = 10.00 tons	10.50	t	66,675.00	700,087.50
	SUB-TOTAL (3)			31.50	700,087.50
4)	ESTIMATED DIRECT COST (EDC)				700,087.50

UNIT PRICE ANALYSIS

ITEM NO. : 310(1)
WORK ITEM : ASPHALT CONCRETE, HOT LAID, 100mm THICK
QUANTITY : 1,000.00 m2

REF. NO.	1) EQUIPMENT COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
	SUB-TOTAL (1)				0.00
REF. NO.	2) LABOR COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
	SUB-TOTAL (2)				0.00
REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
M34b	Binder Course (Supplied, Delivered, Laid, & Compacted) Quantity: Area (m2) 1,000.00 Thickness (m.) 0.10 Volume (m3) 100.00 Specific Gravity 2.30 Tonnage 230.00	241.50	t	4,488.75	1,084,033.13
	SUB-TOTAL (3)			1,084.03	1,084,033.13
4)	ESTIMATED DIRECT COST (EDC)				1,084,033.13

Prime Coat	sq.m.	239.90
Tack Coat	sq.m.	31.50
AC	sq.m.	1,084.03
	total	1,355.44

UNIT PRICE ANALYSIS

ITEM NO. :
WORK ITEM : SURFACE WORKS (A.C. Overlay, Pavement Marking, Sidewalk, Railing)
QUANTITY : 951.20 m2 (Bridge Area)

REF. NO.	1) EQUIPMENT COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
	SUB-TOTAL (1)				0.00
REF. NO.	2) LABOR COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
	SUB-TOTAL (2)				0.00
REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
	AC Wearing Course (Supplied, Delivered, Laid, & Compacted)	639.60	sq.m.	542.02	346,675.99
	Tack Coat (Supplied, Delivered, & Applied)	639.60	sq.m.	31.50	20,147.40
	Thermoplastic Pavement Marking (Supplied, Delivered, & Applied)	36.90	sq.m.	668.10	24,652.89
	Sidewalk : Concrete (28Mpa, in-place)	78.00	cu.m.	7,786.62	607,356.36
	Rebar (Installed)	9,360.00	kgs	52.64	492,710.40
	Railing: Concrete (28Mpa, in-place)	18.00	cu.m.	7,786.62	140,159.16
	Rebar (Installed)	4,094.00	kgs	52.64	215,508.16
	SUB-TOTAL (3)			1,941.98	1,847,210.36
4)	ESTIMATED DIRECT COST (EDC)			1,941.98	1,847,210.36

UNIT PRICE ANALYSIS

ITEM NO. : 404 (2)
WORK ITEM : REINFORCING STEEL, GRADE 60
QUANTITY : 1,000.00 kgs.

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
E327	Rebar Cutter, 42mm, 3-Phase	1.00	8.00	298.91	2,391.28
E328	Rebar Bender, 42mm, 3-Phase	1.00	8.00	341.10	2,728.80
	Minor Tools, 5% of Above				256.00
	SUB-TOTAL (1)			5.38	5,376.08
REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
L01	Foreman	1.00	4.63	119.93	555.28
L10	Skilled Labor	6.00	4.63	87.97	2,443.81
L11	Unskilled Labor	12.00	4.63	67.75	3,764.19
	SUB-TOTAL (2)			6.76	6,763.28
REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
M05a	Reinforcing Steel Bar Grade 60	1,000.00	kgs.	37.07	37,070.00
M18	Ga. #16 G.I. Tie Wires	20.00	kgs.	75.00	1,500.00
	Wastage, 5 % of above				1,928.50
	SUB-TOTAL (3)			40.50	40,498.50
4)	ESTIMATED DIRECT COST (EDC)				52,637.86

UNIT PRICE ANALYSIS

ITEM NO.:
WORK ITEM : Structural Concrete Class "AA" (28 MPa)
(Bridge Structures - Substructures)
QUANTITY : 20.00 cu.m.

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
	Concrete Pouring				
E311	Concrete Vibrator (Shaft & Diesel Drive Unit)	2.00	3.00	105.00	630.00
E309	Pumpcrete, Whiteman 100D	1.00	2.50	1,583.00	3,957.50
	Minor Tools (10% of Equipment Cost)				458.75
	SUB-TOTAL (1)			252.31	5,046.25

REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
L01	Foreman	1.00	3.00	119.93	359.79
L10	Skilled Labor	2.00	3.00	87.97	527.82
L11	Unskilled Labor	4.00	3.00	67.75	813.00
	SUB-TOTAL (2)			85.03	1,700.61

REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
M22	Concrete Class "AA", 28 MPa (4000 psi - Delivered)	20.00	m^3	4,553.57	91,071.43
PM-4	Steel Forms	40.00	m2	758.59	30,343.60
PM-5	Staging Type Scaffolding	45.00	m2	410.66	18,479.70
	Misc. Materials (5% of Material, Except Formworks & Staging)				4,553.57
	SUB-TOTAL (3)			7,222.42	144,448.30

4)	ESTIMATED DIRECT COST (EDC)	151,195.16

UNIT PRICE ANALYSIS

ITEM NO.:
WORK ITEM : Structural Concrete Class "AA" (35 MPa)
(Bridge Structures - Superstructures)
QUANTITY : 16.00 cu.m.

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
	Concrete Pouring				
E311	Concrete Vibrator (Shaft & Diesel Drive Unit)	4.00	2.50	105.00	1,050.00
E309	Pumpcrete, Whiteman 100D	1.00	2.00	1,583.00	3,166.00
	Minor Tools (10% of Equipment Cost)				421.60
	SUB-TOTAL (1)			289.85	4,637.60

REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
L01	Foreman	1.00	2.50	119.93	299.83
L10	Skilled Labor	4.00	2.50	87.97	879.70
L11	Unskilled Labor	8.00	2.50	67.75	1,355.00
	SUB-TOTAL (2)			158.41	2,534.53

REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
	Structural Concrete, 35 Mpa	16.00	m^3	4,604.00	73,664.00
	Misc. Materials (5% of Above)				3,683.20
	Forms	16.00	m^3	2,875.86	46,013.76
	SUB-TOTAL (3)			7,710.06	123,360.96

4)	ESTIMATED DIRECT COST (EDC)	130,533.09

UNIT PRICE ANALYSIS

ITEM NO.:
WORK ITEM : Structural Concrete (41 MPa)
(Bridge Structures - Superstructures)
QUANTITY : 16.00 cu.m.

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
	Concrete Pouring				
E311	Concrete Vibrator (Shaft & Diesel Drive Unit)	4.00	2.50	105.00	1,050.00
E309	Pumpcrete, Whiteman 100D	1.00	2.00	1,583.00	3,166.00
	Minor Tools (10% of Equipment Cost)				421.60
	SUB-TOTAL (1)			289.85	4,637.60

REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
L01	Foreman	1.00	2.50	119.93	299.83
L10	Skilled Labor	4.00	2.50	87.97	879.70
L11	Unskilled Labor	8.00	2.50	67.75	1,355.00
	SUB-TOTAL (2)			158.41	2,534.53

REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
	Structural Concrete, 41 Mpa	16.00	m^3	4,725.00	75,600.00
	Misc. Materials (5% of Above)				3,780.00
	Forms	16.00	m^3	2,875.86	46,013.76
	SUB-TOTAL (3)			7,837.11	125,393.76
4)	ESTIMATED DIRECT COST (EDC)				132,565.89

UNIT PRICE ANALYSIS

ITEM NO.: 403(1)
WORK ITEM : Sheet Pile
QUANTITY : 18.00 Sq.m. for All Sheet pile area 36sq-m

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
E325b	Pile Driver, Vibratory Hydraulic Driven	1.00	1.00	1,800.00	1,800.00
E215	Truck Mounted Crane, 200 HP	1.00	1.00	1,278.00	1,278.00
	(Miscellaneous Tools/Equipment, 10% of Above)				307.80
	SUB-TOTAL (1)			188.10	3,385.80

REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
L01	Foreman	1.00	1.00	119.93	119.93
L10	Skilled Labor	1.00	1.00	87.97	87.97
L11	Unskilled Labor	2.00	1.00	67.75	135.50
	SUB-TOTAL (2)			19.08	343.40

REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
M06	Steel Pile	72.00	sq.m	4,994.00	359,568.00
	Misc. Materials (5% of Above Cost)				17,978.40
	Sheet Pile Cost = PhP44.00/Kg. 1 Sq.m. = 113.5 kgs 4994				
	SUB-TOTAL (3)			20,974.80	377,546.40
4)	ESTIMATED DIRECT COST (EDC)			21,181.98	381,275.60

UNIT PRICE ANALYSIS

ITEM NO.: 400(23)a
WORK ITEM : CONCRETE PILES CAST IN DRILLED HOLES, 1000mm DIAMETER
QUANTITY : 20.00 l.m.

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
	Boring/Drilling				
E222	Drilling Rig, Hydraulic Crawler Type (1000mm Diameter)	1.00	23.53	12,637.00	297,348.61
	Driving/Removing of Steel Casing				
E325b	Pile Driver, Vibratory Hydraulic Driven	1.00	10.00	1,800.00	18,000.00
E214	Crawler Crane, 145 HP	1.00	10.00	1,384.00	13,840.00
	Installation of Steel Cage				
E214	Crawler Crane, 145 HP	1.00	4.00	1,384.00	5,536.00
E104A	Desanding/Desilting Plant	1.00	2.00	966.00	1,932.00
E104B	Bentonite Plant	1.00	2.00	231.00	462.00
	Concrete Pouring				
E307	Transit Mixer (N/A - Concrete @ Delivered Price)	5.00	1.26	-	-
E214	Crawler Crane, 145 HP	1.00	1.26	1,384.00	1,743.84
E341b	Tremie Pipe Set, 200mm diameter x 3.00 meter	1.00	1.26	125.00	157.50
	Disposal of Excavated Material				
E205	Wheel Loader, CAT 918F	1.00	0.85	1,329.00	1,129.65
E343	Dump Truck, 9.00 m3, 275 HP	5.00	0.85	1,205.00	5,121.25
	Ancillary Eqpt/Tools, 10% of above				34,527.09
	SUB-TOTAL (1)			18,989.90	379,797.94

REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF DAYS	UNIT RATE	TOTAL COST (PESOS)
L01	Foreman	1.00	4.85	959.41	4,653.14
L10	Skilled Labor	4.00	4.85	703.70	13,651.78
L11	Unskilled Labor	8.00	4.85	542.00	21,029.60
	SUB-TOTAL (2)			1,966.73	39,334.52

REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
M22	Concrete Class "AA", 28 MPa (4000 psi - Delivered)	15.71	m3	4,250.00	66,767.50
404(2)	Reinforcing Steel, Grade 60	5,000.00	kgs.	52.64	263,200.00
M48b	Steel Casing Rental	4,439.07	kgs	15.00	66,586.05
	Misc. Materials (5% of Above Cost)				19,827.68
	SUB-TOTAL (3)			20,819.06	416,381.23

4)	ESTIMATED DIRECT COST (EDC)	835,513.68

UNIT PRICE ANALYSIS

ITEM NO.: 400(23)b
WORK ITEM : CONCRETE PILES CAST IN DRILLED HOLES, 1200mm DIAMETER
QUANTITY : 20.00 l.m.

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
	Boring/Drilling				
E222	Drilling Rig, Hydraulic Crawler Type (2000mm Diameter)	1.00	23.53	12,637.00	297,348.61
	Driving/Removing of Steel Casing				
E325b	Pile Driver, Vibratory Hydraulic Driven	1.00	10.00	1,800.00	18,000.00
E214	Crawler Crane, 145 HP	1.00	10.00	1,384.00	13,840.00
	Installation of Steel Cage				
E214	Crawler Crane, 145 HP	1.00	4.00	1,384.00	5,536.00
E104A	Desanding/Desilting Plant	1.00	2.00	966.00	1,932.00
E104B	Bentonite Plant	1.00	2.00	231.00	462.00
	Concrete Pouring				
E307	Transit Mixer (N/A - Concrete @ Delivered Price)	5.00	1.81	-	-
E214	Crawler Crane, 145 HP	1.00	1.81	1,384.00	2,505.04
E341b	Tremie Pipe Set, 200mm diameter x 3.00 meter	1.00	1.81	125.00	226.25
	Disposal of Excavated Material				
E205	Wheel Loader, CAT 918F	1.00	1.22	1,329.00	1,621.38
E343	Dump Truck, 9.00 m3, 275 HP	5.00	1.22	1,205.00	7,350.50
	Ancillary Eqpt/Tools, 10% of above				34,882.18
	SUB-TOTAL (1)			19,185.20	383,703.96

REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF DAYS	UNIT RATE	TOTAL COST (PESOS)
L01	Foreman	1.00	4.92	959.41	4,720.30
L10	Skilled Labor	4.00	4.92	703.70	13,848.82
L11	Unskilled Labor	8.00	4.92	542.00	21,333.12
	SUB-TOTAL (2)			1,995.11	39,902.23

REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
M22	Concrete Class "AA", 28 MPa (4000 psi - Delivered)	22.62	m3	4,250.00	96,135.00
404(2)	Reinforcing Steel, Grade 60	5,600.00	kgs.	52.64	294,784.00
M48b	Steel Casing Rental	5,326.88	kgs	15.00	79,903.20
	Misc. Materials (5% of Above Cost)				23,541.11
	SUB-TOTAL (3)			24,718.17	494,363.31

4)	ESTIMATED DIRECT COST (EDC)	917,969.50

UNIT PRICE ANALYSIS

ITEM NO.: 400(23)b
WORK ITEM : CONCRETE PILES CAST IN DRILLED HOLES, 1500mm DIAMETER
QUANTITY : 20.00 l.m.

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
	Boring/Drilling				
E222	Drilling Rig, Hydraulic Crawler Type (2000mm Diameter)	1.00	23.53	12,637.00	297,348.61
	Driving/Removing of Steel Casing				
E325b	Pile Driver, Vibratory Hydraulic Driven	1.00	10.00	1,800.00	18,000.00
E214	Crawler Crane, 145 HP	1.00	10.00	1,384.00	13,840.00
	Installation of Steel Cage				
E214	Crawler Crane, 145 HP	1.00	4.00	1,384.00	5,536.00
E104A	Desanding/Desilting Plant	1.00	2.00	966.00	1,932.00
E104B	Bentonite Plant	1.00	2.00	231.00	462.00
	Concrete Pouring				
E307	Transit Mixer (N/A - Concrete @ Delivered Price)	5.00	2.83	-	-
E214	Crawler Crane, 145 HP	1.00	2.83	1,384.00	3,916.72
E341b	Tremie Pipe Set, 200mm diameter x 3.00 meter	1.00	2.83	125.00	353.75
	Disposal of Excavated Material				
E205	Wheel Loader, CAT 918F	1.00	1.91	1,329.00	2,538.39
E343	Dump Truck, 9.00 m3, 275 HP	5.00	1.91	1,205.00	11,507.75
	Ancillary Eqpt/Tools, 10% of above				35,543.52
	SUB-TOTAL (1)			19,548.94	390,978.74

REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF DAYS	UNIT RATE	TOTAL COST (PESOS)
L01	Foreman	1.00	5.05	959.41	4,845.02
L10	Skilled Labor	4.00	5.05	703.70	14,214.74
L11	Unskilled Labor	8.00	5.05	542.00	21,896.80
	SUB-TOTAL (2)			2,047.83	40,956.56

REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
M22	Concrete Class "AA", 28 MPa (4000 psi - Delivered)	35.34	m3	4,250.00	150,195.00
404(2)	Reinforcing Steel, Grade 60	6,337.00	kgs.	52.64	333,579.68
M48b	Steel Casing Rental	6,658.61	kgs	15.00	99,879.15
	Misc. Materials (5% of Above Cost)				29,182.69
	SUB-TOTAL (3)			30,641.83	612,836.52

4)	ESTIMATED DIRECT COST (EDC)	1,044,771.82

UNIT PRICE ANALYSIS

ITEM NO.: 400(23)c
WORK ITEM : CONCRETE PILES CAST IN DRILLED HOLES, 2000mm DIAMETER
QUANTITY : 20.00 l.m.

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
	Boring/Drilling				
E222	Drilling Rig, Hydraulic Crawler Type (2000mm Diameter)	1.00	26.67	12,637.00	337,028.79
	Driving/Removing of Steel Casing				
E325b	Pile Driver, Vibratory Hydraulic Driven	1.00	10.00	1,800.00	18,000.00
E214	Crawler Crane, 145 HP	1.00	10.00	1,384.00	13,840.00
	Installation of Steel Cage				
E214	Crawler Crane, 145 HP	1.00	4.00	1,384.00	5,536.00
E104A	Desanding/Desilting Plant	1.00	2.00	966.00	1,932.00
E104B	Bentonite Plant	1.00	2.00	231.00	462.00
	Concrete Pouring				
E307	Transit Mixer (N/A - Concrete @ Delivered Price)	5.00	5.03	-	-
E214	Crawler Crane, 145 HP	1.00	5.03	1,384.00	6,961.52
E341b	Tremie Pipe Set, 200mm diameter x 3.00 meter	1.00	5.03	125.00	628.75
	Disposal of Excavated Material				
E205	Wheel Loader, CAT 918F	1.00	3.40	1,329.00	4,518.60
E343	Dump Truck, 9.00 m3, 275 HP	5.00	3.40	1,205.00	20,485.00
	Ancillary Eqpt/Tools, 10% of above				40,939.27
	SUB-TOTAL (1)			22,516.60	450,331.93

REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF DAYS	UNIT RATE	TOTAL COST (PESOS)
L01	Foreman	1.00	5.71	959.41	5,478.23
L10	Skilled Labor	5.00	5.71	703.70	20,090.64
L11	Unskilled Labor	10.00	5.71	542.00	30,948.20
	SUB-TOTAL (2)			2,825.85	56,517.07

REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
M22	Concrete Class "AA", 28 MPa (4000 psi - Delivered)	62.83	m3	4,250.00	267,027.50
404(2)	Reinforcing Steel, Grade 60	15,131.20	kgs.	52.64	796,506.37
M48b	Steel Casing Rental	8,878.14	kgs	15.00	133,172.10
	Misc. Materials (5% of Above Cost)				59,835.30
	SUB-TOTAL (3)			62,827.06	1,256,541.27

4)	ESTIMATED DIRECT COST (EDC)	1,763,390.26

UNIT PRICE ANALYSIS

ITEM NO.: 400(23)d
WORK ITEM : CONCRETE PILES CAST IN DRILLED HOLES, 2500mm DIAMETER
QUANTITY : 20.00 l.m.

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
	Boring/Drilling				
E221	Drilling Rig, Hydraulic Crawler Type (2500mm Diameter)	1.00	30.77	13,494.00	415,210.38
	Driving/Removing of Steel Casing				
E325b	Pile Driver, Vibratory Hydraulic Driven	1.00	11.43	1,800.00	20,574.00
E214	Crawler Crane, 145 HP	1.00	11.43	1,384.00	15,819.12
	Installation of Steel Cage				
E214	Crawler Crane, 145 HP	1.00	5.00	1,384.00	6,920.00
E104A	Desanding/Desilting Plant	1.00	2.50	966.00	2,415.00
E104B	Bentonite Plant	1.00	2.50	231.00	577.50
	Concrete Pouring				
E307	Transit Mixer (N/A - Concrete @ Delivered Price)	5.00	7.85	-	-
E214	Crawler Crane, 145 HP	1.00	7.85	1,384.00	10,864.40
E341b	Tremie Pipe Set, 200mm diameter x 3.00 meter	1.00	7.85	125.00	981.25
	Disposal of Excavated Material				
E205	Wheel Loader, CAT 918F	1.00	5.31	1,329.00	7,056.99
E343	Dump Truck, 9.00 m3, 275 HP	5.00	5.31	1,205.00	31,992.75
	Ancillary Eqpt/Tools, 10% of above				51,241.14
	SUB-TOTAL (1)			28,182.63	563,652.53

REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF DAYS	UNIT RATE	TOTAL COST (PESOS)
L01	Foreman	1.00	6.88	959.41	6,600.74
L10	Skilled Labor	6.00	6.88	703.70	29,048.74
L11	Unskilled Labor	12.00	6.88	542.00	44,747.52
	SUB-TOTAL (2)			4,019.85	80,397.00

REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
M22	Concrete Class "AA", 28 MPa (4000 psi - Delivered)	98.17	m3	4,250.00	417,222.50
404(2)	Reinforcing Steel, Grade 60	19,590.80	kgs.	52.64	1,031,259.71
M48b	Steel Casing Rental	11,097.68	kgs	15.00	166,465.20
	Misc. Materials (5% of Above Cost)				80,747.37
	SUB-TOTAL (3)			84,784.74	1,695,694.78

4)	ESTIMATED DIRECT COST (EDC)				2,339,744.31

UNIT PRICE ANALYSIS

ITEM NO.: 400(23)a
WORK ITEM : CONCRETE PILES CAST IN DRILLED HOLES, 1000mm DIAMETER
QUANTITY : 20.00 l.m. Under Limited Space

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
	Boring/Drilling				
E222	Drilling Rig, Hydraulic Crawler Type (1000mm Diameter)	1.00	23.53	31,000.00	729,430.00
	Driving/Removing of Steel Casing				
E325b	Pile Driver, Vibratory Hydraulic Driven	1.00	10.00	1,800.00	18,000.00
E214	Crawler Crane, 145 HP	1.00	10.00	1,384.00	13,840.00
	Installation of Steel Cage				
E214	Crawler Crane, 145 HP	1.00	4.00	1,384.00	5,536.00
E104A	Desanding/Desilting Plant	1.00	2.00	966.00	1,932.00
E104B	Bentonite Plant	1.00	2.00	231.00	462.00
	Concrete Pouring				
E307	Transit Mixer (N/A - Concrete @ Delivered Price)	5.00	1.26	-	-
E214	Crawler Crane, 145 HP	1.00	1.26	1,384.00	1,743.84
E341b	Tremie Pipe Set, 200mm diameter x 3.00 meter	1.00	1.26	125.00	157.50
	Disposal of Excavated Material				
E205	Wheel Loader, CAT 918F	1.00	0.85	1,329.00	1,129.65
E343	Dump Truck, 9.00 m3, 275 HP	5.00	0.85	1,205.00	5,121.25
	Ancillary Eqpt/Tools, 10% of above				77,735.22
	SUB-TOTAL (1)			42,754.37	855,087.46

REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF DAYS	UNIT RATE	TOTAL COST (PESOS)
L01	Foreman	1.00	4.85	12,421.24	60,243.02
L10	Skilled Labor	4.00	4.85	10,756.08	208,667.87
L11	Unskilled Labor	8.00	4.85	542.00	21,029.60
	SUB-TOTAL (2)			14,497.02	289,940.49

REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
M22	Concrete Class "AA", 28 MPa (4000 psi - Delivered)	15.71	m3	4,250.00	66,767.50
404(2)	Reinforcing Steel, Grade 60	5,000.00	kgs.	52.64	263,200.00
M48b	Steel Casing Rental	4,439.07	kgs	15.00	66,586.05
	Misc. Materials (5% of Above Cost)				19,827.68
	SUB-TOTAL (3)			20,819.06	416,381.23

4)	ESTIMATED DIRECT COST (EDC)	Japan 998,340.89 64%		78,070.46	1,561,409.18

UNIT PRICE ANALYSIS

ITEM NO.: 400(23)b
WORK ITEM : CONCRETE PILES CAST IN DRILLED HOLES, 1200mm DIAMETER
QUANTITY : 20.00 l.m. Under Limited Space

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
	Boring/Drilling				
E222	Drilling Rig, Hydraulic Crawler Type (2000mm Diameter)	1.00	23.53	31,000.00	729,430.00
	Driving/Removing of Steel Casing				
E325b	Pile Driver, Vibratory Hydraulic Driven	1.00	10.00	1,800.00	18,000.00
E214	Crawler Crane, 145 HP	1.00	10.00	1,384.00	13,840.00
	Installation of Steel Cage				
E214	Crawler Crane, 145 HP	1.00	4.00	1,384.00	5,536.00
E104A	Desanding/Desilting Plant	1.00	2.00	966.00	1,932.00
E104B	Bentonite Plant	1.00	2.00	231.00	462.00
	Concrete Pouring				
E307	Transit Mixer (N/A - Concrete @ Delivered Price)	5.00	1.81	-	-
E214	Crawler Crane, 145 HP	1.00	1.81	1,384.00	2,505.04
E341b	Tremie Pipe Set, 200mm diameter x 3.00 meter	1.00	1.81	125.00	226.25
	Disposal of Excavated Material				
E205	Wheel Loader, CAT 918F	1.00	1.22	1,329.00	1,621.38
E343	Dump Truck, 9.00 m3, 275 HP	5.00	1.22	1,205.00	7,350.50
	Ancillary Eqpt/Tools, 10% of above				78,090.32
	SUB-TOTAL (1)			42,949.67	858,993.49

REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF DAYS	UNIT RATE	TOTAL COST (PESOS)
L01	Foreman	1.00	4.92	12,421.24	61,112.51
L10	Skilled Labor	4.00	4.92	10,756.08	211,679.57
L11	Unskilled Labor	8.00	4.92	542.00	21,333.12
	SUB-TOTAL (2)			14,706.26	294,125.20

REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
M22	Concrete Class "AA", 28 MPa (4000 psi - Delivered)	22.62	m3	4,250.00	96,135.00
404(2)	Reinforcing Steel, Grade 60	5,600.00	kgs.	52.64	294,784.00
M48b	Steel Casing Rental	5,326.88	kgs	15.00	79,903.20
	Misc. Materials (5% of Above Cost)				23,541.11
	SUB-TOTAL (3)			24,718.17	494,363.31

4)	ESTIMATED DIRECT COST (EDC)	Japan 1,002,222 61%		82,374.10	1,647,482.00

UNIT PRICE ANALYSIS

ITEM NO.: 400(23)b
WORK ITEM : CONCRETE PILES CAST IN DRILLED HOLES, 1500mm DIAMETER
QUANTITY : 20.00 l.m. Under Limited Space

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
	Boring/Drilling				
E222	Drilling Rig, Hydraulic Crawler Type (2000mm Diameter)	1.00	23.53	31,000.00	729,430.00
	Driving/Removing of Steel Casing				
E325b	Pile Driver, Vibratory Hydraulic Driven	1.00	10.00	1,800.00	18,000.00
E214	Crawler Crane, 145 HP	1.00	10.00	1,384.00	13,840.00
	Installation of Steel Cage				
E214	Crawler Crane, 145 HP	1.00	4.00	1,384.00	5,536.00
E104A	Desanding/Desilting Plant	1.00	2.00	966.00	1,932.00
E104B	Bentonite Plant	1.00	2.00	231.00	462.00
	Concrete Pouring				
E307	Transit Mixer (N/A - Concrete @ Delivered Price)	5.00	2.83	-	-
E214	Crawler Crane, 145 HP	1.00	2.83	1,384.00	3,916.72
E341b	Tremie Pipe Set, 200mm diameter x 3.00 meter	1.00	2.83	125.00	353.75
	Disposal of Excavated Material				
E205	Wheel Loader, CAT 918F	1.00	1.91	1,329.00	2,538.39
E343	Dump Truck, 9.00 m3, 275 HP	5.00	1.91	1,205.00	11,507.75
	Ancillary Eqpt/Tools, 10% of above				78,751.66
	SUB-TOTAL (1)			43,313.41	866,268.27

REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF DAYS	UNIT RATE	TOTAL COST (PESOS)
L01	Foreman	1.00	5.05	12,421.24	62,727.27
L10	Skilled Labor	4.00	5.05	10,756.08	217,272.73
L11	Unskilled Labor	8.00	5.05	542.00	21,896.80
	SUB-TOTAL (2)			15,094.84	301,896.80

REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
M22	Concrete Class "AA", 28 MPa (4000 psi - Delivered)	35.34	m3	4,250.00	150,195.00
404(2)	Reinforcing Steel, Grade 60	6,337.00	kgs.	52.64	333,579.68
M48b	Steel Casing Rental	6,658.61	kgs	15.00	99,879.15
	Misc. Materials (5% of Above Cost)				29,182.69
	SUB-TOTAL (3)			30,641.83	612,836.52

4)	ESTIMATED DIRECT COST (EDC)	Japan 1,009,430 57%		89,050.08	1,781,001.59

UNIT PRICE ANALYSIS

ITEM NO.: 400(23)c
WORK ITEM : CONCRETE PILES CAST IN DRILLED HOLES, 2000mm DIAMETER
QUANTITY : 20.00 l.m. Under Limited Space

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
	Boring/Drilling				
E222	Drilling Rig, Hydraulic Crawler Type (2000mm Diameter)	1.00	26.67	31,000.00	826,770.00
	Driving/Removing of Steel Casing				
E325b	Pile Driver, Vibratory Hydraulic Driven	1.00	10.00	1,800.00	18,000.00
E214	Crawler Crane, 145 HP	1.00	10.00	1,384.00	13,840.00
	Installation of Steel Cage				
E214	Crawler Crane, 145 HP	1.00	4.00	1,384.00	5,536.00
E104A	Desanding/Desilting Plant	1.00	2.00	966.00	1,932.00
E104B	Bentonite Plant	1.00	2.00	231.00	462.00
	Concrete Pouring				
E307	Transit Mixer (N/A - Concrete @ Delivered Price)	5.00	5.03	-	-
E214	Crawler Crane, 145 HP	1.00	5.03	1,384.00	6,961.52
E341b	Tremie Pipe Set, 200mm diameter x 3.00 meter	1.00	5.03	125.00	628.75
	Disposal of Excavated Material				
E205	Wheel Loader, CAT 918F	1.00	3.40	1,329.00	4,518.60
E343	Dump Truck, 9.00 m3, 275 HP	5.00	3.40	1,205.00	20,485.00
	Ancillary Eqpt/Tools, 10% of above				89,913.39
	SUB-TOTAL (1)			49,452.36	989,047.26

REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF DAYS	UNIT RATE	TOTAL COST (PESOS)
L01	Foreman	1.00	5.71	12,421.24	70,925.29
L10	Skilled Labor	5.00	5.71	10,756.08	307,085.96
L11	Unskilled Labor	10.00	5.71	542.00	30,948.20
	SUB-TOTAL (2)			20,447.97	408,959.45

REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
M22	Concrete Class "AA", 28 MPa (4000 psi - Delivered)	62.83	m3	4,250.00	267,027.50
404(2)	Reinforcing Steel, Grade 60	15,131.20	kgs.	52.64	796,506.37
M48b	Steel Casing Rental	8,878.14	kgs	15.00	133,172.10
	Misc. Materials (5% of Above Cost)				59,835.30
	SUB-TOTAL (3)			62,827.06	1,256,541.27

4)	ESTIMATED DIRECT COST (EDC)	Japan 1,204,781 45%		132,727.40	2,654,547.97

UNIT PRICE ANALYSIS

ITEM NO.: 400(23)d
WORK ITEM : CONCRETE PILES CAST IN DRILLED HOLES, 2500mm DIAMETER
QUANTITY : 20.00 l.m. Under Limited Space

REF. NO.	1) EQUIPMENT COST	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (PESOS)
	Boring/Drilling				
E221	Drilling Rig, Hydraulic Crawler Type (2500mm Diameter)	1.00	30.77	31,000.00	953,870.00
	Driving/Removing of Steel Casing				
E325b	Pile Driver, Vibratory Hydraulic Driven	1.00	11.43	1,800.00	20,574.00
E214	Crawler Crane, 145 HP	1.00	11.43	1,384.00	15,819.12
	Installation of Steel Cage				
E214	Crawler Crane, 145 HP	1.00	5.00	1,384.00	6,920.00
E104A	Desanding/Desilting Plant	1.00	2.50	966.00	2,415.00
E104B	Bentonite Plant	1.00	2.50	231.00	577.50
	Concrete Pouring				
E307	Transit Mixer (N/A - Concrete @ Delivered Price)	5.00	7.85	-	-
E214	Crawler Crane, 145 HP	1.00	7.85	1,384.00	10,864.40
E341b	Tremie Pipe Set, 200mm diameter x 3.00 meter	1.00	7.85	125.00	981.25
	Disposal of Excavated Material				
E205	Wheel Loader, CAT 918F	1.00	5.31	1,329.00	7,056.99
E343	Dump Truck, 9.00 m3, 275 HP	5.00	5.31	1,205.00	31,992.75
	Ancillary Eqpt/Tools, 10% of above				105,107.10
	SUB-TOTAL (1)			57,808.91	1,156,178.11

