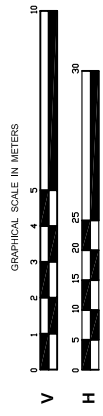
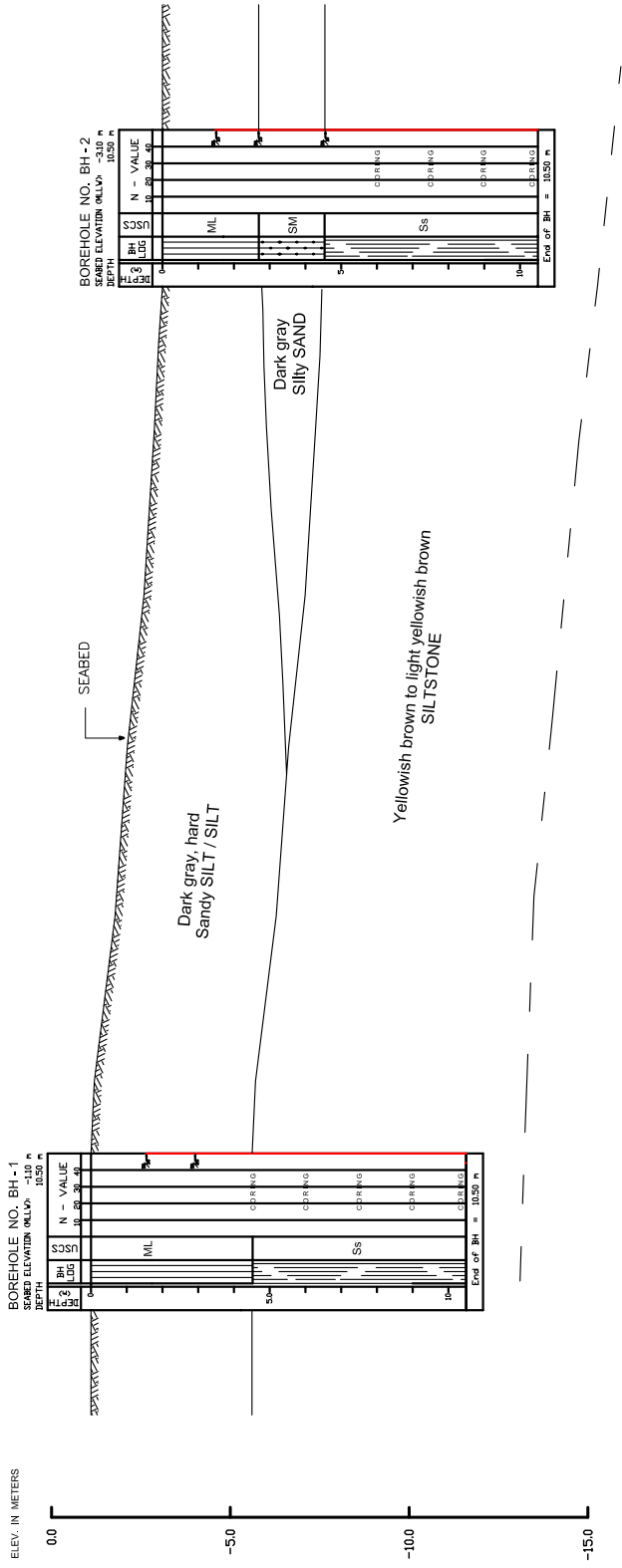


UBAY PORT
UBAY, BOHOL

	JICA Study Team The Overseas Coastal Area Dev't of Japan Pacific Consultants International (PCI)	CONTRACTOR Technotest INCORPORATED	PROJECT NAME THE FEASIBILITY STUDY FOR THE DEVT. OF ROAD RO-HO TERMINAL SYSTEM FOR MOBILITY ENHANCEMENT IN THE REPUBLIC OF THE PHILIPPINES	DRAWING TITLE FIGURE 2 BOREHOLE LOCATION PLAN PORT OF UBAY, UBAY, BOHOL.	PREPARED BY : DENNIS CALDERON	CHECKED BY : MANUEL T. VILLAFUERTE	APPROVED BY : JOSE LEOPOLDO P. FAJARDO	SHEET NO 1
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FINAL BOREHOLE LOG AND SUMMARY OF TEST RESULTS

A - 1a

PROJECT: FSDRRTSMERP
 LOCATION: Port of Ubay, Ubay, Bohol
 BH NO.: BH-1 DATE DRILLED: July 04 - 05, 2007

Elev. (MLLW) 1.10 M
 Weather: F A I R
 Northing: 1113402.60
 Easting: 661555.60

Depth of Water: 1.70 m
 Date Measured: 05 July 2007
 Time Measured: 8:00 A.M.

DEPTH (m)	SAMPLE NO.	RECOVERY (%) SAMPLE	LOG SYMBOL	CLASSIFICATION	RQD	DESCRIPTION	BLOWS (SPT)			STANDARD PENETRATION TEST (SPT)				Natural Moisture Content, %	Specific Gravity	Atterberg Limits		UCT, q _v , kg/cm ²	CONSO. TEST Compression Index, C _c Precon. Press., P _c , kg/cm ²	SIEVE ANALYSIS % PASSING			
							15 cm	15 cm	15 cm	N-VALUE 10 20 30 40						LL, %	PI, %			4	10	40	200
1	SS-1	44	[Symbol]	ML		Sandy SILT; dark gray; slightly palstic silty fines; very fine sand; presence of shell fragments; HARD.	6	25	25	50/30	23	2.63						91	91	89	65		
3	SS-2	33	[Symbol]				23	32	50/10	50/25													
4	CR-1	20	[Symbol]				C	D	R	N													
6	CR-1	15	[Symbol]	Ss		SILTSTONE; dark gray; broken cores; MODERATELY SOFT TO HARD.	C	D	R	N													
7	CR-2	45	[Symbol]				C	D	R	N													
9	CR-3	35	[Symbol]				C	D	R	N													

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 Technotest Center, 893 EDISA, Q.C.
 Tel. Nos.: 9242004/9242007 FAX: 9242156

MACHINE: ACKER ACE "W"
 DRILLER: A. TENERIFE
 SUPERVISOR: M. VILLAFUERTE

LEGEND:

- SS - Split Spoon Sample
- UDS - Undisturbed Sample
- WS - Wash Sample
- CR - Core Sample

FINAL BOREHOLE LOG AND SUMMARY OF TEST RESULTS

A - 1b

PROJECT: <u>FSDRRTSMERP</u>	Elev. (MLLW) <u>1.10 M</u>	Depth of Water: <u>1.70 m</u>
LOCATION: <u>Port of Ubay, Ubay, Bohol</u>	Weather: <u>FAIR</u>	Date Measured: <u>05 July 2007</u>
BH NO.: <u>BH-1</u> DATE DRILLED: <u>July 04 - 05, 2007</u>	Northing: <u>1113402.60</u>	Time Measured: <u>8:00 A.M.</u>
	Easting: <u>661555.60</u>	

DEPTH (m)	SAMPLE NO.	RECOVERY (%) SAMPLE	LOG SYMBOL	CLASSIFICATION	ROD	DESCRIPTION	BLOWS (SPT)			STANDARD PENETRATION TEST (SPT)	Natural Moisture Content, %	Specific Gravity	Atterberg Limite		UCT, q_u , kg/cm ²	CONSO. TEST		SIEVE ANALYSIS % PASSING					
							15 cm	15 cm	15 cm				N-VALUE 10 20 30 40	LL, %		Pl, %	UCI, Cc	Precon. Press. P_c , kN/cm ²	4	10	40	200	
	CR-4	45		Ss	35	SILTSTONE; dark gray; MODERATELY SOFT TO HARD.	C	O	R	N													
						END OF BORING 10.50 M																	

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MACHINE: ACKER ACE "W"
DRILLER: R. DAWI
SUPERVISOR: M. VILLAFUERTE

LEGEND:
 SS - Split Spoon Sample WS - Wash Sample
 UDS - Undisturbed Sample CR - Core Sample

FINAL BOREHOLE LOG AND SUMMARY OF TEST RESULTS

PROJECT: FSDRRTSMERP	Elev. (MLLW) 1.10 M	Depth of Water: 2.50 m
LOCATION: Port of Ubay, Ubay, Bohol	Weather: FAIR	Date Measured: 02 July 2007
BH NO.: BH-2	DATE DRILLED: July 02 - 03, 2007	Time Measured: 5:00 P.M.
	Northing: 1113250.20	
	Easting: 661475.70	

DEPTH (m)	SAMPLE NO.	RECOVERY (%)	LOG SYMBOL	CLASSIFICATION	ROD	DESCRIPTION	BLOWS (SPT)			STANDARD PENETRATION TEST (SPT)				Natural Moisture Content, %	Specific Gravity	Atterberg Limits		UCT, q _p , kg/cm ²	CONSO. TEST Compression Index, C _c Precon. Press. P _c , kg/cm ²	SIEVE ANALYSIS % PASSING			
							15 cm	15 cm	15 cm	N-VALUE 10 20 30 40						LL, %	Pl, %			4	10	40	200
1	SS-1	67	[Symbol]	ML		Sandy SILT; dark gray; slightly plastic silty fines; very fine sand; HARD.	18	60		50/15	19	2.64						93	88	76	51		
2																							
3	SS-2	33	[Symbol]	SM		Silty SAND; dark gray; fine to coarse sand; slightly plastic silty fines; ; VERY DENSE.	50			50/15													
4	SS-3	22	[Symbol]				50/12			50/15	21	2.65						89	78	56	33		
5																							
6	CR-1	15	[Symbol]				COR	N															
7						SILTSTONE; dark gray; generally broken cores; MODERATELY HARD.																	
8	CR-2	10	[Symbol]				COR	N															
9	CR-3	20	[Symbol]				COR	N															

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MACHINE: ACKER ACE "W"
DRILLER: A. TENERIFE
SUPERVISOR: M. VILLAFUERTE

LEGEND:

- SS - Split Spoon Sample
- UDS - Undisturbed Sample
- WS - Wash Sample
- CR - Core Sample

FINAL BOREHOLE LOG AND SUMMARY OF TEST RESULTS

A - 2b

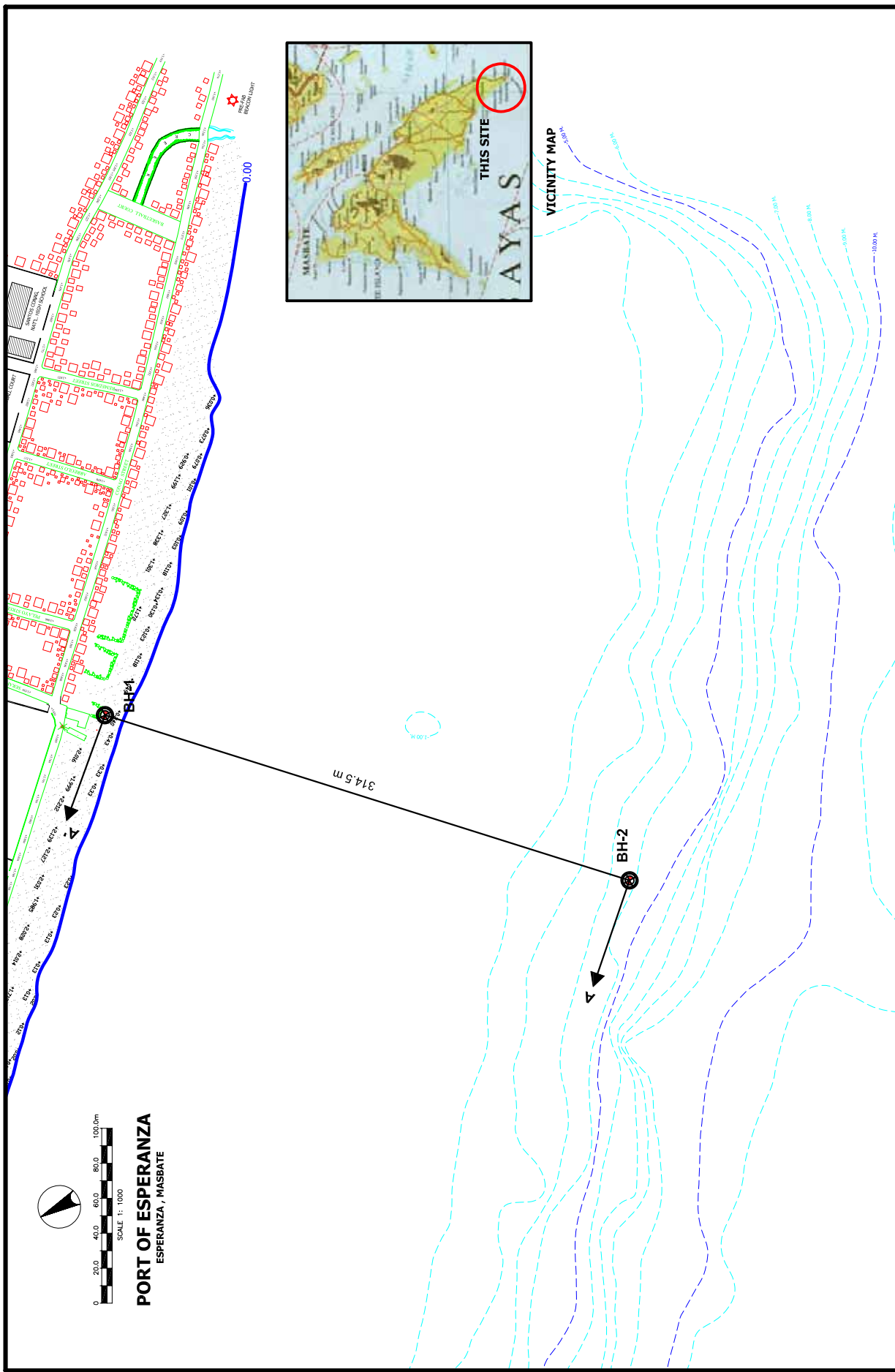
PROJECT: FSDRRTSMERP
LOCATION: Port of Ubay, Ubay, Bohol
BH NO.: BH-2 **DATE DRILLED:** July 02 - 03, 2007

Elev. (MLLW) 1.10 M
 Weather: FAIR
 Northing: 1113250.20
 Easting: 661475.70

Depth of Water: 2.50 m
 Date Measured: 02 July 2007
 Time Measured: 5:00 P.M.

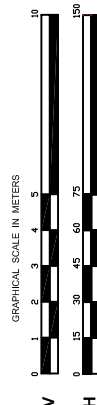
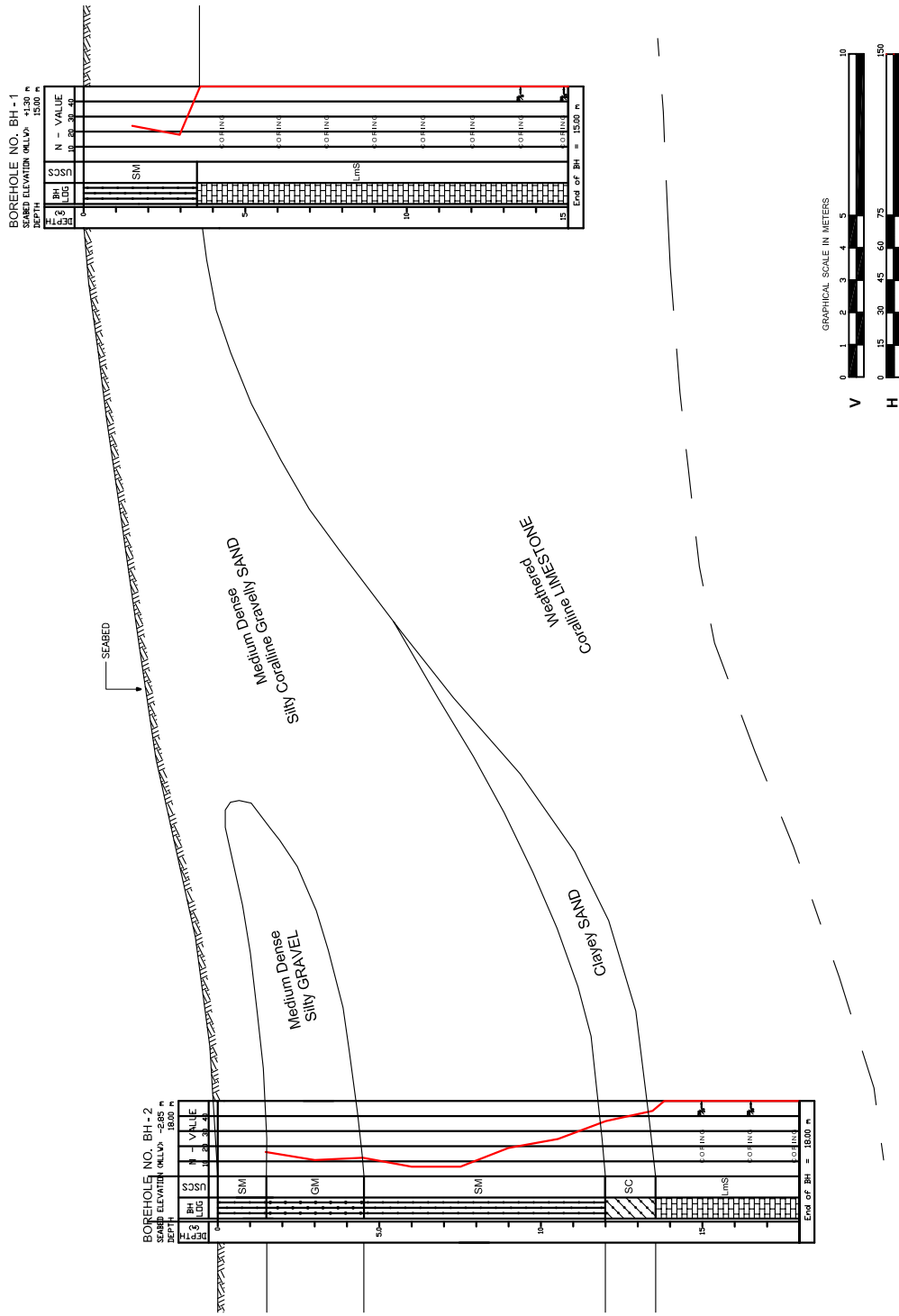
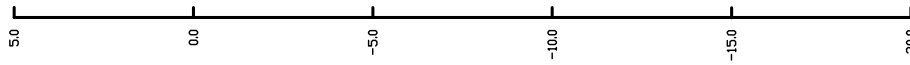
DEPTH (m)	SAMPLE NO.	RECOVERY (%) SAMPLE	LOG SYMBOL	CLASSIFICATION	ROD	DESCRIPTION	BLOWS (SPT)			STANDARD PENETRATION TEST (SPT)				Natural Moisture Content, %	Specific Gravity	Atterberg Limits		UCT, q _s , kg/cm ²	CONSO. TEST		SIEVE ANALYSIS % PASSING			
							15 cm	15 cm	15 cm	N-VALUE						LL, %	Pl, %		Compression Index, Cc	Precon. Press. P _c , kg/cm ²	4	10	40	200
	CR-4	25		Ss		SILTSTONE; dark gray; MODERATELY SOFT TO HARD.	C	O	R	N														
11						END OF BORING 10.50 M																		
12																								
13																								
14																								
15																								
16																								
17																								
18																								
19																								