REF. NO.	2) LABOR COST	NO. OF MEN	NO. OF DAYS	UNIT RATE	TOTAL COST (PESOS)
L01	Foreman	1.00	6.88	12,421.24	85,458.15
L10	Skilled Labor	6.00	6.88	10,756.08	444,010.80
L11	Unskilled Labor	12.00	6.88	542.00	44,747.52
	SUB-TOTAL (2)			28,710.82	574,216.47

REF. NO.	3) MATERIAL COST	QTY	UNIT	UNIT PRICE	TOTAL COST (PESOS)
M22	Concrete Class "AA", 28 MPa (4000 psi - Delivered)	98.17	m3	4,250.00	417,222.50
404(2)	Reinforcing Steel, Grade 60	19,590.80	kgs.	52.64	1,031,259.71
M48b	Steel Casing Rental	11,097.68	kgs	15.00	166,465.20
	Misc. Materials (5% of Above Cost)				80,747.37
	SUB-TOTAL (3)			84,784.74	1,695,694.78

4)	ESTIMATED DIRECT COST (EDC)	Japan 1,483,339 43%		171,304.47	3,426,089.36

UNIT PRICE ANALYSIS

ITEM No. : SPL A-1
WORK DESCRIPTION : EPOXY INJECTION
QUANTITY : 10.00 m

REF. NO.	1) MATERIAL COST	UNIT	QTY.	UNIT PRICE	TOTAL COST (Php)
M-03	Epoxy resins for injection	kg	2.50	1,700.00	4,250.00
M-05	Epoxy putty	kg	3.00	1,400.00	4,200.00
M-01	Injection set for Epoxy Injection	No.	40.00	195.00	7,800.00
	SUB-TOTAL (1)			1,625.00	16,250.00

REF. NO.	2) LABOR COST	UNIT	NO. OF MEN	NO. OF DAYS	UNIT RATE	TOTAL COST (Php)
L-1	Foreman	M.D	1	0.50	1,104.70	552.35
L-2	Technician	M.D	1	0.20	998.49	199.70
L-6	Skilled worker (Injection)	M.D	3	0.50	703.70	1,055.55
L-7	Common Labor (surface preparation)	M.D	2	0.50	542.00	542.00
	SUB-TOTAL (2)				234.96	2,349.60

REF. NO.	3) EQUIPMENT COST	UNIT	NO. OF UNIT	NO. OF HOURS	UNIT RATE	TOTAL COST (Php)
	Miscellaneous Tools (20% of Labor Cost)					469.92
	SUB-TOTAL (3)				46.99	469.92
	4) ESTIMATED DIRECT COST (EDC)					19,069.52

MAWO

Item	Quantity	Unit	Unit Price										Price							
					Local						Foreign			Unit Price				Unit Price			
					Labor			Other						Local		Foreign	Total	Local		Foreign	Total
			Item	Unit	quantity	Unit Price	Price	quantity	Unit Price	Price	quantity	Unit Price	Price	Labor	Others			Labor	Others		
Form	9,345.0	sq-m	Forman	MD			0.00			0.00	0.040	22,547.25	901.89	0.00	126.56	10,840.27	10,966.83	0	1,182,703	101,302,323	102,485,027
			Skilled Labor	MD			0.00			0.00	0.320	19,216.92	6,149.41								
			Labor	MD			0.00			0.00	0.160	15,886.59	2,541.85								
			Crane	Day			0.00	0.010	11,200.00	112.00			0.00								
			Incident	13%			0.00			14.56			1,247.11								
Conrete (Outer Island *1.5)	3,153.0	cu-m	Unit Price	MD			237.61			12,190.44				237.61	12,190.44	0.00	12,428.05	749,191	38,436,457	0	39,185,649
Rainfocement	347,000.0	kg	Unit Price	MD			6.80			46.00				6.80	46.00	0.00	52.80	2,359,600	15,962,000	0	18,321,600
PC steel	77.0	t	Forman	MD			0.00			0.00	3.900	22,547.25	87,934.29	0.00	7,728.00	938,864.76	946,592.76	0	595,056	72,292,587	72,887,643
			Skilled Labor	MD			0.00			0.00	19.300	19,216.92	370,886.59								
			Labor	MD			0.00			0.00	13.500	15,886.59	214,468.95								
			PC Steel	t						0.00	1.060	135,013.50	143,114.31								
			Crane	Day			0.00	0.600	11,200.00	6,720.00			0.00								
			Incident	15%			0.00			1,008.00			122,460.62								
PC steel (Anchor)	140.0	set	Skilled Labor	MD			0.00			0.00	0.350	19,216.92	6,725.92	0.00	0.00	13,247.12	13,247.12	0	0	1,854,597	1,854,597
			Anchor	set			0.00			0.00	1.000	4,500.45	4,500.45								
			Incident	18%			0.00			0.00			2,020.75								
PC steel (Pre stress)	77.0	set	Forman	MD			0.00			0.00	0.150	22,547.25	3,382.09	0.00	0.00	39,356.44	39,356.44	0	0	3,030,446	3,030,446
			Skilled Labor	MD			0.00			0.00	0.780	19,216.92	14,989.20								
			Labor	MD			0.00			0.00	0.430	15,886.59	6,831.23								
			Anchor	set			0.00			0.00	1.060	11,251.13	11,926.19								
			Incident	6%			0.00			0.00			2,227.72								
Erection (Wagen Install) Incident 35% -> 100% Outer Island Low Profile	4.0	set	Forman	MD			0.00			0.00	9.100	22,547.25	205,180.02	0.00	396,000.00	4,411,692.17	4,807,692.17	0	1,584,000	17,646,769	19,230,769
			Skilled Labor	MD			0.00			0.00	61.700	19,216.92	1,185,684.07								
			Labor	MD			0.00			0.00	51.300	15,886.59	814,982.00								
			Crane	t			0.00	13.200	15,000.00	198,000.00			0.00								
			Incident	100%			0.00			198,000.00			2,205,846.08								
Erection (Wagen Move) Incident 33% -> 100% Outer Island Low Profile	40.0	set	Forman	MD			0.00			0.00	0.500	22,547.25	11,273.63	0.00	0.00	116,327.63	116,327.63	0	0	4,653,105	4,653,105
			Skilled Labor	MD			0.00			0.00	1.200	19,216.92	23,060.31								
			Labor	MD			0.00			0.00	1.500	15,886.59	23,829.88								
			Incident	100%			0.00			0.00			58,163.82								
Erection (Wagen pulling)	4.0	set	Forman	MD			0.00			0.00	0.500	22,547.25	11,273.63	0.00	0.00	49,887.49	49,887.49	0	0	199,550	199,550
			Skilled Labor	MD			0.00			0.00	1.100	19,216.92	21,138.61								
			Labor	MD			0.00			0.00	1.100	15,886.59	17,475.25								
Erection (Climbing Work as Erection girder)	40.0	set	Forman	MD			0.00			0.00	1.000	22,547.25	22,547.25	0.00	0.00	239,446.44	239,446.44	0	0	9,577,858	9,577,858
			Skilled Labor	MD			0.00			0.00	5.500	19,216.92	105,693.07								
			Labor	MD			0.00			0.00	7.000	15,886.59	111,206.12								
Wagen Rent Fee	720.0	day	Wagen	Day							1.000	21,197.12	21,197.12	0.00	0.00	21,833.03	21,833.03	0	0	15,719,784	15,719,784
			Incident	3%			0.00			0.00			635.91								
Erection Girder	360.0	day	Girder	Day							1.000	24,797.48	24,797.48	0.00	0.00	25,541.40	25,541.40	0	0	9,194,905	9,194,905
			Incident	3%			0.00			0.00			743.92								
Total (Php)															Import steel		Japan				
															143,114		79%	3,108,791	57,760,217	235,471,924	296,340,931
																		Php / cu-m			93,987

Zonal Valuation

http://www.bir.gov.ph/lumangweb/fyi_zonl.html

Lambingan

BARANGAY: 888 ZONE: 98 (Left Dike side)

STREET/SUBDIVISION	V I C I N I T Y	CLASSI-FICATION	4TH REVISION ZV/SQ.M.	3RD REVISION ZV/SQ.M.	2ND REVISION ZV/SQ.M.
NEW PANADEROS	AZUCENA-LAMAYAN	RR	4,560.00	3,965.00	3,050.00
TUPAZ	AZUCENA-LAMAYAN	RR	3,290.00	2,860.00	2,200.00
ALL OTHER STREETS		RR	3,290.00	2,860.00	2,200.00

BARANGAY: 891 ZONE: 98 (Pasig improvement project site)

STREET/SUBDIVISION	V I C I N I T Y	CLASSI-FICATION	4TH REVISION ZV/SQ.M.	3RD REVISION ZV/SQ.M.	2ND REVISION ZV/SQ.M.
NEW PANADEROS	LAMAYAN-PASIG RIVI	RR	4,560.00	3,965.00	3,050.00
NEW PANADEROS-LAI	PANADEROS-LAMAYA	APD			
OLD PANADEROS	LAMAYAN-PASIG RIVI	RR	3,740.00	3,250.00	2,500.00
TERESITA D. SANTILL	STA ANA	RR	4,485.00		

BARANGAY: 892 ZONE: 99 (Right dike side)

STREET/SUBDIVISION	V I C I N I T Y	CLASSI-FICATION	4TH REVISION ZV/SQ.M.	3RD REVISION ZV/SQ.M.	2ND REVISION ZV/SQ.M.
MARTINEZ	NEW PANADEROS-BDI	RR	3,290.00	2,860.00	2,200.00
NEW PANADEROS-BDI	LAMBINGAN-BAUTIST	RR	5,240.00	4,550.00	3,500.00
ALL OTHER STREETS		RR	3,290.00	2,860.00	2,200.00

BARANGAY: 894 ZONE: 99 (Right dike side)

STREET/SUBDIVISION	V I C I N I T Y	CLASSI-FICATION	4TH REVISION ZV/SQ.M.	3RD REVISION ZV/SQ.M.	2ND REVISION ZV/SQ.M.
A BAUTISTA		RR	3,290.00	2,860.00	2,200.00
A BAUTISTA		CR	6,375.00	5,100.00	3,400.00
		I	3,940.00	5,550.00	3,700.00
A BAUTISTA	BOX OFFICE NEIGHBU	RR	4,485.00		

Zonal Valuation (Offical price) :
Use for estimation of land acquisition cost

Land acquisition price : Zonal Valuation * 2.5
Temporary land acquisition price : Zonal Valuation * 1.0

Location		Zonal Valuation (Php / sq-m)	Land Acquisition (p / sq-m)	Temporary Acquisition (p / sq-m)
Lambingan	Dike	3,290.00	8,225.00	-
	River Project Site	3,740.00	-	3,740.00
Guadalupe	MMDA Park	9,000.00	-	9,000.00
	Dike	13,000.00	-	13,000.00
Palanit		175.00	-	175.00
Mawo		150.00	-	150.00
Wawa		150.00	-	150.00
			2.5* Basic Price	1*Basic Price

Guadalupe 1/2

BARANGAY: GUADALUPE VIEJO | MMDA Park of downstream side | 8,200.00 Average

STREET/SUBDIVISION	V I C I N I T Y	CLASSI-FICATION	4th REV. ZV/SQ.M.	3rd REV. ZV/SQ.M.	2nd REV. ZV/SQ.M.
ADALLA		RR	10,000.00	5,600.00	3,500.00
ADALLA PLACE		RR	8,000.00		
AMAPOLA	Estrella - Camia	RR	20,000.00	5,600.00	3,500.00
	Camia - Zodiac	RR	20,000.00		
AZUCENA	EDSA	RR	8,200.00	5,600.00	3,500.00
BERNARDINA		RR	8,200.00	5,600.00	3,500.00
BERNARDINO		RR	8,200.00	5,600.00	3,500.00
BERNARDO		RR	8,200.00	5,600.00	3,500.00
CAMIA		RR	10,000.00	5,600.00	3,500.00
CARBALLO		RR	8,200.00	5,600.00	3,500.00
CHAMPACA		RR	8,200.00	5,600.00	3,500.00
CORONADO		RR	8,200.00	5,600.00	3,500.00
E D S A		CR	75,000.00	40,000.00	20,000.00
ESTRELLA		RR	25,000.00	5,600.00	3,500.00
		CR	50,000.00		
GONZALES		RR	8,200.00	5,600.00	3,500.00
GUMAMELA		RR	8,200.00	5,600.00	3,500.00
ILANG-ILANG		RR	8,200.00	5,600.00	3,500.00
J. P. RIZAL		RR	25,000.00	10,000.00	3,500.00
		CR	50,000.00		
JASMIN	J. P. Rizal	RR	8,200.00	5,600.00	3,500.00
LIRIO		RR	8,200.00	5,600.00	3,500.00
MILEGUAS	J. P. Rizal	RR	8,200.00	5,600.00	3,500.00
PROGRESO I , II		RR	8,200.00	5,600.00	3,500.00
ROSAL		RR	8,200.00	5,600.00	3,500.00
SAN BERNARDINO		RR	8,200.00	5,600.00	3,500.00
TRINIDAD		RR	8,200.00	5,600.00	3,500.00
ZODIAC		RR	20,000.00	5,600.00	3,500.00
Other Condominiums, Townhouses (CCT) & Commercial Bldgs. built in 1995 & prior years		RC/CC	35,000.00		
All condominiums, Townhouses (CCT) & Comm'l. Bldgs. built after 1995		RC/CC	45,000.00		

BARANGAY: GUADALUPE NUEVO | MMDA Park of upstream side | 9,000.00 Average

STREET/SUBDIVISION	V I C I N I T Y	CLASSI-FICATION	5TH REVISION ZV/SQ.M.	4TH REVISION ZV/SQ.M.	3RD REVISION ZV/SQ.M.
ANASTACIO	EDSA	RR	9,000.00	7,400.00	4,000.00
ANTIPOLO		RR	9,000.00	7,400.00	4,000.00
ASANDA		RR	9,000.00	7,400.00	4,000.00
BALAGTAS		RR	9,000.00	7,400.00	4,000.00
BATAAN	EDSA	RR	9,000.00	7,400.00	4,000.00
BUENCOSEJO		RR	9,000.00	7,400.00	4,000.00
CAMINO DELA FE		RR	9,000.00	7,400.00	4,000.00
CAPAS		RR	9,000.00	7,400.00	4,000.00
COMMERCIO	EDSA	RR	9,000.00	7,400.00	4,000.00
CORREGIDOR	EDSA	RR	9,000.00	7,400.00	4,000.00
DAPITAN		RR	9,000.00	7,400.00	4,000.00
DEL CARMEN		RR	9,000.00		
E. JACINTO		RR	9,000.00	7,400.00	4,000.00
EDSA		CR	75,000.00	40,000.00	40,000.00
ESCUELA		RR	9,000.00	7,400.00	4,000.00
FELIPE		RR	9,000.00	7,400.00	4,000.00
GOV. NOBLE		RR	9,000.00	7,400.00	4,000.00
KALAYAAN IMELDA AVENUE		CR	18,000.00	15,000.00	15,000.00
LA BANDA		RR	9,000.00	7,400.00	4,000.00
LA CONSOLACION		RR	9,000.00	7,400.00	4,000.00
MACTAN		RR	9,000.00	7,400.00	4,000.00
MAGALLANES		RR	9,000.00	7,400.00	4,000.00
MANGAHAN		RR	9,000.00	7,400.00	4,000.00
MERCEDES		RR	9,000.00	7,400.00	4,000.00
NSTRA. SRA. DE ANTIPOLO		RR	9,000.00	7,400.00	4,000.00
NSTRA. SRA. DE GUADALUPE		RR	9,000.00	7,400.00	4,000.00
NSTRA. SRA. DE URDANETA		RR	9,000.00	7,400.00	4,000.00
NSTRA. SRA. DEL CARMEN		RR	9,000.00	7,400.00	4,000.00
ORENSE		RR	9,000.00	7,400.00	4,000.00
P. BURGOS		RR	9,000.00	7,400.00	4,000.00
		CR	18,000.00	15,000.00	15,000.00
P. URDANETA		RR	9,000.00	7,400.00	4,000.00
P. VICTOR		RR	9,000.00	7,400.00	4,000.00
R. MAGSAYSAY	EDSA	RR	9,000.00	7,400.00	4,000.00
RAON		RR	9,000.00	7,400.00	4,000.00
REPOSO		RR	9,000.00	7,400.00	4,000.00
RETIRO		RR	9,000.00	7,400.00	4,000.00
SAMPAGUITA		RR	9,000.00	7,400.00	4,000.00
SAN NICOLAS		RR	9,000.00	7,400.00	4,000.00
SGT. F. YABUT	EDSA	RR	9,000.00	7,400.00	4,000.00
STA. RITA		RR	9,000.00	7,400.00	4,000.00
YABUT CIRCLE	EDSA	RR	9,000.00	7,400.00	4,000.00
ALL CONDOMINIUMS, TOWNHOUSES, INDUSTRIAL & COMMERCIAL BUILDING BUILT AFTER 1995		RC/CC	30,000.00	24,500.00	20,000.00

Guadalupe 2/2

BARANGAY: ILAYA (BARANGKA ILAYA)

Right Dike side

REET NAME/SUBDIVISIO	*V I C I N I T Y*	*CLASSI-FICATION*	*5TH REVISION ZV/SQ.M.*	*4TH REVISION ZV/SQ.M.*	*3RD REVISION ZV/SQ.M.*
APO	*EDSA*	*RR*	*18,000.00*	*10,000.00*	*9,500.00*
BATAAN	*BONI AVE*	*RR*	*12,000.00*	*8,500.00*	*8,000.00*
BONI AVENUE		*RR*	*27,500.00*	*17,000.00*	
		CR	*31,000.00*	*19,000.00*	
DANSALAN	*BONI AVE*	*RR*	*15,000.00*	*9,500.00*	*9,000.00*
EDSA	*GUADALUPE - RELIAN*	*CR*	*52,500.00*	*30,000.00*	*18,500.00*
LIONS ROAD	*BONI AVE*	*RR*	*13,000.00*	*7,000.00*	*6,500.00*
MADISON	*EDSA*	*RR*	*18,500.00*	*11,000.00*	*10,500.00*
MAYFLOWER	*EDSA*	*RR*	*18,500.00*	*11,000.00*	*10,500.00*
MAYON	*BONI AVE*	*RR*	*13,000.00*	*7,000.00*	*6,500.00*
PINATUBO	*EDSA*	*RR*	*17,500.00*	*9,000.00*	*8,500.00*
PINES	*EDSA*	*I*	*25,000.00*	*13,000.00*	*12,000.00*
PIONEER		*CR*	*32,500.00*	*21,000.00*	*20,500.00*
	EDSA	*I*	*22,000.00*	*14,000.00*	*12,000.00*
RELIANCE	*EDSA*	*I*	*22,000.00*	*14,000.00*	*12,000.00*
SAN ROQUE	*BONI AVE*	*RR*	*13,500.00*	*8,000.00*	*7,500.00*
SHERIDAN	*EDSA*	*I*	*25,000.00*	*14,000.00*	*12,000.00*
UNION	*EDSA*	*I*	*25,000.00*	*14,000.00*	*12,000.00*
UNITED	*EDSA*	*I*	*28,500.00*	*14,000.00*	*12,000.00*
ALL OTHER STREETS	*EAST OF EDSA*	*I*	*21,000.00*	*11,000.00*	*10,500.00*
		RR	*13,000.00*	*7,000.00*	*6,500.00*
		CR	*32,500.00*	*19,000.00*	*18,500.00*
CITY SQUARE PIONEER		*RC*	*47,500.00*	*35,000.00*	
		CC	*53,500.00*	*40,000.00*	
PARAGON PLAZA	*EDSA*	*RC*	*53,500.00*		
PIONEER HIGHLANDS (	*PIONEER*	*RC*	*53,500.00*	*40,000.00*	
QUAD ALPHA CENTRU	*PIONEER*	*CC*	*33,500.00*	*22,000.00*	*20,500.00*
ALL OTHER CONDOMINIUMS		*RC*	*55,000.00*	*35,000.00*	*19,000.00*
		CC	*65,000.00*	*40,000.00*	*20,500.00*

Palanit

BARANGAY: SAN ISIDRO

STREET/SUBDIVISION	V I C I N I T Y	CLASSI-FICATION	1ST REV. ZV.SQ.M.	INITIAL ZV.SQ.M.
ALL LOTS		CR	400.00	400.00
		RR	175.00	170.00
		X	170.00	
		CR	225.00	
	INTERIOR	RR	105.00	90.00
		X	90.00	
		I	200.00	

Mawo

Municipality of Victoria

BARANGAY : POBLACION

STREET/SUBDIVISION	V I C I N I T Y	CLASSI-FICATION	1ST REV. ZV.SQ.M.	INITIAL ZV.SQ.M.
ALL LOTS		CR	165.00	
		RR	150.00	
	RES. PURPOSES/	CR	150.00	
	MAHARLIKA HI-WAY	RR	100.00	

Wawa

BARANGAY: SAN VICENTE

STREET/SUBDIVISION	V I C I N I T Y	CLASSI-FICATION	2ND REV. ZV/SQ.M.	1ST REV. ZV/SQ.M.	INITIAL ZV/SQ.M.
ALL LOTS		RR	150	100	70
		I	900	150	130
		A2	5.35		
		A4	4.9		
		A11	4.5		
		A12	4.5		
		A14	4.5		
		A16	4.5		
		A19	4.5		
		A48	4.5		
		A50	4.5		

ESTIMATED DIRECT COST (EDC)	INDIRECT COST % FOR OCM AND PROFIT		TOTAL INDIRECT COST % FOR OCM AND PROFIT
	OCM (% OF EDC)	PROFIT (% OF EDC)	
Up to P5Million	12	10	22
Above P5M up to P50M	9	8	17
Above P50M up to P150M	7	8	15
Above P150M	6	8	14

OCM : Overhead, Contingencies and Miscellaneous

6	8

1.0 USD = 97.229 JPY = 43.756 PHP.

1 US$	43.756	Php
PHP=	2.222	Yen
Customs duty	3	%
VAT	12	%
Front-end fee	0.2	%
Administrative Cost	3	%
Contingency	5	%

Year	Philippines (%)		Japan (%)	
	Annual	From 2013	Annual	From 2013
2014	3.219	3.22	2.967	2.97
2015	3.281	6.61	2.287	5.32
2016	3.249	10.07	1.982	7.41
2017	3.265	13.66	1.952	9.51
2018	3.143	17.24	1.977	11.67

	%	Year	Interest
Interest for Construction	0.1	6	0.602
nterest for Consultancy Servic	0.01	6	0.060

13.70	9.50

The Other Cost

1. Price Escalation

Price escalation rate is based on IMF average consumer prices on July 2013. The conclusion of constriction contract will be assumed at 2017. The price escalation rates from 2014 to 2017 were set at 13.7% for the local price and 9.5% for the Japan price.

Table 1 Inflation Rate (IMF Data,July 2013)

Year	Philippines (%)		Japan (%)	
	Annual	From 2013	Annual	From 2013
2014	3.219	3.22	2.967	2.97
2015	3.281	6.61	2.287	5.32
2016	3.249	10.07	1.982	7.41
2017	3.265	13.66	1.952	9.51
2018	3.143	17.24	1.977	11.67

2. Interest

The interest for the STEP project is as shown in Table 2.

Table 2 Interest for STEP Projecy

	%	Year	Interest
Construction	0.1	6	0.602
Consultancy Service	0.01	6	0.060

3. Commitment charge

The front-end fee is estimated instead of the commitment charge. The front-end fee is estimated 0.2% of the direct cost and consultancy service

Consultancy Service Cost

ITEM	Unit	Unit Price (Php)	Lambingan		Guadalupe		1st Mandaue Mactan		Palanit		Mawo		Liloan		Wawa		Total Price (Php)
			Quantity	Price (Php)	Quantity	Price (Php)	Quantity	Price (Php)	Quantity	Price (Php)	Quantity	Price (Php)	Quantity	Price (Php)	Quantity	Price (Php)	
Engineering Service		Php		96,401,500		127,796,500		128,943,750		39,523,250		67,258,750		31,323,500		60,089,250	551,336,500
		Yen		214,204,133		283,963,823		286,513,013		87,820,662		149,448,943		69,600,817		133,518,314	1,225,069,703
Foreign				53,950,000		68,650,000		65,575,000		22,075,000		37,925,000		17,800,000		33,250,000	299,225,000
Local (engineer)				20,205,000		29,655,000		33,612,500		8,327,500		13,812,500		6,295,000		12,972,500	124,880,000
Local (others)				22,246,500		29,491,500		29,756,250		9,120,750		15,521,250		7,228,500		13,866,750	127,231,500
Detail Design				41,801,500		68,516,500		90,918,750		6,958,250		24,358,750		5,193,500		17,189,250	254,936,500
Foreign				20,350,000		32,350,000		42,325,000		3,025,000		12,125,000		2,200,000		7,450,000	119,825,000
Leader	MM	1,250,000	2	2,500,000	2	2,500,000	2	2,500,000	0.5	625,000	1	1,250,000	0.5	625,000	0.5	625,000	10,625,000
Engineer (Superstructure with Erection Planning	MM	1,050,000	3	3,150,000	6	6,300,000	12	12,600,000	0.5	525,000	2	2,100,000	0.5	525,000	2	2,100,000	27,300,000
Engineer (Substructure)	MM	1,050,000	2	2,100,000	4	4,200,000	12	12,600,000		0	2	2,100,000	0.5	525,000	1	1,050,000	22,575,000
Engineer (road, River)	MM	900,000	1	900,000	1	900,000		0	1	900,000	1	900,000		0	1	900,000	4,500,000
Engineer (Construction planning)	MM	1,050,000	2	2,100,000	4	4,200,000	2	2,100,000		0	0.5	525,000		0		0	8,925,000
Engineer (Temorary structure)	MM	900,000	1	900,000	2	1,800,000	2	1,800,000		0	0.5	450,000		0	0.5	450,000	5,400,000
Engineer (Countermeasure of neighboring work)	MM	1,050,000	1	1,050,000	2	2,100,000		0		0		0		0		0	3,150,000
Engineer (Environment)	MM	1,050,000	1	1,050,000	1	1,050,000	3	3,150,000		0	1	1,050,000		0		0	6,300,000
Engineer (Suvay)	MM	1,050,000	1	1,050,000	1	1,050,000	2	2,100,000		0	0.5	525,000		0		0	4,725,000
Engineer (Support)	MM	900,000	4	3,600,000	6	5,400,000	5	4,500,000		0	2	1,800,000		0	1	900,000	16,200,000
Engineer (Tender)	MM	1,050,000	1	1,050,000	1	1,050,000	0.5	525,000	0.5	525,000	0.5	525,000	0.5	525,000	0.5	525,000	4,725,000
Engineer (Cost estimate)	MM	900,000	1	900,000	2	1,800,000	0.5	450,000	0.5	450,000	1	900,000		0	1	900,000	5,400,000
Local				11,805,000		20,355,000		27,612,500		2,327,500		6,612,500		1,795,000		5,772,500	76,280,000
Engineer (Structure)	MM	200,000	12	2,400,000	24	4,800,000	12	2,400,000	6	1,200,000	12	2,400,000	3	600,000	12	2,400,000	16,200,000
Engineer (Environment)	MM	150,000	1	150,000	1	150,000	6	900,000	0.5	75,000	1	150,000	0.5	75,000	1	150,000	1,650,000
Engineer (Survay)	MM	150,000	1	150,000	2	300,000	3	450,000		0	1	150,000	1	150,000	1	150,000	1,350,000
CAD Operator	MM	100,000	24	2,400,000	48	4,800,000	24	2,400,000	6	600,000	24	2,400,000	6	600,000	24	2,400,000	15,600,000
Engineer (Tender)	MM	200,000	2	400,000	2	400,000	1	200,000	0.5	100,000	1	200,000	0.5	100,000	1	200,000	1,600,000
Engineer (Cost estimate)	MM	100,000	2	200,000	2	200,000	1	100,000	0.5	50,000	1	100,000	0.5	50,000	1	100,000	800,000
Suvay	% of Japan Cost		30%	6,105,000	30%	9,705,000	50%	21,162,500	10%	302,500	10%	1,212,500	10%	220,000	5%	372,500	
Others Cost with Suvay (30% of Direct Cost)	set			9,646,500		15,811,500		20,981,250		1,605,750		5,621,250		1,198,500		3,966,750	58,831,500
Construction supervision				54,600,000		59,280,000		38,025,000		32,565,000		42,900,000		26,130,000		42,900,000	296,400,000
Foreign				33,600,000		36,300,000		23,250,000		19,050,000		25,800,000		15,600,000		25,800,000	179,400,000
Lleader	MM	1,050,000	8	8,400,000	8	8,400,000	5	5,250,000	1	1,050,000	4	4,200,000	2	2,100,000	4	4,200,000	33,600,000
Engineer (Superviser)	MM	900,000	28	25,200,000	31	27,900,000	20	18,000,000	20	18,000,000	24	21,600,000	15	13,500,000	24	21,600,000	145,800,000
Local				8,400,000		9,300,000		6,000,000		6,000,000		7,200,000		4,500,000		7,200,000	48,600,000
Engineer (Superviser)	MM	150,000	56	8,400,000	62	9,300,000	40	6,000,000	40	6,000,000	48	7,200,000	30	4,500,000	48	7,200,000	48,600,000
Others Cost (30% of Direct Cost)	set			12,600,000		13,680,000		8,775,000		7,515,000		9,900,000		6,030,000		9,900,000	68,400,000
				13%		10%		9%		55%		12%		21%		14%	12%

Appendix 4 (3)Quantity of Cost Estimation

Quantity for Cost Estimation (Result of Out-line Design) 1 / 1

Item	Unit	Lambingan	Guadalupe	1st Mandauc Mactan	Palanit	Mawo	Liloan	Wawa
Temporary Work								
Temporary Embankment	cu-m			3,129.0	840.0			2,060.0
Temporary Bridge & Stage	sq-m	1,120.0	3,580.0	420.0	90.0	2,370.0		
Sheet Pile	sq-m	444.0	360.0	860.0		784.0	40.0	
Flag man	hr	57,600.0	7,200.0					
Demolish Work								
Concrete	cu-m	2,582	4,679		262	923.0		587.0
Industrial waste Disposal	ton	6,455	11,698		656	2,307.0		1,468.0
Existing Girder	ton				253	993.0		490.0
Foundation								
Steel Pipe Sheet Pile (SKY400, D=0.8m)								
P1, Material, Transportation t=12mm	m		540.0	5.0m	108nos			
P2, Material, Transportation t=16mm	m		1,296.0	16&8=12m	108nos			
P1,P2 Material, Transportation t=9mm	m		1,890.0	8m, 9.5m	108nos*2			
P1, Press-in, Hard Later	m		540.0	5.0m	108nos			
P2, Press-in, sand Later	m		1,296.0	16&8=12m	108nos			
Steel Pipe Sheet Pile (SKY490, D=1.0m, t=22mm)								
Material, Transportation	m			7,486.0	38nos75m	38nos50m	76nos36m	
Press-in, Hard Later	m			1,162.5	15.5m			
Press-in, sand Later	m			3,230.0	55m, 30m			
Cast in Place Concrete Pile								
D=1.0m	m							
D=1.2m	m							252.0
D=1.5m	m					990.0		
D=2.0m	m							
D=2.5m	m							
Cast in Place Concrete Pile (Under Limited Space)								
D=1.0m	m						208.0	
D=1.2m	m			2,073.0			72.0	
D=1.5m	m							
D=2.0m	m							
D=2.5m	m	180.0	110.0					
Substructure								
Concrete (28 Mpa)	cu-m	1,166.0	5,186.6	6,942.7	464.0	2,318.0	1,850.5	1,409.0
Reinforce Steel (Grade 60) 200 kg/cu-m	kg	233,200.0	#########	#########	82,902.0	463,600.0	740,200.0	281,800.0
Surface Treatment	sq-m			3,618.4			1,449.1	
Ground Improvement								
Anti-liquefaction	cu-m		762.8					
Force reduction	cu-m		1,375.0					
Superstructure 1/2								
Metal Bridge								
Material	ton	1,468.6	831.4					689.5
Fabrication	ton	1,417.2	831.4					689.5
Transportation	ton	1,498.3	846.2					709.6
Erection	ton	1,468.6	831.4					689.5
PC Deck Slab	cu-m							774.9
PC Girder Bridge								
PC-Girder L=27m	nos				10.0			
PC-GirderL=28m	nos				5.0			
Erection, Conection	nos				15.0			
Concrete (28 Mpa)	cu-m				297.0			
Reinforce Steel (Grade 60)	kg				37,192.0			

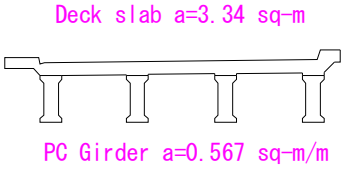
Quantity for Cost Estimation (Result of Out-line Design) 2 / 2

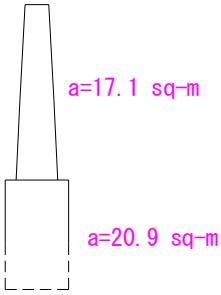
Item	Unit	Lambingan	Guadalupe	1st Mandauc Mactan	Palanit	Mawo	Liloan	Wawa
Superstructure 2/2								
PC Cast in Place Bridge								
Concrete	cu-m					3,153.0		
(Concrete 41 Mpa)	cu-m					3,153.0		
(Form)	sq-m					9,346.0		
(Rainforce Steel)	ton					347.0		
(PC Steel)	ton					77.0		
(PC Steel)	set					140.0		
Bearing								
NRB G14-320x320x10x5	nos				30.0			
NRB G14-700x700x17x6	nos	8.0						
NRB; G14-900x900x22x5	nos							8.0
NRB G14-1500x1500x37x5	nos					12.0		
Mov; BPB 650kN	nos						20.0	
Mov; BPB 800kN	nos			9.0			4.0	
Mov; BPB 850kN	nos			3.0				
Mov; BPB 900kN	nos			3.0				
Mov; BPB 950kN	nos		20.0					
Mov; BPB 1000kN	nos			3.0				
Mov; BPB 1100kN	nos			6.0				
Mov; BPB 1500kN	nos		8.0					
Mov; BPB 2250kN	nos			6.0				
Fix; BPB 650kN	nos						20.0	
Fix; BPB 750kN	nos			9.0			4.0	
Fix; BPB 800kN	nos			9.0				
Fix; BPB 850kN	nos			3.0				
Fix; BPB 900kN	nos			3.0				
Fix; BPB 1000kN	nos			3.0				
Fix; BPB 2250kN	nos		20.0	6.0				
Fix; BPB 3000kN	nos		8.0					
Damper								
Cylinder type 1000 kN	nos			4.0				
Cylinder type 1500 kN	nos			8.0				
Cylinder type 2000 kN	nos			4.0			2.0	
Shear panel 1000 kN	nos			8.0				
Unseating Prevention System								
PC cable F50TD	nos				8.0			
PC cable F100TD	nos		8.0					
PC cable F270TD	nos					8.0		
PC cable F310TD	nos							6.0
PC cable F360TD	nos	12.0						
Chain 450kN	nos						6.0	
Chain 615kN + cross beam	nos			16.0				
Chain 825kN	nos			12.0			4.0	
Chain 975kN	nos		20.0					
Chain 1350kN + cross beam	nos			4.0				
Belt 900 kN	nos			18.0			30.0	
Seat Extender Bracket	nos						46.0	
Surface Work								
Surface Work (Goose Asphalt)	sq-m	2,011.4	2,118.2					
Surface Work (Asphalt)	sq-m				894.0	2,235.0		2,070.0
Expansion Joint								
10cm, +-5cm	m		53.2	52.0			57.0	
15cm, +-10cm	m		39.4	20.8	23.4	27.4		
20cm, +-10cm	m	52.8		10.4			9.5	
30cm, +-15cm	m							20.4
40cm, +-10cm	m						9.5	

Demolish quantity

GUADALUPE

1 Concrete





a) PC Girder

V= 0.567*4*114.4*2	=	519	cu-m

b) Deck slab

V= 3.34*114.4*2	=	764	cu-m

c) Cross Girder (10% of PC girder)

V=	=	52	cu-m

d) Pier

V= (17.1+20.9)*44.0*2	=	3,344	cu-m

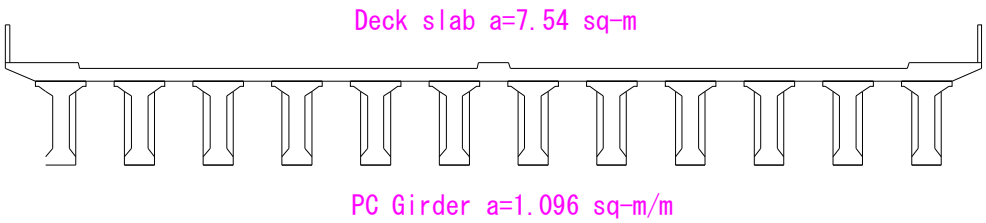
e) Total

V=	=	4,679	cu-m
W= V*2.5	=	11,698	t

Demolish quantity

LAMBINGAN

1 Concrete



a) PC Girder

V= 1.096*12*99.0	=	1,302	cu-m

b) Deck slab

V= 7.54*99.0	=	746	cu-m

c) Cross Girder (10% of PC girder)

V=	=	130	cu-m

d) Pier

V= 1.4(thickness)*24.0(length)*6.0(height)*2	=	403	cu-m

e) Total

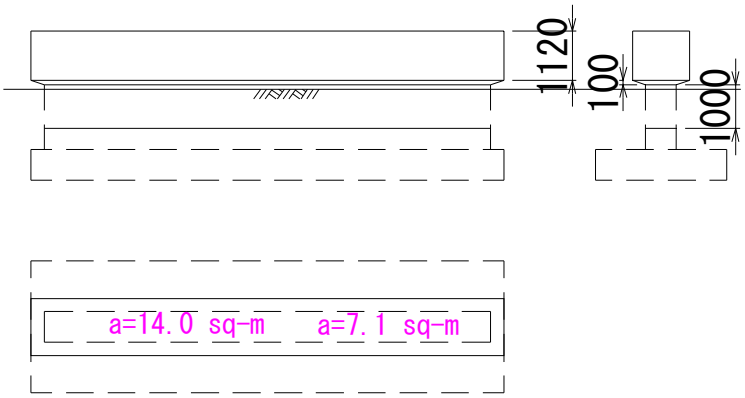
V=	=	2,582	cu-m
W= V*2.5	=	6,455	t

Demolish quantity

PALANIT

1 Concrete

a) Pier



V= (14.0*1.12+0.5*(14.0+7.1)*0.1+7.1*1.0)*2 = 48 cu-m

b) Deck slab

V= 8.7*0.2*123.4 = 215 cu-m

c) Total

V= = 262 cu-m

W= V*2.5 = 656 t

2 Metal

a) Truss gieder

w= 0.35 t/sq-m

W= 73.8*7.4*0.35 = 191 t

b) Plate gieder

w= 0.17 t/sq-m

W= 49.5*7.4*0.17 = 62 t

c) Total

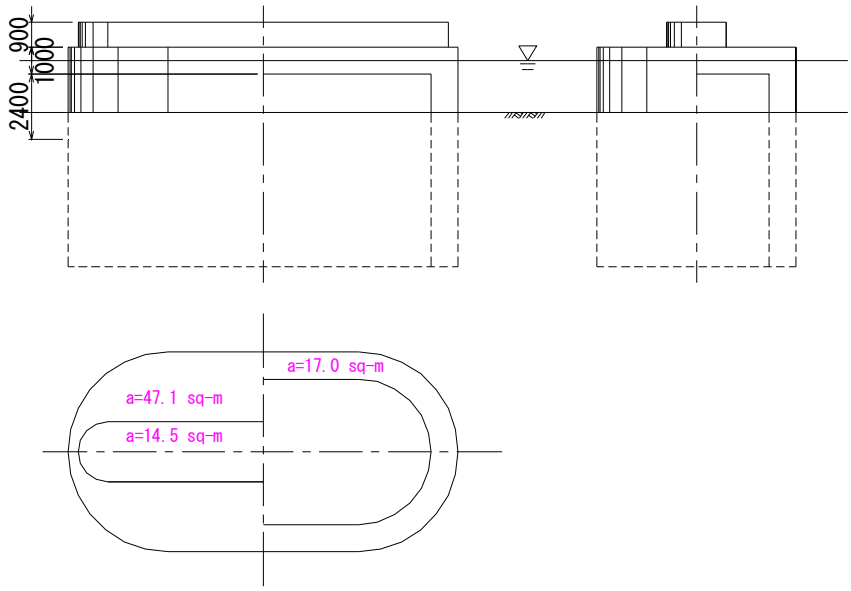
W= = 253 t

Demolish quantity

MAWO

1 Concrete

a) Pier



V= 14.5*0.9*2+47.1*1.0*2+17.0*2.4*2	=	202	cu-m

b) Deck slab

V= 9.3*0.3*258.4	=	721	cu-m

c) Total

V=	=	923	cu-m
W= V*2.5	=	2,307	t

2 Metal

a) Arch Girder

w= 0.50 t/sq-m

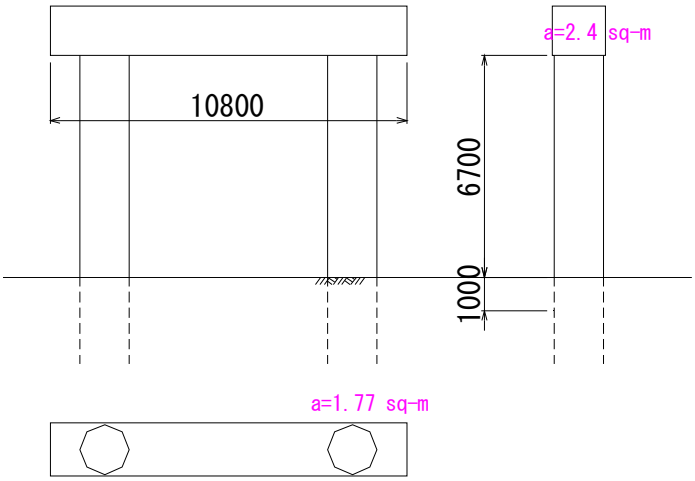
W= 258*7.7*0.43	=	993	t

Demolish quantity

WAWA

1 Concrete

a) Pier



V= (2.4*10.8+1.77*7.7*2)*4	=	213	cu-m

b) Deck slab

V= 8.2*0.2*228.3	=	374	cu-m

c) Total

V=	=	587	cu-m
W= V*2.5	=	1,468	t

2 Metal

a) Truss gieder

w= 0.35 t/sq-m

W= 77.6*7.3*0.35*2	=	397	t

b) Plate gieder

w= 0.17 t/sq-m

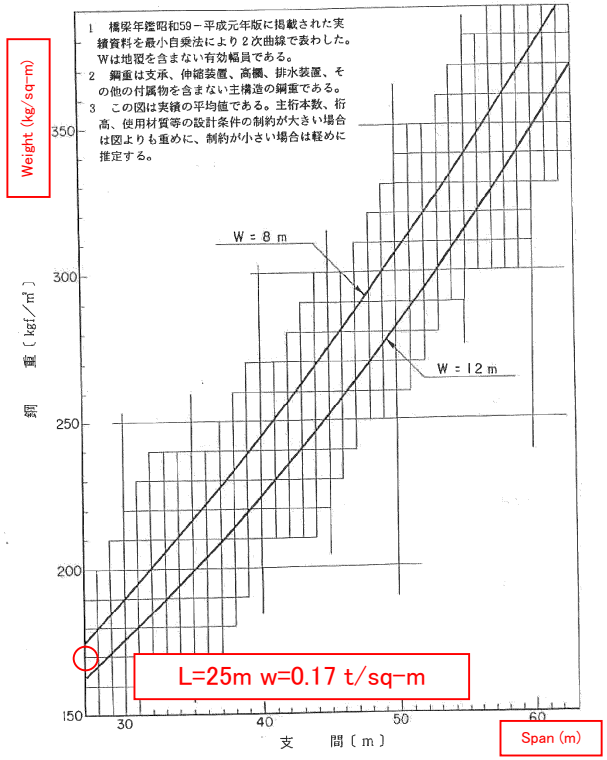
W= 25.0*7.3*0.17*3	=	93	t

c) Total

W=	=	490	t

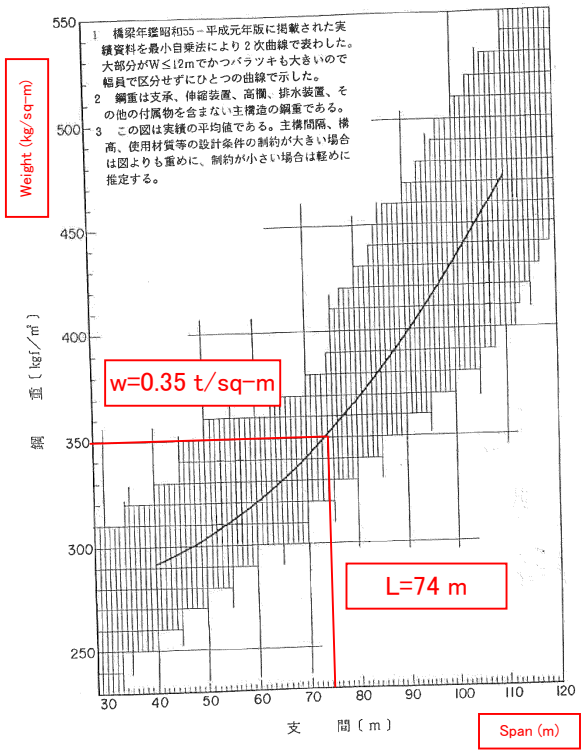
Presumption of the existing superstructure weight

Data of superstructure weight by superstructure type and span length (per sq-m of bridge surface area) in Japan.