<p>The Overseas Coastal Area Dev't of Japan Pacific Consultants International (PCI)</p>	<p>CONTRACTOR</p> <p>Technotest INCORPORATED</p>	<p>PROJECT NAME</p> <p>THE FEASIBILITY STUDY FOR THE DEVT. OF ROAD RO-HO TERMINAL SYSTEM FOR MOBILITY ENHANCEMENT IN THE REPUBLIC OF THE PHILIPPINES</p>	<p>DRAWING TITLE</p> <p>FIGURE 2 BOREHOLE LOCATION PLAN ESPERANZA PORT, ESPERANZA, MASBATE</p>	<p>PREPARED BY :</p> <p>DENNIS CALDERON</p>	<p>CHECKED BY :</p> <p>MANUEL T. VILLAFUERTE</p>	<p>APPROVED BY :</p> <p>JOSE LEOPOLDO P. FAJARDO</p>	<p>SHEET NO</p> <p>1</p>
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ELEV. IN METERS



BOREHOLE NO. BH + 1
 START ELEVATION (MLLW) = 15.300 m
 END ELEVATION (MLLW) = 15.300 m
 DEPTH = 15.000 m

DEPT	USCS	N - VALUE
0.00		
0.15		
0.30		
0.45		
0.60		
0.75		
0.90		
1.05		
1.20		
1.35		
1.50		
1.65		
1.80		
1.95		
2.10		
2.25		
2.40		
2.55		
2.70		
2.85		
3.00		
3.15		
3.30		
3.45		
3.60		
3.75		
3.90		
4.05		
4.20		
4.35		
4.50		
4.65		
4.80		
4.95		
5.10		
5.25		
5.40		
5.55		
5.70		
5.85		
6.00		
6.15		
6.30		
6.45		
6.60		
6.75		
6.90		
7.05		
7.20		
7.35		
7.50		
7.65		
7.80		
7.95		
8.10		
8.25		
8.40		
8.55		
8.70		
8.85		
9.00		
9.15		
9.30		
9.45		
9.60		
9.75		
9.90		
10.05		
10.20		
10.35		
10.50		
10.65		
10.80		
10.95		
11.10		
11.25		
11.40		
11.55		
11.70		
11.85		
12.00		
12.15		
12.30		
12.45		
12.60		
12.75		
12.90		
13.05		
13.20		
13.35		
13.50		
13.65		
13.80		
13.95		
14.10		
14.25		
14.40		
14.55		
14.70		
14.85		
15.00		

BOREHOLE NO. BH + 2
 START ELEVATION (MLLW) = 28.85 m
 END ELEVATION (MLLW) = 18.00 m
 DEPTH = 10.85 m

DEPT	USCS	N - VALUE
0.00		
0.15		
0.30		
0.45		
0.60		
0.75		
0.90		
1.05		
1.20		
1.35		
1.50		
1.65		
1.80		
1.95		
2.10		
2.25		
2.40		
2.55		
2.70		
2.85		
3.00		
3.15		
3.30		
3.45		
3.60		
3.75		
3.90		
4.05		
4.20		
4.35		
4.50		
4.65		
4.80		
4.95		
5.10		
5.25		
5.40		
5.55		
5.70		
5.85		
6.00		
6.15		
6.30		
6.45		
6.60		
6.75		
6.90		
7.05		
7.20		
7.35		
7.50		
7.65		
7.80		
7.95		
8.10		
8.25		
8.40		
8.55		
8.70		
8.85		
9.00		
9.15		
9.30		
9.45		
9.60		
9.75		
9.90		
10.05		
10.20		
10.35		
10.50		
10.65		
10.80		
10.95		

The Overseas Coastal Area Dev't of Japan Pacific Consultants International (PCI)	JICA Study Team	Technotest incorporated	CONTRACTOR	PROJECT NAME THE FEASIBILITY STUDY FOR THE DEVT. OF ROAD RO-HO TERMINAL SYSTEM FOR MOBILITY ENHANCEMENT IN THE REPUBLIC OF THE PHILIPPINES	DRAWING TITLE FIGURE 3 SOIL PROFILE A - A' PORT OF ESPERANZA, ESPERANZA, MASBATE	PREPARED BY DENNIS CALDERON	CHECKED BY MANUEL T. VILLAFUERTE	APPROVED BY JOSE LEOPOLDO P. FAJARDO	SHEET NO. 2
				ELEV. IN METERS					

FINAL BOREHOLE LOG AND SUMMARY OF TEST RESULTS

A - 1a

PROJECT: FSDRRTSMERP

LOCATION: Port of Esperanza, Esperanza, Masbate

BH NO.: BH-1 DATE DRILLED: Jun. 18 - 19, 2007

Elev. (MLLW) 1.30

Weather: F A I R

Northing: 1298133.99

Easting: 613287.87

Depth of Water: 0.95 m

Date Measured: 18 Jun. 2007

Time Measured: 11:30 AM

DEPTH (m)	SAMPLE NO.	RECOVERY (%) SAMPLE	LOG SYMBOL	CLASSIFICATION	RQD	DESCRIPTION	BLOWS (SPT)			STANDARD PENETRATION TEST (SPT)				Natural Moisture Content, %	Specific Gravity	Atterberg Limits			UCT, σ_u , kg/cm ²	CONSO. TEST		SIEVE ANALYSIS % PASSING						
							15 cm	15 cm	15 cm	N-VALUE						LL, %	Pl, %	Compression Index, C_c		Pison. Press. P_c , kg/cm ²	4	10	40	200				
										10	20	30	40															
1.0	SS-1	87	[Symbol]	SM		Silty Coralline SAND; cream; consist of coralline limestone of sand-size; slight to none plastic fines; MEDIUM DENSE.	9	11	12				17	2.66									93	83	55	38		
3.0	SS-2	44	[Symbol]	SM			4	2	16				20	2.67											80	73	63	50
4.0	CR-1	48	[Symbol]	LmS	23		CORING																					
8.0	CR-2	20	[Symbol]	LmS	0	Coralline LIMESTONE; cream to white; perforated; fragmented; poorly cemented; weak to moderately strong in terms of rock strength.	CORING																					
7.0	CR-3	21	[Symbol]	LmS	0		CORING																					
9.0	CR-4	27	[Symbol]	LmS	0		CORING																					



LEGEND:

- SS - Split Spoon Sample
- WS - Wash Sample
- UDS - Undisturbed Sample
- CR - Core Sample

FINAL BOREHOLE LOG AND SUMMARY OF TEST RESULTS

A - 1b

PROJECT: FSDRRTSMERP
 LOCATION: Port of Esperanza, Esperanza, Masbate
 BH NO.: BH-1 DATE DRILLED: Jun. 18 - 19, 2007

Elev. (MLLW) 1.30
 Weather: F A I R
 Northing: 1298133.99
 Easting: 613287.87

Depth of Water: 0.95 m
 Date Measured: 18 Jun. 2007
 Time Measured: 11:30 AM

DEPTH (m)	SAMPLE NO.	RECOVERY (%) SAMPLE	LOG SYMBOL	CLASSIFICATION	RQD	DESCRIPTION	BLOWS (SPT)			STANDARD PENETRATION TEST (SPT)				Natural Moisture Content, %	Specific Gravity	Atterberg Limits		UCT, q_u , kg/cm ²	CONSO. TEST		SIEVE ANALYSIS % PASSING							
							15 cm	15 cm	15 cm	N-VALUE						LL, %	Pl, %		UCT, q_u , kg/cm ²	Compress. Index, Cc	Preston. Press. P _c , kg/cm ²	4	10	40	200			
										10	20	30	40															
11	CR-5	13			0		CORING																					
12	CR-6	20			7	Coralline LIMESTONE; cream to white; perforated; fragmented; poorly cemented; weak to moderately strong in terms of rock strength.	CORING																					
13	CR-7	17			0		CORING																					
14	SS-3							50/5				50/5																
15	CR-8	14			0		CORING																					
15.15	SS-4	47				END OF BORING 15.15 M		50/15				50/15	10	2.7							38	32	19	10				

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 Tel. Nos.: 9242004/9242007 FAX: 9242156



MACHINE: CATHEAD/CONCOR
 DRILLER: D. DE LUNA
 SUPERVISOR: D. SINON

LEGEND:

- SS - Split Spoon Sample
- UDS - Undisturbed Sample
- WS - Wash Sample
- CR - Core Sample

FINAL BOREHOLE LOG AND SUMMARY OF TEST RESULTS

A - 2a

PROJECT: FSDRRTSMERP

LOCATION: Port of Esperanza, Esperanza, Masbate

BH NO.: BH-2 DATE DRILLED: Jun. 22 - 23, 2007

Elev. (MLLW) -2.85

Weather: F A I R

Northing: 1297915.50

Easting: 613061.65

Depth of Water: 4.00 m

Date Measured: 23 Jun. 2007

Time Measured: 4:00 PM

DEPTH (m)	SAMPLE NO.	RECOVERY (%) SAMPLE	LOG SYMBOL	CLASSIFICATION	RQD	DESCRIPTION	BLOWS (SPT)			STANDARD PENETRATION TEST (SPT)				Natural Moisture Content, %	Specific Gravity	Atterberg Limits		UCT, q _v , kg/cm ²	CONSO. TEST		SIEVE ANALYSIS % PASSING																				
							15 cm	15 cm	15 cm	N-VALUE						LL, %	PI, %		UCI, %	Compression Index, I _{cc}	Precon. Press. P _c , kg/cm ²	4	10	40	200																
							10	20	30	40																															
1				SM		Silty Coralline SAND; light brownish gray; consist of coralline limestone fragments; slight to none plastic fines; MEDIUM DENSE.																																			
1.5	SS-1	56						11	11	15		20	2.66														65	58	31	11											
2.5				GM		Silty Sandy Coralline GRAVEL; light gray; coralline fragments of sand to gravel-size; slight to none plastic fines; MEDIUM DENSE.																																			
3.0	SS-2	44						8	5	6		26	2.67														50	47	33	17											
4.5				SM																																					
5.0	SS-3	67						5	6	6		26	2.67														51	46	23	11											
6.0				SM																																					
6.5	SS-4	44						4	5	2		24	2.69														65	53	33	14											
7.0				SM		Silty Coralline SAND; light gray; consist of coralline particles & fragments; slight to none plastic fines; LOOSE TO MEDIUM DENSE.																																			
7.5	SS-5	40						5	4	3		25	2.67														74	87	48	19											
9.0				SM																																					
9.5	SS-6	44						7	6	11		21	2.67														59	35	16	7											



FINAL BOREHOLE LOG AND SUMMARY OF TEST RESULTS

A - 2b

PROJECT: FSDRRTSMERP
 LOCATION: Port of Esperanza, Esperanza, Masbate
 BH NO.: BH-2 DATE DRILLED: Jun. 22 - 23, 2007

Elev. (MLLW) -2.85
 Weather: FAIR
 Northing: 1297915.50
 Easting: 613061.65

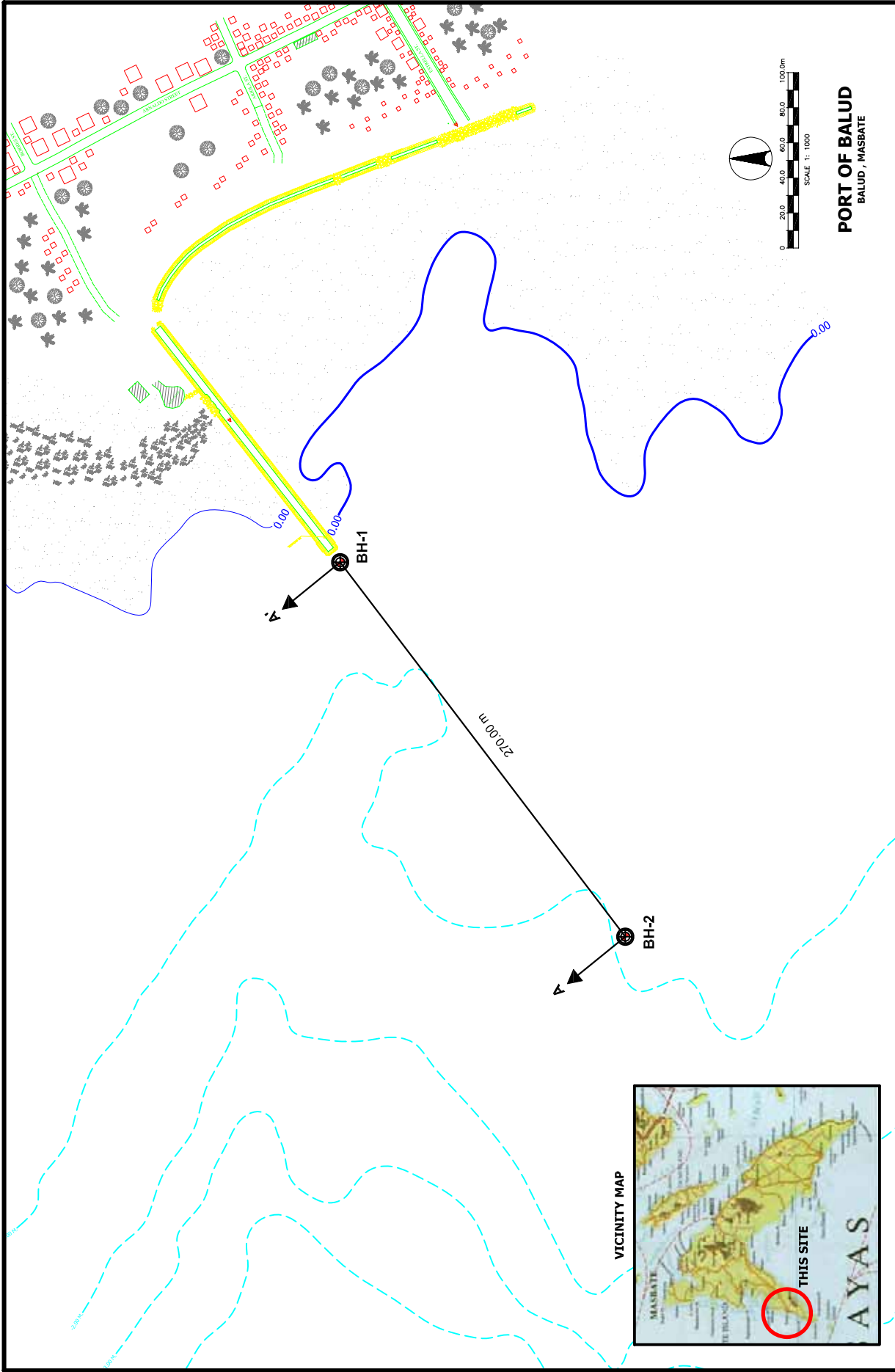
Depth of Water: 4.00 m
 Date Measured: 23 Jun. 2007
 Time Measured: 4:00 PM

DEPTH (m)	SAMPLE NO.	RECOVERY (%)	SAMPLE LOG SYMBOL	CLASSIFICATION	RQD	DESCRIPTION	BLOWS (SPT)			STANDARD PENETRATION TEST (SPT)				Natural Moisture Content, %	Specific Gravity	Atterberg Limits		UCT, q_u , kg/cm ²	CONSO. TEST		SIEVE ANALYSIS % PASSING			
							15 cm	15 cm	15 cm	N-VALUE						LL, %	PI, %		Compress. Index, Cc	Precorn. Press. P _c , kg/cm ²	4	10	40	200
										10	20	30	40											
11	SS-7	56	[Symbol]	SM		Silty Coralline SAND; light gray; consist of coralline particles & fragments; slight to none plastic fines; DENSE.	8	10	15	22	2.66							57	46	26	11			
12	SS-8	67	[Symbol]	SC		Clayey SAND; cream to white; consist of coralline particles and fragments; considerable moderately plastic fines; DENSE	8	13	24	21	2.67							79	66	37	16			
13	SS-9	44	[Symbol]				10	17	26	12	2.66							83	71	58	50			
15	CR-1		[Symbol]		0		CORING																	
15	SS-10	50	[Symbol]	LmS		Coralline LIMESTONE; cream to white; highly weathered; poorly cemented; weak to moderately strong in terms of rock strength.	15	50/15		9								79	70	61	56			
16	CR-2		[Symbol]		0		CORING																	
17	SS-11	67	[Symbol]				51/15			12								86	77	66	56			
18	CR-3		[Symbol]		0	END OF BORING 18.00 M	CORING																	

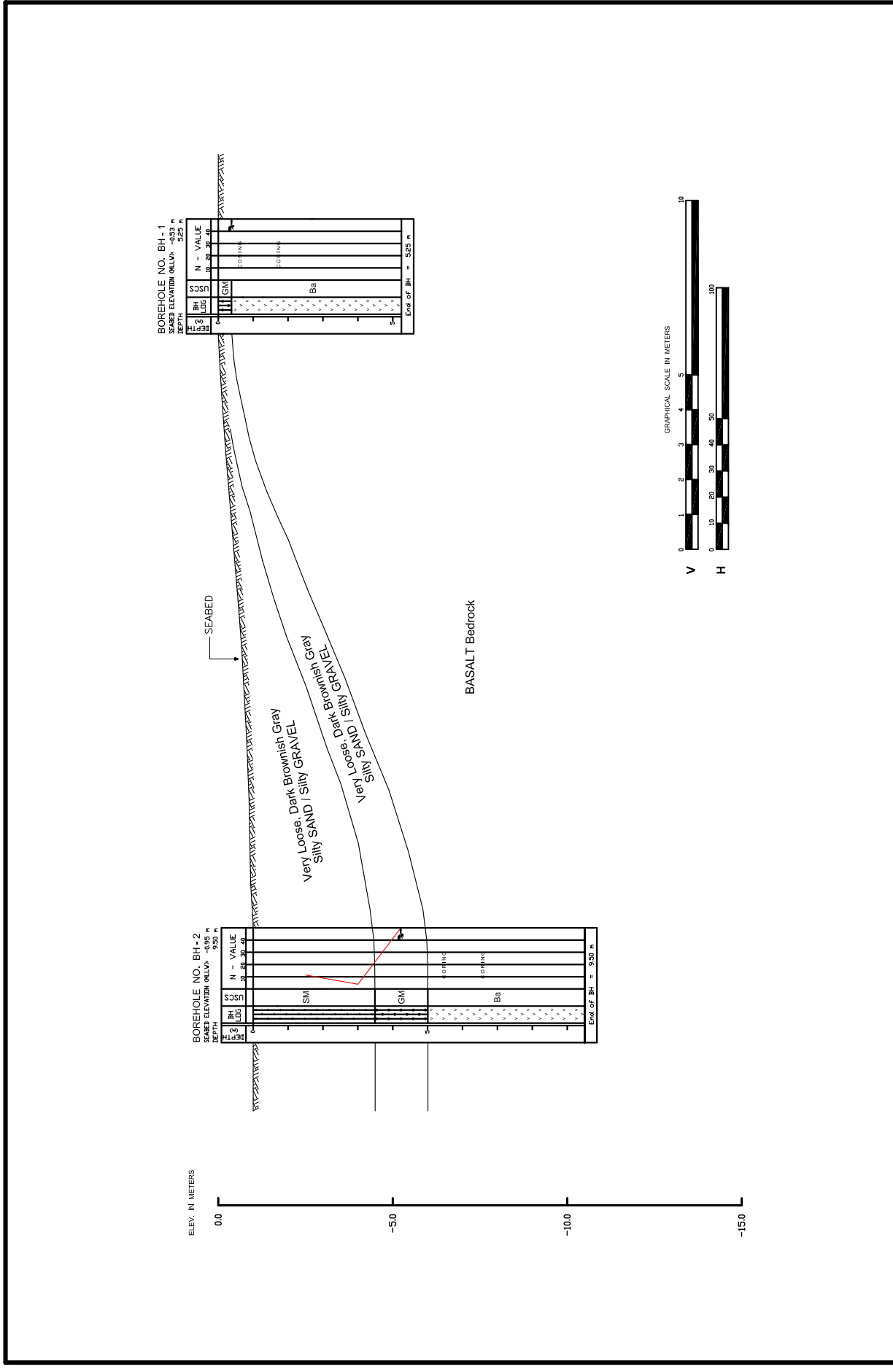



LEGEND:

- [Symbol] SS - Split Spoon Sample
- [Symbol] UDS - Undisturbed Sample
- [Symbol] WS - Wash Sample
- [Symbol] CR - Core Sample



	JICA Study Team The Overseas Coastal Area Dev't of Japan Pacific Consultants International (PCI)	Technotest incorporated	CONTRACTOR	PROJECT NAME THE FEASIBILITY STUDY FOR THE DEVT. OF ROAD RO-HO TERMINAL SYSTEM FOR MOBILITY ENHANCEMENT IN THE REPUBLIC OF THE PHILIPPINES	DRAWING TITLE FIGURE 2 BOREHOLE LOCATION PLAN BALUD PORT, BALUD, MASBATE	PREPARED BY : DENNIS CALDERON	CHECKED BY : MANUEL T. VILLAFUERTE	APPROVED BY : JOSE LEOPOLDO P. FAJARDO	SHEET NO.
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 The Overseas Coastal Area Dev't of Japan Pacific Consultants International (PCI)	Technotest incorporated	CONTRACTOR	PROJECT NAME THE FEASIBILITY STUDY FOR THE DEVT. OF ROAD RO-RD TERMINAL SYSTEM FOR MOBILITY ENHANCEMENT IN THE REPUBLIC OF THE PHILIPPINES	DRAWING TITLE FIGURE 3 SOIL PROFILE A - A' PORT OF BALUD, BALUD, MASBATE	PREPARED BY: DENNIS CALDERON	CHECKED BY: MANUEL T. VILLAFUERTE	APPROVED BY: JOSE LEOPOLDO P. FAJARDO	SHEET NO. 2
								JICA Study Team

FINAL BOREHOLE LOG AND SUMMARY OF TEST RESULTS

A - 1a

PROJECT: FSDRRTSMERP

LOCATION: Port of Balud, Balud, Masbate

BH NO.: BH-1 DATE DRILLED: Jun. 30 - 1 Jul., 2007

Elev. (MLLW) -0.53

Weather: F A I R

Northing: 1331203.20

Easting: 520608.50

Depth of Water: 1.75 m

Date Measured: 1 Jul. 2007

Time Measured: 2:00 PM

DEPTH (m)	SAMPLE NO.	RECOVERY (%) SAMPLE	LOG SYMBOL	CLASSIFICATION	RQD	DESCRIPTION	BLOWS (SPT)			STANDARD PENETRATION TEST (SPT)				Natural Moisture Content, %	Specific Gravity	Atterberg Limits		UCT, q_u , kg/cm ²	Compress. Index, Cc	CONSO. TEST Precon. Press. P _c , kg/cm ²	SIEVE ANALYSIS % PASSING			
							15 cm	15 cm	15 cm	N-VALUE						LL, %	Pl, %				4	10	40	200
										10	20	30	40											
	SS-1	100	⊗			broken section	50	50	50	50	50	50	14	2.65					53	44	28	14		
1																								
2	CR-1	100	▨	Bst	74	BASALT; gray; moderately weathered; fractured; well-cemented; strong in terms of rock strength.																		
3	CR-2	100	▨		40																			
4																								
5	CR-3	100	▨		51																			
6																								
7																								
8																								
9	CR-4	100	▨		64	END OF BORING 5.25 M																		



LEGEND:

- ▨ SS - Split Spoon Sample
- ⊗ WS - Wash Sample
- ▨ UDS - Undisturbed Sample
- ▨ CR - Core Sample

FINAL BOREHOLE LOG AND SUMMARY OF TEST RESULTS

A - 2a

PROJECT: FSDRRTSMERP

LOCATION: Port of Balud, Balud, Masbate

BH NO.: BH-2 DATE DRILLED: Jul. 2 - 3, 2007

Elev. (MLLW) -0.95

Weather: F A I R

Northing: 1331098.80

Easting: 520478.05

Depth of Water: 2.45 m

Date Measured: 2 Jul. 2007

Time Measured: 7:00 AM

DEPTH (m)	SAMPLE NO.	RECOVERY (%)	SAMPLE	LOG SYMBOL	CLASSIFICATION	ROD	DESCRIPTION	BLOWS (SPT)			STANDARD PENETRATION TEST (SPT)				Natural Moisture Content, %	Specific Gravity	Atterberg Limits			UCT, q_u , kg/cm ²	CONSO. TEST		SIEVE ANALYSIS % PASSING			
								15 cm	15 cm	15 cm	N-VALUE						LL, %	Pl, %	UCI, %		Compression Index, C_c	Precons. Press., P_c , kg/cm ²	4	10	40	200
											10	20	30	40												
1	SS-1	84			SM		Silty Coralline SAND; gray; fine to coarse grained sand; consist of coralline limestone and shell fragments; slight to none plastic fines; VERY LOOSE TO MEDIUM DENSE.	7	8	5				22	2.67							55	48	24	7	
3	SS-2	67						1	2	2				36	2.59							40	34	24	17	
4	SS-3	100			GM		Silty GRAVEL; brownish gray; broken fragments of basalt; slight to none plastic fines; VERY DENSE.	50/10						18	2.58							60	70	57	36	
6	CR-1	51				0																				
7	CR-2	62			Bst	22	BASALT; gray; moderately weathered; fractured; well-cemented; strong in terms of rock strength.																			
9	CR-3	78				55																				
	CR-4	32				0	END OF BORING 9.50 M																			

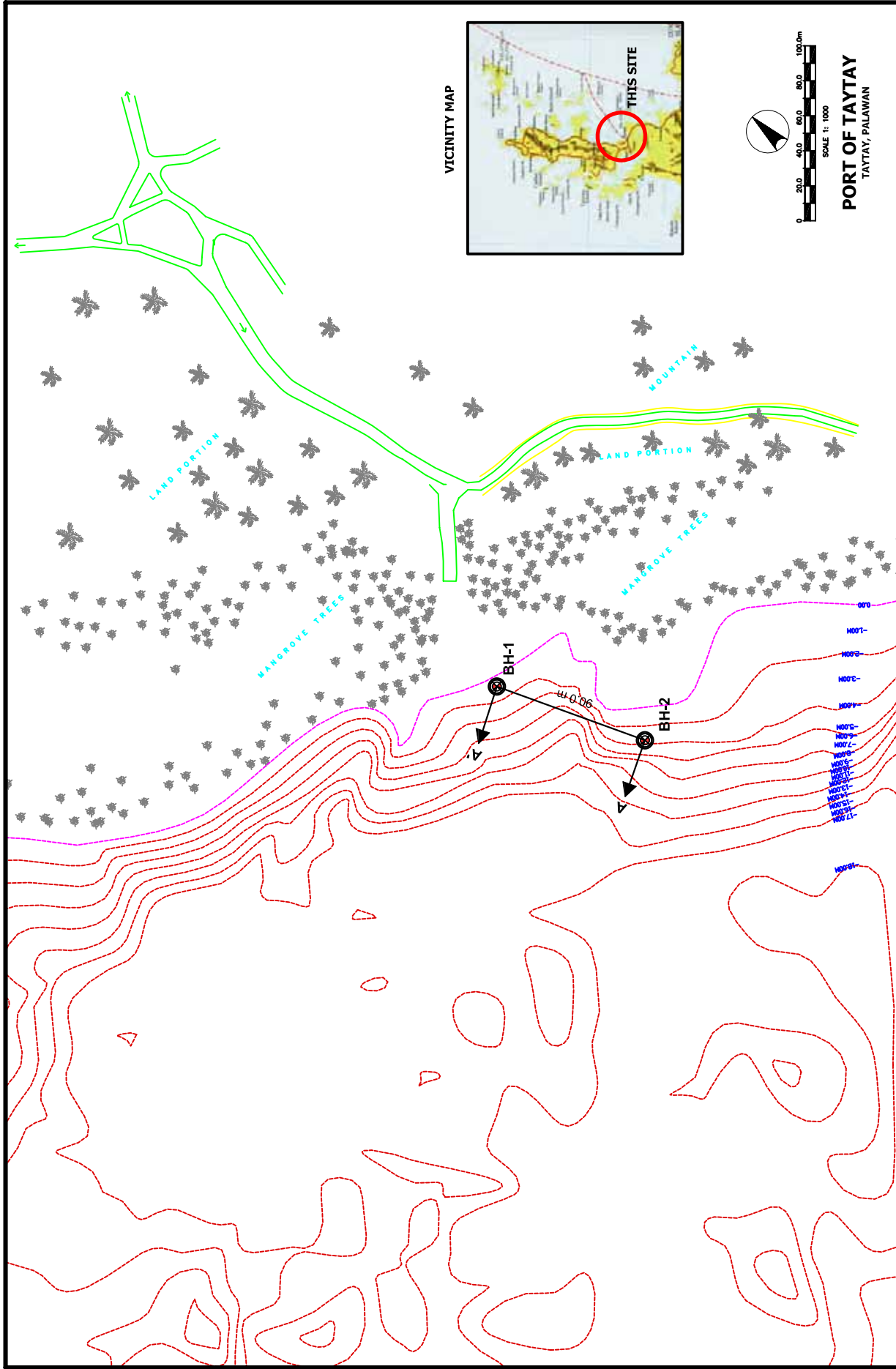
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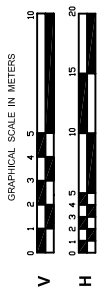
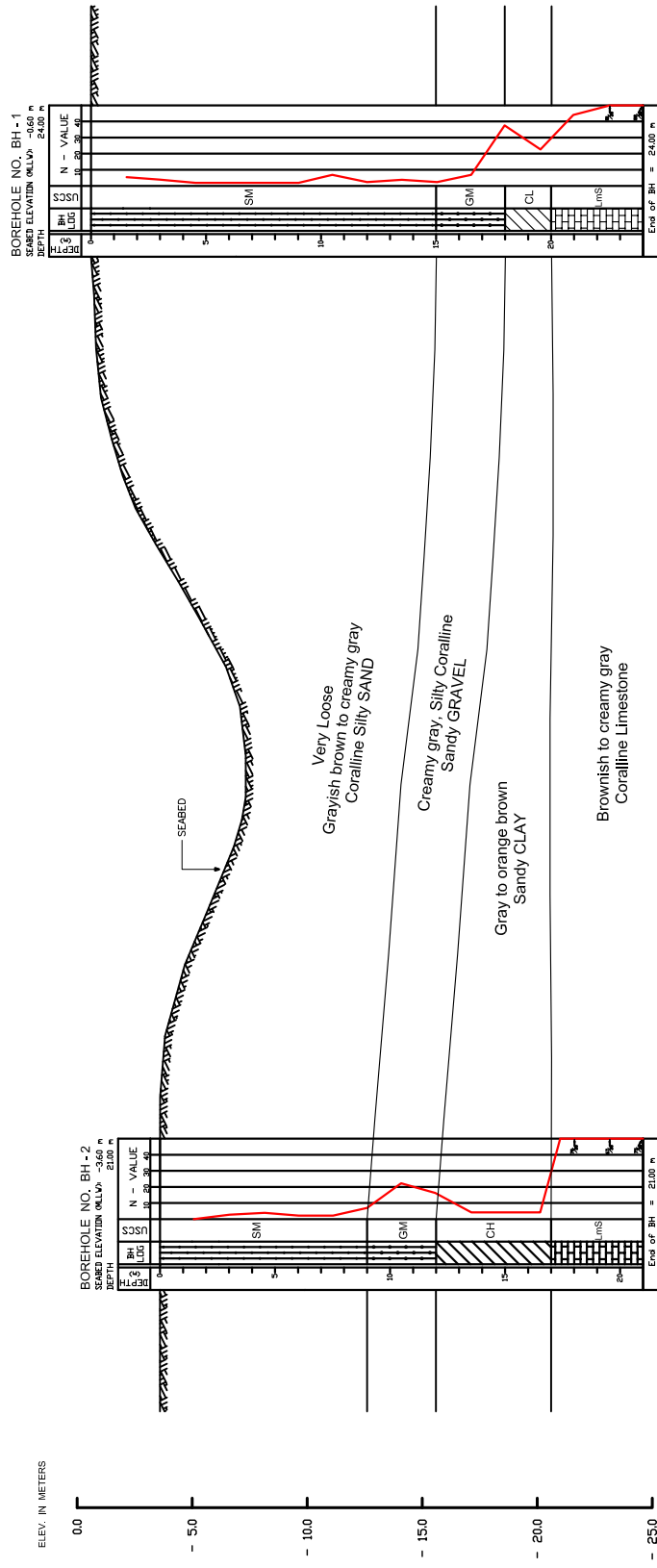
MACHINE: TONE
 DRILLER: E. LABRAMONTE
 SUPERVISOR: D. CONTAWE

LEGEND:

- SS - Split Spoon Sample
- WS - Wash Sample
- UDS - Undisturbed Sample
- CR - Core Sample



	The Overseas Coastal Area Div't of Japan Pacific Consultants International (PCI)	JICA Study Team	Technotest incorporated	PROJECT NAME THE FEASIBILITY STUDY FOR THE DEV'T. OF ROAD RO-HO TERMINAL SYSTEM FOR MOBILITY ENHANCEMENT IN THE REPUBLIC OF THE PHILIPPINES	DRAWING TITLE FIGURE 2 BOREHOLE LOCATION PLAN TATTAY PORT, PALAWAN	PREPARED BY DENNIS CALDERON	CHECKED BY MANUEL T. VILLAFUERTE	APPROVED BY JOSE LEOPOLDO P. FAJARDO	SHEET NO 1
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<p>JICA Study Team</p>	<p>Technotest incorporated</p>	<p>CONTRACTOR</p>	<p>PROJECT NAME</p> <p>THE FEASIBILITY STUDY FOR THE DEVT. OF ROAD RO-HO TERMINAL SYSTEM FOR MOBILITY ENHANCEMENT IN THE REPUBLIC OF THE PHILIPPINES</p>	<p>DRAWING TITLE</p> <p>FIGURE 3 SOIL PROFILE 'A-A' PORT OF TAYTAY, TAYTAY, PALAWAN</p>	<p>PREPARED BY:</p> <p>DENNIS CALDERON</p>	<p>CHECKED BY:</p> <p>MANUEL T. VILLAFUERTE</p>	<p>APPROVED BY:</p> <p>JOSE LEOPOLDO P. FAJARDO</p>	<p>SHEET NO.</p> <p>1</p>
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FINAL BOREHOLE LOG AND SUMMARY OF TEST RESULTS

A - 1a

PROJECT: FSDRRTSMERP
 LOCATION: Port of Taytay, Taytay, Palawan
 BH NO.: BH-1 DATE DRILLED: Jun. 15, 2007

Elev. (MLLW) -0.60
 Weather: F A I R
 Northing: 1195580.01
 Easting: 564992.88

Depth of Water: 2.25 m
 Date Measured: 15 Jun. 2007
 Time Measured: 6:00 PM

DEPTH (m)	SAMPLE NO.	RECOVERY (%)	SAMPLE	LOG SYMBOL	CLASSIFICATION	ROD	DESCRIPTION	BLOWS (SPT)			STANDARD PENETRATION TEST (SPT)				Natural Moisture Content, %	Specific Gravity	Atterberg Limits		UCT, q_u , kg/cm ²	CONSO. TEST Compression Index, Cc Precon. Press. P_c , kg/cm ²	SIEVE ANALYSIS % PASSING																	
								15 cm	15 cm	15 cm	N-VALUE						LL, %	Pl, %			4	10	40	200														
											10	20	30	40																								
1	SS-1	89					Silty SAND; bluish gray; fine to very fine grained sand; with coralline limestone fragments; appreciable non-plastic fines; VERY LOOSE TO LOOSE.	4	3	2																												
2																																						
3	SS-2	89						2	2	2			37	2.63																								
4																																						
5	SS-3	44				SM																																
6	SS-4	56					Silty SAND; cream to creamish gray; fine to very fine grained sand; consist of coralline limestone and shell fragments; appreciable non-plastic fines; VERY LOOSE.	1	1	1			33	2.73																								
7																																						
8																																						
9	SS-5	62						1	1	1			37	2.74																								

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MACHINE: YBM-H1
 DRILLER: A. TORRE
 SUPERVISOR: P. CASTUERAS

LEGEND:

- SS - Split Spoon Sample
- UDS - Undisturbed Sample
- ⊠ WS - Wash Sample
- ▩ CR - Core Sample

FINAL BOREHOLE LOG AND SUMMARY OF TEST RESULTS

A - 1b

PROJECT: FSDRRTSMERP	Elev. (MLLW) -0.60	Depth of Water: 2.25 m
LOCATION: Port of Taytay, Taytay, Palawan	Weather: FAIR	Date Measured: 15 Jun. 2007
BH NO.: BH-1 DATE DRILLED: Jun. 15, 2007	Northing: 1195560.01	Time Measured: 6:00 PM
	Easting: 564992.86	