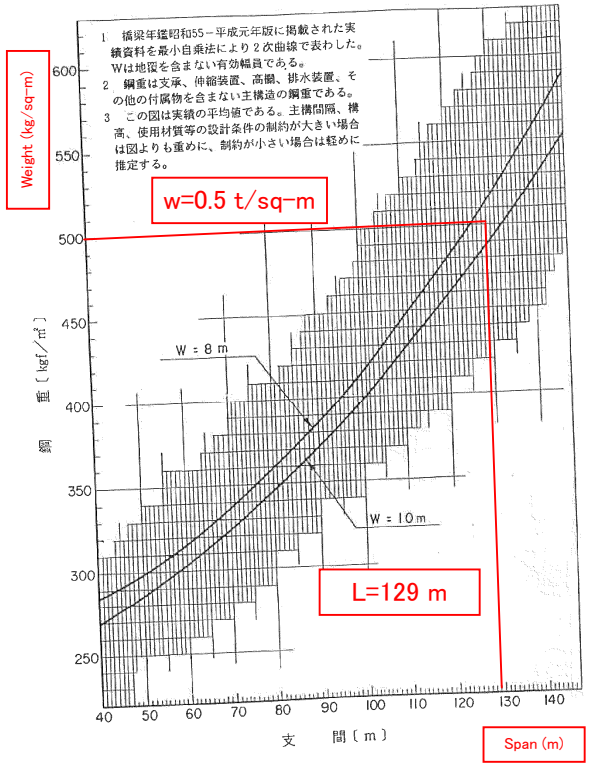
図－2.3 単純非合成Ⅰ桁橋の支間－鋼重（RC床版）

Plate gieder



図－2.13 単純トラス橋の支間－鋼重（RC床版）

Truss gieder



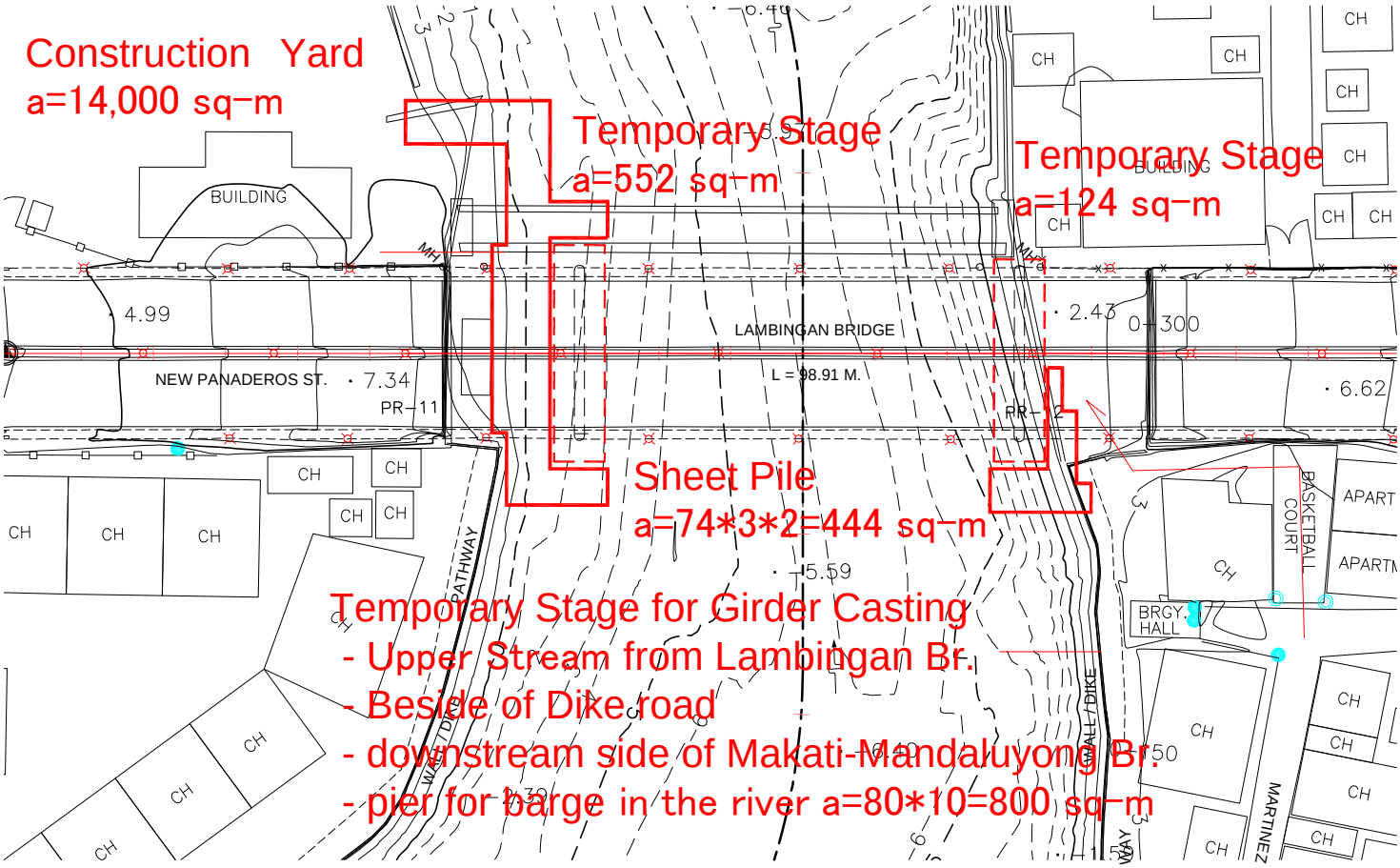
図－2.15 ランガー桁橋の支間－鋼重（RC床版）

MAWO

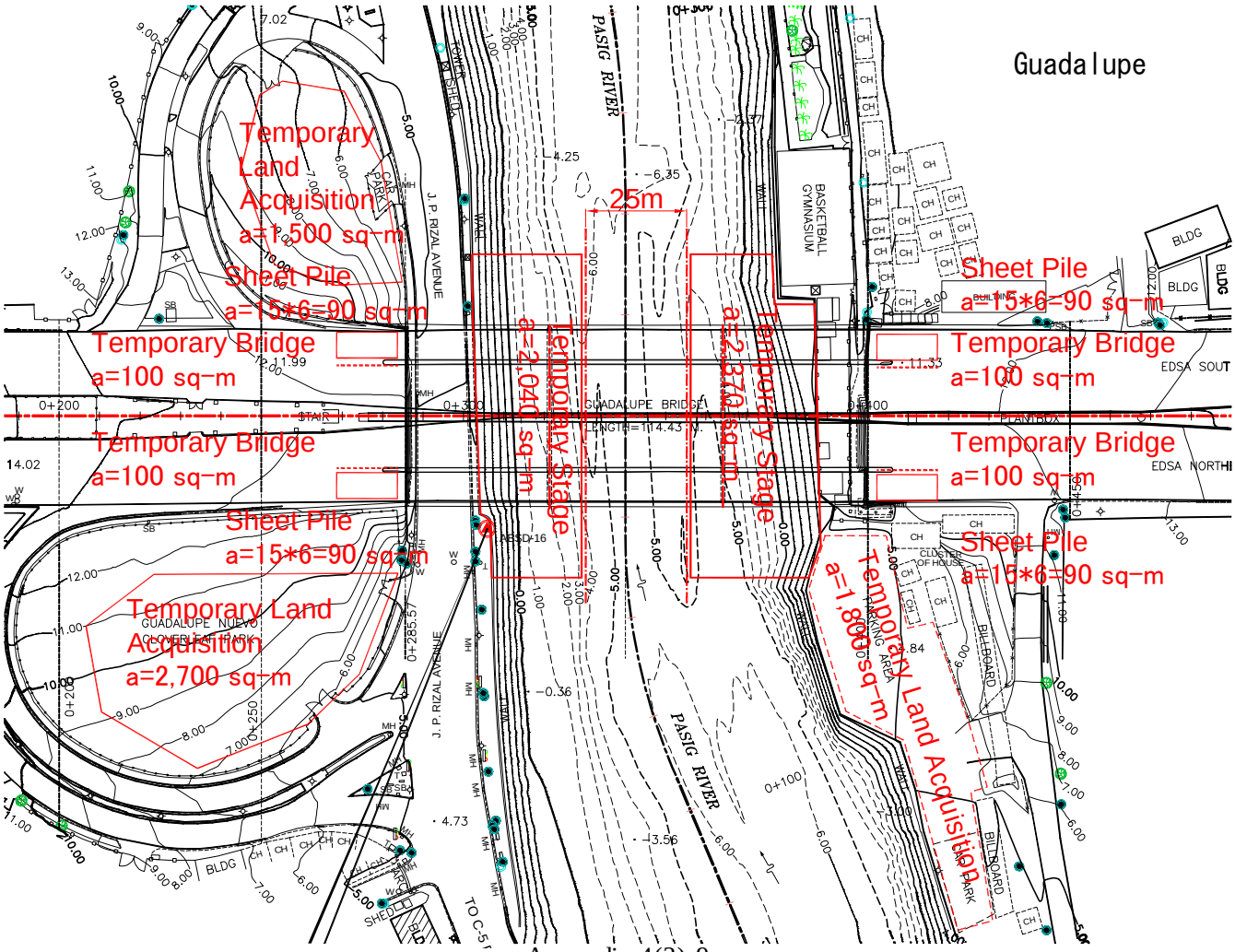
PALANIT, WAWA

Quantity ofTemporary work and Land Acquisition

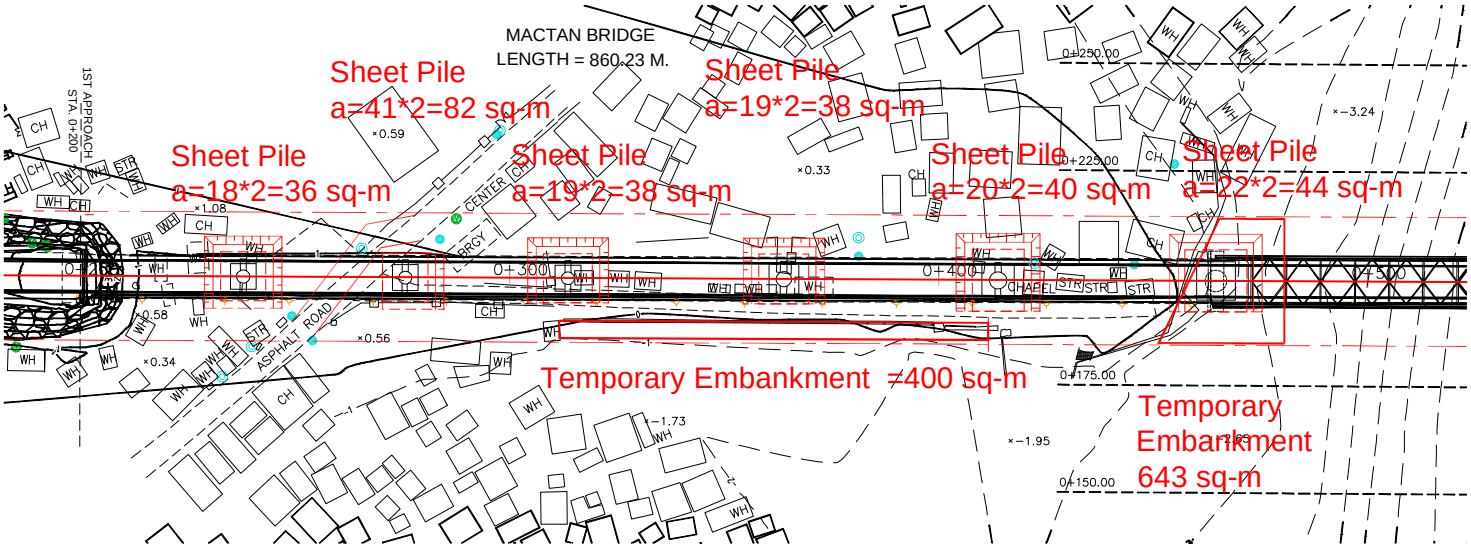
Lambingan



Guadalupe

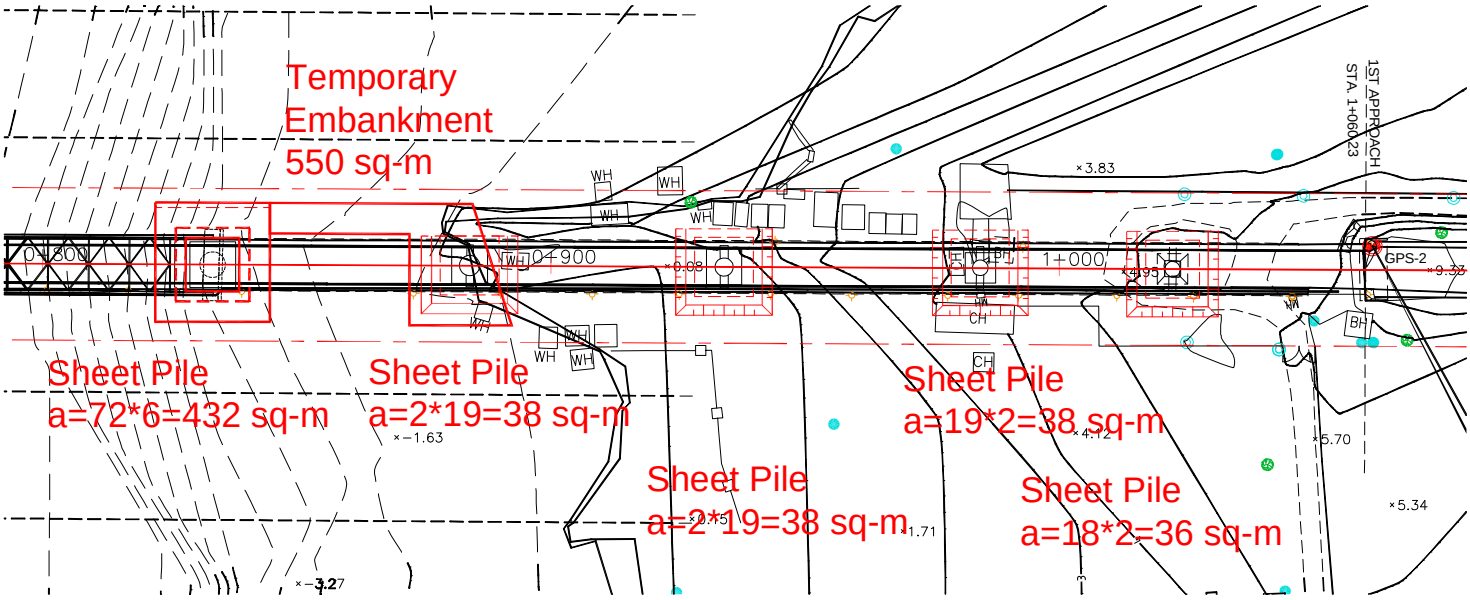


1st Mandaue Mautan

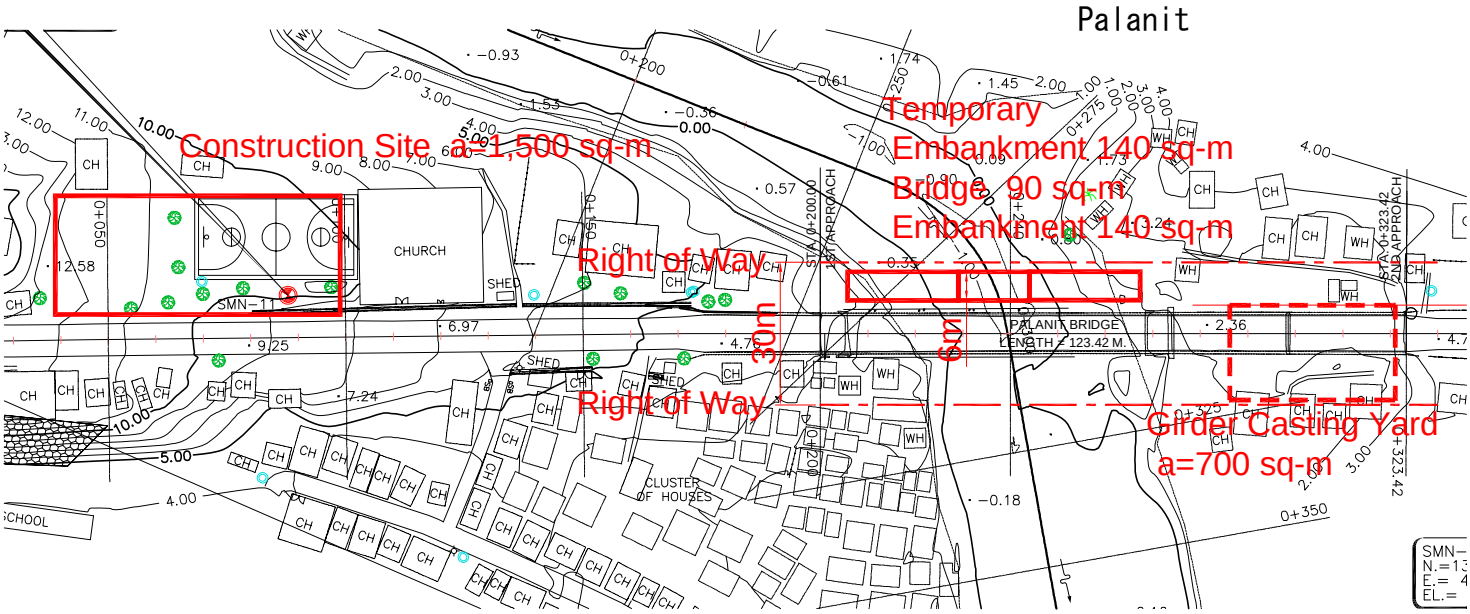


CEBU side

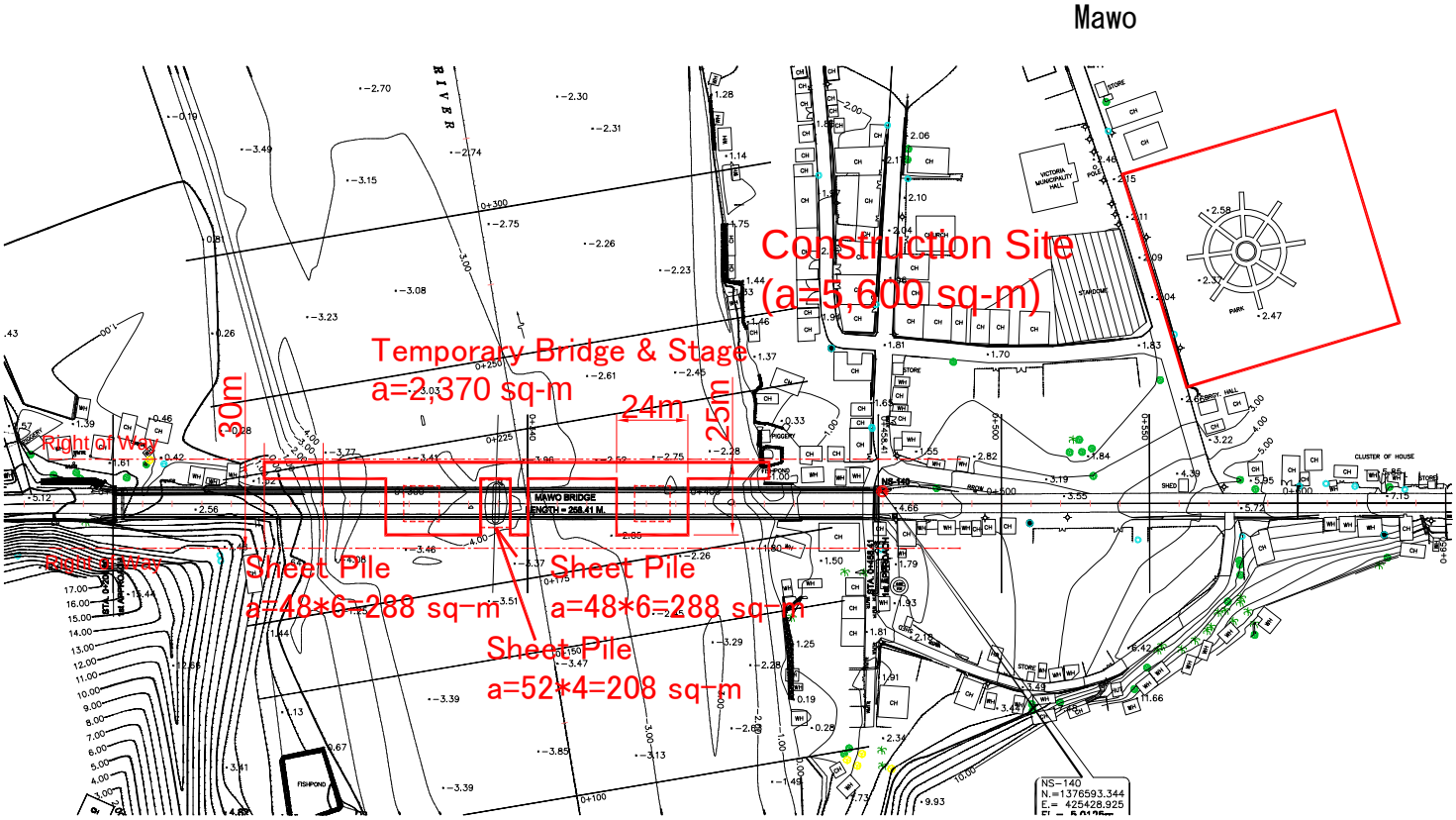
Temporary Embankmenr t=3.0m

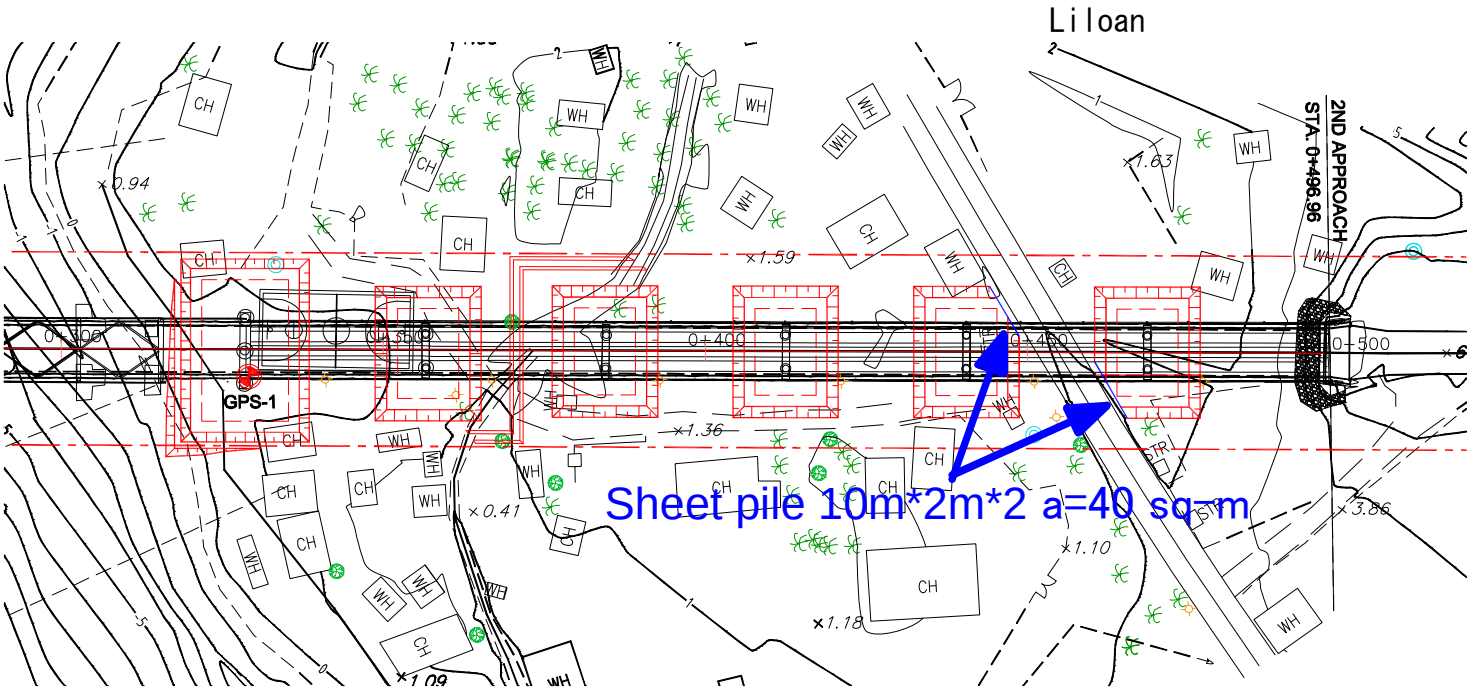


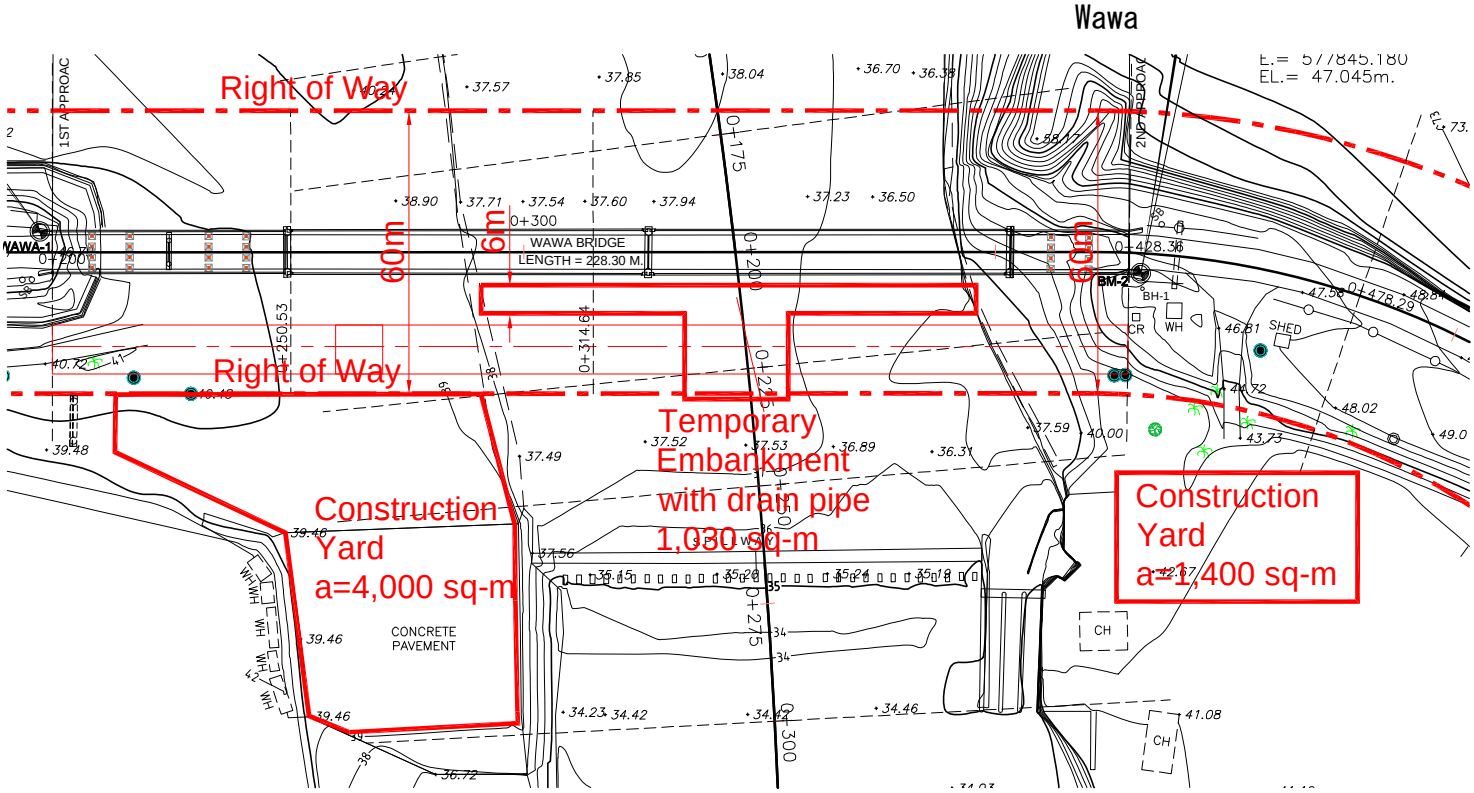
Mactan side



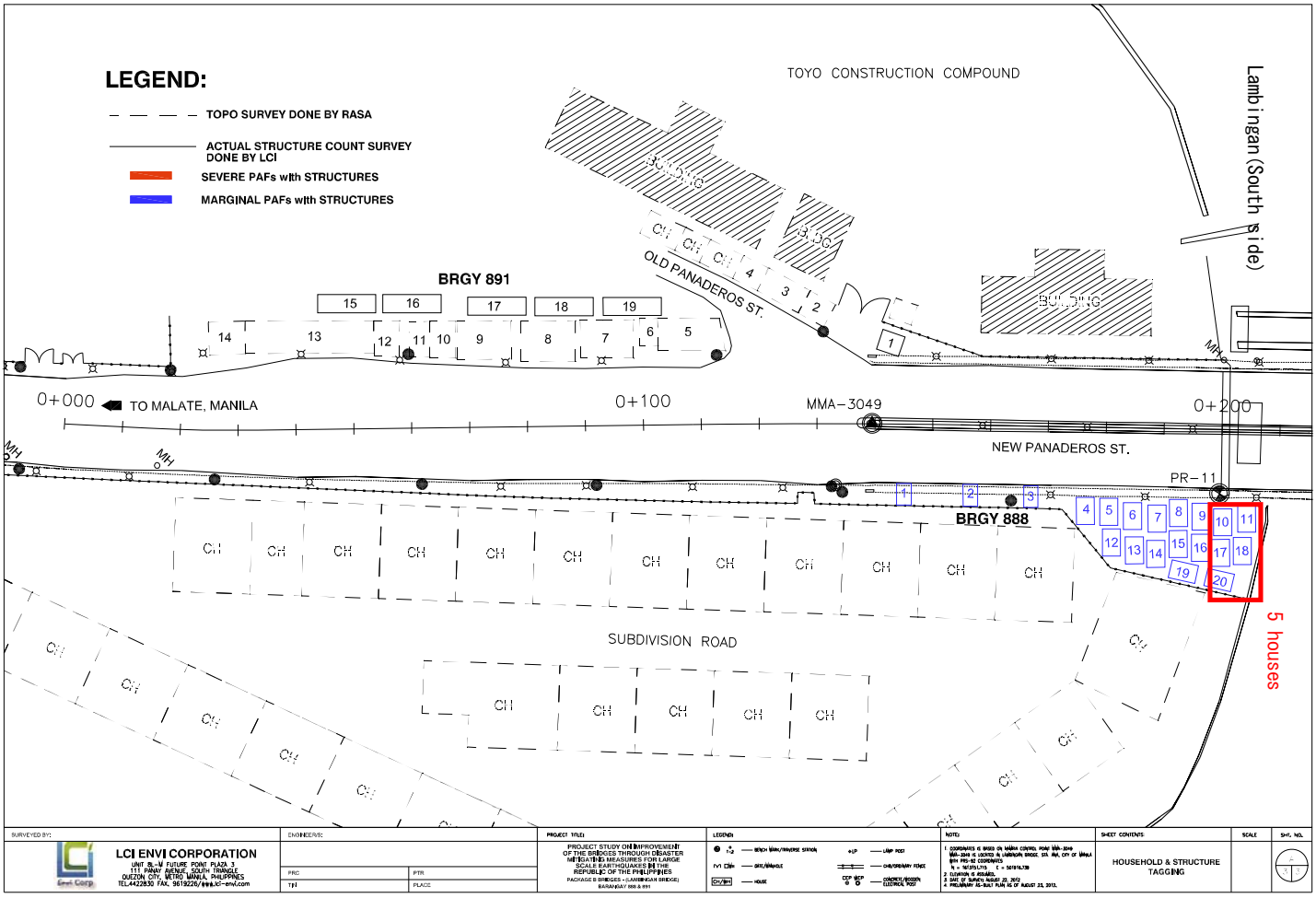
Temporary Embankmenr t=3.0m

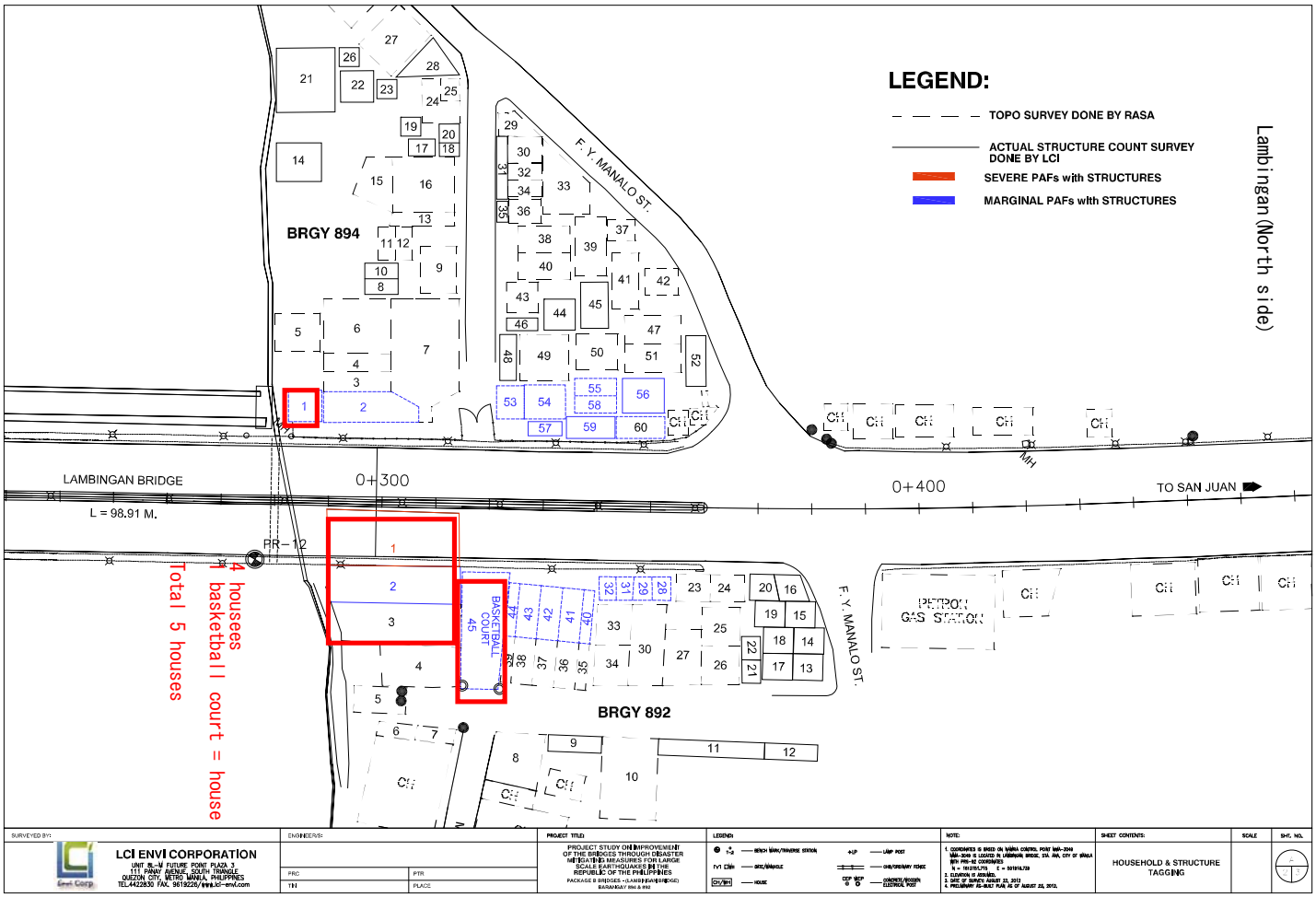


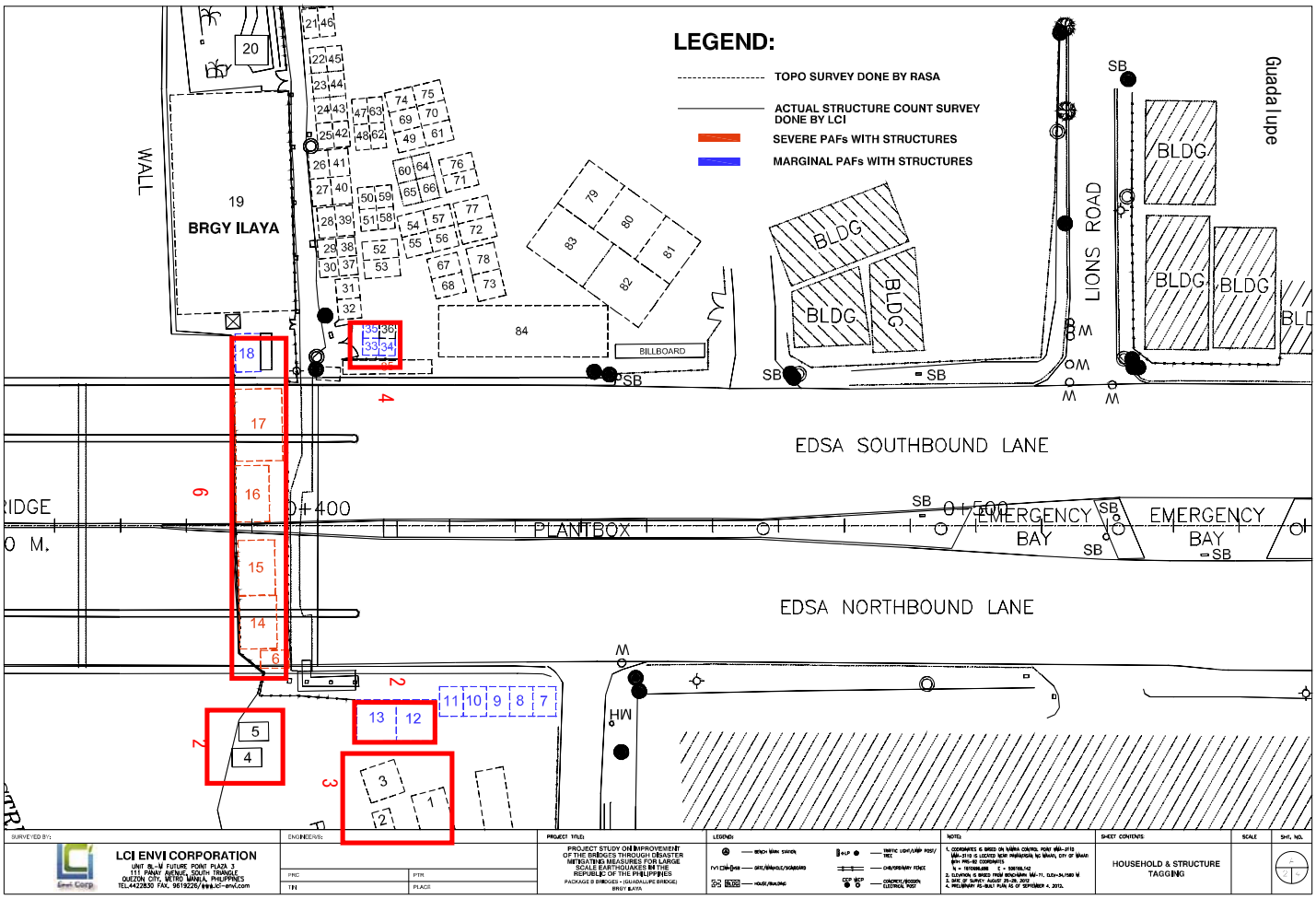

Liloan
2ND APPROACH
STA. 0+496.96
GPS-1
Sheet pile 10m*2m*2 a=40 sq-m

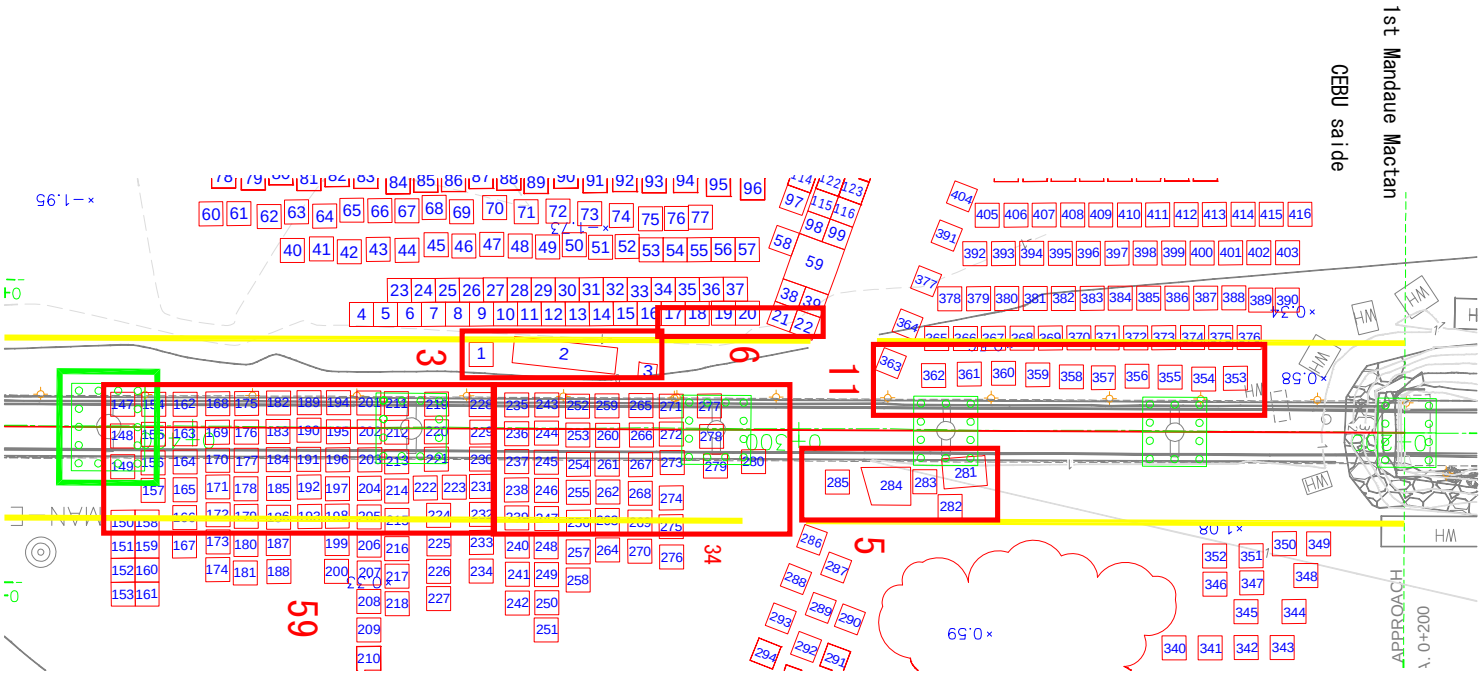

Wawa
Right of Way
Right of Way
60m
6m
60m
WAWA BRIDGE
LENGTH = 228.30 M.
Temporary
Embankment
with drain pipe
1,030 sq-m
Construction
Yard
a=4,000 sq-m
Construction
Yard
a=1,400 sq-m
CONCRETE
PAVEMENT

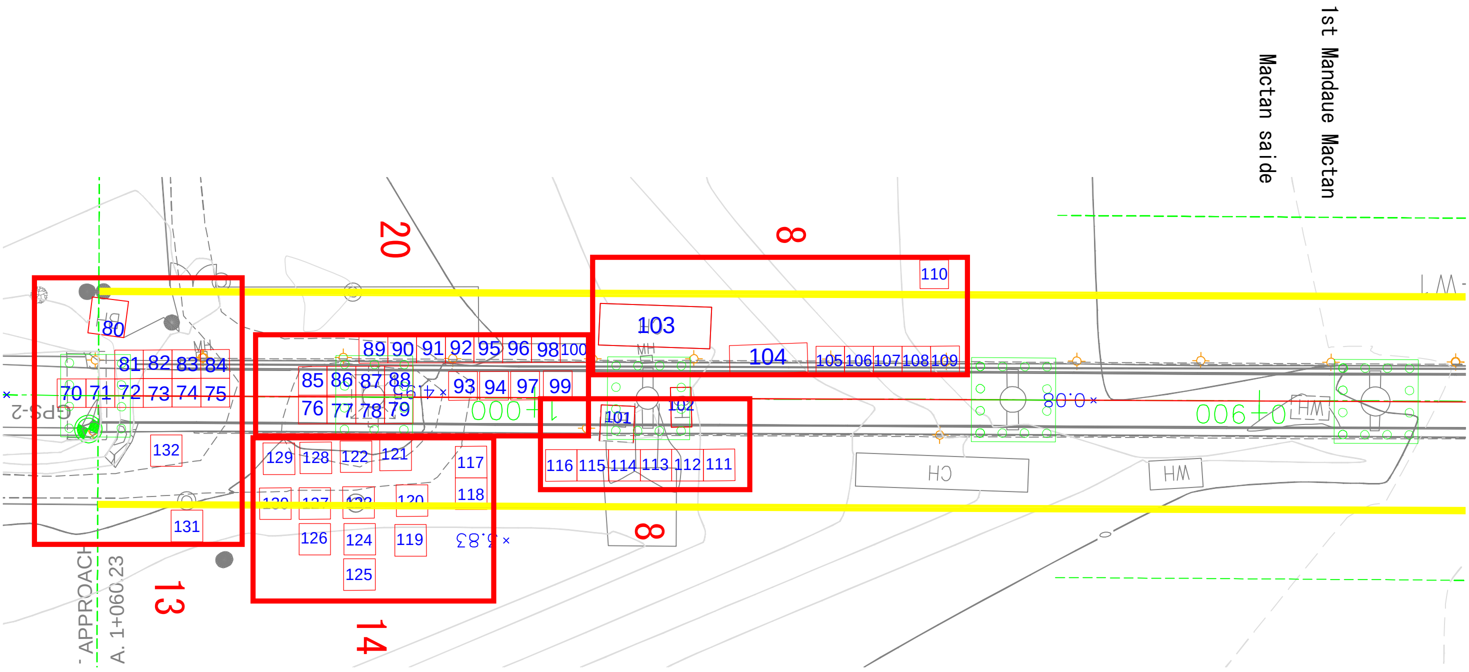
Quantity of Compensation (House Remove)

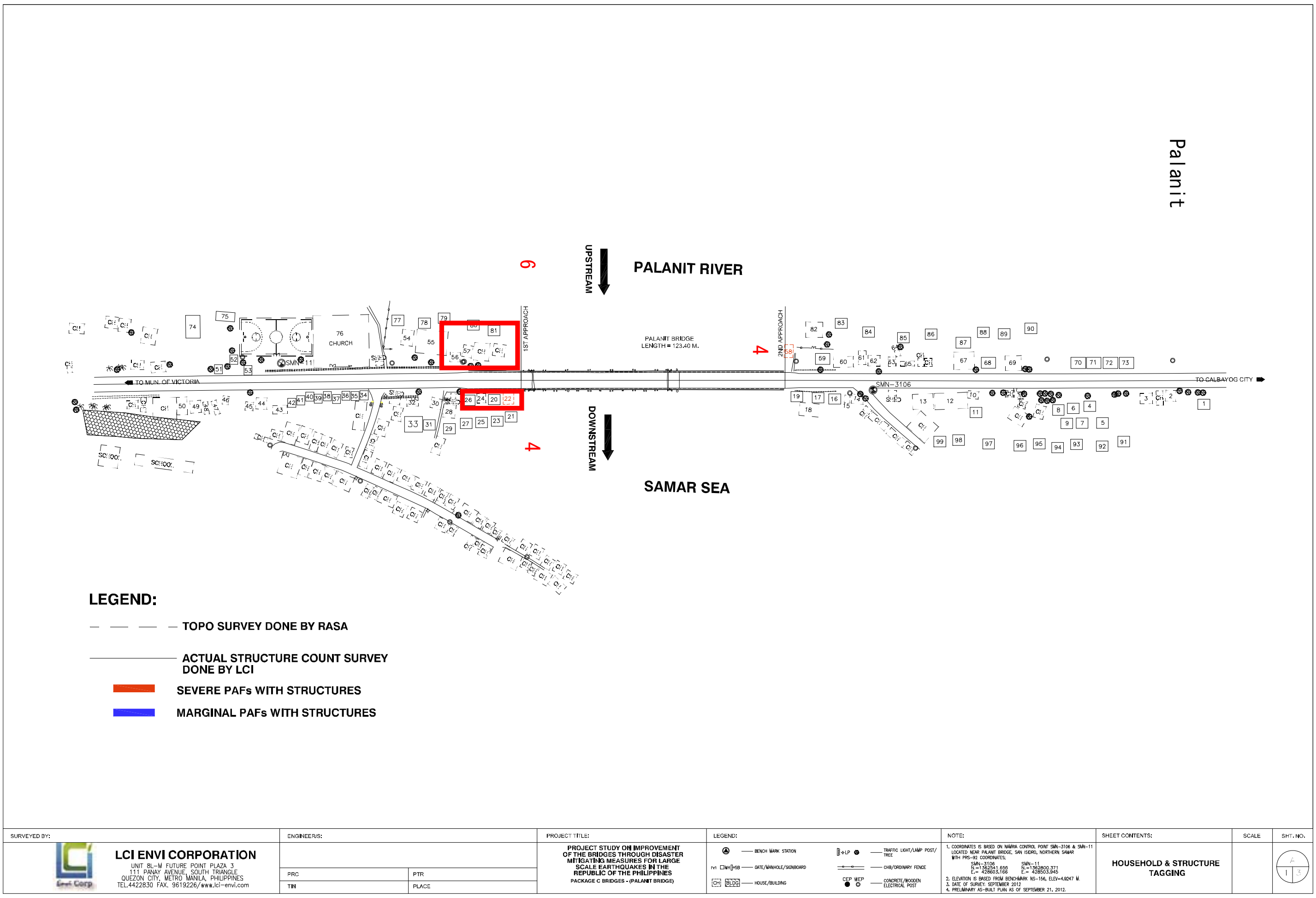


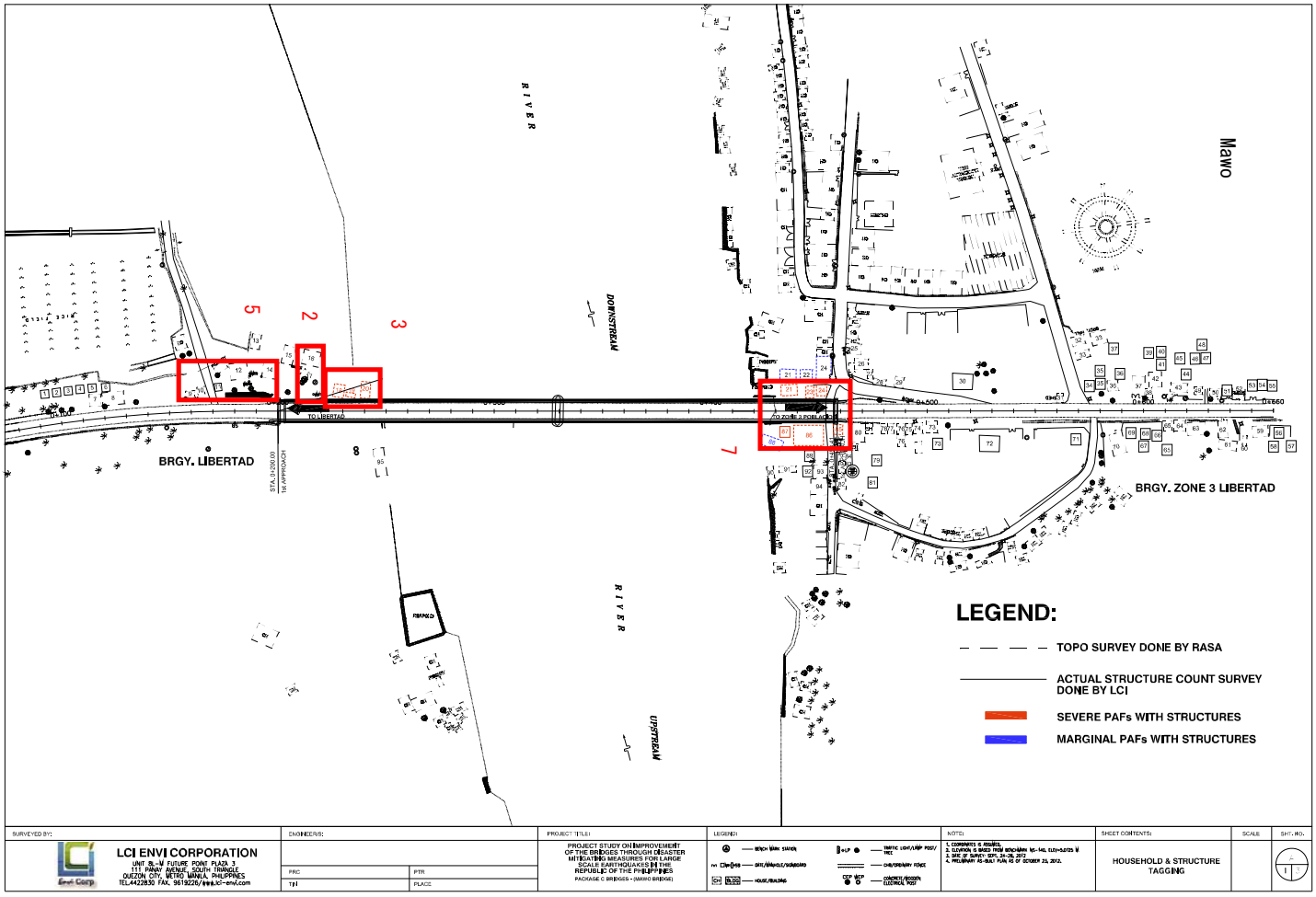


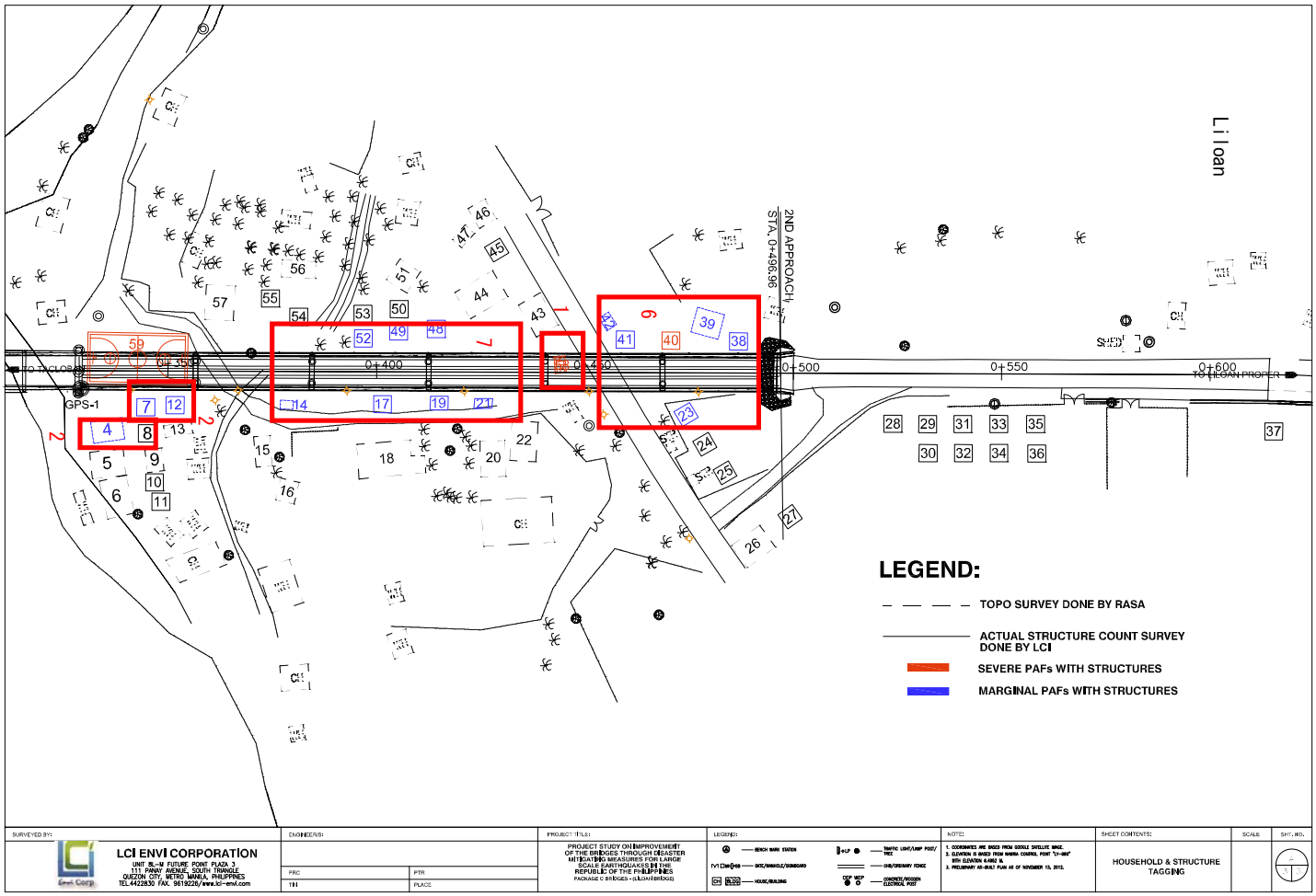

LEGEND:
TOPO SURVEY DONE BY RASA
ACTUAL STRUCTURE COUNT SURVEY DONE BY LCI
SEVERE PAFs WITH STRUCTURES
MARGINAL PAFs WITH STRUCTURES
BRGY ILAYA
WALL
LIONS ROAD
Guadalupe
BLDG
BILLBOARD
EDSA SOUTHBOUND LANE
EDSA NORTHBOUND LANE
PLANTBOX
EMERGENCY BAY
SB
HW
LCI ENVI CORPORATION
HOUSEHOLD & STRUCTURE TAGGING

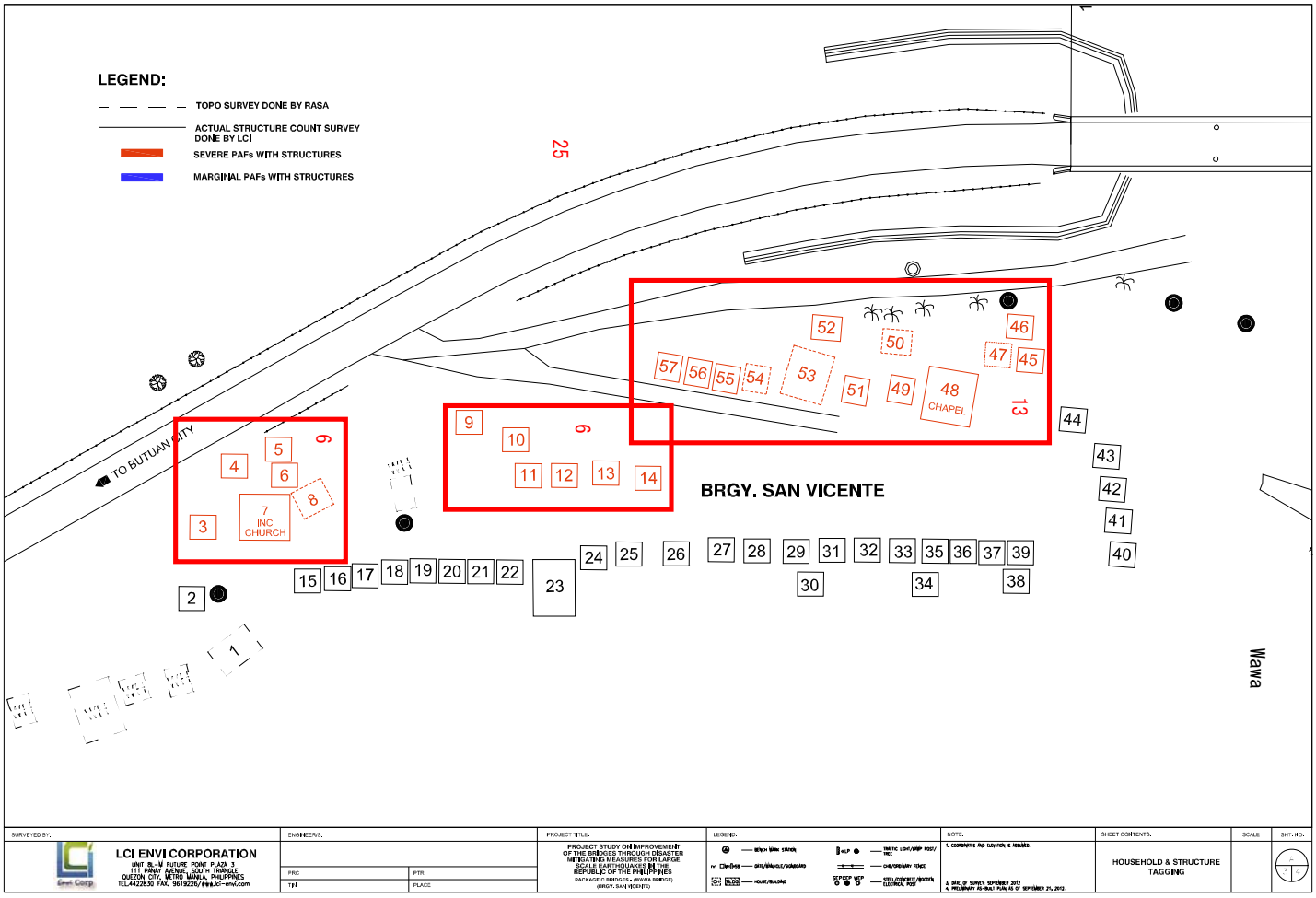

1st Mandaue Mactan
CEBU side
APPROACH


1st Mandaue Mactan
Mactan saide
20
8
13
14
APPROACH
A. 1+060.23
GPS-2
1+000
01+900


Palanit
PALANIT RIVER
UPSTREAM
DOWNSTREAM
SAMAR SEA
PALANIT BRIDGE
LENGTH = 123.40 M.
CHURCH
TO MUN. OF VICTORIA
TO CALBAYOG CITY
LEGEND:
TOPO SURVEY DONE BY RASA
ACTUAL STRUCTURE COUNT SURVEY DONE BY LCI
SEVERE PAFs WITH STRUCTURES
MARGINAL PAFs WITH STRUCTURES
LCI ENVI CORPORATION
PROJECT STUDY ON IMPROVEMENT OF THE BRIDGES THROUGH DISASTER MITIGATING MEASURES FOR LARGE SCALE EARTHQUAKES IN THE REPUBLIC OF THE PHILIPPINES
PACKAGE C BRIDGES - (PALANIT BRIDGE)
HOUSEHOLD & STRUCTURE TAGGING


Mawo
RIVER
DOWNSTREAM
UPSTREAM
BRGY. LIBERTAD
BRGY. ZONE 3 LIBERTAD
TO LIBERTAD
TO ZONE 3 PUBLIC
1st APPROACH
LEGEND:
TOPO SURVEY DONE BY RASA
ACTUAL STRUCTURE COUNT SURVEY DONE BY LCI
SEVERE PAFs WITH STRUCTURES
MARGINAL PAFs WITH STRUCTURES
LCI ENVI CORPORATION
UNIT 8L-M FUTURE POINT PLAZA 3
111 PANAY AVENUE, SOUTH TRIANGLE,
QUEZON CITY, METRO MANILA, PHILIPPINES
TEL.4422830 FAX. 9619226/www.lci-envi.com
PROJECT STUDY ON IMPROVEMENT OF THE BRIDGES THROUGH DISASTER MITIGATING MEASURES FOR LARGE SCALE EARTHQUAKES IN THE REPUBLIC OF THE PHILIPPINES
PACKAGE C BRIDGES - (MAWO BRIDGE)
HOUSEHOLD & STRUCTURE TAGGING


Liloan
2ND APPROACH
STA. 0+496.96
TO TALISAY
TO LILOAN PROPER
GPS-1
0+350
0+400
0+450
0+500
0+550
0+600
LEGEND:
TOPO SURVEY DONE BY RASA
ACTUAL STRUCTURE COUNT SURVEY DONE BY LCI
SEVERE PAFs WITH STRUCTURES
MARGINAL PAFs WITH STRUCTURES
LCI ENVI CORPORATION
UNIT 8L-M FUTURE POINT PLAZA 3
111 PANAY AVENUE, SOUTH TRIANGLE,
QUEZON CITY, METRO MANILA, PHILIPPINES
TEL.4422830 FAX. 9619226/www.lci-envi.com
PROJECT STUDY ON IMPROVEMENT OF THE BRIDGES THROUGH DISASTER MITIGATING MEASURES FOR LARGE SCALE EARTHQUAKES IN THE REPUBLIC OF THE PHILIPPINES
PACKAGE C BRIDGES - (LILOAN BRIDGE)
HOUSEHOLD & STRUCTURE TAGGING


LEGEND:
TOPO SURVEY DONE BY RASA
ACTUAL STRUCTURE COUNT SURVEY DONE BY LCI
SEVERE PAFs WITH STRUCTURES
MARGINAL PAFs WITH STRUCTURES
TO BUTUAN CITY
BRGY. SAN VICENTE
7 INC CHURCH
48 CHAPEL
Wawa
SURVEYED BY:
LCI ENVI CORPORATION
UNIT 8L-M FUTURE POINT PLAZA 3
121 PANAY AVENUE, SOUTH TRIANGLE
QUEZON CITY, METRO MANILA, PHILIPPINES
TEL:4422830 FAX: 9619226/www.lci-envi.com
ENGINEERS:
PROJECT TITLE:
PROJECT STUDY ON IMPROVEMENT OF THE BRIDGES THROUGH DISASTER MITIGATING MEASURES FOR LARGE SCALE EARTHQUAKES IN THE REPUBLIC OF THE PHILIPPINES
PACKAGE C BRIDGES - (WAWA BRIDGE)
(BRGY. SAN VICENTE)
LEGEND:
NOTE:
SHEET CONTENTS:
HOUSEHOLD & STRUCTURE TAGGING
SCALE
SHT. NO.

Appendix 4 (4)Detail of Cost Estimation

Item		Construction Cost (M Php)								Remark
		Total	Lambingar	Guadalupe	1st Mandaue Mactan	Palanit	Mawo	Liloan	Wawa	
			Replace	Replace + Retrofit	Retrofit	Replace	Replace	Retrofit	Replace	Price Level August 2013
1. Construction Cost	(M Php)	5,379.3	868.2	1,518.9	1,579.6	81.9	665.8	172.8	492.2	
1-1 Civil Work(Bridge	(M Yen)	11,952.9	1,929.1	3,375.0	3,510.0	182.0	1,479.4	383.9	1,093.6	Estimate Direct Cost + overhead cost
1) Foreign		4,029.7	752.4	1,187.7	1,213.8	11.7	381.1	87.9	395.1	
2) Local		1,349.6	115.8	331.2	365.9	70.2	284.7	84.8	97.0	
	% of 1)	74.9%	86.7%	78.2%	76.8%	14.3%	57.2%	50.9%	80.3%	Foreign / Construction Cost
Per Surface Area	(K Php/sq-m)		392.1	278.2	183.9	86.1	237.1	61.1	209.8	Without VAT
	(K Yen/sq-m)		871.3	618.1	408.7	191.3	526.8	135.8	466.2	
Surfce Area (sq-m)			2,214.0	5,460.5	8,588.0	951.2	2,808.5	2,826.3	2,346.0	
Bridge Length (m)			90.0	(Outer) 125.0	(Truss) 368.0	82.0	205.0	297.5	230.0	
				(Inner) 114	(Girder) 492					
Bridge Width (m)			24.6	(Outer) 19.3	(Truss) 9.7	11.6	13.7	9.5	10.2	
				(Inner) 27	(Girder) 10					
Per Pair Lane	(K Php/m)		3,215	2,560	1,837	999	3,248	581	2,140	Without VAT
	(K Yen/m)		7,144.8	5,689.4	4,081.4	2,219.5	7,216.8	1,290.3	4,754.7	
Nubmer of lanes			6	(Outer) 4	2	2	2	2	2	
				6						
Length of pair lane			270.0	593.2	860.0	82.0	205.0	297.5	230.0	
1-3. Physical Contingency		235.9	38.1	69.3	69.3	3.6	29.2	7.6	21.6	5% of Estimate Direct Cost
1-4. Administrative Cost		137.2	22.8	41.6	41.6	2.2	17.5	0.2	13.0	3% of Estimate Direct Cost
1-5. Preparation Cost		123.6	54.1	61.6	4.3	0.5	1.2	0.5	1.4	
1) Temporary Land Acquisition		117.0	52.4	61.2	0.0	0.3	0.8	0.0	0.8	
2) Land Acquisition		1.5	1.5	-	-	-	-	-	-	
3) Compensation		6.6	0.3	0.4	4.3	0.2	0.3	0.5	0.6	
1-5. TAX		744.0	126.9	211.1	217.5	10.9	86.6	22.8	68.3	
1) VAT		705.1	118.0	202.5	203.4	10.6	85.6	21.7	63.4	12%
2) Custom Duty		38.9	8.9	8.6	14.1	0.3	1.0	1.1	4.9	3% for Imported Steel Items
Construction Cost Subtot	(M Php)	6,620	1,110	1,902	1,912	99	800	204	596	
	(M Yen)	14,710	2,467	4,227	4,249	220	1,778	453	1,325	
2. Consultancy Service Cost		617.5	108.0	143.3	144.4	44.3	75.3	35.1	67.3	
2-1. Detail Design		254.9	41.8	68.5	90.9	7.0	24.4	5.2	17.2	
2-2. Construction Supervision		296.4	54.6	59.3	38.0	32.6	42.9	26.1	42.9	
2-3. VAT		66.2	11.6	15.5	15.5	4.7	8.1	3.8	7.2	12%
Consultancy Service Subt	(M Php)	684	120	159	160	49	83	39	75	
	(M Yen)	1,519	266	353	355	109	185	86	166	
Grand Total	(M Php)	7,304	1,230	2,061	2,072	148	884	243	671	
	(M Yen)	16,229	2,732	4,580	4,604	329	1,964	539	1,491	1 Php = 2.222 Yen

Table of Project Cost

Cost Item	Lambingan						Guadalupe					
	Local (Php)		Foreign (Php)	Total (Php)	%		Local (Php)		Foreign (Php)	Total (Php)	%	
	Labor	othsers					Labor	othsers				
Civil Work (EDC+OC)	13,334,064	102,428,356	752,412,771	868,175,191	100%	64.3%	23,591,091	307,637,902	1,187,652,928	1,518,881,921	100%	67.2%
General Work	1,212,188	9,311,669	68,401,161	78,925,017	9.1%	5.8%	2,144,645	27,967,082	107,968,448	138,080,175	9.1%	6.1%
Temporary Work	7,676,539	44,253,989	0	51,930,529	6.0%	3.8%	6,766,432	115,900,423	51,984,000	174,650,856	11.5%	7.7%
Demolish Work	1,927,414	8,637,716	0	10,565,129	1.2%	0.8%	3,492,862	15,653,337	0	19,146,199	1.3%	0.8%
Foundation Work	0	0	35,151,677	35,151,677	4.0%	2.6%	504,089	14,166,108	381,856,680	396,526,877	26.1%	17.5%
Substructure Work	1,911,030	22,131,372	0	24,042,403	2.8%	1.8%	8,822,354	100,114,590	109,318,920	218,255,865	14.4%	9.7%
Superstructure Work	0	0	626,743,933	626,743,933	72.2%	46.4%	0	0	459,219,292	459,219,292	30.2%	20.3%
Other Work	606,893	18,093,610	22,116,000	40,816,503	4.7%	3.0%	1,860,709	33,836,361	77,305,589	113,002,659	7.4%	5.0%
Consultancy Service Cost	20,205,000	22,246,500	53,950,000	96,401,500		7.1%	29,655,000	29,491,500	68,650,000	127,796,500		5.7%
Detail Design	11,805,000	9,646,500	20,350,000	41,801,500		3.1%	20,355,000	15,811,500	32,350,000	68,516,500		3.0%
Construction Supervision	8,400,000	12,600,000	33,600,000	54,600,000		4.0%	9,300,000	13,680,000	36,300,000	59,280,000		2.6%
Contingency		38,907,359	124,415,574	163,322,933		12.1%		80,292,047	194,628,481	274,920,528		12.2%
Price Escalation		33,830,060	91,415,014	125,245,074		9.3%		65,764,460	142,538,440	208,302,900		9.2%
Physical Contingency		5,077,299	33,000,560	38,077,859		2.8%		14,527,587	52,090,041	66,617,628		2.9%
Administrative Cost		22,846,716		22,846,716		1.7%		39,970,577		39,970,577		1.8%
Preparation Cost		54,139,850		54,139,850		4.0%		61,625,000		61,625,000		2.7%
Land acquisition		53,889,850		53,889,850		4.0%		61,200,000		61,200,000		2.7%
Compensation		250,000		250,000		0.0%		425,000		425,000		0.0%
Tax		138,465,800		138,465,800		10.3%		226,419,681		226,419,681		10.0%
VAT(Civil Work)		117,988,754		117,988,754		8.7%		202,451,415		202,451,415		9.0%
VAT(Consultancy Service)		11,568,180		11,568,180		0.9%		15,335,580		15,335,580		0.7%
Custom Duty		8,908,866		8,908,866		0.7%		8,632,686		8,632,686		0.4%
Interest and others		7,209,100		7,209,100		0.5%		9,870,523		9,870,523		0.4%
Interest during construction		5,279,947		5,279,947		0.4%		9,212,802		9,212,802		0.4%
Front-end fee		1,929,153		1,929,153		0.1%		657,721		657,721		0.0%
Total	33,539,064	386,243,681	930,778,345	1,350,561,090		100%	53,246,091	755,307,230	1,450,931,409	2,259,484,730		100%

Cost Item	Mawo						Liloan					
	Local (Php)		Foreign (Php)	Total (Php)	%		Local (Php)		Foreign (Php)	Total (Php)	%	
	Labor	othsers					Labor	othsers				
Civil Work (EDC+OC)	19,231,372	265,469,583	381,117,296	665,818,251	100%	67.9%	8,797,271	76,024,785	87,933,428	172,755,484	100%	64.6%
General Work	915,780	12,641,409	18,148,443	31,705,631	4.8%	3.2%	418,918	3,620,228	4,187,306	8,226,452	4.8%	3.1%
Temporary Work	4,013,148	89,892,193	0	93,905,342	14.1%	9.6%	870	965,028	0	965,898	0.6%	0.4%
Demolish Work	7,152,547	36,200,510	0	43,353,057	6.5%	4.4%					0.0%	0.0%
Foundation Work	2,311,179	56,645,295	0	58,956,474	8.9%	6.0%	0	0	25,273,333	25,273,333	14.6%	9.5%
Substructure Work	3,799,115	43,997,016	0	47,796,131	7.2%	4.9%	6,086,366	55,135,761	0	61,222,127	35.4%	22.9%
Superstructure Work	494,797	4,453,171	362,968,854	367,916,822	55.3%	37.5%	0	0	41,452,680	41,452,680	24.0%	15.5%
Other Work	544,806	21,639,988	0	22,184,794	3.3%	2.3%	2,291,117	16,303,767	17,020,109	35,614,994	20.6%	13.3%
Consultancy Service Cost	13,812,500	15,521,250	37,925,000	67,258,750		6.9%	6,295,000	7,228,500	17,800,000	31,323,500		11.7%
Detail Design	6,612,500	5,621,250	12,125,000	24,358,750		2.5%	1,795,000	1,198,500	2,200,000	5,193,500		1.9%
Construction Supervision	7,200,000	9,900,000	25,800,000	42,900,000		4.4%	4,500,000	6,030,000	15,600,000	26,130,000		9.8%
Contingency		63,916,707	64,147,447	128,064,154		13.1%		19,397,555	15,528,847	34,926,401		13.1%
Price Escalation		51,429,823	47,431,776	98,861,599		10.1%		15,677,289	11,672,117	27,349,407		10.2%
Physical Contingency		12,486,884	16,715,671	29,202,555		3.0%		3,720,266	3,856,729	7,576,995		2.8%
Administrative Cost		17,521,533		17,521,533		1.8%		216,486		216,486		0.1%
Preparation Cost		1,165,000		1,165,000		0.1%		450,000		450,000		0.2%
Land acquisition		840,000		840,000		0.1%		0		0		0.0%
Compensation		325,000		325,000		0.0%		450,000		450,000		0.2%
Tax		94,708,307		94,708,307		9.7%		26,569,556		26,569,556		9.9%
VAT(Civil Work)		85,644,881		85,644,881		8.7%		21,719,876		21,719,876		8.1%
VAT(Consultancy Service)		8,071,050		8,071,050		0.8%		3,758,820		3,758,820		1.4%
Custom Duty		992,376		992,376		0.1%		1,090,860		1,090,860		0.4%
Interest and others		5,511,429		5,511,429		0.6%		1,153,191		1,153,191		0.4%
Interest during construction		4,045,275		4,045,275		0.4%		1,057,926		1,057,926		0.4%
Front-end fee		1,466,154		1,466,154		0.1%		95,264		95,264		0.0%
Total	33,043,872	463,813,809	483,189,743	980,047,424		100%	15,092,271	131,040,072	121,262,275	267,394,618		100%

1st Mandauc Mactan						Palanit					
Local		Foreign	Total	%		Local		Foreign	Total	%	
Labor	othsers					Labor	othsers				
37,647,504	328,230,364	1,213,766,390	1,579,644,257	100%	69.1%	12,671,720	57,548,569	11,686,072	81,906,361	100%	50.6%
1,792,738	15,630,017	57,798,400	75,221,155	4.8%	3.3%	603,415	2,740,408	556,480	3,900,303	4.8%	2.4%
6,636,633	59,357,070	0	65,993,703	4.2%	2.9%	155,246	3,337,395	0	3,492,641	4.3%	2.2%
				0.0%	0.0%	1,916,751	9,644,867	0	11,561,618	14.1%	7.1%
0	0	840,417,130	840,417,130	53.2%	36.8%					0.0%	0.0%
22,583,920	206,033,714	0	228,617,634	14.5%	10.0%	684,164	8,289,360	0	8,973,523	11.0%	5.5%
0	0	159,902,556	159,902,556	10.1%	7.0%	8,978,426	28,740,386	11,129,592	48,848,404	59.6%	30.2%
6,634,212	47,209,562	155,648,304	209,492,079	13.3%	9.2%	333,718	4,796,153	0	5,129,872	6.3%	3.2%
33,612,500	29,756,250	65,575,000	128,943,750		5.6%	8,327,500	9,120,750	22,075,000	39,523,250		24.4%
27,612,500	20,981,250	42,325,000	90,918,750		4.0%	2,327,500	1,605,750	3,025,000	6,958,250		4.3%
6,000,000	8,775,000	23,250,000	38,025,000		1.7%	6,000,000	7,515,000	19,050,000	32,565,000		20.1%
	86,502,666	198,420,081	284,922,747		12.5%		17,362,612	4,191,981	21,554,593		13.3%
	70,455,391	145,184,713	215,640,104		9.4%		14,282,775	3,679,434	17,962,209		11.1%
	16,047,275	53,235,368	69,282,643		3.0%		3,079,837	512,547	3,592,384		2.2%
	41,569,586		41,569,586		1.8%		2,155,431		2,155,431		1.3%
	4,250,000		4,250,000		0.2%		487,500		487,500		0.3%
	0		0		0.0%		262,500		262,500		0.2%
	4,250,000		4,250,000		0.2%		225,000		225,000		0.1%
	232,932,310		232,932,310		10.2%		15,612,675		15,612,675		9.6%
	203,369,578		203,369,578		8.9%		10,577,001		10,577,001		6.5%
	15,473,250		15,473,250		0.7%		4,742,790		4,742,790		2.9%
	14,089,482		14,089,482		0.6%		292,884		292,884		0.2%
	12,996,153		12,996,153		0.6%		759,248		759,248		0.5%
	9,578,977		9,578,977		0.4%		516,388		516,388		0.3%
	3,417,176		3,417,176		0.1%		242,859		242,859		0.1%
71,260,004	736,237,329	1,477,761,471	2,285,258,803		100%	20,999,220	103,046,785	37,953,053	161,999,058		100%

Wawa						Total					
Local		Foreign	Total	%		Local (Php)		Foreign (Php)	Total (Php)	%	
Labor	othsers					Labor	othsers				
8,192,580	88,842,681	395,130,179	492,165,440	100%	66.8%	123,465,602	1,226,182,240	4,029,699,064	5,379,346,906	100%	66.9%
390,123	4,230,604	18,815,723	23,436,450	4.8%	3.2%	7,477,806	76,141,417	275,875,960	359,495,182	6.7%	4.5%
10,286	1,889,438	0	1,899,724	0.4%	0.3%	25,259,155	315,595,538	51,984,000	392,838,693	7.3%	4.9%
3,771,458	18,944,806	0	22,716,264	4.6%	3.1%	18,261,032	89,081,235	0	107,342,267	2.0%	1.3%
573,156	12,612,558	0	13,185,714	2.7%	1.8%	3,388,424	83,423,961	1,282,698,820	1,369,511,205	25.5%	17.0%
2,309,298	26,743,656	0	29,052,955	5.9%	3.9%	46,196,249	462,445,470	109,318,920	617,960,638	11.5%	7.7%
458,268	4,124,414	376,314,456	380,897,138	77.4%	51.7%	9,931,491	37,317,971	2,037,731,362	2,084,980,824	38.8%	25.9%
679,991	20,297,205	0	20,977,196	4.3%	2.8%	12,951,447	162,176,648	272,090,002	447,218,096	8.3%	5.6%
12,972,500	13,866,750	33,250,000	60,089,250		8.2%	124,880,000	127,231,500	299,225,000	551,336,500		6.9%
5,772,500	3,966,750	7,450,000	17,189,250		2.3%	76,280,000	58,831,500	119,825,000	254,936,500		3.2%
7,200,000	9,900,000	25,800,000	42,900,000		5.8%	48,600,000	68,400,000	179,400,000	296,400,000		3.7%
	24,528,272	65,860,227	90,388,500		12.3%	0	330,907,218	667,192,638	998,099,856		12.4%
	20,272,340	48,529,956	68,802,296		9.3%	0	271,712,137	490,451,451	762,163,588		9.5%
	4,255,932	17,330,271	21,586,203		2.9%	0	59,195,081	176,741,187	235,936,268		2.9%
	12,951,722		12,951,722		1.8%	0	137,232,049	0	137,232,049		1.7%
	1,435,000		1,435,000		0.2%	0	123,552,350	0	123,552,350		1.5%
	810,000		810,000		0.1%	0	117,002,350	0	117,002,350		1.5%
	625,000		625,000		0.1%	0	6,550,000	0	6,550,000		0.1%
	75,490,553		75,490,553		10.2%	0	810,198,882	0	810,198,882		10.1%
	63,376,604		63,376,604		8.6%	0	705,128,109	0	705,128,109		8.8%
	7,210,710		7,210,710		1.0%	0	66,160,380	0	66,160,380		0.8%
	4,903,239		4,903,239		0.7%	0	38,910,393	0	38,910,393		0.5%
	4,100,957		4,100,957		0.6%	0	41,600,601	0	41,600,601		0.5%
	2,996,448		2,996,448		0.4%	0	32,687,764	0	32,687,764		0.4%
	1,104,509		1,104,509		0.1%	0	8,912,837	0	8,912,837		0.1%
21,165,080	221,215,935	494,240,406	736,621,421		100%	248,345,602	2,796,904,840	4,996,116,702	8,041,367,144		100%

Construction Cost Estimation Sheet of Lambingan Bridge (Replacement)