DEPTH (m)	SAMPLE NO.	RECOVERY (%)	SAMPLE	LOG SYMBOL	CLASSIFICATION	RQD	DESCRIPTION	BLOWS (SPT)			STANDARD PENETRATION TEST (SPT)				Natural Moisture Content, %	Specific Gravity	Atterberg Limits		UCT, q_u , kg/cm ²	CONSO. TEST		SIEVE ANALYSIS % PASSING															
								15 cm	15 cm	15 cm	N-VALUE						LL, %	PI, %		Compress. Index, C_c	Precon. Press. P_c , kg/cm ²	4	10	40	200												
											10	20	30	40																							
11	SS-7	36						7	4	3																											
12	SS-8	29			SM		Silty Coralline Gravelly SAND; light gray; with fine to very fine grained sand; consist of coralline limestone fragments; VERY LOOSE.	1	1	1		31	2.74								67	62	48	33													
13	SS-9	20						3	1	2		33	2.75																								
15	SS-10	78						2	1	1		28	2.67																								
16	SS-11	31			GM		Silty Coralline GRAVEL; gray; consist of limestone fragments with low plastic fines; LOOSE TO DENSE.	2	3	4		29	2.68								52	43	32	22													
18	SS-12	27						2	24	14																											
19	SS-13	47			CL		Sandy CLAY; orange brown; traces of fine gravel; moderate plasticity; VERY STIFF.	8	10	12		23	2.60	39	17						97	91	75	60													

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MACHINE: YBM-H1
 DRILLER: A. TORRE
 SUPERVISOR: P. CASTUERAS

LEGEND:

- SS - Spt Spoon Sample
- WS - Wash Sample
- UDS - Undisturbed Sample
- CR - Core Sample

FINAL BOREHOLE LOG AND SUMMARY OF TEST RESULTS

A - 1c

PROJECT: FSDRRTSMERP	Elev. (MLLW) -0.60	Depth of Water: 2.25 m
LOCATION: Port of Taytay, Taytay, Palawan	Weather: F A I R	Date Measured: 15 Jun. 2007
BH NO.: BH-1	DATE DRILLED: Jun. 15, 2007	Time Measured: 8:00 PM
	Northing: 1195560.01	
	Easting: 564992.86	

DEPTH (m)	SAMPLE NO.	RECOVERY (%) SAMPLE	LOG SYMBOL	CLASSIFICATION	RQD	DESCRIPTION	BLOWS (SPT)			STANDARD PENETRATION TEST (SPT)				Natural Moisture Content, %	Specific Gravity	Atterberg Limits		UCT, q _v , kg/cm ²	CONSO. TEST		SIEVE ANALYSIS % PASSING					
							15 cm	15 cm	15 cm	N-VALUE						LL, %	PI, %		Compression Index, C _c	Precon. Press., P _c , kg/cm ²	4	10	40	200		
										10	20	30	40													
21	SS-14	71				Coralline LIMESTONE; orange brown to brownish gray; fine-grained; clayey and marly; severely weathered; poorly cemented; very friable; very weak.	14	24	21							23	2.54	###	###			91	81	70	59	
22				LMS																						
23	SS-15	82						10	23	26																
24	SS-16	78				END OF BORING 24.00 M	15	26	28							52/30	21	2.59	31	12						
25																										
26																										
27																										
28																										
29																										

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MACHINE: YBM-H1
DRILLER: A. TORRE
SUPERVISOR: P. CASTUERAS

LEGEND:
 SS - Split Spoon Sample
 UDS - Undisturbed Sample
 WS - Wash Sample
 CR - Core Sample

FINAL BOREHOLE LOG AND SUMMARY OF TEST RESULTS

A - 2a

PROJECT: FSDRRTSMERP
 LOCATION: Port of Taytay, Taytay, Palawan
 BH NO.: BH-2 DATE DRILLED: Jun. 13 - 15, 2007

Elev. (MLLW) -3.56
 Weather: F A I R
 Northing: 1195477.53
 Easting: 565028.66

Depth of Water: 4.70 m
 Date Measured: 15 Jun. 2007
 Time Measured: 6:00 AM

DEPTH (m)	SAMPLE NO.	RECOVERY (%) SAMPLE	LOG SYMBOL	CLASSIFICATION	RQD	DESCRIPTION	BLOWS (SPT)			STANDARD PENETRATION TEST (SPT)				Natural Moisture Content, %	Specific Gravity	Atterberg Limits			UCT, q_u , kg/cm ²	CONSO. TEST		SIEVE ANALYSIS % PASSING			
							15 cm	15 cm	15 cm	N-VALUE						LL, %	Pl, %	Compression Index, C_c		Precom. Press. P_c , kg/cm ²	4	10	40	200	
										10	20	30	40												
1	SS-1	22				Silty SAND; grayish brown ; fine to very fine grained sand; with coralline limestone fragments; appreciable non-plastic fines; VERY LOOSE.	0	0	0																
3	SS-2	100				Silty SAND; grayish brown ; fine to very fine grained sand; consist of coralline limestone fragments; appreciable non-plastic fines; VERY LOOSE.	1	1	1		46	2.59								71	63	46	26		
4	SS-3	33					3	2	1																
6	SS-4	33					1	1	1		34	2.59													
7	SS-5	44			SM	Silty SAND; grayish brown ; fine to coarse grained sand; consist of coralline limestone and shell fragments; appreciable non-plastic fines; VERY LOOSE TO MEDIUM DENSE.	2	1	1		34	2.58	37	10						73	59	43	25		
9	SS-6	33					3	4	3																

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MACHINE: TOHO
 DRILLER: A. TORRE
 SUPERVISOR: P. CASTUERAS

LEGEND:

- SS - Spilt Spoon Sample
- LDS - Undisturbed Sample
- WS - Wash Sample
- CR - Core Sample

FINAL BOREHOLE LOG AND SUMMARY OF TEST RESULTS

A - 2b

PROJECT: FSDRRTSMERP	Elev. (MLLW) -3.56	Depth of Water: 4.70 m
LOCATION: Port of Taytay, Taytay, Palawan	Weather: F A I R	Date Measured: 15 Jun. 2007
BH NO.: BH-2 DATE DRILLED: Jun. 13 - 15, 2007	Nerthing: 1195477.53	Time Measured: 6:00 AM
	Easting: 565028.66	

DEPTH (m)	SAMPLE NO.	RECOVERY (%)	SAMPLE LOG SYMBOL	CLASSIFICATION	RQD	DESCRIPTION	BLOWS (SPT)			STANDARD PENETRATION TEST (SPT)				Natural Moisture Content, %	Specific Gravity	Atterberg Limits		UCT, q _v , kg/cm ²	Compression Index, C _c	Precon. Press. P _c , kg/cm ²	SIEVE ANALYSIS % PASSING													
							15 cm	15 cm	15 cm	N-VALUE						LL, %	Pl, %				4	10	40	200										
										10	20	30	40																					
11	SS-7	56	[Symbol]	GM		Silty Coralline GRAVEL; creamish gray; consist of coralline limestone fragments mixed with shells; slight to none plastic fines; MEDIUM DENSE.	16	15	7				26	2.71																				
12	SS-8	67	[Symbol]				7	7	10				22	2.75							49	38	22	13										
14	SS-9	33	[Symbol]	CH		CLAY; greenish gray; traces of coralline limestone and shell fragments; high plasticity; SOFT.	1	2	2				48	2.70							97	90	76	61										
15	SS-10	44	[Symbol]				2	2	2				45	2.63																				
17	SS-11	33	[Symbol]				1	2	2																									
18	SS-12	89	[Symbol]	LM		Coralline LIMESTONE; brownish to creamy gray; marly; highly weathered; friable; poorly cemented; very weak to weak in terms of rock strength.	16	34	38				28	2.72	35	13					96	77	42	31										
19	SS-13	36	[Symbol]				18	30	32																									

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MACHINE: TOHO
 DRILLER: A. TORRE
 SUPERVISOR: P CASTUERAS

- LEGEND:**
- SS - Split Spoon Sample
 - UDS - Undisturbed Sample
 - ⊗ WS - Wash Sample
 - ▨ CR - Core Sample

FINAL BOREHOLE LOG AND SUMMARY OF TEST RESULTS

A - 2c

PROJECT: FSDRRTSMERP
 LOCATION: Port of Taytay, Taytay, Palawan
 BH NO.: BH-2 DATE DRILLED: Jun. 13 - 15, 2007

Elev. (MLLW) -3.56
 Weather: F A I R
 Northing: 1195477.53
 Easting: 565028.66

Depth of Water: 4.70 m
 Date Measured: 15 Jun. 2007
 Time Measured: 6:00 AM

DEPTH (m)	SAMPLE NO.	RECOVERY (%) SAMPLE	LOG SYMBOL	CLASSIFICATION	RQD	DESCRIPTION	BLOWS (SPT)			STANDARD PENETRATION TEST (SPT) N-VALUE 10 20 30 40	Natural Moisture Content, %	Specific Gravity	Atterberg Limits		UCT, q _v , kg/cm ²	CONSO. TEST		SIEVE ANALYSIS % PASSING				
							15 cm	15 cm	15 cm				LL, %	PI, %		Compress. Index, C _c	Preson. Press. P _c , kg/cm ²	4	10	40	200	
21	SS-14	76		LM		Coralline LIMESTONE; creamy gray; marly; highly weathered; friable; poorly cemented; very weak to weak in terms of rock strength.	19	33	42	75/30	10	2.62	###	9.00								
						END OF BORING 24.00 M																
22																						
23																						
24																						
25																						
26																						
27																						
28																						
29																						



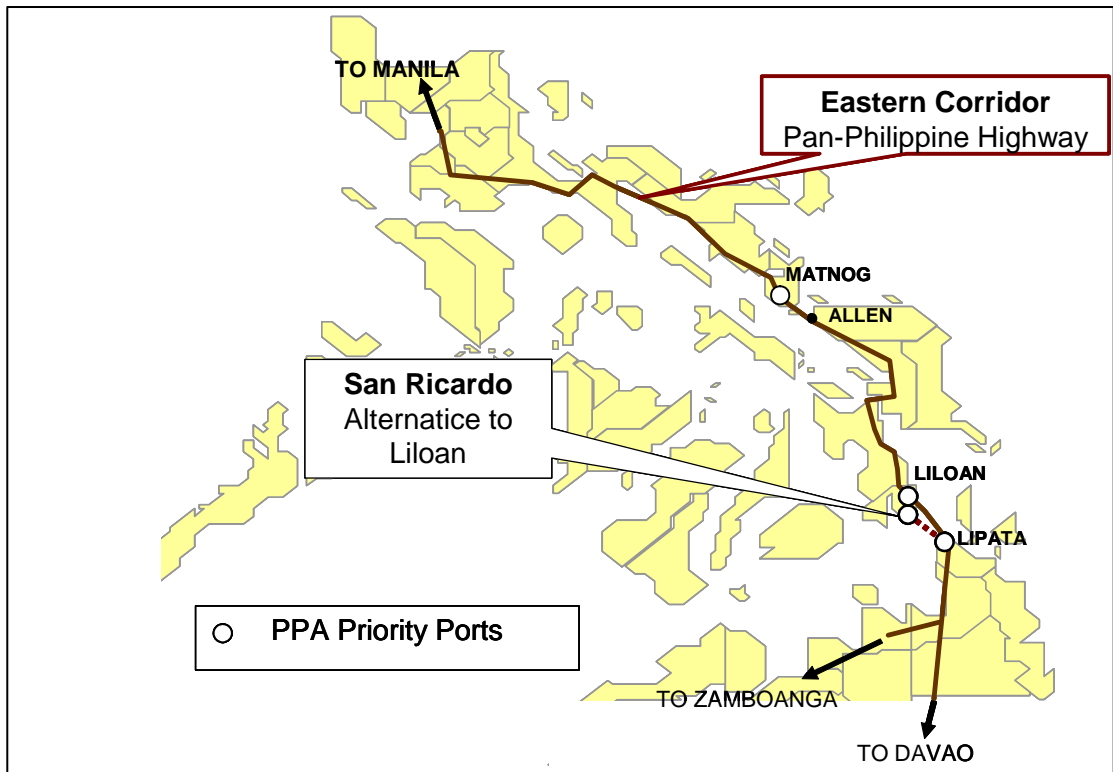
LEGEND:

- SS - Split Spoon Sample
- UDS - Undisturbed Sample
- WS - Wash Sample
- CR - Core Sample

APPENDIX I-6-3-1

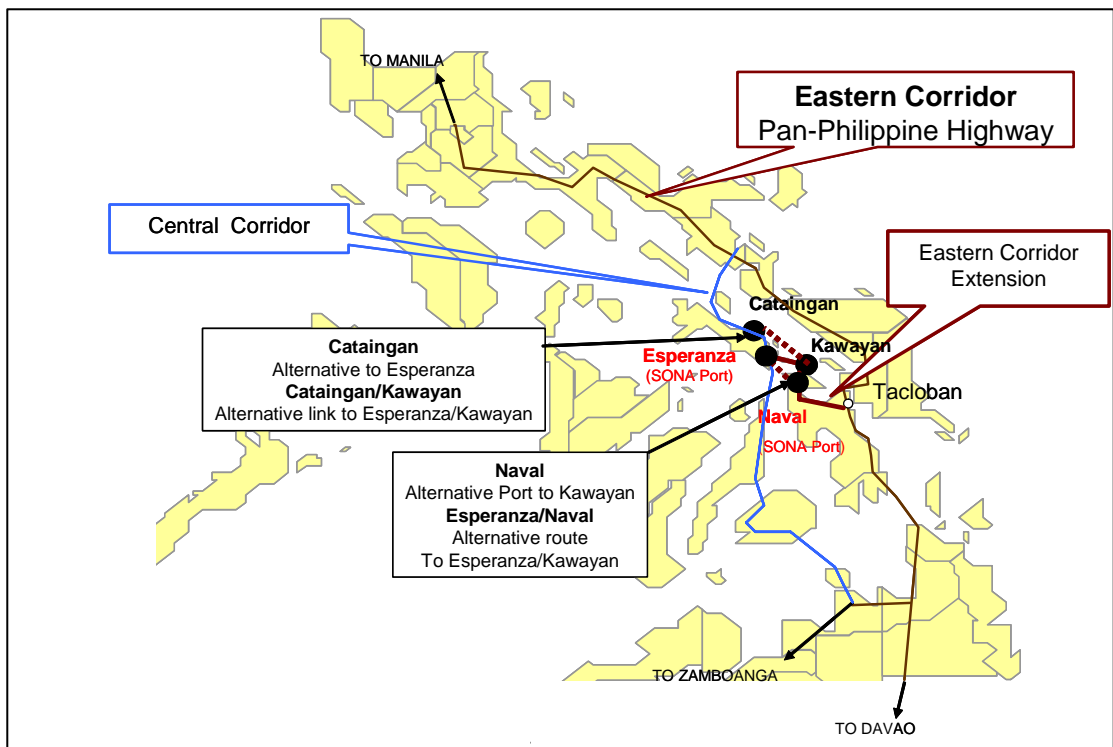
Proposed Routes

Candidate RRTS Routes



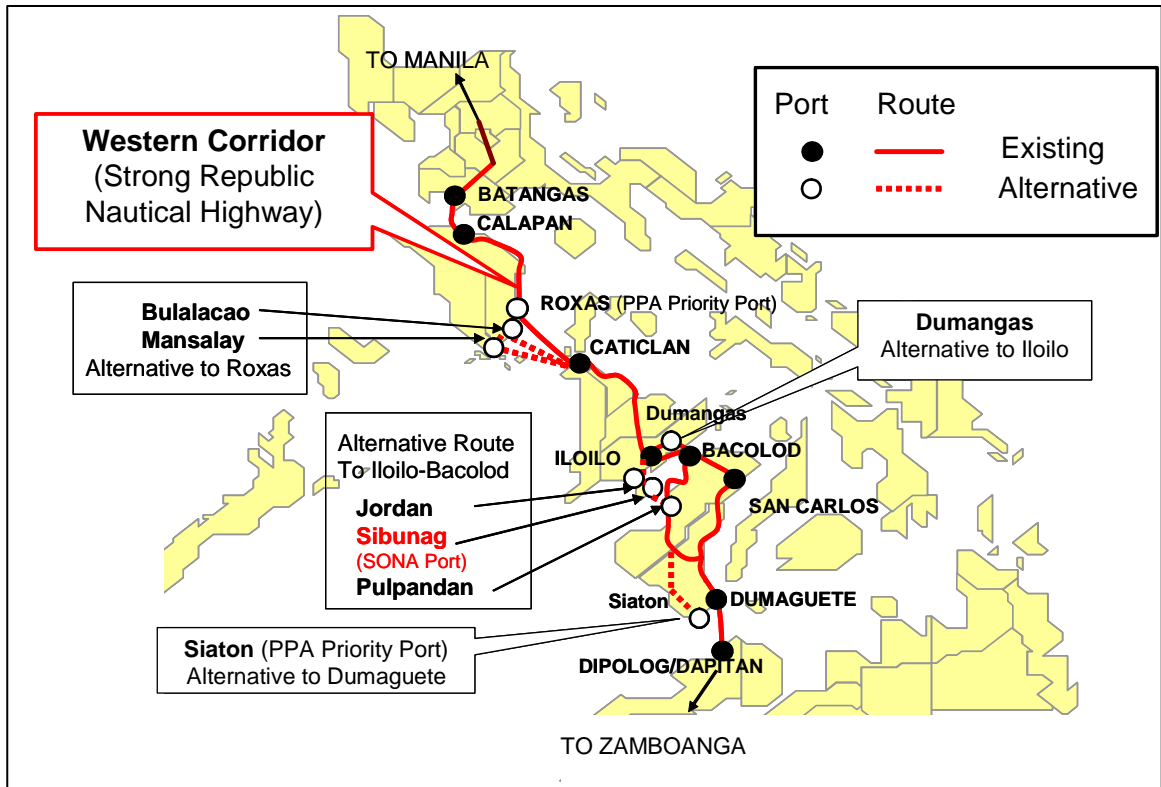
Source: DOTC edited by Study Team

Fig. A 6.3.1-1 Eastern Trunk RRTS Route (Existing Pan-Philippine Highway Route)