ITEM		QUANTITY	UNIT	UNIT COST (Php)			
				LOCAL			FOREIGN
				LABOR	OTHERS	SUBTOTAL	
ESTIMATED DIRECT COST (Not include Overhead Cost and VAT)							
Temporary Works							
Temporary Stage		1,120	sq-m	1,479.05	26,270.50	27,749.55	
Sheet Pile		444	sq-m	19.08	21,162.90	21,181.98	
Flagman		57,600	hr	88.00		88.00	
Demolish work							
Concrete		2,582	cu-m	312.74	1,159.04	1,471.78	
Industrial waste Disposal		6,455	ton	136.83	710.19	847.02	
Foundation							
Cast in Place Concrete Pile	D=2.5m	180	m				171,304.47
Substructure							
Concrete	28 Mpa	1,166	cu-m	85.03	7,474.73	7,559.76	
Reinforcement steel	Grade60	233,200	kg	6.76	45.87	52.64	
Superstructure							
Material		1,469	ton				67,000.00
Fabrication	Include Paint	1,417	ton				127,000.00
Transportation		1,498	ton				6,000.00
Erection		1,469	ton				150,000.00
Bearing (NRB, Rubber G14-700x700x17x6		8	Nos				922,000.00
Expansion Joint (20cm, +-10cm)		53	m				72,000.00
Unseating Prevention System (PC cable F360TD)		12	Nos				617,000.00
Surface Work							
Goose Asphalt		2,011	sq-m				11,700.00
Other work							
Revetment		50	m				388,000.00
Embankment		4,540	cu-m	3.65	670.47	674.12	
Pavement		3,040	sq-m	135.54	1,219.90	1,355.44	
Retaining Wall	H=5.0m	110	m	425.15	37,373.64	37,798.79	
Gutter		460	m	42.52	3,737.36	3,779.88	
Median		440	m	85.03	7,474.73	7,559.76	
Subtotal (A)							
ESTIMATED DIRECT COST (EDC) (B)							
General Work	10% of (A)		set				11,700.00
For STEP							
OVERHEAD COST (OC) (C)							
Overhead, Contingencies and Miscellaneous(OCM)	6% of (B)		set				
Contractor's Profit Margin(PROFIT)	8% of (B)		set				
Land acquisition							
Land acquisition		186	sq-m			8,225.00	
Temporary Land acquisition		14,000	sq-m			3,740.00	
Compensation							
Inhabitant Move		10	houses			25,000.00	
Consultancy Service (D)			set				
Detail Design		1	set				
Construction supervision		1	set				
Contingency	5% of (B)		set				
Administrative Cost	3% of (B)						
Project Cost (E)							
Subtotal							
VAT	12 %						
(VAT for Consultancy Service)	12 %						
(VAT without Consultancy Service)							
Price Escalation							
Local	13.7% of (E)						
Japan	9.5% of (E)						
Front-end fee	0.2% of (B)+(C)+(D)						
Customs duty	3% of (F:Total)						
Imported steel							
Interest during construction							
Interest for Construction	0.602 % of (B)+(C)						
Interest for Consultancy Service	0.060 % of (D)						

COST (Php)					REMARK
LOCAL			FOREIGN	TOTAL	
LABOR	OTHERS	SUBTOTAL			
6,733,806.53	38,819,288.86	45,553,095.39		45,553,095.39	
1,656,536.00	29,422,961.26	31,079,497.26		31,079,497.26	
8,470.53	9,396,327.60	9,404,798.13		9,404,798.13	
5,068,800.00		5,068,800.00		5,068,800.00	15 month 24Hrs, 4 person
1,690,713.61	7,576,943.55	9,267,657.16		9,267,657.16	
807,505.01	2,992,641.28	3,800,146.29		3,800,146.29	
883,208.60	4,584,302.27	5,467,510.87		5,467,510.87	
			30,834,804.24	30,834,804.24	
			30,834,804.24	30,834,804.24	Under limited space
1,676,342.46	19,413,484.32	21,089,826.78		21,089,826.78	
99,145.56	8,715,532.27	8,814,677.83		8,814,677.83	
1,577,196.90	10,697,952.06	12,275,148.95		12,275,148.95	
			526,242,000.00	526,242,000.00	
			98,396,200.00	98,396,200.00	(F)
			179,984,400.00	179,984,400.00	(F)
			8,989,800.00	8,989,800.00	
			220,290,000.00	220,290,000.00	
			7,376,000.00	7,376,000.00	(F)
			3,801,600.00	3,801,600.00	(F)
			7,404,000.00	7,404,000.00	(F)
			23,533,380.00	23,533,380.00	
			23,533,380.00	23,533,380.00	
532,362.29	15,871,588.11	16,403,950.41	19,400,000.00	35,803,950.41	
			19,400,000.00	19,400,000.00	
16,571.00	3,043,933.80	3,060,504.80		3,060,504.80	
412,054.08	3,708,486.76	4,120,540.85		4,120,540.85	
46,766.78	4,111,100.13	4,157,866.90		4,157,866.90	
19,557.02	1,719,187.33	1,738,744.34		1,738,744.34	
37,413.42	3,288,880.10	3,326,293.52		3,326,293.52	
10,633,224.90	81,681,304.84	92,314,529.74	600,010,184.24	692,324,713.98	
11,696,547.39	89,849,435.33	101,545,982.71	660,011,202.67	761,557,185.38	378,620 Php / sq-m
1,063,322.49	8,168,130.48	9,231,452.97	60,001,018.42	69,232,471.40	841,295Yen / sq-m
			660,011,202.67	86.7%	
		14,216,437.58	92,401,568.37	106,618,005.95	
		6,092,758.96	39,600,672.16	45,693,431.12	
		8,123,678.62	52,800,896.21	60,924,574.83	
		53,889,850.00		53,889,850.00	
		1,529,850.00		1,529,850.00	
		52,360,000.00		52,360,000.00	
		250,000.00		250,000.00	
		250,000.00		250,000.00	
20,205,000.00	22,246,500.00	42,451,500.00	53,950,000.00	96,401,500.00	13%
11,805,000.00	9,646,500.00	21,451,500.00	20,350,000.00	41,801,500.00	
8,400,000.00	12,600,000.00	21,000,000.00	33,600,000.00	54,600,000.00	
		5,077,299.14	33,000,560.13	38,077,859.27	
		3,046,379.48	19,800,336.08	22,846,715.56	
		246,934,742.78	962,263,307.33	1,209,198,050.11	Php
		548,688,998.45	2,138,149,068.88	2,686,838,067.33	Yen (Php/Yen = 2.222)
		220,477,448.91	859,163,667.26	1,079,641,116.17	
		26,457,293.87	103,099,640.07	129,556,933.94	
		5,094,180.00	6,474,000.00	11,568,180.00	
		21,363,113.87	96,625,640.07	117,988,753.94	
		33,830,059.76	91,415,014.20	125,245,073.96	
		33,830,059.76		33,830,059.76	
			91,415,014.20	91,415,014.20	
				1,929,153.38	
			8,908,866.00	8,908,866.00	
			296,962,200.00		
				5,279,946.51	
				5,222,091.15	
				57,855.36	
			Grand Total	1,350,561,090	Php
				3,000,946,742	Yen
				671,453	Php / sq/m
				1,491,969	Yen / sq/m

Construction Cost Estimation Sheet of Guadalupe Bridge (Outer:Replacement & Inner:Retrofitting)

ITEM		QUANTITY	UNIT	UNIT COST (Php)			
				LOCAL			FOREIGN
				LABOR	OTHERS	SUBTOTAL	
ESTIMATED DIRECT COST (Not include Overhead Cost and VAT)							
Temporary Works							
Temporary Bridge & Stage		3,580	sq-m	1,479.05	26,270.50	27,749.55	
Temporary Support of Inner Superstructure		4,560	ton				10,000
Sheet Pile		360	sq-m	19.08	21,162.90	21,181.98	
Flagman		7,200	hr	88.00		88.00	
Demolish work							
Concrete		4,679	cu-m	312.74	1,159.04	1,471.78	
Industrial waste Disposal		11,698	ton	136.83	710.19	847.02	
Foundation							
Steel Pipe Sheet Pile (SKY400, D=0.8m, t=9mm)	P1,P2 Material, Transportation	1,890	m				27,000.00
Steel Pipe Sheet Pile (SKY400, D=0.8m, t=12mm)	P1, Material, Transportation	540	m				31,000.00
Steel Pipe Sheet Pile (SKY400, D=0.8m, t=16mm)	P2, Material, Transportation	1,296	m				36,000.00
Steel Pipe Sheet Pile	P1, Press-in	540	m				214,000.00
Steel Pipe Sheet Pile	P2, Press-in	1,296	m				81,000.00
Cast in Place Concrete Pile	D=2.5m	110	m	4,019.85	112,967.37	116,987.22	
Substructure							
Concrete	28 Mpa	5,187	cu-m	85.03	7,474.73	7,559.76	
Reinforcement steel	Grade60	1,037,320	kg	6.76	45.87	52.64	
Grand Improvement	Anti-liquefaction	763	cu-m				20,252.03
Grand Improvement	Force reduction	1,375	cu-m				58,505.85
Grand Improvement	Industrial waste Disposal	2,063	ton	136.83	710.19	847.02	
Superstructure							
Material		831	ton				64,000.00
Fabrication	Include Paint	831	ton				127,000.00
Transportation		846	ton				6,000.00
Erection		831	ton				184,000.00
Bearing (Mov; BPB 1500kN)		8	Nos				630,000.00
Bearing (Fix; BPB 3000kN)		8	Nos				1,560,000.00
Bearing (Mov; BPB 950kN)		20	Nos				478,000.00
Bearing (Fix; BPB 2250kN)		20	Nos				1,170,000.00
Expansion Joint (15cm, +-10cm)		39	m				72,000.00
Expansion Joint (10cm, +-5cm)		53	m				46,000.00
Unseating Prevention System (PC cable F100TD)		8	Nos				136,000.00
Unseating Prevention System (Chain 975kN)		20	Nos				219,000.00
Surface Work (Goose Asphalt)							
Goose Asphalt		2,118	sq-m				11,700.00
Other work							
Revetment		110	m				521,000.00
Re-paint		3,890	sq-m				2,700.00
Injection of Deck Slab		5,834	m	234.96	1,671.99	1,906.95	
Embankment		7,800	cb-m	3.65	670.47	674.12	
Pavement		540	sq-m	135.54	1,219.90	1,355.44	
Retaining Wall	H=8.0m	110	m	1,088.39	95,676.51	96,764.90	
Gutter		60	m	42.52	3,737.36	3,779.88	
Median		440	m	85.03	7,474.73	7,559.76	
Subtotal (A)							
ESTIMATED DIRECT COST (EDC) (B)							
General Work	10% of (A)		set				
For STEP							
OVERHEAD COST (OC) (C)							
Overhead, Contingencies and Miscellaneous(OCM)	6% of (B)		set				
Contractor's Profit Margin(PROFIT)	8% of (B)		set				
Land acquisition							
Temporary Land acquisition	MMDA park	4200	sq-m			9,000.00	
Temporary Land acquisition	Parking Area	1800	sq-m			13,000.00	
Compensation							
Inhabitant Move		17	houses			25,000.00	
Consultancy Service			set				
Detail Design		1	set				
Construction supervision		1	set				
Contingency	5% of (B)		set				
Administrative Cost	3% of (B)						
Project Cost (E)							
Subtotal							
VAT	12 %						
(VAT for Consultancy Service)	12 %						
(VAT without Consultancy Service)							
Price Escalation							
Local	13.7% of (E)						
Japan	9.5% of (E)						
Front-end fee	0.2% of (B)+(C)+(D)						
Customs duty	3% of (F:Total)						
Imported steel							
Interest during construction							
Interest for Construction (0.1%, 6years)	0.602 % of (B)+(C)						
Interest for Consultancy Service (0.01%, 6years)	0.060 % of (D)						

COST (Php)					REMARK
LOCAL			FOREIGN	TOTAL	
LABOR	OTHERS	SUBTOTAL			
5,935,467.00	101,667,038.03	107,602,505.03	45,600,000.00	153,202,505.03	
5,294,999.00	94,048,394.03	99,343,393.03		99,343,393.03	
			45,600,000.00	45,600,000.00	22800kN*2
6,868.00	7,618,644.00	7,625,512.00		7,625,512.00	Outer abutment
633,600.00		633,600.00		633,600.00	
3,063,913.88	13,730,997.57	16,794,911.45		16,794,911.45	
1,463,329.18	5,423,148.16	6,886,477.34		6,886,477.34	
1,600,584.70	8,307,849.41	9,908,434.11		9,908,434.11	
442,183.48	12,426,410.21	12,868,593.70	334,962,000.00	347,830,593.70	772,879,579 Yen
			51,030,000.00	51,030,000.00	(F)
			16,740,000.00	16,740,000.00	(F)
			46,656,000.00	46,656,000.00	(F)
			115,560,000.00	115,560,000.00	
			104,976,000.00	104,976,000.00	
442,183.48	12,426,410.21	12,868,593.70		12,868,593.70	
7,738,907.39	87,819,816.10	95,558,723.50	95,893,789.38	191,452,512.88	
441,019.19	38,768,421.65	39,209,440.84		39,209,440.84	
7,015,685.61	47,586,619.33	54,602,304.94		54,602,304.94	
			15,448,244.82	15,448,244.82	
			80,445,544.55	80,445,544.55	
282,202.59	1,464,775.13	1,746,977.72		1,746,977.72	
			378,041,000.00	378,041,000.00	
			53,209,600.00	53,209,600.00	(F)
			105,587,800.00	105,587,800.00	(F)
			5,077,200.00	5,077,200.00	
			152,977,600.00	152,977,600.00	Slide erection
			5,040,000.00	5,040,000.00	(F)
			12,480,000.00	12,480,000.00	(F)
			9,560,000.00	9,560,000.00	(F)
			23,400,000.00	23,400,000.00	(F)
			2,793,600.00	2,793,600.00	(F)
			2,447,200.00	2,447,200.00	(F)
			1,088,000.00	1,088,000.00	(F)
			4,380,000.00	4,380,000.00	(F)
			24,782,940.00	24,782,940.00	
			24,782,940.00	24,782,940.00	
1,632,200.55	29,681,018.50	31,313,219.05	67,811,920.00	99,125,139.05	
			57,310,000.00	57,310,000.00	
			10,501,920.00	10,501,920.00	1.7m*2*10*114.4m
1,370,849.46	9,755,069.89	11,125,919.35		11,125,919.35	2 m/sq-m
28,470.00	5,229,666.00	5,258,136.00		5,258,136.00	
73,193.82	658,744.36	731,938.18		731,938.18	
119,722.94	10,524,416.32	10,644,139.26		10,644,139.26	
2,550.92	224,241.83	226,792.74		226,792.74	
37,413.42	3,288,880.10	3,326,293.52		3,326,293.52	
18,812,672.31	245,325,280.41	264,137,952.72	947,091,649.38	1,211,229,602.10	
20,693,939.54	269,857,808.45	290,551,747.99	1,041,800,814.32	1,332,352,562.30	629,002 Php / sq-m
1,881,267.23	24,532,528.04	26,413,795.27	94,709,164.94	121,122,960.21	1,397,643Yen / sq-m
			1,041,800,814.32	78.2%	
		40,677,244.72	145,852,114.00	186,529,358.72	1,518,881,921
		17,433,104.88	62,508,048.86	79,941,153.74	
		23,244,139.84	83,344,065.15	106,588,204.98	
		61,200,000.00		61,200,000.00	
		37,800,000.00		37,800,000.00	
		23,400,000.00		23,400,000.00	
		425,000.00		425,000.00	
		425,000.00		425,000.00	
29,655,000.00	29,491,500.00	59,146,500.00	68,650,000.00	127,796,500.00	10%
20,355,000.00	15,811,500.00	36,166,500.00	32,350,000.00	68,516,500.00	
9,300,000.00	13,680,000.00	22,980,000.00	36,300,000.00	59,280,000.00	
		14,527,587.40	52,090,040.72	66,617,628.12	
		8,716,552.44	31,254,024.43	39,970,576.87	
		480,032,551.83	1,500,404,632.68	2,032,678,621.13	Php
		1,066,632,330.17	3,333,899,093.82	4,516,611,896.16	Yen (Php/Yen = 2.222)
		428,600,492.71	1,339,646,993.47	1,814,891,626.01	
		51,432,059.12	160,757,639.22	217,786,995.12	
		7,097,580.00	8,238,000.00	15,335,580.00	
		44,334,479.12	152,519,639.22	202,451,415.12	
		65,764,459.60	142,538,440.10	208,302,899.71	
		65,764,459.60		65,764,459.60	
			142,538,440.10	142,538,440.10	
				657,721.23	
			8,632,686.00	8,632,686.00	
			287,756,200.00		
				9,212,802.23	
				9,136,105.16	
				76,697.07	
				2,259,484,730	Php
5,108 sq-m			Grand Total	5,020,575,071	Yen
				442,325	Php / sq/m
				982,846	Yen / sq/m

Construction Cost Estimation Sheet of 1st Mandauc Mactan Bridge (Retrofitting)

ITEM		QUANTITY	UNIT	UNIT COST (Php)			
				LOCAL			FOREIGN
				LABOR	OTHERS	SUBTOTAL	
ESTIMATED DIRECT COST (Not include Overhead Cost and VAT)							
Temporary Works							
Temporary Embankment		3,129	cu-m	3.65	670.47	674.12	
Temporary Bridge		420	sq-m	1,479.05	26,270.50	27,749.55	
Barge		270	day-nos	19,200.00	76,800.00	96,000.00	
Sheet Pile		860	sq-m	19.08	21,162.90	21,181.98	
Foundation							
Steel Pipe Sheet Pile (D=1.0m, t=20mm)	Material, Transportation	7,486	m				44,000.00
Steel Pipe Sheet Pile	P8, Hard Layer	1,163	m				65,000.00
Steel Pipe Sheet Pile	P7, soft Layer	3,230	m				50,000.00
Cast in Place Concrete Pile	D=1.2m	2,073	m				82,374.10
Concrete Jacketting							
Concrete	28 Mpa	6,943	cu-m	85.03	7,474.73	7,559.76	
Reinforcement steel	Grade 60	2,777,080	kg	6.76	45.87	52.64	
Existing Surface Treatment Bar	Grade 60	3,618	sq-m	121.03	397.73	518.77	
Superstructure							
Bearing							
Mov; BPB 800kN		9	Nos				478,000.00
Mov; BPB 850kN		3	Nos				478,000.00
Mov; BPB 900kN		3	Nos				478,000.00
Mov; BPB 1000kN		3	Nos				478,000.00
Mov; BPB 1100kN		6	Nos				630,000.00
Mov; BPB 2250kN		6	Nos				1,300,000.00
Fix; BPB 750kN		9	Nos				337,000.00
Fix; BPB 800kN		9	Nos				429,000.00
Fix; BPB 850kN		3	Nos				429,000.00
Fix; BPB 900kN		3	Nos				429,000.00
Fix; BPB 1000kN		3	Nos				429,000.00
Fix; BPB 2250kN		6	Nos				1,170,000.00
Damper							
Cylinder type 1000 kN		4	Nos				2,710,000.00
Cylinder type 1500 kN		8	Nos				3,860,000.00
Cylinder type 2000 kN		4	Nos				4,330,000.00
Shear panel 1000 kN		8	Nos				2,710,000.00
Unseating Prevention System							
Chain 615kN + Cross beam		16	Nos				349,000.00
Chain 825kN		12	Nos				296,000.00
Chain 1350kN + Cross beam		4	Nos				1,080,000.00
Belt 900 kN		18	Nos				194,000.00
Expansion Joint							
10cm, +-5cm		52	m				46,000.00
15cm, +-10cm		21	m				72,000.00
20cm, +-10cm		10	m				72,000.00
Other work							
Re-paint		50,568	sq-m				2,700.00
Injection of Deck Slab		24,768	m	234.96	1,671.99	1,906.95	
Subtotal (A)							
ESTIMATED DIRECT COST (EDC) (B)							
General Work	5% of (A)		set				
For STEP							
OVERHEAD COST (OC) (C)							
Overhead, Contingencies and Miscellaneous(OCM)	6% of (B)		set				
Contractor's Profit Margin(PROFIT)	8% of (B)		set				
Land acquisition							
Temporary Land acquisition			sq-m				
Compensation							
Inhabitant Move		170	houses			25,000.00	
Consultancy Service			set				
Detail Design		1	set				
Construction supervision		1	set				
Contingency	5% of (B)		set				
Administrative Cost	3% of (B)						
Project Cost (E)							
Subtotal							
VAT	12 %						
(VAT for Consultancy Service)	12 %						
(VAT without Consultancy Service)							
Price Escalation							
Local	13.7% of (E)						
Japan	9.5% of (E)						
Front-end fee	0.2% of (B)+(C)+(D)						
Customs duty	3% of (F:Total)						
Imported steel							
Interest during construction							
Interest for Construction (0.1%, 6years)	0.602 % of (B)+(C)						
Interest for Consultancy Service (0.01%, 6years)	0.060 % of (D)						

COST (Php)					REMARK
LOCAL			FOREIGN	TOTAL	
LABOR	OTHERS	SUBTOTAL			
5,821,607.89	52,067,605.10	57,889,212.99		57,889,212.99	=(400+643)*3
	2,097,900.63	2,097,900.63		2,097,900.63	With sandbag
621,201.00	11,033,610.47	11,654,811.47		11,654,811.47	
5,184,000.00	20,736,000.00	25,920,000.00		25,920,000.00	(Barge 1600t + Crane Barge 60t + Tugboat)*2
16,406.89	18,200,094.00	18,216,500.89		18,216,500.89	Outer abutment
			737,208,008.91	737,208,008.91	1,638,076,196 Yen
			329,384,000.00	329,384,000.00	(F)
			75,562,500.00	75,562,500.00	Under limited space
			161,500,000.00	161,500,000.00	Under limited space
			170,761,508.91	170,761,508.91	Under limited space, Rotary all casing
19,810,456.44	180,731,328.20	200,541,784.64		200,541,784.64	
590,341.25	51,894,790.61	52,485,131.87		52,485,131.87	
18,782,169.62	127,397,378.63	146,179,548.25		146,179,548.25	w=400kg/sq-m
437,945.57	1,439,158.96	1,877,104.52		1,877,104.52	
			140,265,400.00	140,265,400.00	
			4,302,000.00	4,302,000.00	(F)
			1,434,000.00	1,434,000.00	(F)
			1,434,000.00	1,434,000.00	(F)
			1,434,000.00	1,434,000.00	(F)
			3,780,000.00	3,780,000.00	(F)
			7,800,000.00	7,800,000.00	(F)
			3,033,000.00	3,033,000.00	(F)
			3,861,000.00	3,861,000.00	(F)
			1,287,000.00	1,287,000.00	(F)
			1,287,000.00	1,287,000.00	(F)
			1,287,000.00	1,287,000.00	(F)
			7,020,000.00	7,020,000.00	(F)
			10,840,000.00	10,840,000.00	(F)
			30,880,000.00	30,880,000.00	(F)
			17,320,000.00	17,320,000.00	(F)
			21,680,000.00	21,680,000.00	(F)
			5,584,000.00	5,584,000.00	(F)
			3,552,000.00	3,552,000.00	(F)
			4,320,000.00	4,320,000.00	(F)
			3,492,000.00	3,492,000.00	(F)
			2,392,000.00	2,392,000.00	(F)
			1,497,600.00	1,497,600.00	(F)
			748,800.00	748,800.00	(F)
5,819,484.33	41,411,896.87	47,231,381.19	136,533,600.00	183,764,981.19	
			136,533,600.00	136,533,600.00	Unit quantity = 6m2/(width*span)m2
5,819,484.33	41,411,896.87	47,231,381.19		47,231,381.19	4 m/sq-m, 860m * 7.2m
31,451,548.66	274,210,830.17	305,662,378.82	1,014,007,008.91	1,319,669,387.73	
33,024,126.09	287,921,371.67	320,945,497.76	1,064,707,359.35	1,385,652,857.11	164,411 Php / sq-m
1,572,577.43	13,710,541.51	15,283,118.94	50,700,350.45	65,983,469.39	365,320Yen / sq-m
			1,064,707,359.35	76.8%	
		44,932,369.69	149,059,030.31	193,991,400.00	
		19,256,729.87	63,882,441.56	83,139,171.43	
		25,675,639.82	85,176,588.75	110,852,228.57	
		4,250,000.00		4,250,000.00	
		4,250,000.00		4,250,000.00	
33,612,500.00	29,756,250.00	63,368,750.00	65,575,000.00	128,943,750.00	9%
27,612,500.00	20,981,250.00	48,593,750.00	42,325,000.00	90,918,750.00	
6,000,000.00	8,775,000.00	14,775,000.00	23,250,000.00	38,025,000.00	
		16,047,274.89	53,235,367.97	69,282,642.86	
		9,628,364.93	31,941,220.78	41,569,585.71	
		514,272,928.14	1,528,260,135.82	2,042,533,063.96	Php
		1,142,714,446.33	3,395,794,021.79	4,538,508,468.12	Yen (Php/Yen = 2.222)
		459,172,257.27	1,364,517,978.41	1,823,690,235.68	
		55,100,670.87	163,742,157.41	218,842,828.28	
		7,604,250.00	7,869,000.00	15,473,250.00	
		47,496,420.87	155,873,157.41	203,369,578.28	
		70,455,391.16	145,184,712.90	215,640,104.06	
		70,455,391.16		70,455,391.16	
			145,184,712.90	145,184,712.90	
				3,417,176.01	
			14,089,482.00	14,089,482.00	
			469,649,400.00		
				9,578,977.42	
				9,501,591.82	
				77,385.59	
				2,285,258,803	Php
8,428 sq-m			Grand Total	5,077,845,061	Yen
				271,151	Php / sq/m
				602,497	Yen / sq/m

Construction Cost Estimation Sheet of PALANIT Bridge (Replacement)

ITEM		QUANTITY	UNIT	UNIT COST (Php)			
				LOCAL			FOREIGN
				LABOR	OTHERS	SUBTOTAL	
ESTIMATED DIRECT COST (Not include Overhead Cost and VAT)							
Temporary Works							
Temporary Embankment		840	cu-m	3.65	670.47	674.12	
Temporary Bridge		90	sq-m	1,479.05	26,270.50	27,749.55	
Demolish work							
Concrete		262	cu-m	312.74	1,159.04	1,471.78	
Industrial waste Disposal		656	ton	136.83	710.19	847.02	
Existing Girder		253	ton	5,967.05	30,398.63	35.80	
Substructure							
Concrete	28 Mpa	464	cu-m	85.03	7,474.73	7,788.00	
Reinforcement steel	Grade60	82,902	kg	6.76	45.87	52.64	
Superstructure							
PC-Girde	Girder, Erection	15	Nos	330,018.00	876,541.66	1,206,559.66	
Girder connection work		15	nos	165,009.00	438,270.83	603,279.83	
Concrete	28 Mpa	297	cu-m	85.03	7,474.73	7,559.76	
Reinforcement steel	Grade60	37,192	kg	6.76	45.87	52.64	
Bearing (NRB G14-320x320x10x5)		30	Nos				233,000.00
Expansion Joint (15cm, +-10cm)		23	m				72,000.00
Unseating Prevention System (PC cable F50TD)		8	Nos				136,000.00
Surface Work							
Surface Work		894	sq-m	194.20	1,747.78	1,941.98	
Other work							
Embankment		2,340	cu-m	3.65	670.47	674.12	
Pavement		1,710	sq-m	135.54	1,219.90	1,355.44	
Retaining Wall	H=2.0m	70	m	688.04	2,549.89	3,237.92	
Gutter		100	m	42.52	3,737.36	3,779.88	
Subtotal (A)							
ESTIMATED DIRECT COST (EDC) (B)							
General Work	5% of (A)		set				
For STEP							
OVERHEAD COST (OC) (C)							
Overhead, Contingencies and Miscellaneous(OCM)	6% of (B)		set				
Contractor's Profit Margin(PROFIT)	8% of (B)		set				
Land acquisition							
Temporary Land acquisition		1,500	sq-m			175.00	
Compensation							
Inhabitant Move		9	houses			25,000.00	
Consultancy Service			set				
Detail Design		1	set				
Construction supervision		1	set				
Contingency	5% of (B)		set				
Administrative Cost	3% of (B)						
Project Cost (E)							
Subtotal							
VAT	12 %						
(VAT for Consultancy Service)	12 %						
(VAT without Consultancy Service)							
Price Escalation							
Local	13.7% of (E)						
Japan	9.5% of (E)						
Front-end fee	0.2% of (B)+(C)+(D)						
Customs duty	3% of (F:Total)						
Imported steel							
Interest during construction							
Interest for Construction (0.1%, 6years)	0.602 % of (B)+(C)						
Interest for Consultancy Service (0.01%, 6years)	0.060 % of (D)						

COST (Php)					REMARK
LOCAL			FOREIGN	TOTAL	
LABOR	OTHERS	SUBTOTAL			
136,180.50	2,927,539.90	3,063,720.40		3,063,720.40	
3,066.00	563,194.80	566,260.80		566,260.80	=280m2 * 3.0m
133,114.50	2,364,345.10	2,497,459.60		2,497,459.60	
1,681,360.77	8,460,409.53	10,141,770.31		10,141,770.31	
81,938.93	303,668.48	385,607.41		385,607.41	
89,757.53	465,887.26	555,644.79		555,644.79	
1,509,664.32	7,690,853.79	9,200,518.11		9,200,518.11	
600,143.59	7,271,367.99	7,871,511.58		7,871,511.58	
39,454.15	3,468,273.56	3,507,727.71		3,507,727.71	
560,689.44	3,803,094.43	4,363,783.87		4,363,783.87	
7,702,199.07	23,648,348.76	31,350,547.84	9,762,800.00	41,113,347.84	
4,950,270.07	13,148,124.88	18,098,394.95		18,098,394.95	
2,475,135.04	6,574,062.44	9,049,197.47		9,049,197.47	50% of PC-Girder,Erection cost
25,254.06	2,219,994.07	2,245,248.13		2,245,248.13	
251,539.91	1,706,167.38	1,957,707.29		1,957,707.29	
			6,990,000.00	6,990,000.00	(F)
			1,684,800.00	1,684,800.00	(F)
			1,088,000.00	1,088,000.00	(F)
173,612.92	1,562,516.25	1,736,129.17		1,736,129.17	
173,612.92	1,562,516.25	1,736,129.17		1,736,129.17	
292,735.52	4,207,152.14	4,499,887.66		4,499,887.66	
8,541.00	1,568,899.80	1,577,440.80		1,577,440.80	
231,780.42	2,086,023.80	2,317,804.23		2,317,804.23	
48,162.58	178,492.16	226,654.74		226,654.74	H=2.0m
4,251.53	373,736.38	377,987.90		377,987.90	0.5 cu-m
10,586,232.38	48,077,334.58	58,663,566.95	9,762,800.00	68,426,366.95	
11,115,544.00	50,481,201.30	61,596,745.30	10,250,940.00	71,847,685.30	80,367 Php / sq-m
529,311.62	2,403,866.73	2,933,178.35	488,140.00	3,421,318.35	178,574Yen / sq-m
			10,250,940.00	14.3%	
		8,623,544.34	1,435,131.60	10,058,675.94	
		3,695,804.72	615,056.40	4,310,861.12	
		4,927,739.62	820,075.20	5,747,814.82	
		262,500.00		262,500.00	
		262,500.00		262,500.00	
		225,000.00		225,000.00	
		225,000.00		225,000.00	
8,327,500.00	9,120,750.00	17,448,250.00	22,075,000.00	39,523,250.00	55%
2,327,500.00	1,605,750.00	3,933,250.00	3,025,000.00	6,958,250.00	
6,000,000.00	7,515,000.00	13,515,000.00	19,050,000.00	32,565,000.00	
		3,079,837.27	512,547.00	3,592,384.27	
		1,847,902.36	307,528.20	2,155,430.56	
		104,253,832.78	38,730,884.42	142,984,717.19	Php
		231,652,016.43	86,060,025.17	317,712,041.61	Yen (Php/Yen = 2.222)
		93,083,779.27	34,581,146.80	127,664,926.07	
		11,170,053.51	4,149,737.62	15,319,791.13	
		2,093,790.00	2,649,000.00	4,742,790.00	
		9,076,263.51	1,500,737.62	10,577,001.13	
		14,282,775.09	3,679,434.02	17,962,209.11	
		14,282,775.09		14,282,775.09	
			3,679,434.02	3,679,434.02	
				242,859.22	
			292,884.00	292,884.00	
			9,762,800.00		
				516,388.28	
				492,668.40	
				23,719.88	
				161,999,058	Php
			Grand Total	359,961,906	Yen
				181,207	Php / sq/m
				402,642	Yen / sq/m