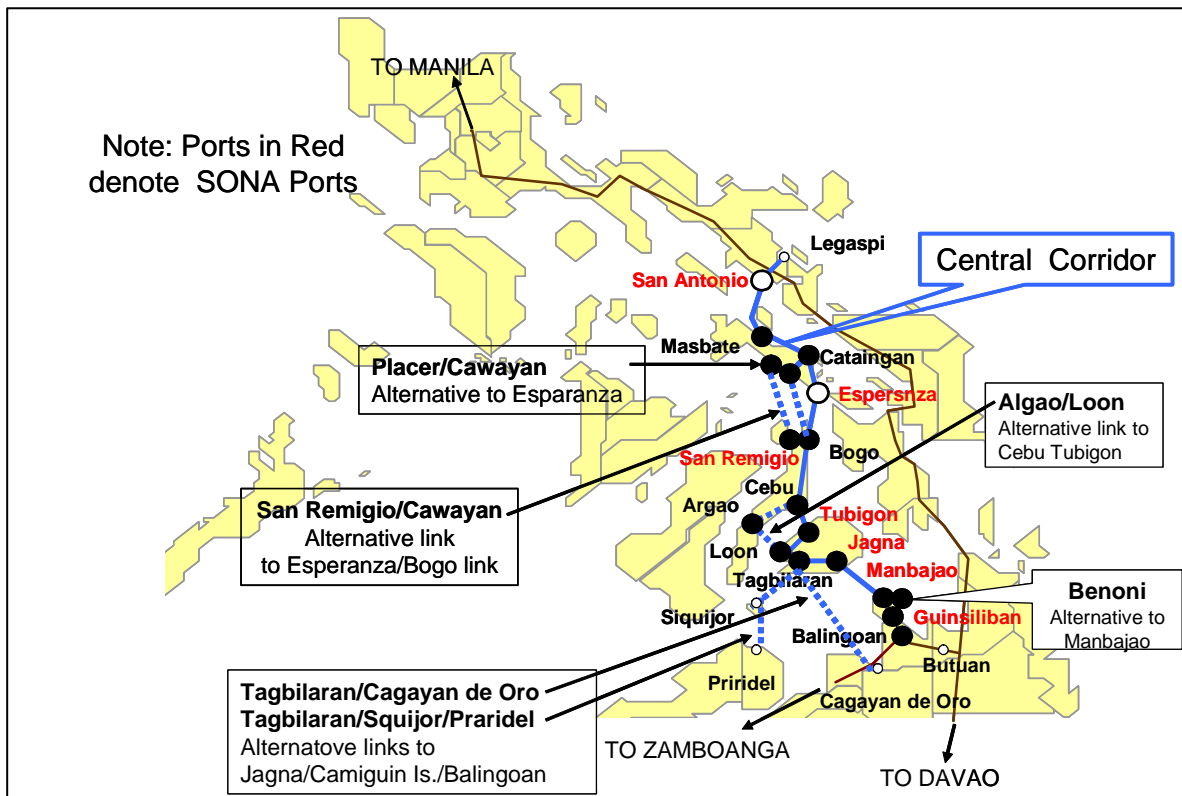
Source: DOTC, Edited by Study Team

Fig. A 6.3.1-2 Eastern Trunk RRTS Route Extension



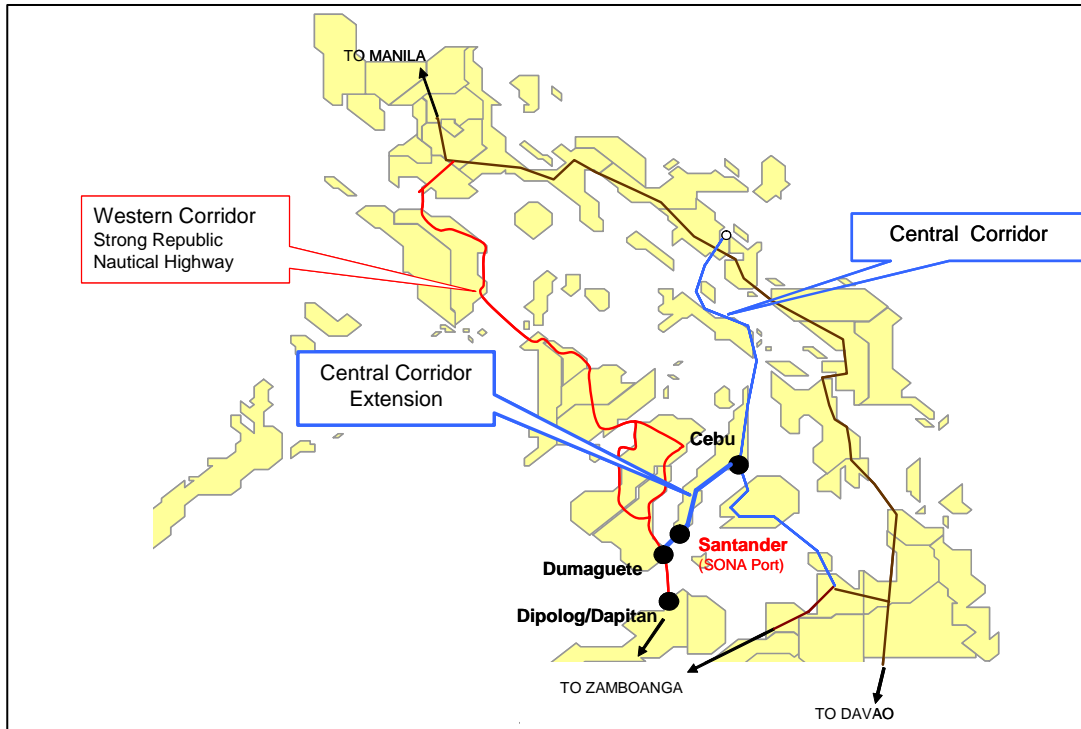
Source: Study Team

Fig. A 6.3.1-3 Western Trunk RRTS Route (Existing Strong Republic Nautical Highway)