Construction Cost Estimation Sheet of MAWO Bridge (Replacement)

ITEM		QUANTITY	UNIT	UNIT COST (Php)			
				LOCAL			FOREIGN
				LABOR	OTHERS	SUBTOTAL	
ESTIMATED DIRECT COST (Not include Overhead Cost and VAT)							
Temporary Works							
Temporary Bridge & Stage		2,370	sq-m	1,479.05	26,270.50	27,749.55	
Sheet Pile		784	sq-m	19.08	21,162.90	21,181.98	
Demolish work							
Concrete		923	cu-m	313.00	1,160.00	1,473.00	
Industrial waste Disposal		2,307	ton	26.00	216.00	242.00	
Existing Girder		993	ton	5,967.05	30,398.63	36,365.68	
Foundation							
Cast in Place Concrete Pile	D=1.5m	990	m	2,047.83	50,190.76	52,238.59	
Substructure							
Concrete	28 Mpa	2,318	cu-m	85.03	7,474.73	7,559.76	
Reinforcement steel	Grade60	463,600	kg	6.76	45.87	52.64	
Superstructure							
PC-Concrete (include PC steel and RC steel)	41 Mpa	3,153	cu-m				93,986.97
Bearing (NRB G14-1500x1500x37x5)		12	Nos				1,360,000.00
Expansion Joint (15cm, +-10cm)		27	m				72,000.00
Unseating Prevention System (PC cable F270TD)		8	Nos				470,000.00
Surface Work							
Surface Work		2,235	sq-m	194.20	1,747.78	1,941.98	
Other work							
Embankment		4,800	cu-m	3.65	670.47	674.12	
Pavement		2,310	sq-m	135.54	1,219.90	1,355.44	
Retaining Wall	H=2.0m	510	m	187.07	16,444.40	16,631.47	
Retaining Wall	H=5.0m	100	m	425.15	37,373.64	37,798.79	
Box Culbert	W=3m,H=3m	10	m	510.18	44,848.37	45,358.55	
Gutter		100	m	42.52	3,737.36	3,779.88	
Subtotal (A)							
ESTIMATED DIRECT COST (EDC) (B)							
General Work	5% of (A)		set				
For STEP							
OVERHEAD COST (OC) (C)							
Overhead, Contingencies and Miscellaneous(OCM)	6% of (B)		set				
Contractor's Profit Margin(PROFIT)	8% of (B)		set				
Land acquisition							
Temporary Land acquisition		5,600	sq-m			150.00	
Compensation							
Inhabitant Move		13	houses			25,000.00	
Consultancy Service			set				
Detail Design		1	set				
Construction supervision		1	set				
Contingency	5% of (B)		set				
Administrative Cost	3% of (B)						
Project Cost (E)							
Subtotal							
VAT	12 %						
(VAT for Consultancy Service)	12 %						
(VAT without Consultancy Service)							
Price Escalation							
Local	13.7% of (E)						
Japan	9.5% of (E)						
Front-end fee	0.2% of (B)+(C)+(D)						
Customs duty	3% of (F:Total)						
PC-steel		77	t				143,200.00
Imported steel							
Interest during construction							
Interest for Construction (0.1%, 6years)	0.602 % of (B)+(C)						
Interest for Consultancy Service (0.01%, 6years)	0.060 % of (D)						

COST (Php)					REMARK
LOCAL			FOREIGN	TOTAL	
LABOR	OTHERS	SUBTOTAL			
3,520,305.48	78,852,801.27	82,373,106.74		82,373,106.74	
3,505,348.50	62,261,087.67	65,766,436.17		65,766,436.17	
14,956.98	16,591,713.60	16,606,670.58		16,606,670.58	
6,274,164.26	31,754,833.16	38,028,997.42		38,028,997.42	
288,899.00	1,070,680.00	1,359,579.00		1,359,579.00	
59,982.00	498,312.00	558,294.00		558,294.00	
5,925,283.26	30,185,841.16	36,111,124.42		36,111,124.42	
2,027,349.74	49,688,855.54	51,716,205.29		51,716,205.29	
2,027,349.74	49,688,855.54	51,716,205.29		51,716,205.29	Reverse circulation (Lmax=38.0m)
3,332,557.31	38,593,873.63	41,926,430.94		41,926,430.94	
197,100.70	17,326,418.35	17,523,519.04		17,523,519.04	
3,135,456.61	21,267,455.29	24,402,911.90		24,402,911.90	
			318,393,731.28	318,393,731.28	142,458 Php / sq-m
			296,340,931.28	296,340,931.28	316,542Yen / sq-m
			16,320,000.00	16,320,000.00	(F)
			1,972,800.00	1,972,800.00	(F)
			3,760,000.00	3,760,000.00	(F)
434,032.29	3,906,290.62	4,340,322.91		4,340,322.91	
434,032.29	3,906,290.62	4,340,322.91		4,340,322.91	
477,899.71	18,982,446.01	19,460,345.72		19,460,345.72	
17,520.00	3,218,256.00	3,235,776.00		3,235,776.00	
313,106.89	2,817,961.98	3,131,068.87		3,131,068.87	
95,404.22	8,386,644.26	8,482,048.48		8,482,048.48	
42,515.25	3,737,363.75	3,779,879.00		3,779,879.00	
5,101.83	448,483.65	453,585.48		453,585.48	
4,251.53	373,736.38	377,987.90		377,987.90	
16,066,308.80	221,779,100.23	237,845,409.03	318,393,731.28	556,239,140.31	
16,869,624.24	232,868,055.24	249,737,679.48	334,313,417.85	584,051,097.33	261,320 Php / sq-m
803,315.44	11,088,955.01	11,892,270.45	15,919,686.56	27,811,957.02	580,654Yen / sq-m
			334,313,417.85	57.2%	
		34,963,275.13	46,803,878.50	81,767,153.63	
		14,984,260.77	20,058,805.07	35,043,065.84	
		19,979,014.36	26,745,073.43	46,724,087.79	
		840,000.00		840,000.00	
		840,000.00		840,000.00	
		325,000.00		325,000.00	
		325,000.00		325,000.00	
13,812,500.00	15,521,250.00	29,333,750.00	37,925,000.00	67,258,750.00	12%
6,612,500.00	5,621,250.00	12,233,750.00	12,125,000.00	24,358,750.00	
7,200,000.00	9,900,000.00	17,100,000.00	25,800,000.00	42,900,000.00	
		12,486,883.97	16,715,670.89	29,202,554.87	
		7,492,130.38	10,029,402.54	17,521,532.92	
		375,400,165.24	499,281,854.15	874,682,019.39	Php
		834,139,167.16	1,109,404,279.92	1,943,543,447.08	Yen (Php/Yen = 2.222)
		335,178,718.96	445,787,369.78	780,966,088.74	
		40,221,446.28	53,494,484.37	93,715,930.65	
		3,520,050.00	4,551,000.00	8,071,050.00	
		36,701,396.28	48,943,484.37	85,644,880.65	
		51,429,822.64	47,431,776.14	98,861,598.78	
		51,429,822.64		51,429,822.64	
			47,431,776.14	47,431,776.14	
				1,466,154.00	
			992,376.00	992,376.00	
			11,026,400.00		
			22,052,800.00		
				4,045,275.45	
				4,004,910.11	
				40,365.34	
				980,047,424	Php
			Grand Total	2,177,665,375	Yen
				438,500	Php / sq/m
				974,347	Yen / sq/m

Construction Cost Estimation Sheet of liloan (Retrofitting)

ITEM		QUANTITY	UNIT	UNIT COST (Php)			
				LOCAL			FOREIGN
				LABOR	OTHERS	SUBTOTAL	
ESTIMATED DIRECT COST (Not include Overhead Cost and VAT)							
Temporary Works							
Sheet Pile		40	sq-m	19.08	21,162.90	21,181.98	
Foundation							
Cast in Place Concrete Pile	D=1.0m	208	m				78,070.46
Cast in Place Concrete Pile	D=1.2m	72	m				82,374.10
Concrete Jacketting							
Concrete	28 Mpa	1,851	cu-m	85.03	7,474.73	7,559.76	
Reinforcement steel	Grade 60	740,200	kg	6.76	45.87	52.64	
Existing Surface Treatment		1,449	sq-m	121.03	397.73	518.77	
Superstructure							
Bearing							
Mov; BPB 650kN		20	nos				368,000.00
Mov; BPB 800kN		4	nos				478,000.00
Fix; BPB 650kN		20	nos				337,000.00
Fix; BPB 750kN		4	nos				337,000.00
Damper							
Cylinder type 2000 kN		2	nos				4,330,000.00
Unseating Prevention System							
Chain 450kN		6	nos				173,000.00
Chain 825kN		4	nos				296,000.00
Belt 900 kN		30	nos				194,000.00
Seat Extender Bracket		46	nos				50,000.00
Other work							
Re-paint		5,530	sq-m				2,700.00
Injection of Deck Slab		8,554	m	234.96	1,671.99	1,906.95	
Subtotal (A)							
ESTIMATED DIRECT COST (EDC) (B)							
General Work	5% of (A)		set				
For STEP							
OVERHEAD COST (OC) (C)							
Overhead, Contingencies and Miscellaneous(OCM)	6% of (B)		set				
Contractor's Profit Margin(PROFIT)	8% of (B)		set				
Land acquisition							
Temporary Land acquisition		non	sq-m				
Compensation							
Inhabitant Move		18	houses			25,000.00	
Consultancy Service			set				
Detail Design		1	set				
Construction supervision		1	set				
Contingency	5% of (B)		set				
Administrative Cost	3% of (B)						
Project Cost (E)							
Subtotal							
VAT	12 %						
(VAT for Consultancy Service)	12 %						
(VAT without Consultancy Service)							
Price Escalation							
Local	13.7% of (E)						
Japan	9.5% of (E)						
Front-end fee	0.2% of (B)+(C)+(D)						
Customs duty	3% of (F:Total)						
Imported steel							
Interest during construction							
Interest for Construction (0.1%, 6years)	0.602 % of (B)+(C)						
Interest for Consultancy Service (0.01%, 6years)	0.060 % of (D)						

COST (Php)					REMARK
LOCAL			FOREIGN	TOTAL	
LABOR	OTHERS	SUBTOTAL			
763.11	846,516.00	847,279.11		847,279.11	
763.11	846,516.00	847,279.11		847,279.11	With sandbag
			22,169,590.69	22,169,590.69	
			16,238,655.50	16,238,655.50	Under limited space, Rotary all casing
			5,930,935.19	5,930,935.19	Under limited space, Rotary all casing
5,338,917.62	48,364,702.99	53,703,620.61		53,703,620.61	
157,348.94	13,831,983.24	13,989,332.18		13,989,332.18	w=400kg/sq-m
5,006,179.86	33,956,364.12	38,962,543.97		38,962,543.97	
175,388.82	576,355.64	751,744.46		751,744.46	
			36,362,000.00	36,362,000.00	(F)
			7,360,000.00	7,360,000.00	
			1,912,000.00	1,912,000.00	
			6,740,000.00	6,740,000.00	
			1,348,000.00	1,348,000.00	
			8,660,000.00	8,660,000.00	
			1,038,000.00	1,038,000.00	
			1,184,000.00	1,184,000.00	
			5,820,000.00	5,820,000.00	
			2,300,000.00	2,300,000.00	
2,009,752.15	14,301,550.43	16,311,302.57	14,929,920.00	31,241,222.57	
			14,929,920.00	14,929,920.00	Unit quantity = 6m2/(width*span)m2
2,009,752.15	14,301,550.43	16,311,302.57		16,311,302.57	4 m/sq-m, 297m * 7.2m
7,349,432.88	63,512,769.42	70,862,202.30	73,461,510.69	144,323,712.98	
7,716,904.52	66,688,407.89	74,405,312.41	77,134,586.22	151,539,898.63	17,981 Php / sq-m
367,471.64	3,175,638.47	3,543,110.11	3,673,075.53	7,216,185.65	39,953Yen / sq-m
			77,134,586.22	50.9%	
		10,416,743.74	10,798,842.07	21,215,585.81	
		4,464,318.74	4,628,075.17	9,092,393.92	
		5,952,424.99	6,170,766.90	12,123,191.89	
				450,000.00	
				450,000.00	
6,295,000.00	7,228,500.00	13,523,500.00	17,800,000.00	31,323,500.00	21%
1,795,000.00	1,198,500.00	2,993,500.00	2,200,000.00	5,193,500.00	
4,500,000.00	6,030,000.00	10,530,000.00	15,600,000.00	26,130,000.00	
		3,720,265.62	3,856,729.31	7,576,994.93	
		106,293.30	110,192.27	216,485.57	
		114,432,768.89	122,864,391.85	237,801,160.74	Php
		254,269,612.46	273,004,678.69	528,394,179.16	Yen (Php/Yen = 2.222)
		102,172,115.08	109,700,349.87	212,322,464.94	
		12,260,653.81	13,164,041.98	25,478,695.79	
		1,622,820.00	2,136,000.00	3,758,820.00	
		10,637,833.81	11,028,041.98	21,719,875.79	
		15,677,289.34	11,672,117.23	27,349,406.56	
		15,677,289.34		15,677,289.34	
			11,672,117.23	11,672,117.23	
				95,264.16	
			1,090,860.00	1,090,860.00	
			36,362,000.00		
				1,057,926.50	
				1,039,127.70	
				18,798.80	
8,428 sq-m			Grand Total	267,394,618	Php
				594,150,841	Yen
				31,727	Php / sq/m
				70,497	Yen / sq/m

Construction Cost Estimation Sheet of WAWA Bridge (New Bridge)

ITEM		QUANTITY	UNIT	UNIT COST (Php)			
				LOCAL			FOREIGN
				LABOR	OTHERS	SUBTOTAL	
ESTIMATED DIRECT COST (Not include Overhead Cost and VAT)							
Temporary Works							
Temporary Embankment		2,060	cu-m	4.38	804.56	808.94	
Demolish work							
Concrete		587	cu-m	312.74	1,159.04	1,471.78	
Industrial waste Disposal		1,468	ton	136.83	710.19	847.02	
Existing Girder		490	ton	5,967.05	30,398.63	36,365.68	
Foundation							
Cast in Place Concrete Pile	D=1.2m	252	m	1,995.11	43,903.36	45,898.48	
Substructure							
Concrete	28 Mpa	1,409	cu-m	85.03	7,474.73	7,559.76	
Reinforcement steel	Grade60	281,800	kg	6.76	45.87	52.64	
Superstructure							
Material		690	ton				84,000.00
Fabrication		690	ton				127,000.00
Transportation		710	ton				16,000.00
Erection		690	ton				96,000.00
Bearing (NRB; G14-900x900x22x5)		8	Nos				1,560,000.00
PC Deck Slab		775	cu-m				115,000.00
Expansion Joint (30cm, +-15cm)		20	m				112,000.00
Unseating Prevention System (PC cable F310TD)		6	Nos				532,000.00
Surface Work							
Surface Work		2,070	sq-m	194.20	1,747.78	1,941.98	
Other work							
Embankment		10,160	cu-m	3.65	670.47	674.12	
Pavement		3,570	sq-m	135.54	1,219.90	1,355.44	
Retaining Wall	H=4.0m	200	m	340.12	29,898.91	30,239.03	
Box Culbert	W=5m,H=3m	11	m	680.24	59,797.82	60,478.06	
Subtotal (A)							
ESTIMATED DIRECT COST (EDC) (B)							
General Work	5% of (A)		set				
For STEP							
OVERHEAD COST (OC) (C)							
Overhead, Contingencies and Miscellaneous(OCM)	6% of (B)		set				
Contractor's Profit Margin(PROFIT)	8% of (B)		set				
Land acquisition							
Temporary Land acquisition		5,400	sq-m			150.00	
Compensation							
Inhabitant Move		25	houses			25,000.00	
Consultancy Service			set				
Detail Design		1	set				
Construction supervision		1	set				
Contingency	5% of (B)		set				
Administrative Cost	3% of (B)						
Project Cost (E)							
Subtotal							
VAT	12 %						
(VAT for Consultancy Service)	12 %						
(VAT without Consultancy Service)							
Price Escalation							
Local	13.7% of (E)						
Japan	9.5% of (E)						
Front-end fee	################						
Customs duty	3% of (F:Total)						
Imported steel							
Interest during construction							
Interest for Construction (0.1%, 6years)	0.602 % of (B)+(C)						
Interest for Consultancy Service (0.01%, 6years)	0.060 % of (D)						

COST (Php)					REMARK
LOCAL			FOREIGN	TOTAL	
LABOR	OTHERS	SUBTOTAL			
9,022.80	1,657,401.84	1,666,424.64		1,666,424.64	
9,022.80	1,657,401.84	1,666,424.64		1,666,424.64	=1,030*2.0 (with drain pipe 1.2*T/E)
3,308,296.35	16,618,250.75	19,926,547.10		19,926,547.10	
183,580.73	680,356.48	863,937.21		863,937.21	
200,859.83	1,042,564.79	1,243,424.63		1,243,424.63	
2,923,855.79	14,895,329.47	17,819,185.26		17,819,185.26	
502,768.14	11,063,647.58	11,566,415.72		11,566,415.72	
502,768.14	11,063,647.58	11,566,415.72		11,566,415.72	Rotary all casing
2,025,700.28	23,459,347.69	25,485,047.97		25,485,047.97	
119,807.97	10,531,891.05	10,651,699.02		10,651,699.02	
1,905,892.30	12,927,456.64	14,833,348.95		14,833,348.95	
			330,100,400.00	330,100,400.00	
			57,918,000.00	57,918,000.00	(F)
			87,566,500.00	87,566,500.00	(F)
			11,353,600.00	11,353,600.00	
			66,192,000.00	66,192,000.00	
			12,480,000.00	12,480,000.00	(F)
			89,113,500.00	89,113,500.00	
			2,284,800.00	2,284,800.00	(F)
			3,192,000.00	3,192,000.00	(F)
401,989.64	3,617,906.75	4,019,896.39		4,019,896.39	
401,989.64	3,617,906.75	4,019,896.39		4,019,896.39	
596,483.55	17,804,565.37	18,401,048.91		18,401,048.91	
37,084.00	6,811,975.20	6,849,059.20		6,849,059.20	
483,892.46	4,355,032.15	4,838,924.61		4,838,924.61	
68,024.40	5,979,782.00	6,047,806.40		6,047,806.40	
7,482.68	657,776.02	665,258.70		665,258.70	
6,844,260.75	74,221,119.97	81,065,380.73	330,100,400.00	411,165,780.73	
7,186,473.79	77,932,175.97	85,118,649.76	346,605,420.00	431,724,069.76	208,562 Php / sq-m
342,213.04	3,711,056.00	4,053,269.04	16,505,020.00	20,558,289.04	463,426Yen / sq-m
			346,605,420.00	80.3%	
		11,916,610.97	48,524,758.80	60,441,369.77	
		5,107,118.99	20,796,325.20	25,903,444.19	
		6,809,491.98	27,728,433.60	34,537,925.58	
		810,000.00		810,000.00	
		810,000.00		810,000.00	
		625,000.00		625,000.00	
		625,000.00		625,000.00	
12,972,500.00	13,866,750.00	26,839,250.00	33,250,000.00	60,089,250.00	14%
5,772,500.00	3,966,750.00	9,739,250.00	7,450,000.00	17,189,250.00	
7,200,000.00	9,900,000.00	17,100,000.00	25,800,000.00	42,900,000.00	
		4,255,932.49	17,330,271.00	21,586,203.49	
		2,553,559.49	10,398,162.60	12,951,722.09	
		147,973,283.04	510,841,645.89	658,814,928.92	Php
		328,796,634.90	1,135,090,137.16	1,463,886,772.07	Yen (Php/Yen = 2.222)
		132,119,002.71	456,108,612.40	588,227,615.11	
		15,854,280.33	54,733,033.49	70,587,313.81	
		3,220,710.00	3,990,000.00	7,210,710.00	
		12,633,570.33	50,743,033.49	63,376,603.81	
		20,272,339.78	48,529,956.36	68,802,296.14	
		20,272,339.78		20,272,339.78	
			48,529,956.36	48,529,956.36	
				1,104,509.38	
			4,903,239.00	4,903,239.00	
			163,441,300.00		
				2,996,447.53	
				2,960,384.97	
				36,062.56	
			Grand Total	736,621,421	Php
				1,636,772,797	Yen
				355,856	Php / sq/m
				790,711	Yen / sq/m

SUMMARY OF CONSTRUCTION COST

LAMBINGAN BRIDGE (REPLACEMENT)

ITEM NO,	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE(Peso)		AMOUNT (Peso)		
				LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
PART A	**Facilities for The Enginner (3% of the other EDC)**	l.s	1.0	3,536,219.39	22,982,790.10	3,536,219.39	22,982,790.10	26,519,009.49
PART B	**Facilities for The Contructor and Other**							
	Facilities for The Contructor and Other (3% of the other EDC)	l.s	1.0	3,536,219.39	22,982,790.10	3,536,219.39	22,982,790.10	26,519,009.49
	Site Preliminaries (4% of the other EDC)	l.s	1.0	4,714,959.18	30,643,720.13	4,714,959.18	30,643,720.13	35,358,679.31
	Temporary Works							
SPL-01	Temporary Stage	sq-m	1,120.0	35,430.63		39,682,302.10		39,682,302.10
SPL-02	Sheet Pile	l.m	2,220.0	5,409.03		12,008,046.26		12,008,046.26
SPL-03	Flagman (88 Peso per hr)	hr	57,600.0	112.36		6,471,843.84		6,471,843.84
	Sub Total PART B					66,413,370.77	53,626,510.23	120,039,881.00
PART C	**EARTHWORK**							
	Existing Bridge Demolish Works							
101(3)	CONCRETE STRUCTURES	cu-m	2,582.0	1,879.17		4,852,026.78		4,852,026.78
SPL-05	Industrial waste Disposal	ton	6,455.0	1,081.47		6,980,917.88		6,980,917.88
	Approach Road							
104(2)	Embankment	cu-m	4,540.0	860.50		3,906,670.00		3,906,670.00
301	PRIME COAT	ton	9.7	95,721.70		931,180.66		931,180.66
302	TACK COAT	ton	1.4	89,387.17		122,281.65		122,281.65
310(1)	ASPHALT CONCRETE, HOT LAID	sq-m	3,040.0	1,384.09		4,207,644.24		4,207,644.24
	Retaining Wall							
404	Rainforcement (Grade 60)	kg	14,850.0	67.21		998,039.09		998,039.09
405(1)	Concrete (28Mpa)	cu-m	330.0	9,652.30		3,185,258.67		3,185,258.67
	Sub Total PART C					25,184,018.98		25,184,018.98
PART F	**BRIDGE CONSTRUCTION**							
	Foundation							
400(23)j	Cast in place plie D=2.5m (Under Limited Space)	m	180.0		218,721.54		39,369,878.06	39,369,878.06
	Substructure							
404	Rainforcement (Grade 60)	kg	233,200.0	67.21		15,672,910.18		15,672,910.18
405(1)a	Concrete (28Mpa)	cu-m	1,166.0	9,652.30		11,254,580.65		11,254,580.65
	Superstructure							
403a	Structure Steel	kg	1,468,600.0		85.55		125,632,268.16	125,632,268.16
403b	Fabrication (With Paint)	kg	1,417,200.0		162.15		229,804,081.92	229,804,081.92
403c	Transportation	kg	1,498,300.0		7.66		11,478,176.64	11,478,176.64
403d	Erection	kg	1,468,600.0		191.52		281,266,272.00	281,266,272.00
412(2)	Bearing (NRB, Rubber G14-700x700x17x6	nos	8.0		1,177,209.60		9,417,676.80	9,417,676.80
SPL-803	Expansion Joint (20cm, +-10cm)	m	52.8		91,929.60		4,853,882.88	4,853,882.88
SPL-705	Unseating Prevention System (PC cable F360TD)	nos	12.0		787,785.60		9,453,427.20	9,453,427.20

SPL-401	Goose Asphalt	sq-m	2,011.4		14,938.56		30,047,419.58	30,047,419.58
401	Railing	m	180.0	4,087.34		735,720.56		735,720.56
612(1)	Pavement Marking	sq-m	180.0	815.01		146,702.20		146,702.20
601	Sidewalk	sq-m	378.0	663.53		250,814.49		250,814.49
	Sub Total PART F					28,060,728.08	741,323,083.24	769,383,811.32
PART H	**MISCELLANEOUS STRUCTURES**							
SPL-901	REVETMENT(Passig River)	m	50.0		495,398.40		24,769,920.00	24,769,920.00
600(3)	Gutter (Approach Road)(Concrete 0.5m3/m)	l.m	460.0	4,826.15		2,220,028.77		2,220,028.77
600(3)b	Median (Approach Road)(Concrete 0.5m3/m)	l.m	440.0	9,652.30		4,247,011.57		4,247,011.57
	Sub Total PART H					6,467,040.34	24,769,920.00	31,236,960.34
	TOTAL COST OF CIVIL WORKS (A+B+C+F+H)					129,661,377.55	842,702,303.57	972,363,681.12
						Bridge Length(m)	90.00	
						Lanes	6.00	
						Length(m)	270.00	
							Peso / m	3,601,346.97
PART J	**SPECIAL**							
SPL-1001	LAND ACQUISITION	sq-m	180.0	9,212.00		1,658,160.00		1,658,160.00
SPL-1002	TEMPORARY LAND ACQUISITION	sq-m	1,400.0	4,188.80		5,864,320.00		5,864,320.00
SPL-1008	COMPENSATION (Inhabitant Move)	houses	10.0	28,000.00		280,000.00		280,000.00
	Sub Total PART J					7,802,480.00		7,802,480.00
PART K	**CONSULTANCY SERVICE**							
SPL-1009	DETAIL DESIGN	l.s	1.0	24,025,680.00	22,792,000.00	24,025,680.00	22,792,000.00	46,817,680.00
SPL-1009	CONSTRUCTION SUPERVISION	l.s	1.0	23,520,000.00	37,632,000.00	23,520,000.00	37,632,000.00	61,152,000.00
	Sub Total PART K					47,545,680.00	60,424,000.00	107,969,680.00
	PROJECT COST OF CONSTRUCTION (A+B+C+F+H+J+K)					185,009,537.55	903,126,303.57	1,088,135,841.12

Unit Price : Include Overhead Cost and VAT

NOTE	Local	foreign	total
Construction Cost without as follows	117,873,979.6	766,093,003.2	883,966,982.8
Facilities for The Enginner (3% of the other EDC)	3,536,219.4	22,982,790.10	26,519,009.49
Facilities for The Contructor and Other (3% of the other EDC)	3,536,219.4	22,982,790.10	26,519,009.49
Site Preliminaries (4% of the other EDC)	4,714,959.2	30,643,720.13	35,358,679.31

SUMMARY OF CONSTRUCTION COST

GUADALUPE BRIDGE (REPLACEMENT + RETROFIT)

ITEM NO,	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE(Peso)		AMOUNT (Peso)		
				LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
PART A	**Facilities for The Enginner (3% of the other EDC)**	l.s	1.0	10,115,457.05	36,278,711.85	10,115,457.05	36,278,711.85	46,394,168.90
PART B	**Facilities for The Contructor and Other**							
	Facilities for The Contructor and Other (3% of the other EDC)	l.s	1.0	10,115,457.05	36,278,711.85	10,115,457.05	36,278,711.85	46,394,168.90
	Site Preliminaries (4% of the other EDC)	l.s	1.0	13,487,276.06	48,371,615.80	13,487,276.06	48,371,615.80	61,858,891.86
	Temporary Works							
SPL-01	Temporary Stage	sq-m	3,580.0	35,430.63		126,841,644.22		126,841,644.22
SPL-02	Sheet Pile	l.m	1,800.0	5,409.03		9,736,253.72		9,736,253.72
SPL-03	Flagman (88 Peso per hr)	hr	141,120.0	112.36		15,856,017.41		15,856,017.41
SPL-101	Temporary Support of Inner Superstructure	ton	5,016.0		12,768.00		64,044,288.00	64,044,288.00
	Sub Total PART B					176,036,648.46	148,694,615.65	324,731,264.10
PART C	**EARTHWORK**							
	Existing Bridge Demolish Works							
101(3)	CONCRETE STRUCTURES	cu-m	4,679.0	1,879.17		8,792,654.26		8,792,654.26
SPL-05	Industrial waste Disposal	ton	11,698.0	1,081.47		12,651,088.67		12,651,088.67
	Approach Road							
104(2)	Embankment	cu-m	7,800.0	860.50		6,711,900.00		6,711,900.00
301	PRIME COAT	ton	1.7	95,721.70		165,407.09		165,407.09
302	TACK COAT	ton	0.2	89,387.17		21,721.08		21,721.08
310(1)	Pavment	sq-m	540.0	1,384.09		747,410.49		747,410.49
	Retaining Wall							
404	Rainforcement (Grade 60)	kg	45,045.0	67.21		3,027,385.25		3,027,385.25
405(1)	Concrete (28Mpa)	cu-m	1,001.0	9,652.30		9,661,951.31		9,661,951.31
	Sub Total PART C					41,779,518.16		41,779,518.16
PART F	**BRIDGE CONSTRUCTION**							
	Foundation							
SPL-201	Steel Pipe Sheet Pile (SKY400, D=0.8m, t=9mm)Material, Transpor	m	1,890.0		34,473.60		65,155,104.00	65,155,104.00
SPL-202	Steel Pipe Sheet Pile (SKY400, D=0.8m, t=12mm)Material, Transpo	m	540.0		39,580.80		21,373,632.00	21,373,632.00
SPL-203	Steel Pipe Sheet Pile (SKY400, D=0.8m, t=16mm)Material, Transpo	m	1,296.0		45,964.80		59,570,380.80	59,570,380.80
SPL-205	Steel Pipe Sheet Pile (P1, Press-in)	m	540.0		273,235.20		147,547,008.00	147,547,008.00
SPL-207	Steel Pipe Sheet Pile (P1, Press-in)	m	1,296.0		103,420.80		134,033,356.80	134,033,356.80
403(23)e	Cast in Place Concrete Pile D=2.5m)	m	110.0	149,369.28		16,430,620.43		16,430,620.43
	.							
	Substructure							
404	Rainforcement (Grade 60)	kg	1,037,320.0	67.21		69,716,222.94		69,716,222.94
405(1)a	Concrete (28Mpa)	cu-m	5,186.6	9,652.30		50,062,614.07		50,062,614.07
SPL-301	Grand Improvement (Anti-liquefaction)	cu-m	760.0		25,919.04		19,698,470.40	19,698,470.40
SPL-302	Grand Improvement (Force reduction)	cu-m	1,370.0		75,331.20		103,203,744.00	103,203,744.00
SPL-05	Industrial waste Disposal (Force reduction)	ton	2,055.0	1,081.47		2,222,430.09		2,222,430.09
	Superstructure							
403a	Structure Steel	kg	831,400.0		81.72		67,938,017.28	67,938,017.28
403b	Fabrication (With Paint)	kg	831,400.0		162.15		134,814,503.04	134,814,503.04
403c	Transportation	kg	846,200.0		7.66		6,482,568.96	6,482,568.96
403d	Erection	kg	831,400.0		234.93		195,321,799.68	195,321,799.68
412(12)	Bearing (Mov; BPB 1500kN)	nos	8.0		804,384.00		6,435,072.00	6,435,072.00