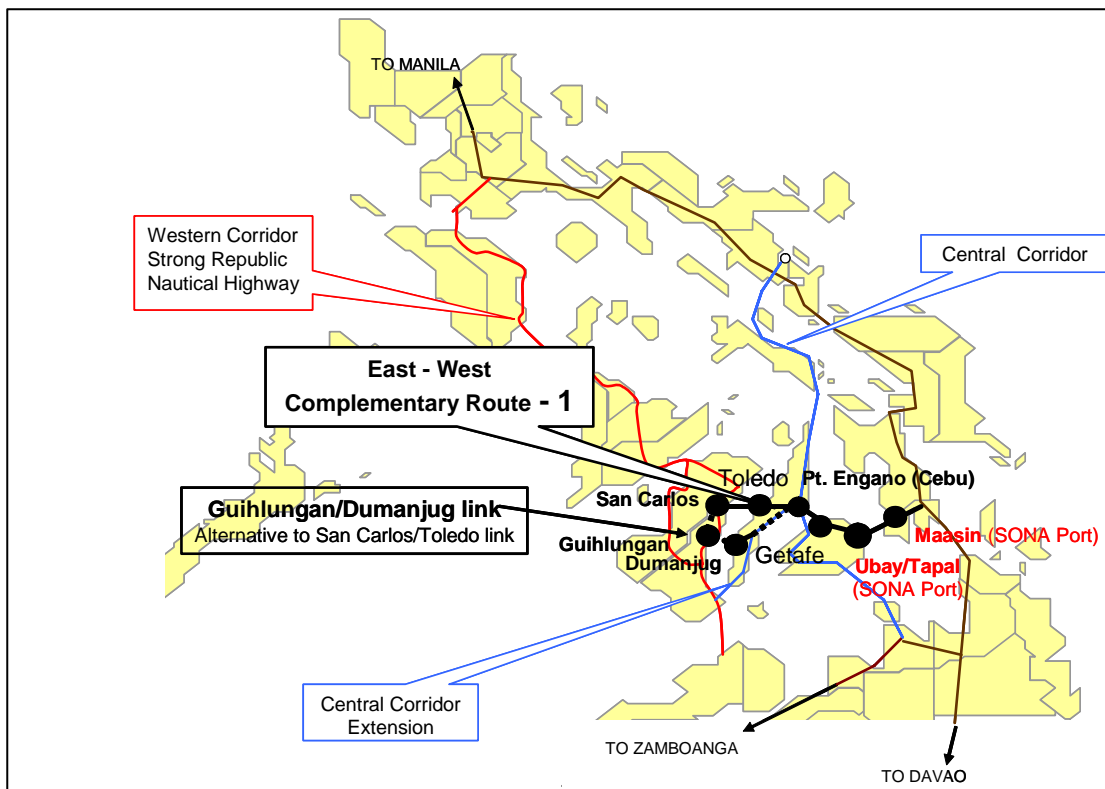
Source: Study Team

Fig. A 6.3.1-4 Central Trunk RRTS Route



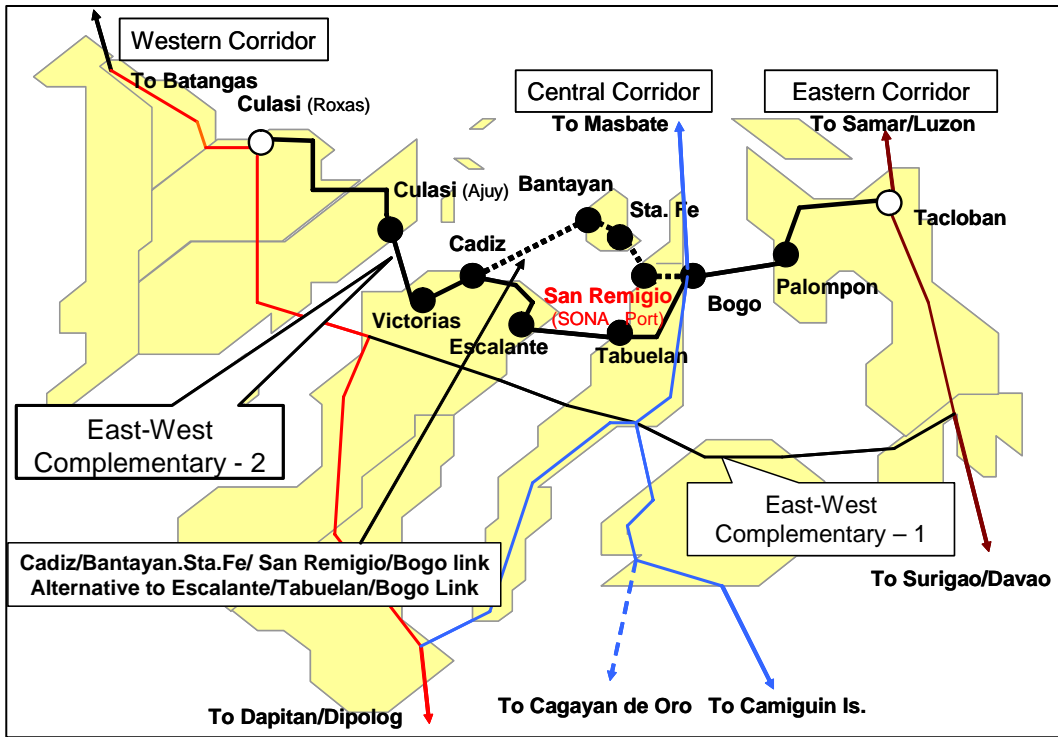
Source: Study Team

Fig. A-6.3.1-5 Central Trunk RRTS Route Extension



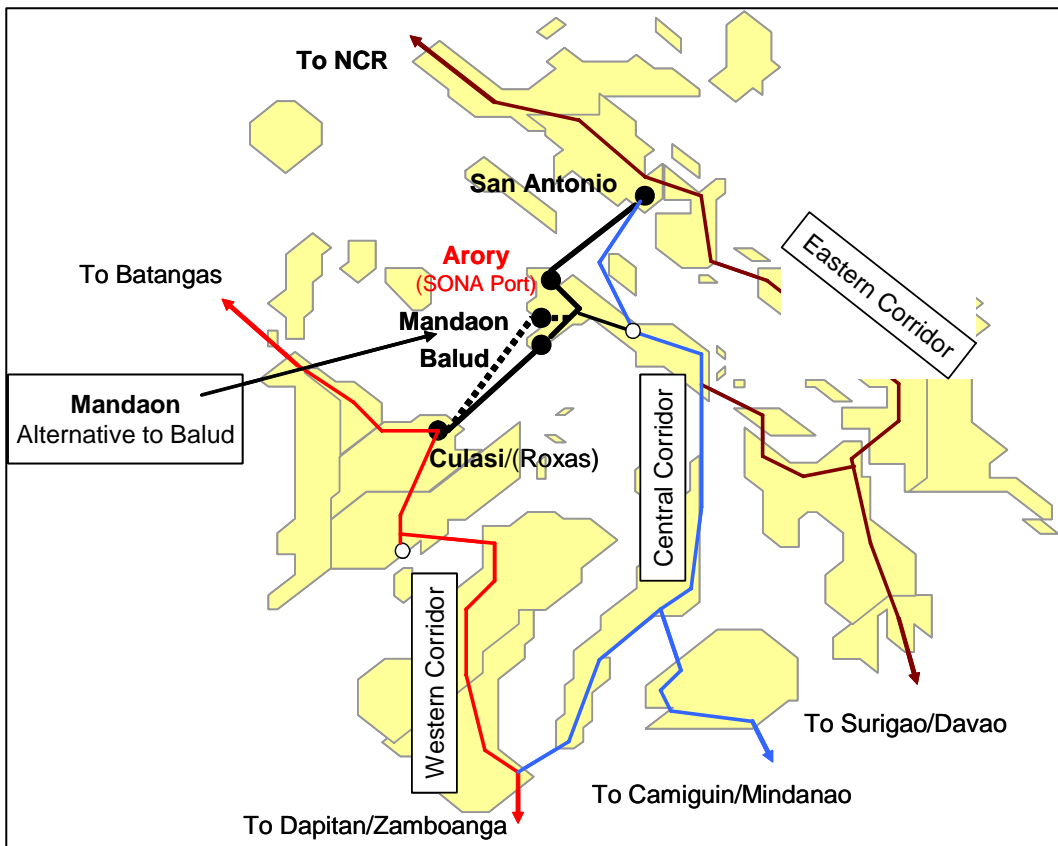
Source: Study Team

Fig. A 6.3.1 - 6 East West Complementary RRTS Route -1



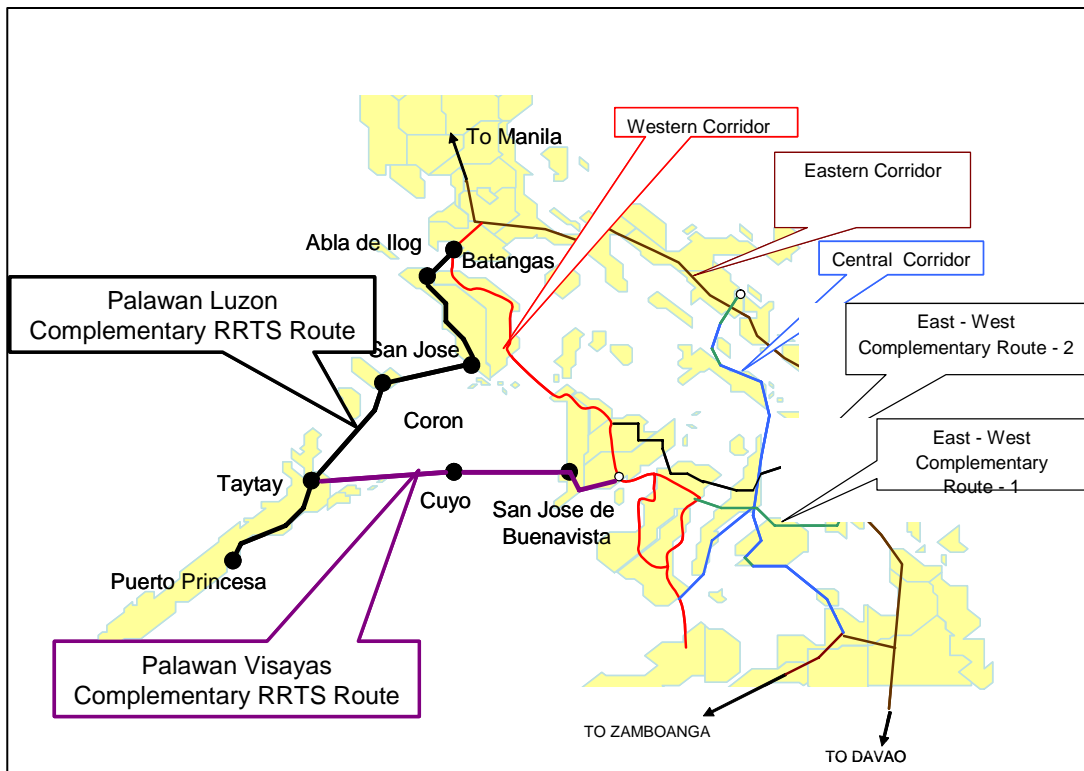
Source: Study Team

Fig. A 6.3.1 - 7 East West Complementary RRTS Route -2



Source: Study Team

Fig. A 6.3.1 - 8 Pany Sorsogon Complementary RRTS Route



Source: Study Team

Fig. A 6.3.1 - 9 Palawan Luzon and Palawan Visayas Complementary RRTS Route

Other proposed RoRo links

Table A 6-1 Missionary Routes identified by MARINA

Link No.	Link				Category of the role of the link
	Origin Port	Province	Destination Port	Province	
NATIONAL CAPITAL REGION (NCR)					
1	Pasig River		Laguna de Bay		Intra Manila
NORTHERN LUZON MARITIME REGIONAL OFFICE (REGION I & II)					
2	San Fernando	San Fernando City	Curimao	Ilocos	Routes interconnecting between Sta Ana/Apari and Batanes Island./Babuyan IIs.
3	Sta. Ana	Cagayan	Basco	Batanes	
4	Sta. Ana	Cagayan	Maconacon	Isabela	
5	Sta. Ana	Cagayan	Davilacan	Isabela	
6	Appari	Cagayan	Daiupiri, Babuyan Is.		
7	Appari	Cagayan	Basco	Batanes	
8	Appari	Cagayan	Camiguin Is.		
8	Appari	Cagayan	Calayan Is.		
BATANGAS MARITIME REGIONAL OFFICE (REGION IV-A)					
9	Batangas	Batangas City	Simirara Is., Corcura	Romblon	Batangas and nearby Small Is.
10	Calatagan	Batangas	Tilik/Looc, Lubang Is.	Occidental Mindoro	
11	Nasgub	Batangas	Tilik/Looc, Lubang Is.	Occidental Mindoro	
12	Gasán/Cawit	Marinduque	Pinamalayan	Oriental Mindoro	Mindoro-Marinduque Connection
13	San Jose	Occidental Mindoro	Caluya/Semirara	Antique	Connection Mindoro and Small Is./Panay
14	Tingloy	Batangas	Anilao, Mabini	Batangas	Batangas and nearby Small Is.
15	Romblon	Romblon	Ambulong, Magdiwang	Romblon	Intra-Romblon links
16	Romblon	Romblon	San Agustin	Romblon	
17	Corcuera, Semirara Is	Romblon	Odiongan	Romblon	
18	Banton	Romblon	Odiongan	Romblon	
19	Romblon	Romblon	Corcuera, Semirara Is.	Romblon	
20	Romblon	Romblon	Banton	Romblon	
21	Batangas	Batangas City	Concepcion	Romblon	Batangas-Romblon Links
22	Batangas	Batangas City	Banton Is.	Romblon	
23	San Jose	Occidental Mindoro	Coron & Curion	Palawan	Batangas-Palawan
24	Batangas	Batangas City	Puerto Plincesa	Palawan	
25	Lucena	Lucena City	San Jose	Occidental Mindoro	Lucena-Batangas Link
26	San Jose	Occidental Mindoro	Caticlan	Aklan	Alternative to Roxas-Caticlan Rt.
27	Batangas	Batangas City	Romblon	Romblon	Batangas-Romblon Link Existing
28	Batangas City	Batangas	Coron & Curion	Palawan	Batangas-Colon/Palawan
29	Real	Quezon	Baler	Aurora Sub-province	Luzon Pacific Coast
30	Baler	Aurora	Casigran	Quezon	
LEGASPI MARITIME REGIONAL OFFICE (REGION V)					
31	Cebu City	Cebu	Pasacao	Camarines Sur	Cebu-Masbate-South Luzon Link
32	Cebu City	Cebu	Masbate	Masbate	
33	Masbate	Masbate	Pantao/Libon	Albay	
34	Cebu City	Cebu	Pantao/Libon	Albay	
35	Masbate	Masbate	Castilla, Burial Is.	Sorsogon	Burial Is. Link
36	Virac	Catanduanes	Nato, Sangay	Camarines Sur	Catanduanes Link
37	San Andres	Catanduanes	Nato, Sangay	Camarines Sur	
38	San Andres	Catanduanes	Talisay, San Jose	Camarines Sur	
ILOILO MARITIME REGIONAL OFFICE (REGION VI)					
39	Annini-y	Antique	Nogas Is.	Antique	Remote Is. Link in Aklan Panay
40	Culasi	Antique	Semirara Is.	Antique	
41	Ajuy	Iloilo	Tagabanon, Concepcion	Iloilo	Tagbanhan Is. Link
42	Ajuy	Iloilo	Manapla	Negros Occidental	Panay-Negros Link
43	Caticlan, Malay	Aklan	Carabao Is., Malay	Aklan	Remote Is. Link in Aklan Panay
44	Estancia	Iloilo	Cadiz	Negros Occidental	Panay-Negros Link
45	Carles	Iloilo	Cadiz	Negros Occidental	
46	Carles	Iloilo	Bantayan Is.		Panay-Cebu Link
47	Aklan			Masbate	Panay
48	Aklan		Romblon		Panay Romblon
CEBU MARITIME REGIONAL OFFICE (REGION VII)					
49	Bilangbilangan Is.	Bohol	Dawahon Is.	Leyte	Remote Is. Link
50	Bogo	Cebu	Cataingan	Masbate	Cebu - Masbate
51	Bogo	Cebu	Maripipi, Biliran	Leyte	Cebu-leyte
52	Bogo	Cebu	Naval	Leyte	
53	Bogo	Cebu	Palompon	Leyte	
54	Bogo	Cebu	San Isidro	Leyte	
55	Cebu City		Bacolod City		Cebu-Negros
56	Cebu City		Baigad, Bantayan Is.	Cebu	Cebu-Bantayan
58	Cebu City		Busalian, Jao Is.	Bohol	Remote Is. Link
59	Cebu City		Catagbacan, Loon	Bohol	Existing
60	Cebu City		Clarín	Bohol	Existing
61	Cebu City		Culasi	Roxas	Panay-Cebu
62	Cebu City		Dawahon Is., Bato	Leyte	
63	Cebu City		Gingog	Misamis Oriental	Cebu-North Mindanao
64	Cebu City		Hindang	Leyte	Alternative to Cebu - Maasin Link
65	Cebu City		Hingotanan	Bohol	Cebu- Bohol
66	Cebu City		Inabanga	Bohol	
67	Cebu City		Inopacan (Hilongos)	Leyte	
68	Cebu City		Jagna	Bohol	Cebu- Bohol

Table A 6-2 Missionary Routes identified by MARINA (Continuation)

Link No.	Origin Port	Province	Destination Port	Province	Category of the role of the link
69	Cebu City		Liloy	Zamboanga del Norte	Alternative to Highway
CEBU MARITIME REGIONAL OFFICE (REGION VII) Continuation					
70	Cebu City		Madrirdejos Is.	Cebu	Remote Is. Link
71	Cebu City		Medina	Misamis Occidental	
72	Cebu City		Nabilid (Near Dipolog)	Roxas Zanbo. N.	Alternative to Dipitan/Dipolog
73	Cebu City		Plaridel	Misamis Oriental	
74	Cebu City		San Isidro	Northern Samar	Sea Route
75	Cebu City		Sindangan	Zamboanga del Norte	Alternative to Highway
76	Cebu City		Siocon	Zamboanga del Norte	
77	Cebu City		St Bernard	Southern Leyte	
78	Danao City	Cebu	Poros, Camotes Is.	Cebu	Camotes Is.
79	Danao City	Cebu	Tudela, Camotes Is.	Cebu	
80	Danao City	Cebu	Pob. Pilar, Camotes Is.	Cebu	
81	Dumaguete City		Oroquieta City		Alternative to Dumaguete-Dapitan
82	Dumaguete City		Plaridel	Misamis Oriental	
83	Hagnaya, San Remigio	Cebu	Cataingan	Masbate	Cabu-Masbate
84	Hagnaya, San Remigio	Cebu	Esperanza	Masbate	
85	Hagnaya, San Remigio	Cebu	Placer	Masbate	
86	Larena	Siquijor	Iligan City		Siquijor-Mindanao
87	Lazi	Siquijor	Plaridel	Misamis Oriental	
88	Maya, Daanbantayan	Cebu	Pio Corpuz	Masbate	Cabu-Masbate
89	Siquijor	Siquijor	Oroquieta City	Misamis Occidental	Siquijor-Mindanao
90	Sta. Fe, Bantayan Is.	Cebu	Cataingan	Masbate	Cabu-Masbate
91	Tabuelan	Cebu	Ajuy	Iloilo	Cebu-Panay
92	Tabuelan	Cebu	Sta Fe, Bantayan Is	Cebu	Alternative to S Remigio - Sta. Fe
93	Tuburan	Cebu	Escalante	Negros Occidental	Existing
94	Tangil, Dumanhug	Cebu	Guihulngan	Negros Oriental	Existing
95	Ubay	Bohol	Hilongos	Leyte	Alternative to Maasin
96	Ubay	Bohol	Maasin City		Existing
TACLOBAN MARITIME REGIONAL OFFICE (REGION VIII)					
104	Damar	Samar	Babatngon	Leyte	Remote Is. Link
105	Dawahon Is., Bato	Leyte	Hilongos	Leyte	
106	Lao-ang	Northern Samar	Rawis, Lao-ang	Northern Samar	
107	Limasawa	Southern Leyte	Maasin	Southern Leyte	
108	Palapag	Northern Samar	Rawis, Lao-ang	Northern Samar	
109	San Antonio	Northern Samar	San Isidro	Northern Samar	
110	San Antonio	Northern Samar	Allen	Northern Samar	
111	Suluan Is	Eastern Samar	Guiuan	Eastern Samar	
DAVAO MARITIME REGIONAL OFFICE (REGION XI)					
112	Banaybanay (Link Proposed for the SRNH)	Davao Oriental	Samal	Island Garden City of Davao	Remote Is. Link
113	Malalag Lupon or Banaybanay (Alternative Route for RORO and Ferry)	Davao del Sur	Kaputian	Island Garden City of Davao	
114	Maco Jose Abad Santos	ComVal Davao del Sur	Babak Balut Is., Sarangani	Island Garden City of Davao del Sur	
115	Kaputian	Island Garden City of Sar	Sta Cruz, Talikud	Island Garden City of Davao	
116	Balut Is., Sarangani (Abandoned Route since 2001)	Davao del Sur	General Santos City		
CAGAYAN DE ORO REGIONAL OFFICE (REGION X & XI)					
117	Nasipit	Agusan del Norte	Manila		Existing
118	Balingoan	Misamis Oriental	Mambajao	Camiguin	Existing
119	Gebusong	Surigao del Norte	Surigao City		Remote Is. Link
120	Las Nieves	Agusan del Norte	Butuan City		
121	Bucas Grande	Surigao del Norte	Surigao City		
122	Camilan	Surigao del Norte	Surigao City		
123	Gabusong	Surigao del Norte	Surigao City		
124	Mukas, Kolambugan	Lanao del Norte	Ozamis City		
COTABATO REGIONAL OFFICE (REGION XII)					
125	Cotabato City		Palimbang		Remote Is. Link
126	Cotabato City		Malabang		
127	Cotabato City		Sultan Naga Dimaporo		
128	Cotabato City		Milbuk		
ROUTE IDENTIFIED UNDER THE NORTHEASTERN LUZON PACIFIC COASTAL SERVICE (NORLUMRO)					
129	Dilasag	Aurora Sub-Province	Palanan	Isabela	Luzon North Pacific Coast
130	Palanan	Isabela	Maconnacon	Isabela	
131	Maconnacon	Isabela	Valley Cove	Cagayan	
132	Valley Cove	Cagayan	San Vicente	Cagayan	

Source: MARINA ADVISORY No. 2005-001

Table A.6-3 RoRo links proposed by the Development Bank of the Philippines (DBP)

Link		Link			Category of the role of the link
No.	Origin Port	Province	Destination Port	Province	
Existing RoRo Links (Green)					
1	Bogo	Cebu	Palompon	Leyte	East-West Complementary 1
2	Calapan	Mindoro	Batangas	Batangas City	Western Corridor
3	Kinobatan (Balingoan)	Misamis Oriental	Guinsilban	Camiguin Is.	Central Corridor
4	Kolumbugan	Lanaso del Norte	Ozamis	Misamis Occidental	North Mindanao Highway
5	Rizal, Dinagat Is.	Surigao del Norte	Liloan	Southern Leyte	Remote Island
6	San Isidoro/Alen	Northern Samal	Matnog	Sorsogon	Pan-Philippine Highway
7	Toledo	Cebu	San Carlos	Negros Occidental	East-West Complementary 1
8	Tabaco	Albay	Virac	Catanduanes	Remote Island
Yellow-green Route					
9	Carmen	Cebu	Isabel	Leyte	Alternative to Bogo-Palompon
10	Dumaguete	Negros Oriental	Santander	Cebu	Central Corridor extension
11	Jordan	Guimaras	Iloilo	Iloilo City	Remote Island
12	Tabaco	Albay	San Andres	Catanduanes	Remote Island (Alternative to Tabaco-Virac)
13	Tabuelan	Cebu	Escalante	Negros Oriental	Alternative to Cadiz - Santa Fe- San Renigio
14	Tubigon	Bohol	Cebu	Cebu city	Central Corridor
15	Zamboanga	Zamboanga Citu	Isabela	Basilan	Remote Island
New RoRo Connection (Red Route, High Priority)					
16	Bacolod	Negros Occidental	Dumangas	Iloilo City	Alternative to Bacorod - Iloilo Route
17	Boac	Marinduque	Lucena	Quezon	Remote Island
18	Abra de Ilog	Mindoro Occidental	Batangas City		Alternative to Batangas-Calapan Route
19	Bogo	Cebu	Placer/Cataingan		Central Corridor
20	Dapitan	Zamboanga City	Dumaguete	Negros Occidental	SRNH (Western Corridor)
21	Donsol/Pilar/San Antonio	Sorsogon	Aroroy	Masbate	Central Corridor
22	Escalante	Negros Occidental	San Rremigio	Cebu	Alternative to Cadiz - Santa Fe- San Renigio
23	Looc	Bohol	Argao	Cebu	Alternative to Cebu - Tubigon
24	Maasin	Leyte	Ubay	Bohol	East-West Complementary route
25	Manapla	Negros Occidental	Ajuy	Iloilo	Alternative to Cadiz - Concepcion
26	Masbate	Masbate	Bulan	Sorsogon	Alternative to Masbate - San Antonio(Pilar)
27	Navotas	Manila	Orion	Bataan	Alternative to NLSH (North Luzon Super HWY)
28	Pulpandan	Negros Occidental	Balcelona	Guimaras	Alternative to Cebu - Bacolod
29	Real	Quezon	Polilio Is.	Quezon	Remote Island
30	Samal Is.	Davao City	Krn 15	Davao City	Remote Island
31	Santander	Cebu	(Lareena) Siquijor		Remote Island
32	Termate	Cavite	Mariveles	Bataan	Alternative to NLSH (North Luzon Super HWY)
Blue Routes					
33	Atimonan	Quezon	Alabat Is.		Remote Island
34	Aroroy	Masbate	Boca Engano	Burial Is.	Eastern Corredor Extension (Remote Is.)
35	Calatagan	Batangas	Abla de Ilog	Mindoro Occidental	Calatagan is an aiternative to Bataqngas Port
36	Catenuan	Quezon	Sta. Cruz	Marinduque	Remote Island, Alternative to Lucena - Boac
37	Del Carmen, Siargao Is.	Surigao del Norte	Cagdganao(Cagdganao)	Dinagat Is.	Remote Is.
38	Lupon	Davao	Samal Is.	Davao	Remote Is. Alternative of coastal HWY
39	Magdiwang	Sibuyan is.	Romblon	Romblon	Remote Is.
40	Manbajao	Camiguin	Jagna	Bohol	Central Corridor
41	Naval	Biliran	Cataingan	Masbate	Alternative to Eastern Corridor
42	San Pascual, Burias Is	Masbate	Pasacao	Camarines Sur	Eastern Corredor Extension
43	Pio Duran	Albay	Claveria, Burias Is.	Masbate	Alternative link in Eastern Corredor Extension
44	Culasi/Roxas	Capiz	Balud	Masbate	Panay - Sorsogon Complementary Route
45	Taytay	Palawan	San Jose	Mindoro Occidental	Palawan-Luzon Complementary Route
46	Caticlan	Aklan	Bulalakao	Mindoro Occidental	Semirara Is. A stop over in Western Corridor
47	Union	Aklan	Roxas	Mindoro Occidental	Alternative to West Corridor
48	Guinhulgan	Negros Oriental	Dumanjug	Cebu	Alternative to S. Carlos - Toledo in E-W Route
49	Real	Quezon	San Vicente	Cagayan Varrey	North Luzon Pacific Route

Source: Sustainable Logistics Development Program, DBP

Table A 6-4 Port identified in SONA 2006

	Name of Port	Province	Administration	Note	Category
1	Salomage	Ilocos Sur		Role is unknown	-
2	Irene (Santa Ana)	Cagayan (CEZA)	CEZA	Gateway to Cagayan Valley	Alternative route to Highway access
3	Dingalan	Aurora,		Dingalan-Real Link	Alternative route to Highway access
4	Real	Quezon	PPA	Dingalan-Real Link	Alternative route to Highway access
5	SBMA	Bataan	SBMA	RoRo function unknown	-
6	Lucena (Dalahican)	Quezon		Lucena-Boac route	RoRo Remote Island
7	Boac	Marinduque		Lucena-Boac route	RoRo Remote Island
8	Pantao	Albay	PPA		Eastern Route Extension
9	San Antonio (Pilar)	Sorsogon	PPA		Central Route
10	Boca Engano, Burial Is.	Masbate			Eastern Route Extension
11	Aroroy	Masbate	PPA		Central Route
12	Esperanza	Masbate	PPA	Alternative to Cataingan/Placer	Eastern Route
13	Maripipi, Is. Bililan	Leyte			Remote island
14	Naval, Bililan	Leyte			Eastern Route
15	Sibunag, (facing Negros)	Guimaras		RoRo connection to Negros	Alternative to Iloilo - Bacolod
16	San Remigio, (CPA)	Cebu	CPA		Alternative Port along E-W Route -2
17	Santander, (CPA)	Cebu	CPA	Dumaguete link is operational	Central Route Extension
18	Siquijor (Three ports)	Siquijor			RoRo Remote Island
19	Tubigon	Bohol	PPA	Cebu link is Exsirting	E-W Comlementary Route - 1
20	Jagna	Bohol	PPA	South side face to Mindanao	E-W Comlementary Route - 1
21	Ubay (Tapal)	Bohol	PPA	East side, face to S.Leyte	E-W Comlementary Route - 1
22	Maasin	Southern Leyte	PPA		E-W Comlementary Route - 1
23	Limasawa Is.	Southern Leyte		Development is on-going	Remote island
24	Mambajao (Balbagon),,	Camiguin		Facing to Bohol	Central Route
25	Guinsilban, Camiguion	Camiguin	PPA	Facing to Mindanao	Central Route

Source: Statement of Nations Address, June, 2006

APPENDIX I-7-1-1

Field Reconnaissance Survey

Field Reconnaissance Survey Report

1. Introduction

This report shows the results of the field surveys and gives the information/data needed by the JICA Study Team for the study. The surveys have been done along the RRTS identified in Chapter 6. The route maps are shown in Appendix 6.

1.2 Port Surveys Undertaken

The various port surveys undertaken were aimed at gathering basic information/data on the socio-economic profile of the municipalities or cities where the proposed port development projects are located, environmental concerns, port facilities and operating characteristics, shipping services, cargo handling services, cargo demand and passenger travel patterns. To gather these data, the following entities were interviewed:

- a) local government officials (Mayor, Municipal Planning Officer)
- b) port officials (Port Manager, PMO officers)
- c) shipping operators
- d) cargo handling operators
- e) shipping crews
- f) drivers of vehicles boarding Ro-Ro vessels
- g) passengers waiting at the port terminals

A set of questionnaires was prepared for the interviews at each of the following types of ports being considered for Ro-Ro development:

- Existing Ports
- New Ports
- Alternative Ports

Survey forms were also prepared to gather information on the highway links which are parts of the Ro-Ro system. The survey forms are shown in Appendix A.

The ports surveyed are shown in Table 1.1 and the highway links surveyed are given in Table 1.2.

1.3 Port Survey Schedule

A total of forty five (45) ports (See Table 1.1) and twenty-eight (28) highway links (See Table 1.2) were surveyed during the period from October 9 to 27, 2006. A summary of the survey schedule is given in Table 1.3. For ease in travel itinerary, ports were visited by cluster considering their geographic locations.

Table 1.1 – Ports Surveyed and/or Visited

Code	Name of Port	City/Mun., Province	Route	Cluster	Survey (Y/N)
RR-01	Calapan	Mindoro Oriental	Western Route	Mindoro	Y
RR-02	Roxas	Mindoro Oriental	Western Route	Mindoro	Y
RR-03	Caticlan	Aklan	Western Route	Panay	Y
RR-04	Culasi	Roxas, Capiz	Western Route	Panay	Y
RR-05	Iloilo	Iloilo City, Iloilo	Western Route	Panay	Y
RR-06	Dumangas	Iloilo	Western Route	Panay	Y
RR-07	Bacolod	Negros Occidental	Western Route	Negros-Dipolog	Y
RR-08	Dumaguete	Negros Oriental	Western Route	Negros-Dipolog	Y
RR-09	Dipolog/Dapitan	Misamis Occidental	Western Route	Negros-Dipolog	Y
RR-10	San Antonio	Sorsogon	Central Route	Masbate	Y
RR-11	Masbate	Masbate	Central Route	Masbate	Y
RR-12	Aroroy	Masbate	Central Route	Masbate	Y
RR-13	Placer	Masbate	Central Route	Masbate	Y
RR-14	San Remigio	Cebu	Central Route	Cebu-Bohol	Y
RR-15	Tubigon	Bohol	Central Route	Cebu-Bohol	Y
RR-16	Jagna	Bohol	Central Route	Cebu-Bohol	Y
RR-17	Mambajao	Camiguin	Central Route	Misamis Oriental	Y
RR-18	Guinsiliban	Camiguin	Central Route	Misamis Oriental	Y
RR-19	Balingoan	Misamis Oriental	Central Route	Misamis Oriental	Y
RR-20	Cataingan	Masbate	Eastern Route	Masbate	Y
RR-21	Kawayan	Biliran	Eastern Route	Leyte	Y
RR-22	San Carlos	Negros Occidental	East-West Route 1	Negros-Dipolog	Y
RR-23	Toledo	Cebu	East-West Route 1	Cebu-Bohol	Y
RR-24	Ubay (Tapal)	Bohol	East-West Route 1	Cebu-Bohol	Y
RR-25	Maasin	Southern Leyte	East-West Route 1	Leyte	Y
RR-26	Concepcion	Capiz	East-West Route 2	Panay	Y
RR-27	Cadiz	Negros Oriental	East-West Route 2	Negros-Dipolog	Y
RR-28	Escalante	Negros Oriental	East-West Route 2	Negros-Dipolog	Y
RR-29	Tuburan	Cebu	East-West Route 2	Cebu-Bohol	Y
RR-30	Bogo	Cebu	East-West Route 2	Cebu-Bohol	Y
RR-31	Palompon	Leyte	East-West Route 2	Leyte	Y
RR-32	Balud	Masbate	Panay-Sorsogon Route	Masbate	Y
RR-33	Mandaon	Masbate	Panay-Sorsogon Route	Masbate	Y
RR-34	San Jose	Mindoro Occidental	Palawan-Luzon Route	Mindoro	Y
RR-35	Coron	Palawan	Palawan-Luzon Route	Palawan	Y
RR-36	Taytay	Palawan	Palawan-Luzon Route	Palawan	Y
RR-37	San Jose de Buenavista	Antique	Palawan-Visayas Route	Panay	Y
AP-01	Bulalacao	Mindoro Oriental	Alternate ports to Roxas (RR-02)	Mindoro	N
AP-02	Mansalay	Mindoro Oriental	Alternate port to Roxas (RR-02)	Mindoro	N
AP-03	Cawayan	Masbate	Alternate port to Placer (RR-13)	Masbate	N
AP-04	Guindulman	Bohol	Alternate port to Jagna (RR-16)	Cebu-Bohol	N
AP-05	Mahinog	Camiguin	Alternate port to Mambajao (RR-17)	Misamis Oriental	N
AP-06	Esperanza	Masbate	Alternate port to Cataingan (RR-20)	Masbate	N
AP-07	Ajuy	Capiz	Alternate route to Negros Island	Panay	N
AP-08	Santa Fe	Bantayan Is., Cebu	Alternate route to Negros Island	Cebu-Bohol	N

Note: Port Classification

EP - Existing Port (Form 1)

NP - New Port (Form 2)

AP - Alternative Port (Form 3)

Table 1.2 – Highway Links Surveyed

Code	Highway Link		Route	Cluster	Survey (Y/N)
	From (Port)	To (Port)			
HL - 01	Calapan	Roxas	Western Route	Mindoro	Y
HL - 02	Caticlan	Culasi	Western Route	Panay	Y
HL - 03	Culasi	Iloilo	Western Route	Panay	Y
HL - 04	Iloilo	Dumangas	Western Route	Panay	Y
HL - 05	Bacolod	Dumaguete	Western Route	Negros-Dipolog	Y
HL - 06	Dipolog	Misamis Occidental	Western Route	Negros-Dipolog	Y
HL - 07	Legazpi City	San Antonio	Central Route	Masbate	Y
HL - 08	Masbate	Aroroy	Central Route	Masbate	Y
HL - 09	Aroroy	Placer	Central Route	Masbate	Y
HL - 10	San Remigio	Cebu City	Central Route	Cebu-Bohol	Y
HL - 11	Tubigon	Jagna	Central Route	Cebu-Bohol	Y
HL - 12	Mambajao	Guinsiliban	Central Route	Misamis Oriental	Y
HL - 13	Masbate	Cataingan	Eastern Route	Masbate	Y
HL - 14	Cawayan	Tacloban City	Eastern Route	Leyte	Y
HL - 15	San Carlos	Toledo	East-West R-1	Cebu-Bohol	Y
HL - 16	Toledo	Cebu City	East-West R-1	Cebu-Bohol	Y
HL - 17	Tubigon	Ubay (Tapal)	East-West R-1	Cebu-Bohol	Y
HL - 18	Maasin	Liloan	East-West R-1	Leyte	Y
HL - 19	Culasi	Concepcion	East-West R-2	Panay	Y
HL - 20	Cadiz	Escalante	East-West R-2	Negros-Dipolog	Y
HL - 21	Tuburan	Bogo	East-West R-2	Cebu-Bohol	Y
HL - 22	Palompon	Tacloban City	East-West R-2	Leyte	Y
HL - 23	Balud	Mandaon	Panay-Sorsogon	Masbate	Y
HL - 24	Mandaon	Aroroy	Panay-Sorsogon	Masbate	Y
HL - 25	Aroroy	Masbate	Panay-Sorsogon	Masbate	Y
HL - 26	Roxas	San Jose	Palawan-Luzon	Mindoro	Y
HL - 27	Iloilo	San Jose de Buenavista	Palawan-Visayas	Panay	Y
HL - 28	Taytay	Highway Link	Palawan-Luzon	Palawan	Y

Table 1.3 – Survey Schedule Summary

	Ports Surveyed	Ports Visited (Alternative Ports)	Survey Duration
1. Mindoro	Calapan Roxas San Jose	Mansalay Bulalacao	Oct. 9 - 10 Oct. 10 - 11 Oct. 11 - 12 Oct. 12 - 13 Oct. 16 - 17
2. Palawan	Coron Taytay		Oct. 9 - 10 Oct. 9 - 10
3. Leyte	Kawayan Palompon Maasin		Oct. 9 - 10 Oct. 11 - 13 Oct. 14 - 16
4. Misamis Oriental/ Camiguin	Balingoan Guinsiliban Mambajao	Mahinog (Benoni)	Oct. 9 - 10 Oct. 10 - 11 Oct. 11 - 12 Oct. 12 - 13
5. Negros/ Dipolog	Bacolod Cadiz Can Carlos Escalante Dumaguete Dipolog (Dapitan)		Oct. 18 - 19 Oct. 19 - 20 Oct. 20 - 21 Oct. 21 - 23 Oct. 23 - 24 Oct. 9 - 11
6. Panay	Iloilo Dumangas San Jose de Buenavista Concepcion Culasi Caticlan	Ajuy	Oct. 18 - 20 Oct. 20 - 21 Oct. 21 - 23 Oct. 25 - 26 Oct. 26 - 27 Oct. 23 - 25 Oct. 26 - 27
7. Masbate	Masbate Aroroy Cataingan Mandaon Placer Balud	Esperanza Cawayan	Oct. 18 - 19 Oct. 19 - 20 Oct. 18 - 19 Oct. 19 - 20 Oct. 20 - 21 Oct. 19 - 20 Oct. 20 - 21 Oct. 21 - 23
8. Sorsogon	San Antonio (Pilar)		Oct. 23 - 25
9. Cebu	Bogo San Remigio Tuburan Toledo	Sta. Fe	Oct. 23 - 25 Oct. 25 - 26 Oct. 25 - 26 Oct. 26 - 27 Oct. 27 - 28
10. Bohol	Tubigon Ubay (Tapal) Jagna	Guindulman	Oct. 23 - 25 Oct. 25 - 26 Oct. 25 - 26 Oct. 25 - 26

Note: Highway links were also surveyed during the survey duration given above.

2 Port Survey Result

This report gives a general profile of each of the ports surveyed and the related highway links.

2.1 The Western Route

The Road/RoRo Western Route (i.e., from Batangas to Northern Mindanao) traverses the islands of Mindoro, Panay and Negros. The proposed RRTS western Route is shown in **Fig. A 6.2-3** in Appendix 6. The port and highway links of this route are shown in **Table 2.1**.

Table 2.1 Western Route Port and Highway Links

Transport Link		Mode of Transport	Distance ^a (km)
From	To		
Calapan Port	Roxas Port^b	Road	143
Roxas Port	Caticlan Port	Water	90
Caticlan Port	Culasi Port	Road	73
Culasi Port	Iloilo Port	Road	188
Iloilo Port	Dumangas Port	Road	43
Dumangas Port	Bacolod Port	Water	22
Bacolod Port	Dumaguete Port	Road	255
Dumaguete Port	Dipolog/ Dapitan Port	Water	108
Dipolog/ Dapitan Port	Ozamiz, Misamis Occ.	Road	132

Note: Alternative to Roxas Port are Mansalay and Bulalacao

Approximation

km – kilometer

nm – nautical mile

^a Roxas port has alternative ports, i.e., Mansalay port and Bulalacao port

2.1.1 Calapan Port

a) General Port Profile

The port of Calapan is situated at the northeastern coast of Mindoro Island. It is within the administrative boundary of Barangay San Antonio, Calapan City, Oriental Mindoro. It is diagonally across the port of Batangas (i.e., northwest of Calapan port). The surrounding terrain is flat to rolling (visual slope estimation is 1% to 2% at the coastal side but higher towards the hinterlands. The existing port facilities are shown in the table below.

Table 2.1.1a Existing Calapan Port Facilities

Port Facility	Inventory/Unit of measurement
RORO Ramp	7 units
Lamp Posts/ Flood Lights	7 units
Nav-Aid Light	1 unit
Perimeter Fence	694 meters
Passenger Terminal	558 m ²
Open Storage	570 m ²
Parking Area	1,996 m ²

The port of Calapan is managed by Philippine Port Authority (PPA) on a fulltime basis. The port fees/dues/charges being collected by the management are terminal fee, usage fee, wharfage, mooring/unmooring fee's as well as arrastre fee share.

In 2005, the port registered 12,417 ship-calls. The total passenger and cargo traffic (both directions) handled at the port were 2,246,171 passengers and 690,792 metric tons, respectively. The major inbound cargoes were consumer goods and the outbound cargoes were rice, agricultural/marine products and livestock/poultry. There is one stevedoring company operating at the port.

The shipping companies serving the port are shown in the following tables.

Table 2.1.1b Shipping Companies Operating at Calapan Port

Shipping Company	Number of Vessels
Montenegro Shipping Lines, Inc.	3
Starlite Ferry, Inc.	4
Supercat (Fast Craft)	2

Table 2.1.1c
Shipping Route and Service Frequency

Name of Company	Service Route	Service Frequency	Ave. Load Factor (Peak) (%)	Ave. Load Factor (Off-Peak) (%)
Montenegro Shipping Lines	Calapan-Batangas & vice versa	36 trips/week	80 (for veh.) 40 (for pax.)	70 (veh) 30 (pax)
Starlite Ferry, Inc	Calapan-Batangas & vice versa	4 trips/day/vessel	97 (veh) 100 (pax)	33 (veh) 25 (pax)
Supercat (Fast Craft)	Calapan-Batangas & vice versa	6 roundtrips/day	---- 70 (pax)	--- 56 (pax)

Almost all interviewed passengers originated from the City of Calapan and were destined for the southern part of mainland Luzon, particularly Batangas. On average, the trip frequency of one-half of the passengers interviewed is greater than 5 trips every year between the Calapan-Batangas route. The equivalent percentage share per trip purpose is shown in **Table 2.1.1d**.

Table 2.1.1d
Percentage Share Per Trip Purpose (Calapan Survey Port)

Trip Purpose	Percentage Share (%)
Visit Relatives	49
Business	18
Others	13
Study	11
Commercial	9
Total	100

b) Brief Socio-Economic Profile of Calapan

The City of Calapan is the provincial capital of Oriental Mindoro. It is at the northeastern coastal quadrant of the island of Mindoro, i.e., across Batangas (bearing northwest) and the island of Marinduque to the east. It has a total land area of 25,010 hectares. Total population (as of 2000) is 105,910.

The trade and travel pattern of the city residents are generally oriented towards mainland Luzon. The major products of the locality are rice, fruits/vegetables, marine products, livestock and poultry. The major tourist destinations are beaches/resorts and the famous Bulusan caves. Any future RORO port development/re-development at Calapan may not have a negative impact on the

environment. However, travel safety/security may have to be given the utmost concern.

2.1.2 Calapan To Roxas Highway Link

The highway link from Calapan to Roxas is 146 kms long. About 43% of this link is concrete-paved in good condition and the rest is asphalt in fair to good condition. Bridges along the link are mostly in good condition with an average capacity of 13.6 metric tons. Based on a running traffic count of vehicles in the opposite direction from Calapan to Roxas between 8:00 and 11:30 a.m. (about 3.5 hrs.), the one-way volume during the period was 863 vehicles, 57% which are tricycles and motorcycles and 29% are private cars and vans. Trucks and jeepneys constitute about 7% each.

2.1.3 Roxas Port

a) General Port Profile

The port of Roxas is within the administrative boundary of Bgy. Danggay, Roxas, Oriental Mindoro. It lies at the southeastern coast of Mindoro Island, i.e., facing the port of Caticlan on the northwestern tip of Panay Island. The surrounding terrain is flat but gradually rolling toward the hinterland. It is accessed by a narrow road to the main highway. The water depth at the end of its causeway is 2 meters. It has two(2) RORO ramps, two(2) passenger terminals, five(5) flood lights, wharf (1) and pier(1). All of these facilities are in good condition.

Roxas port is managed by PPA on a fulltime basis. The fees/dues/charges collected at the port are terminal fee, port usage fee, wharfage, as well as arrastre fee share. The outbound cargoes handled at the port are: livestock, agricultural and marine products. The inbound cargoes are consumer goods.

The port catered to a total of 652,800 passengers, 174,276 metric tons of cargoes and 2,181 ship calls in 2005. Three shipping companies are serving the port, to wit:

Name of Company	Route Served	Frequency/Week
Phil. Harbor Ferries and Port Services, Inc.	Roxas-Caticlan	7
Grand Star	Roxas-Caticlan	7
Montenegro Shipping Lines	Roxas-Caticlan	7

The main passenger OD patterns are 37% between Mindoro Oriental and Panay, and 49% between Metro Manila and Panay. By trip purpose, 56% are for visiting friends and relatives and 32% for various other trips (i.e. personal reasons such as job searching, medical check up, following up papers).

b) Brief Socio-Economic Profile

The municipality of Roxas had a population of 41,266 in 2000. Its major products are rice, livestock and fish products.

2.1.4 Mansalay Port

a) General Port Profile

The port of Mansalay is an alternative of Roxas port. It is 151 km from Calapan port. It is in Bgy. Pookan, Mansalay, Oriental Mindoro. The port is in the

southeastern coast of Mindoro Island. It is accessed from the highway by a concrete-paved rock causeway.

Mansalay port is managed by the Local Government Unit (LGU) for exclusive use of National Food Authority (NFA) barges and cement barges. The management collects anchorage fee. Like other LGU-operated ports, port traffic data are not readily available.

The major cargoes handled at the port are rice (inbound/outbound) and cement from Cebu.

b) Brief Socio-Economic Profile of Mansalay

The municipality of Mansalay is in the southeastern coast of Mindoro Island. Its land area is 51,300 hectares. Total population (as of 2000) is 39,773.

The major products of the municipality are: rice, fruits, livestock and poultry. Its major tourist spots are: Kasabangan beach, Mangyan village center, Banal Caves and Eco Paradise in Panaytaya.

c) Mansalay-Bulalacao Highway Link

The highway link from Mansalay to Bulalacao is 32 km. These are adjacent municipalities. Around 81 % of the entire road link is unpaved and in bad condition. A total of 31 vehicles were counted based on the 60-minute traffic count conducted on board a moving vehicle in the opposite direction. The vehicular traffic mix is shown in **Table 2.1.4**.

Table 2.1.4
Vehicular Traffic Along Mansalay-Bulalacao Highway Link^a

Vehicle Type	Percentage Share (%)
Motorcycle	48
Tricycle	26
PUJ	6
Private Car	7
2-axle Truck	13
Total	100

Source: Survey, October 2006

2.1.5 Bulalacao Port

a) General Port Profile

The port of Bulalacao is another alternative of Roxas port. It is 183 km from Calapan port. It is in Bgy. Poblacion, Bulalacao, Oriental Mindoros, in the southernmost tip of the province. The port is accessed by a 500-meter road to the national highway. It has three (3) lamp posts and a 1000 m² passenger terminal.

Bulalacao port is managed by the LGU. The port fees/charges are passenger fees, stevedoring, anchorage and auxiliary invoice for fishing products. The inbound cargoes are fish, salt, and general merchandise. The outbound cargoes are corn, rice and general merchandise. Port traffic data are not readily available.

^a

The port caters mainly to pump-boats (passenger capacity ranges from 15 pax-25 pax) sailing for San Jose, Semirara and Boracay. There are three (3) companies/owners with pump-boats calling at the port. See **Table 2.1.5**.

Table 2.1.5
Company/Owner/Pump-Boat Particulars

Company/Owner	No. of Vessel	Pax. Cap./vessel	Cargo Cap./vessel (ton)	Route Name	Trip Frequency (per week)
Sonny Cris	2	25 pax	3	Bulalacao-San Jose/Semirara	1
Jayjay	1	25 pax.	1.5	Bulalacao-San Jose/Boracay	1
Yogting Sabuwayan	2	15 pax	1	Bulalacao-San Jose/Semirara	1

b) Brief Socio-Economic Profile of Bulalacao

The municipality of Bulalacao has a land area of 30,511 hectares. Total population (as of 1999) is 26,481. The major products are corn, rice, banana and marine products. The major tourist spots are Buyayao Island, Pocanil Island, Suguicay Island, beaches, diving sites, water falls and sunken church tower. The trade and travel patterns of the local residents are oriented towards Boracay, Semirara and San Jose. There were four (4) major shippers identified in the municipality (there are small-scale shippers as well).

2.1.6 Caticlan Port

a) General Port Profile

The port of Caticlan is at the northwestern tip of Panay Island diagonally across Roxas port to the northwest. The terrain surrounding the port is generally rolling with slope ranging from 2% to 3%. The existing port facilities are shown in Table 2.1.6a.

Table 2.1.6a
Caticlan Port Facilities

Facility	Inventory/Units of Measurement	Condition
RORO Ramps	2-9m x 11m RC structures	Fair
RC pier	135m x 9m	Fair
Wharf	20m x 8m	Fair

The port of Caticlan is managed by the Local Government Unit (LGU). The port fees/dues/charges being collected by the management are terminal fee, wharf/berthing fee, port usage fee, etc. Port traffic data were not available during the time of the survey.