412(21)	Bearing (Fix; BPB 3000kN)	nos	8.0		1,991,808.00		15,934,464.00	15,934,464.00
412(9)	Bearing (Mov; BPB 950kN)	nos	20.0		610,310.40		12,206,208.00	12,206,208.00
412(20)	Bearing (Fix; BPB 2250kN)	nos	20.0		1,493,856.00		29,877,120.00	29,877,120.00
SPL-802	Expansion Joint (15cm, +-10cm)	m	39.4		91,929.60		3,622,026.24	3,622,026.24
SPL-801	Expansion Joint (10cm, +-5cm)	m	53.2		58,732.80		3,124,584.96	3,124,584.96
SPL-702	Unseating Prevention System (PC cable F100TD)	nos	8.0		279,619.20		2,236,953.60	2,236,953.60
SPL-709	Unseating Prevention System (Chain 975kN)	nos	20.0		513,273.60		10,265,472.00	10,265,472.00
SPL-401	Goose Asphalt	sq-m	2,118.2		14,938.56		31,642,857.79	31,642,857.79
401	Railing	m	250.0		4,087.34		1,021,834.11	1,021,834.11
612(1)	Pavement Marking	sq-m	187.5		815.01		152,814.79	152,814.79
601	Sidewalk	sq-m	625.0		663.53		414,706.49	414,706.49
	Sub Total PART F					138,431,887.53	1,072,072,698.94	1,210,504,586.48
PART H	**MISCELLANEOUS STRUCTURES**							
SPL-902	REVETMENT(Passig River)	m	110.0		665,212.80		73,173,408.00	73,173,408.00
600(3)	Gutter (Approach Road)(Concrete 0.5m3/m)	l.m	60.0	4,826.15		289,568.97		289,568.97
600(3)b	Median (Approach Road)(Concrete 0.5m3/m)	l.m	440.0	9,652.30		4,247,011.57		4,247,011.57
SPL-501	Re-Paint	sq-m	3,889.6		3,447.36		13,408,851.46	13,408,851.46
SPL-08	Injection of Deck Slab	sq-m	5,834.4	2,434.80		14,205,573.82		14,205,573.82
	Sub Total PART H					4,536,580.54	73,173,408.00	77,709,988.54
	TOTAL COST OF IVIL WORKS (A+B+C+F+H)					370,900,091.73	1,330,219,434.44	1,701,119,526.17
						331,160,796.19	1,187,695,923.60	1,518,856,719.79
						Bridge Length(m)	125.00	
						Lanes	10.00	
						Length(m)	625.00	
							Peso / m	2,721,791.24
PART J	**SPECIAL**							
SPL-1001	TEMPORARY LAND ACQUISITION (Park)	sq-m	4,200.0	10,080.00		42,336,000.00		42,336,000.00
SPL-1002	TEMPORARY LAND ACQUISITION (Private)	sq-m	1,800.0	14,560.00		26,208,000.00		26,208,000.00
SPL-1008	COMPENSATION (Inhabitant Move)	houses	17.0	28,000.00		476,000.00		476,000.00
	Sub Total PART J					69,020,000.00		69,020,000.00
PART K	**CONSULTANCY SERVICE**							
SPL-1009	DETAIL DESIGN	l.s	1.0	36,232,000.00	40,506,480.00	36,232,000.00	40,506,480.00	76,738,480.00
SPL-1009	CONSTRUCTION SUPERVISION	l.s	1.0	25,737,600.00	40,656,000.00	25,737,600.00	40,656,000.00	66,393,600.00
	Sub Total PART K					61,969,600.00	81,162,480.00	143,132,080.00
	PROJECT COST OF CONSTRUCTION (A+B+C+F+H+J+K)					501,889,691.73	1,411,381,914.44	1,913,271,606.17

Unit Price : Include Overhead Cost and VAT

NOTE	Local	foreign	total
Construction Cost without % items	337,181,902	1,209,290,395	1,546,472,297
Facilities for The Enginner (3% of the other EDC)	10,115,457	36,278,712	46,394,169
Facilities for The Contructor and Other (3% of the other EDC)	10,115,457	36,278,712	46,394,169
Site Preliminaries (4% of the other EDC)	13,487,276	48,371,616	61,858,892

SUMMARY OF CONSTRUCTION COST

1st MANDAUE MACTAN BRIDGE (RETROFIT)

ITEM NO,	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE(Peso)		AMOUNT (Peso)		
				LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
PART A	**Facilities for The Enginner (3% of the other EDC)**	l.s	1.0	3,902,780.47	12,946,841.49	3,902,780.47	12,946,841.49	16,849,621.96
PART B	**Facilities for The Contructor and Other**							
	Facilities for The Contructor and Other (3% of the other EDC)	l.s	1.0	3,902,780.47	12,946,841.49	3,902,780.47	12,946,841.49	16,849,621.96
	Site Preliminaries (4% of the other EDC)	l.s	1.0	11,708,341.42	38,840,524.47	11,708,341.42	38,840,524.47	50,548,865.89
	Temporary Works							
104(2)	Temporary Embankment	cu-m	3,129.0	860.50		2,692,504.50		2,692,504.50
SPL-01	Temporary Bridge	sq-m	420.0	35,430.63		14,880,863.29		14,880,863.29
SPL-04	Barg (96,000 php/day)	nos	270.0	122,572.80		33,094,656.00		33,094,656.00
SPL-02	Sheet Pile	l.m	4,300.0	5,409.03		23,258,828.33		23,258,828.33
	Sub Total PART B					89,537,974.01	51,787,365.96	141,325,339.97
PART F	**BRIDGE CONSTRUCTION**							
	Foundation							
	Steel Pipe Sheet Pile (SKY490, D=1.0m, t=22mm)							
SPL-204	Material, Transportation	m	7,486.0		56,179.20		420,557,491.20	420,557,491.20
SPL-206	Press-in, Hard Later	m	1,162.5		82,992.00		96,478,200.00	96,478,200.00
SPL-208	Press-in, sand Later	m	3,230.0		63,840.00		206,203,200.00	206,203,200.00
403(23)g	Cast in place plie D=1.2m (Under Limited Space)	m	2,073.0		105,175.25		218,028,294.57	218,028,294.57
	Substructure							
SPL-07	Existing Surface Treatment	sq-m	3,618.4	660.82		2,391,104.05		2,391,104.05
404	Rainforcement (Grade 60)	kg	2,777,080.0	67.21		186,642,047.20		186,642,047.20
405(1)a	Concrete (28Mpa)	cu-m	6,942.7	9,652.30		67,013,016.37		67,013,016.37
	Superstructure							
	Bearing							
412(6)	Mov; BPB 800kN	nos	9.0		610,310.40		5,492,793.60	5,492,793.60
412(7)	Mov; BPB 850kN	nos	3.0		610,310.40		1,830,931.20	1,830,931.20
412(8)	Mov; BPB 900kN	nos	3.0		610,310.40		1,830,931.20	1,830,931.20
412(10)	Mov; BPB 1000kN	nos	3.0		610,310.40		1,830,931.20	1,830,931.20
412(11)	Mov; BPB 1100kN	nos	6.0		804,384.00		4,826,304.00	4,826,304.00
412(13)	Mov; BPB 2250kN	nos	6.0		1,659,840.00		9,959,040.00	9,959,040.00
412(15)	Fix; BPB 750kN	nos	9.0		430,281.60		3,872,534.40	3,872,534.40
412(16)	Fix; BPB 800kN	nos	9.0		547,747.20		4,929,724.80	4,929,724.80
412(17)	Fix; BPB 850kN	nos	3.0		547,747.20		1,643,241.60	1,643,241.60
412(18)	Fix; BPB 900kN	nos	3.0		547,747.20		1,643,241.60	1,643,241.60
412(19)	Fix; BPB 1000kN	nos	3.0		547,747.20		1,643,241.60	1,643,241.60
412(20)	Fix; BPB 2250kN	nos	6.0		1,493,856.00		8,963,136.00	8,963,136.00
	Damper							
SPL-601	Cylinder type 1000 kN	nos	4.0		3,460,128.00		13,840,512.00	13,840,512.00
SPL-602	Cylinder type 1500 kN	nos	8.0		4,928,448.00		39,427,584.00	39,427,584.00
SPL-603	Cylinder type 2000 kN	nos	4.0		5,528,544.00		22,114,176.00	22,114,176.00

SPL-604	Shear panel 1000 kN	nos	8.0		3,460,128.00		27,681,024.00	27,681,024.00
	Unseating Prevention System							
SPL-707	Chain 615kN + Cross beam	nos	16.0		445,603.20		7,129,651.20	7,129,651.20
SPL-708	Chain 825kN	nos	12.0		377,932.80		4,535,193.60	4,535,193.60
SPL-710	Chain 1350kN + Cross beam	nos	4.0		1,378,944.00		5,515,776.00	5,515,776.00
SPL-711	Belt 900 kN	nos	18.0		247,699.20		4,458,585.60	4,458,585.60
	Expansion Joint							
SPL-801	10cm, +-5cm	m	52.0		58,732.80		3,054,105.60	3,054,105.60
SPL-802	15cm, +-10cm	m	20.8		91,929.60		1,912,135.68	1,912,135.68
SPL-803	20cm, +-10cm	m	10.4		91,929.60		956,067.84	956,067.84
	Sub Total PART F					256,046,167.62	1,120,358,048.49	1,376,404,216.11
PART H	**MISCELLANEOUS STRUCTURES**							
SPL-501	Re-Paint (quantity = 6m2/(width*span)m2)	sq-m	50,568.0		3,447.36		174,326,100.48	174,326,100.48
SPL-08	Injection of Deck Slab (4 m/sq-m, 860m * 7.2m)	sq-m	24,768.0	2,434.80		60,305,027.51		60,305,027.51
	Sub Total PART H					60,305,027.51	174,326,100.48	234,631,127.99
	TOTAL COST OF IVIL WORKS (A+B+C+F+H)					409,791,949.61	1,359,418,356.42	1,769,210,306.03
						Bridge Length(m)	860.00	
						Lanes	2.00	
						Length(m)	860.00	
							Peso / m	2,057,221.29
PART J	**SPECIAL**							
SPL-1008	COMPENSATION (Inhabitant Move)	houses	170.0	28,000.00		4,760,000.00		4,760,000.00
	Sub Total PART J					4,760,000.00		4,760,000.00
PART K	**CONSULTANCY SERVICE**							
SPL-1009	DETAIL DESIGN	l.s	1.0	47,404,000.00	54,425,000.00	47,404,000.00	54,425,000.00	101,829,000.00
SPL-1009	CONSTRUCTION SUPERVISION	l.s	1.0	16,548,000.00	26,040,000.00	16,548,000.00	26,040,000.00	42,588,000.00
	Sub Total PART K					63,952,000.00	80,465,000.00	144,417,000.00
	PROJECT COST OF CONSTRUCTION (A+B+C+F+H+J+K)					478,503,949.61	1,439,883,356.42	1,918,387,306.03

Unit Price : Include Overhead Cost and VAT

NOTE	Local	foreign	total
Construction Cost without % items	390,278,047	1,294,684,149	1,684,962,196
Facilities for The Enginner (1% of the other EDC)	3,902,780	12,946,841	16,849,622
Facilities for The Contructor and Other (1% of the other EDC)	3,902,780	12,946,841	16,849,622
Site Preliminaries (3% of the other EDC)	11,708,341	38,840,524	50,548,866

SUMMARY OF CONSTRUCTION COST

PALANIT BRIDGE (REPLACEMENT

ITEM NO,	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE(Peso)		AMOUNT (Peso)		
				LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
PART A	**Facilities for The Enginner (3% of the other EDC)**	l.s	1.0	749,814.21	124,651.43	749,814.21	124,651.43	874,465.65
PART B	**Facilities for The Contructor and Other**							
	Facilities for The Contructor and Other (3% of the other EDC)	l.s	1.0	749,814.21	124,651.43	749,814.21	124,651.43	874,465.65
	Site Preliminaries (4% of the other EDC)	l.s	1.0	2,249,442.64	373,954.29	2,249,442.64	373,954.29	2,623,396.94
	Temporary Works							
104(2)	Temporary Embankment	cu-m	840.0	860.50		722,820.00		722,820.00
SPL-01	Temporary Bridge	sq-m	90.0	35,430.63		3,188,756.42		3,188,756.42
	Sub Total PART B					6,910,833.28	498,605.72	7,409,439.00
PART C	**EARTHWORK**							
	Existing Bridge Demolish Works							
101(3)	CONCRETE STRUCTURES	cu-m	262.0	1,879.17		492,343.54		492,343.54
SPL-05	Industrial waste Disposal	ton	656.0	1,081.47		709,447.27		709,447.27
SPL-06	Existing Girder	ton	253.0	46,431.71		11,747,221.52		11,747,221.52
	Approach Road							
104(2)	Embankment	cu-m	2,340.0	663.53		1,552,661.10		1,552,661.10
301	PRIME COAT	ton	5.5	95,721.70		523,789.12		523,789.12
302	TACK COAT	ton	0.8	89,387.17		68,783.43		68,783.43
310(1)	Pavement	sq-m	1,710.0	1,384.09		2,366,799.89		2,366,799.89
	Retaining Wall							
405(1)	Concrete (28Mpa)	cu-m	70.0	9,652.30		675,660.93		675,660.93
404	Rainforcement (Grade 60)	kg	2,450.0	67.21		164,659.65		164,659.65
	Sub Total PART C					18,301,366.44		18,301,366.44
PART F	**BRIDGE CONSTRUCTION**							
	Substructure							
404	Rainforcement (Grade 60)	kg	82,902.0	67.21		5,571,679.24		5,571,679.24
405(1)a	Concrete (28Mpa)	cu-m	464.0	9,652.30		4,478,666.74		4,478,666.74
	Superstructure							
SPL-09	PC-Girder (Girder, Erection, Connect)	nos	15.0	2,310,803.07		34,662,046.01		34,662,046.01
404	Rainforcement (Grade 60)	kg	37,192.0	67.21		2,499,600.67		2,499,600.67
405(1)a	Concrete (28Mpa)	cu-m	297.0	9,652.30		2,866,732.81		2,866,732.81
412(1)	Bearing (NRB G14-320x320x10x5)	nos	30.0		297,494.40		8,924,832.00	8,924,832.00
SPL-802	Expansion Joint (15cm, +-10cm)	m	23.4		91,929.60		2,151,152.64	2,151,152.64
SPL-701	Unseating Prevention System (PC cable F50TD)	nos	8.0		173,644.80		1,389,158.40	1,389,158.40

310(1)	Pavement	sq-m	894.0	1,384.09		1,237,379.59		1,237,379.59
302	TACK COAT	ton	0.4	89,387.17		35,960.46		35,960.46
401	Railing	m	164.0	4,087.34		670,323.17		670,323.17
612(1)	Pavement Marking	sq-m	123.0	815.01		100,246.51		100,246.51
601	Sidewalk	sq-m	246.0	663.53		163,228.47		163,228.47
	Sub Total PART F					52,285,863.67	12,465,143.04	64,751,006.71
PART H	**MISCELLANEOUS STRUCTURES**							
600(3)	Gutter (Approach Road)(Concrete 0.5m3/m)	l.m	100.0	4,826.15		482,614.95		482,614.95
	Sub Total PART H					482,614.95		482,614.95
	TOTAL COST OF IVIL WORKS (A+B+C+F+H)					78,730,492.56	13,088,400.19	91,818,892.75
						Bridge Length(m)	82.00	
						Lanes	2.00	
						Length(m)	82.00	
							Peso / m	1,119,742.59
PART J	**SPECIAL**							
SPL-1005	TEMPORARY LAND ACQUISITION	sq-m	1,500.0	196.00				
SPL-1008	COMPENSATION (Inhabitant Move)	houses	9.0	28,000.00		252,000.00		252,000.00
	Sub Total PART J					252,000.00		252,000.00
PART K	**CONSULTANCY SERVICE**							
SPL-1009	DETAIL DESIGN	l.s	1.0	4,405,240.00	3,388,000.00	4,405,240.00	3,388,000.00	7,793,240.00
SPL-1009	CONSTRUCTION SUPERVISION	l.s	1.0	15,136,800.00	21,336,000.00	15,136,800.00	21,336,000.00	36,472,800.00
	Sub Total PART K					19,542,040.00	24,724,000.00	44,266,040.00
	PROJECT COST OF CONSTRUCTION (A+B+C+F+H+J+K)					98,524,532.56	37,812,400.19	136,336,932.75

Unit Price : Include Overhead Cost and VAT

NOTE	Local	foreign	total
Construction Cost without % items	74,981,421	12,465,143	87,446,565
Facilities for The Enginner (1% of the other EDC)	749,814	124,651	874,466
Facilities for The Contructor and Other (1% of the other EDC)	749,814	124,651	874,466
Site Preliminaries (3% of the other EDC)	2,249,443	373,954	2,623,397

SUMMARY OF CONSTRUCTION COST

MAWO BRIDGE (REPLACEMENT

ITEM NO,	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE(Peso)		AMOUNT (Peso)		
				LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
PART A	**Facilities for The Enginner (3% of the other EDC)**	l.s	1.0	3,036,968.58	4,065,251.16	3,036,968.58	4,065,251.16	7,102,219.74
PART B	**Facilities for The Contructor and Other**							
	Facilities for The Contructor and Other (3% of the other EDC)	l.s	1.0	3,036,968.58	4,065,251.16	3,036,968.58	4,065,251.16	7,102,219.74
	Site Preliminaries (4% of the other EDC)	l.s	1.0	9,110,905.75	12,195,753.48	9,110,905.75	12,195,753.48	21,306,659.23
	Temporary Works							
SPL-01	Temporary Bridge & Stage	sq-m	2,370.0	35,430.63		83,970,585.70		83,970,585.70
SPL-02	Sheet Pile	l.m	3,920.0	5,409.03		21,203,396.99		21,203,396.99
	Sub Total PART B					117,321,857.02	16,261,004.64	133,582,861.67
PART C	**EARTHWORK**							
	Existing Bridge Demolish Works							
101(3)	CONCRETE STRUCTURES	cu-m	923.0	1,879.17		1,734,477.43		1,734,477.43
SPL-05	Industrial waste Disposal	ton	2,307.0	1,081.47		2,494,961.67		2,494,961.67
SPL-06	Existing Girder	ton	993.0	46,431.71		46,106,683.66		46,106,683.66
	Approach Road							
104(2)	Embankment	cu-m	4,800.0	663.53		3,184,945.85		3,184,945.85
301	PRIME COAT	ton	7.4	95,721.70		707,574.78		707,574.78
302	TACK COAT	ton	1.0	89,387.17		92,917.97		92,917.97
310(1)	Pavement	sq-m	2,310.0	1,384.09		3,197,255.99		3,197,255.99
	Retaining Wall							
405(1)	Concrete (28Mpa)	cu-m	1,112.0	9,652.30		10,733,356.50		10,733,356.50
404	Rainforcement (Grade 60)	kg	57,824.0	67.21		3,886,236.53		3,886,236.53
	Box Culbert							
405(1)	Concrete (28Mpa)	cu-m	60.0	9,652.30		579,137.94		579,137.94
404	Rainforcement (Grade 60)	kg	3,600.0	67.21		241,948.87		241,948.87
	Sub Total PART C					72,959,497.18		72,959,497.18
PART F	**BRIDGE CONSTRUCTION**							
	Foundation							
403(23)c	Cast in Place Concrete Pile D=1.5m)	m	990.0	66,698.23		66,031,250.91		66,031,250.91
	Substructure							
404	Rainforcement (Grade 60)	kg	463,600.0	67.21		31,157,637.91		31,157,637.91
405(1)a	Concrete (28Mpa)	cu-m	2,318.0	9,652.30		22,374,029.12		22,374,029.12
	Superstructure							
SPL-09	PC-Concrete Girder	cu-m	3,153.0		120,002.57		378,368,101.06	378,368,101.06

412(4)	Bearing (NRB G14-1500x1500x37x5)	nos	12.0		1,736,448.00		20,837,376.00	20,837,376.00
SPL-802	Expansion Joint (15cm, +-10cm)	m	27.4		91,929.60		2,518,871.04	2,518,871.04
SPL-703	Unseating Prevention System (PC cable F270TD)	nos	8.0		600,096.00		4,800,768.00	4,800,768.00
310(1)	Pavement	sq-m	2,235.0	1,384.09		3,093,448.97		3,093,448.97
302	TACK COAT	ton	1.0	89,387.17		89,901.15		89,901.15
401	Railing	m	410.0	4,087.34		1,675,807.93		1,675,807.93
612(1)	Pavement Marking	sq-m	307.5	815.01		250,616.26		250,616.26
601	Sidewalk	sq-m	615.0	663.53		408,071.19		408,071.19
	Sub Total PART F					125,080,763.44	406,525,116.10	531,605,879.54
PART H	**MISCELLANEOUS STRUCTURES**							
600(3)	Gutter (Approach Road)(Concrete 0.5m3/m)	l.m	100.0	4,826.15		482,614.95		482,614.95
	Sub Total PART H					482,614.95		482,614.95
	TOTAL COST OF IVIL WORKS (A+B+C+F+H)					318,881,701.17	426,851,371.91	745,733,073.08
						284,715,804.62	381,117,296.35	665,833,100.97
						Bridge Length(m)	205.00	
						Lanes	2.00	
						Length(m)	205.00	
							Peso / m	3,637,722.31
PART J	**SPECIAL**							
SPL-1006	TEMPORARY LAND ACQUISITION	sq-m	5,600.0	168.00				
SPL-1008	COMPENSATION (Inhabitant Move)	houses	13.0	28,000.00		364,000.00		364,000.00
	Sub Total PART J					364,000.00		364,000.00
PART K	**CONSULTANCY SERVICE**							
SPL-1009	DETAIL DESIGN	l.s	1.0	13,701,800.00	13,580,000.00	13,701,800.00	13,580,000.00	27,281,800.00
SPL-1009	CONSTRUCTION SUPERVISION	l.s	1.0	19,152,000.00	28,896,000.00	19,152,000.00	28,896,000.00	48,048,000.00
	Sub Total PART K					32,853,800.00	42,476,000.00	75,329,800.00
	PROJECT COST OF CONSTRUCTION (A+B+C+F+H+J+K)					352,099,501.17	469,327,371.91	821,426,873.08

Unit Price : Include Overhead Cost and VAT

NOTE	Local	foreign	total
Construction Cost without % items	303,696,858	406,525,116	710,221,974
Facilities for The Enginner (1% of the other EDC)	3,036,969	4,065,251	7,102,220
Facilities for The Contructor and Other (1% of the other EDC)	3,036,969	4,065,251	7,102,220
Site Preliminaries (3% of the other EDC)	9,110,906	12,195,753	21,306,659

SUMMARY OF CONSTRUCTION COST

Liloan BRIDGE (RETROFIT)

ITEM NO,	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE(Peso)		AMOUNT (Peso)		
				LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
PART A	**Facilities for The Enginner (3% of the other EDC)**	l.s	1.0	904,746.24	1,048,322.97	904,746.24	1,048,322.97	1,953,069.21
PART B	**Facilities for The Contructor and Other**							
	Facilities for The Contructor and Other (3% of the other EDC)	l.s	1.0	904,746.24	1,048,322.97	904,746.24	1,048,322.97	1,953,069.21
	Site Preliminaries (4% of the other EDC)	l.s	1.0	2,714,238.72	3,144,968.91	2,714,238.72	3,144,968.91	5,859,207.63
	Temporary Works							
SPL-02	Sheet Pile	l.m	200.0	5,409.03		1,081,805.97		1,081,805.97
	Sub Total PART B					4,700,790.93	4,193,291.87	8,894,082.80
PART F	**BRIDGE CONSTRUCTION**							
	Foundation							
403(23)f	Cast in place plie D=1.0m (Under Limited Space)	m	208.0		99,680.36		20,733,515.34	20,733,515.34
403(23)g	Cast in place plie D=1.2m (Under Limited Space)	m	72.0		105,175.25		7,572,618.05	7,572,618.05
	Substructure							
SPL-07	Existing Surface Treatment	sq-m	1,449.1	660.82		957,591.44		957,591.44
404	Rainforcement (Grade 60)	kg	740,200.0	67.21		49,747,376.14		49,747,376.14
405(1)a	Concrete (28Mpa)	cu-m	1,850.5	9,652.30		17,861,579.33		17,861,579.33
	Superstructure							
	Bearing							
412(1)	Mov; BPB 650kN	nos	20.0		469,862.40		9,397,248.00	9,397,248.00
412(2)	Mov; BPB 800kN	nos	4.0		610,310.40		2,441,241.60	2,441,241.60
412(14)	Fix; BPB 650kN	nos	20.0		430,281.60		8,605,632.00	8,605,632.00
412(15)	Fix; BPB 750kN	nos	4.0		430,281.60		1,721,126.40	1,721,126.40
	Damper							
SPL-603	Cylinder type 2000 kN	nos	2.0		5,528,544.00		11,057,088.00	11,057,088.00
	Unseating Prevention System							
SPL-706	Chain 450kN	nos	6.0		220,886.40		1,325,318.40	1,325,318.40
SPL-708	Chain 825kN	nos	4.0		377,932.80		1,511,731.20	1,511,731.20
SPL-711	Belt 900 kN	nos	30.0		429,600.00		12,888,000.00	12,888,000.00
SPL-712	Seat Extender Bracket	nos	46.0		63,840.00		2,936,640.00	2,936,640.00
	Expansion Joint							
SPL-801	10cm, +-5cm	m	57.0		58,732.80		3,347,769.60	3,347,769.60
SPL-803	20cm, +-10cm	m	9.5		91,929.60		873,331.20	873,331.20
SPL-805	40cm, +-10cm	m	9.5		143,001.60		1,358,515.20	1,358,515.20
	Sub Total PART F					68,566,546.91	85,769,774.99	154,336,321.90

PART H	**MISCELLANEOUS STRUCTURES**							
SPL-501	Re-Paint (quantity = 6m2/(width*span)m2)	sq-m	5,529.6		3,447.36		19,062,521.86	19,062,521.86
SPL-08	Injection of Deck Slab (4 m/sq-m, 297m * 7.2m)	sq-m	8,553.6	2,434.80		20,826,271.13		20,826,271.13
	Sub Total PART H					20,826,271.13	19,062,521.86	39,888,792.98
	TOTAL COST OF IVIL WORKS (A+B+C+F+H)					94,998,355.21	110,073,911.69	205,072,266.89
						Bridge Length(m)	860.00	
						Lanes	2.00	
						Length(m)	860.00	
							Peso / m	238,456.12
PART J	**SPECIAL**							
SPL-1008	COMPENSATION (Inhabitant Move)	houses	18.0	28,000.00		504,000.00		504,000.00
	Sub Total PART J					504,000.00		504,000.00
PART K	**CONSULTANCY SERVICE**							
SPL-1009	DETAIL DESIGN	l.s	1.0	3,352,720.00	2,464,000.00	3,352,720.00	2,464,000.00	5,816,720.00
SPL-1009	CONSTRUCTION SUPERVISION	l.s	1.0	11,793,600.00	17,472,000.00	11,793,600.00	17,472,000.00	29,265,600.00
	Sub Total PART K					15,146,320.00	19,936,000.00	35,082,320.00
	PROJECT COST OF CONSTRUCTION (A+B+C+F+H+J+K)					110,648,675.21	130,009,911.69	240,658,586.89

Unit Price : Include Overhead Cost and VAT

NOTE	Local	foreign	total
Construction Cost without % items	90,474,624	104,832,297	195,306,921
Facilities for The Enginner (1% of the other EDC)	904,746	1,048,323	1,953,069
Facilities for The Contructor and Other (1% of the other EDC)	904,746	1,048,323	1,953,069
Site Preliminaries (3% of the other EDC)	2,714,239	3,144,969	5,859,208

SUMMARY OF CONSTRUCTION COST

WAWA BRIDGE (REPLACEMENT)

ITEM NO,	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE(Peso)		AMOUNT (Peso)		
				LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
PART A	**Facilities for The Enginner (3% of the other EDC)**	l.s	1.0	1,035,062.15	4,214,721.91	1,035,062.15	4,214,721.91	5,249,784.06
PART B	**Facilities for The Contructor and Other**							
	Facilities for The Contructor and Other (3% of the other EDC)	l.s	1.0	1,035,062.15	4,214,721.91	1,035,062.15	4,214,721.91	5,249,784.06
	Site Preliminaries (4% of the other EDC)	l.s	1.0	3,105,186.46	12,644,165.72	3,105,186.46	12,644,165.72	15,749,352.19
	Temporary Works							
104(2)	Temporary Embankment	cu-m	2,060.0	860.50		1,772,630.00		1,772,630.00
	Sub Total PART B					5,912,878.62	16,858,887.63	22,771,766.25
PART C	**EARTHWORK**							
	Existing Bridge Demolish Works							
101(3)	CONCRETE STRUCTURES	cu-m	587.0	1,879.17		1,103,075.03		1,103,075.03
SPL-05	Industrial waste Disposal	ton	1,468.0	1,081.47		1,587,604.56		1,587,604.56
SPL-06	Existing Girder	ton	490.0	46,431.71		22,751,535.74		22,751,535.74
	Approach Road							
104(2)	Embankment	cu-m	10,160.0	860.50		8,742,680.00		8,742,680.00
301	PRIME COAT	ton	11.4	95,721.70		1,093,524.66		1,093,524.66
302	TACK COAT	ton	1.6	89,387.17		143,600.49		143,600.49
310(1)	ASPHALT CONCRETE, HOT LAID	sq-m	3,570.0	1,384.09		4,941,213.80		4,941,213.80
	Retaining Wall							
404	Rainforcement (Grade 60)	kg	26,320.0	67.21		1,768,915.08		1,768,915.08
405(1)	Concrete (28Mpa)	cu-m	560.0	9,652.30		5,405,287.45		5,405,287.45
	Box Culbert							
404	Rainforcement (Grade 60)	kg	3,960.0	67.21		266,143.76		266,143.76
405(1)	Concrete (28Mpa)	cu-m	79.2	9,652.30		764,462.08		764,462.08
	Sub Total PART C					48,568,042.64		48,568,042.64
PART F	**BRIDGE CONSTRUCTION**							
	Foundation							
400(23)b	Cast in place plie D=1.2m	m	252.0	58,603.17		14,767,999.59		14,767,999.59
	Substructure							
404	Rainforcement (Grade 60)	kg	281,800.0	67.21		18,939,219.94		18,939,219.94
405(1)a	Concrete (28Mpa)	cu-m	1,409.0	9,652.30		13,600,089.31		13,600,089.31
	Superstructure							
403a	Structure Steel	kg	689.5		107,251.20		73,949,702.40	73,949,702.40
403b	Fabrication (With Paint)	kg	689.5		162,153.60		111,804,907.20	111,804,907.20
403c	Transportation	kg	709.6		20,428.80		14,496,276.48	14,496,276.48

403d	Erection	kg	689.5		122,572.80		84,513,945.60	84,513,945.60
SPL-102	PC deck slab	cu-m	774.9		146,832.00		113,780,116.80	113,780,116.80
412(3)	Bearing (NRB; G14-900x900x22x5)	nos	8.0		1,991,808.00		15,934,464.00	15,934,464.00
SPL-804	Expansion Joint (30cm, +-15cm)	m	20.4		143,001.60		2,917,232.64	2,917,232.64
SPL-704	Unseating Prevention System (PC cable F310TD)	nos	6.0		679,257.60		4,075,545.60	4,075,545.60
310(1)	Pavement	sq-m	2,070.0	1,384.09		2,865,073.55		2,865,073.55
302	TACK COAT	ton	0.9	89,387.17		83,264.15		83,264.15
401	Railing	m	560.0	4,087.34		2,288,908.40		2,288,908.40
612(1)	Pavement Marking	sq-m	420.0	815.01		342,305.14		342,305.14
601	Sidewalk	sq-m	420.0	663.53		278,682.76		278,682.76
	Sub Total PART F					53,165,542.83	421,472,190.72	474,637,733.55
	TOTAL COST OF IVIL WORKS (A+B+C+F+H)					108,681,526.24	442,545,800.26	551,227,326.50
						Bridge Length(m)	90.00	
						Lanes	6.00	
						Length(m)	270.00	
							Peso / m	2,041,582.69
PART J	**SPECIAL**							
SPL-1007	TEMPORARY LAND ACQUISITION	sq-m	5,400.0	168.00		907,200.00		907,200.00
SPL-1008	COMPENSATION (Inhabitant Move)	houses	25.0	28,000.00		700,000.00		700,000.00
	Sub Total PART J					1,607,200.00		1,607,200.00
PART K	**CONSULTANCY SERVICE**							
SPL-1009	DETAIL DESIGN	l.s	1.0	10,907,960.00	8,344,000.00	10,907,960.00	8,344,000.00	19,251,960.00
SPL-1009	CONSTRUCTION SUPERVISION	l.s	1.0	19,152,000.00	28,896,000.00	19,152,000.00	28,896,000.00	48,048,000.00
	Sub Total PART K					30,059,960.00	37,240,000.00	67,299,960.00
	PROJECT COST OF CONSTRUCTION (A+B+C+F+H+J+K)					140,348,686.24	479,785,800.26	620,134,486.50

Unit Price : Include Overhead Cost and VAT

NOTE	Local	foreign	total
Construction Cost without as follows	103,506,215.5	421,472,190.7	524,978,406.2
Facilities for The Enginner (3% of the other EDC)	1,035,062	4,214,722	5,249,784
Facilities for The Contructor and Other (3% of the other EDC)	1,035,062	4,214,722	5,249,784
Site Preliminaries (4% of the other EDC)	3,105,186	12,644,166	15,749,352