Like the port of Roxas (Mindoro Oriental), there are three shipping line companies operating at the port. See **Table 2.1.6b**.

Table 2.1.6b
Shipping Companies Operating at Caticlan Port

Shipping Company	Route Served	Frequency (Per Week)
Phil. Harbor Ferries and Port Services, Inc.	Roxas – Caticlan	7

Grand Star	- do -	7
Montenegro Shipping Lines	- do -	7

The main passenger OD pattern is between Metro Manila and Panay. By trip purpose, 36% were for visiting relatives and friends, 36% for various other purposes (such as work, job search, medical check-ups, follow-ups) and 21% for pleasure.

b) Brief Socio-Economic Profile

Caticlan is a barangay of the Municipality of Malay (Aklan). The municipality had a population of 24,519 in 2000. Major products of the municipality are agricultural in nature, e.g. rice, coconut, fruits, abaca and fishery products.

One major industry in the municipality is tourism, particularly Boracay, the world-famous tourist island which is located just across Caticlan. Developing Caticlan port would further enhance the tourism development not only in Malay, but the in whole province of Aklan as well.

2.1.7 Caticlan to Culasi (Roxas) Highway Link

The link is 152 kms long. About 83% of this link is concrete/asphalt in good condition and 16% is asphalt/concrete in fair condition. About 2 kms (or 1%) of the link is in bad condition. There are 35 bridges which are mostly in good condition with an average capacity of 18.8 metric tons. A running count of vehicles in the opposite direction of Caticlan-Culasi, from 10:00 am to about 3:45 pm, shows a volume of 1,330 vehicles. Of this number, 20% are cars/vans, 8% are jeepneys, 3% are buses, 8% are trucks and 61% are tricycles.

2.1.8 Culasi Port

a) General Port Profile

The port of Culasi is located some 3 kms. from downtown Roxas City (Capiz). It is being managed by the PPA, thus it collects port fees per PPA regulation, e.g. wharfage, vessel usage, arrastre and stevedoring and other regulatory fees. The main port structures are: 2 RoRo ramps (15m x 15 m each), a 412-meter quay wall for berthing ships with a finger pier 53 meters long and 12 meters wide. It has a passenger terminal building with a capacity of 240 passengers.

The port catered to 211,444 passengers, 178,956 metric tons of cargo and 2,293 ship calls in 2005. The shipping companies serving the port are as follows:

Shipping Company	Route Served	Frequency/Week
Moreta Shipping Lines	Manila, Dumaguít, Roxas	2
Maru Transport Inc. (Cargo)	(Unscheduled)	(Unscheduled)
Gothong Southern Shipping	Cebu, Palompon, Dumaguít, Roxas	3

The main passenger OD pattern is between Capiz and Metro Manila. The major trip purposes are visiting relatives and friends (46%), various other purposes (38%) and business (15%).

b) Basic Socio-Economic Profile

Roxas City had a population of 126,352 in 2000. Farming and fishing are the major economic activities. The major products are coconut, rice, vegetables, fish and livestock. The city boasts of historical sites, beaches and the Sinadya sa Halaran as major tourist attractions.

2.1.9 Culasi to Iloilo Highway Link

The link is 122 kms. long, 86% of which is concrete/asphalt in good condition and 14% concrete/asphalt in fair condition.

2.1.10 Iloilo Port

a) General Port Profile

The port of Iloilo (Fort San Pedro, Iloilo City) is situated at the south-southeastern coast of Panay Island. It is 340 n.m. south of Manila and 178 n.m. northwest of Cebu. The terrain at the port, including its immediate surroundings, is generally flat.

The existing port facilities are shown in Table 2.1.10a

Table 2.1.10a
Existing Iloilo Port Facilities^a

Facility	Inventory/Unit of Measurement	Condition
R.C. Quay Line	513m x 12m	Good
Mooring Fixtures	8 mooring bollards	Good
	14 mooring bits	Good
Fender System	23 clusters R.C. fenders	Good
Pass. Terminal Bldg.	2,100 sq. m.	Good
Port Are/Pavement	1.7 has. Reclamation	Good
	11,795 sq. m. concrete pavement	Good

Source PPA PMO Iloilo, Iloilo City, 2006

There are another four (4) ports within the administrative boundary of Iloilo City. These ports are Iloilo Commercial Port Complex (ICPC-10.50 meters MLLW controlling draft), Iloilo River Wharf (IRW-4 meters controlling draft), Fort San Pedro Sea-Stair-Landing and Ortis Sea-Stair-Landing. The existing port facilities of ICPC and IRW are shown in **Table 2.1.10b** and **Table 2.1.10c**.

Table 2.1.10b
Iloilo Commercial Port Complex (ICPC) Port Facilities

Facility	Inventory/Unit of Measurement	Condition
R.C. Quay Line	26.26m x 400m	Good
Mooring Fixtures	825 sets 60T mooring bollards	Good
RORO System	13.80m x 15m	Good
Fender System	107 sets rubber dock fenders	Good
Reefer Terminal	3 x 6 (1-220v & 2-480v)	Good
Stand-By Generator	500 KVA	Good
CFS/Equipment Shed/Amenity Block	8,090 sq. m.	Good

**Table 2.1.10c
Iloilo River Wharf (IRW) Port Facilities**

Facility	Inventory/Unit of Measurement	Condition
R.C. Quay Line	3000m x 12m	Good
a) Mooring Fixtures	75 sets mooring bitts; 3 sets mooring bollards; 18 sets mooring cleats; 42 sets R.C. mooring posts.	Good
Fender System	141 used truck tire fenders	Good

The Philippine Ports Authority (PPA) manages all the earlier mentioned four ports. The port fees and charges at Iloilo Base Port (IBP) or the Fort San Pedro Port are wharf/berthing fees, port user fees, license fee, etc. The port fees/charges at the Iloilo River Wharf (IRW) are entrance fee, wharf/berthing fee, port user fee, license fee, etc. The fees/charges at sea-stair-landing are license fee, landing fee, registration fee, association fee, etc. In 2005, the port traffic volumes are:

- Passengers : 1,624,521
- Cargoes : 663,520 metric tons
- Shipcalls : 8,603

The ICPC is catering to large ocean-going vessels. The IBP/Iloilo port or Fort San Pedro Port is catering to long-distance inter-island RORO/Ferry/Pax/Cargo vessels. The IRW is catering to short-distance fast-crafts. The average load factor of the vessels calling at these ports (IBP and IRA except ICPC) are 75% (peak) and 45%-50% (off-peak). The sea stair-landing/ports cater to pump-boats. See Table 2.1.10d and Table 2.1.10e.

**Table 2.1.10d
Shipping Companies Operating at The Iloilo Port
(Fort San Pedro)**

Shipping Company	Number of Vessels
Aboitis	8
Cokaliong	1
Negros Navigation	2
Transasia	1
Sulpicio Lines	2

**Table 2.1.10e
Shipping Route and Service Frequency**

Name of Company	Service Route	Service Frequency (per week)
Aboitis	Iloilo-Gen.San	2
	Iloilo-Manila	4
	Iloilo-Davao	2
	Iloilo-Cagayan	2
	Iloilo-Zambo.	1
	Iloilo-Cotabato	1
	Iloilo-Ozamis	1
Cokaliong	Iloilo-Cebu	3
Negros Nav.	Iloilo-Manila	3
	Iloilo-Manila	2
	Iloilo-Bukdnon	1

	Iloilo-N.Cot.	1
	Iloilo-Pagadian	1
	Iloilo-Butuan	1
Sulpicio	Iloilo-Manila	1
	Iloilo-Zambo	2
	Iloilo-Cotabato	1
	Iloilo-GenSan	1
Trans Asia	Iloilo-Cebu	1

Based on the passenger interview survey conducted at the Iloilo City ports in October 2006, around 50% of the total interviewed passengers were bound for Bacolod, 22% were bound for Cebu and 18% were bound for Manila. The average trip frequency ranges from 2-4 trips/year. Around 50% of passengers interviewed were visiting friends and relatives.

b) Brief Socio-Economic Profile of Iloilo City

Iloilo City is the provincial capital of Iloilo. It is directly across Cuyo Island to the west bounded by Sulu Sea/Cuyo East Pass. It has a total land area of 5,600 hectares. Its total population, as of 2000, was 366,991 persons at an average annual growth rate of 1.97%. Its main agricultural products are rice, corn, fruits and marine products. Its major tourist spots/attractions are Museo Iloilo, Fort San Pedro and Dinagyang Festival.

The trade and travel patterns of the local residents of Roxas are generally oriented towards Cebu, Negros, Palawan, Mindoro and Manila. The future RORO port development/re-development at Iloilo would not have a negative impact on the environment. Travel safety/security is satisfactory.

2.1.11 Iloilo to Dumangas Highway Link

The link is 43 kms. long, all concrete in good condition. There are eight (8) bridges, all in good condition, with an average capacity of 18 metric tons. A running count of vehicles in the opposite direction of Iloilo-Dumangas for the period 12:20 to 1:00 pm, shows a volume of 206 vehicles, 46% of which are cars/vans, 17% are jeepneys, 5% are trucks and 32% are tricycles/motorcycles.

2.1.12 Dumangas Port

a) General Port Profile

The port of Dumangas is located at Bgy. Naluoyan, Dumangas, Iloilo, some 43 kilometers northeast of Iloilo City. The main port facilities are two (2) RoRo ramps, a 117 m x 9 m RC pier, a 50-sq. meter passenger terminal building.

Port traffic for three (3) quarters of the current year are: 142,561 passengers, 156,934 metric tons of cargo and 1,998 ship calls. The shipping companies serving the port are as follows:

Name Company	Routes	Frequency/Week
Jomalin Shipping Corp.	Dumangas-Bacolod	14
Tristan Megalink Corp.	- do -	21
Millenium Shipping Corp.	- do -	21

The main passenger OD patterns are: between Iloilo (particularly Dumangas) and several Negros Occidental towns. The main trip purposes are visiting relatives/friends (48%), study (24%), other purposes (such as work, job search, medical check ups, follow ups: 14% and business (10%).

b) Brief Socio-Economic Profile

The municipality of Dumangas had a population of 56,291 in 2000. Major products are mainly agricultural, i.e. rice and fish products (particularly bangus). Some tourist attraction areas include historical sites and beaches.

2.1.13 Bacolod Port

a) General Port Profile

Bacolod port is privately owned and operated by Bacolod Real Estate Development Company (BREDCO). It consists of two locations namely BREDCO Ports I and II, within the city center. PPA's PMO-Bacolod is actually located at Pulpandan, but PPA maintains a terminal at BREDCO Port I.

The main port facilities include four (4) RoRo ramps, although one (1) is unused due to shallow water depth, passenger terminal and transit shed.

BREDCO collects terminal and parking fees and the usual wharfage and port usage fees. The company operates the arrastre and stevedoring services. Port traffic volumes in 2005 are: 1,941,373 passengers, 1,857,215 metric tons of cargoes and 10,671 ship calls. There are seven (7) shipping companies serving the port, five (5) of which are operating RoRo vessels on the routes Dumangas and Iloilo, each operating daily and two (2) are operating fast craft services on the same routes at a frequency of 4 trips per day.

The main passenger OD pattern is between the provinces of Negros Occidental and Iloilo. The main trip purposes are visiting relatives/friends (75%), study (12.5%) and business (12.5%).

b) Basic Socio-Economic Profile

The city of Bacolod had a population of 429,076 in 2000 with an annual population growth rate of 1.39%. Major products are sugarcane, rice, vegetables, livestock and fish products. The city has several tourist spots, mainly religious and historical sites. The city is also famous for its Maskara Festival which draws a huge number of foreign and local tourists during the month of October.

2.1.14 Bacolod to Dumaguete Highway Link

There are two alternative paths between Bacolod and Dumaguete. One is via the direct cross country road between Bacolod and San Carlos, then down to Dumaguete. The other is via the coastal road from Bacolod passing the coastal towns of Cadiz and Escalante up to San Carlos, then down to Dumaguete.

The cross country direct road from Bacolod to San Carlos is 87 kms long and these are concrete roads in good condition with some portions gravel-surfaced in good condition. There are three (3) bridges in fair condition with an average capacity of 15 metric tons. A running count of vehicles in the opposite direction of San Carlos-Bacolod, during the

period 10:30 am to 12:30 pm, shows a volume of 39 vehicles, 69% of which are cars/vans, 3% are jeepney 13% are buses and 15% are trucks.

The coastal road link via Cadiz and Escalante has a length of 146 kms. About 84% of this link is concrete/asphalt in fair condition. The rest are 9% concrete in good condition and 7% asphalt in bad condition. Bridges along this link are mostly in fair condition, with an average capacity of 12.7 metric tons. A running count of vehicles in the opposite direction of Bacolod-San Carlos, for the period 7:00 am to 3:00 pm, shows a volume of 324 vehicle, 36% and 12% are jeepneys.???

The highway link from San Carlos to Dumaguete is 164 kms long. About 69% of this link is asphalt/concrete in fair condition. The remaining 31% is asphalt in bad condition. Bridges along this link are mostly in fair condition, with an average capacity of 15 to 18 metric tons. A running count of vehicles in the opposite direction of San Carlos-Dumaguete during the period 9:30 am to 3:00 pm shows a volume of 262 vehicles, 47% of which are private cars/vans, 30% are buses, 13% are jeepneys and 10% are trucks.

2.1.15 Dumaguete Port

a) General Port Profile

The port of Dumaguete is located within the city center. Dumaguete City is the capital of Negros Oriental and it is located at the southeast tip of Negros Island. The main port facilities include two (2) RoRo ramps, three (3) piers, a passenger terminal building, a 5,850 square meter storage area and a newly reclaimed area of 1,945 square meters.

Port traffic volumes in 2005 are: 1,052,180 passengers, 531,450 metric tons of cargoes and 7,439 shipcalls. There are nine (9) shipping companies serving the port broken down into: five (5) companies operating RoRo vessels daily on the routes to Dapitan, Cebu and Zamboanga, three (3) companies operating fast craft services daily on the routes to Dapitan, Tagbilaran, Cebu and one (1) motor launch company operating daily on the route Dumaguete-Siquojor.

The main passenger OD pattern is between the provinces of Negros Oriental and Zambaonga del Norte. The main trip purposes are visiting relatives and friends (67%) and study (33%).

b) Basic Socio Economic Profile

The city of Dumaguete had a population of 102,265 in 2000. Its major products are sugar, coconut, fish products. Among the city's popular tourist attractions are the Dumaguete Bell Tower, museums and caves.

2.1.16 Dipolog (Dapitan) Port

a) General Port Profile

Dipolog port, as mentioned in the study, is actually the port of Dapitan which is located in Dapitan City (Zamboanga del Norte), some 16 km northeast of Dipolog City (the capital of Zamboanga del Norte). The main facilities at Dapitan port are: a RoRo ramp, a 130-meter by 18-meter pier, a 336-square meter passenger terminal building, and a 4,270-square meter of reclaimed area.

Dapitan port catered to 519,308 passengers, 263,285 metric tons of cargo and 1,266 shipcalls in 2005. There are five (5) shipping companies serving the port, three (3) of which are operating RoRo services daily on the routes Dumaguete Cebu, Zamboanga, one (1) fast craft company operating daily on the same routes and one (1) liner vessel company operating one (1) trip per week on the route Ozamiz, Iloilo, Cagayan de Oro, Manila.

The main passenger OD patterns are between Zamboanga del Norte and Cebu (30%), Zamboanga del Norte and Negros Island (20%), Misamis Occidental and Negros Island (14). The rest is distributed on the ODs between Zamboanga del Norte and Metro Manila, Negros Island and some Luzon provinces. The main trip purposes are visiting relatives/friends (60%), business (20%) and commercial (17%).

b) Basic Socio-Economic Profile

Dapitan City had a population of 68,178 in 2000. The city's economy is primarily based on 969 commercial establishments and several industrial establishments. Tourism is beginning to gain momentum through the rapid increase in the number of tourists visiting Dakak Park and Beach Resort, the Rizal Shrine and the Dapitan City Resort Hotel and Pavillion.

2.1.17 Dapitan to Ozamiz Highway Link

The highway link between Dapitan City and Ozamiz City is 128 km long, of which 66% is asphalt-paved in fair condition and 34% is asphalt-paved in good condition. Bridges which have an average capacity of 10 metric tons are mostly in fair condition. One bridge in the link is in bad condition. Traffic volume based on a running count from Dapitan to Ozamiz between 7:00 am and 10:30 am (about 3.5 hrs.) is 336 vehicles one-way. Of this number, about 58% are private cars, 26% are trucks, 10% are jeepneys and the rest are buses.

2.2 Central Route

The Central Route connects Sorsogon in the mainland Bicol Region with the islands of Masbate, Cebu, Bohol, Camiguin up to Misamis Oriental in Northern Mindanao. The proposed route alignment is shown in Fig. A 6.2-4 in Appendix 6. The port and highway links of this route are shown in Table 2.2

**Table 2.2
Central Route Port and Highway Links**

Transport Link		Mode of Transport	Distance ^(a) (km.)
From	To		
Legazpi	San Antonio, Pilar, Sorsogon	Road	35
San Antonio Port	Masbate Port	Water	74
Masbate Port	Aroroy Port	Road	50 (via Baleno)
Aroroy Port	Placer Port	Road	140
Placer Port	San Remigio Port	Water	85
San Remigio Port	Cebu City Port	Road	66
Cebu City Port	Tubigon Port	Water	38
Tubigon Port	Jagna Port	Road	81
Jagna Port	Mambajao Port	Water	57

Mambajoa Port	Guinsiliban Port	Road	22
Guinsiliban Port	Balingoan Port	Water	13

^(a) approximate

Note: Alternative ports are Cawayan for Placer, Guindulman for Jagna, Mahinog for Guinsiliban.

2.2.1 Legazpi City to San Antonio (Pilar, Sorsogon) Highway Link

The link from Legazpi to Pilar poblacion is 30 kms., 100% concrete in good condition. A running count of vehicles in the opposite direction to Legazpi-Pilar during the period 8:30 to 10:00 am shows a volume of 372 vehicles, 57% of which are motorcycle/tricycles, 26% are cars/vans, 10% are buses, 6% are jeepneys and the remaining 15 are trucks.

2.2.2 San Antonio (Pilar, Sorsogon) Port

a) General Port Profile

The existing port is at Poblacion, Pilar, Sorsogon. In this study, the proposed RoRo port will be at Bgy. San Antonio of Pilar, which is about 2 to 3 kms. from the Poblacion. Pilar town is about 30 kms. From Legazpi City.

The port information given here is for the Poblacion Port. There is no existing port at San Antonio. The Poblacion Port is managed by the local government of Pilar. The main facilities of the port include a pier and a passenger terminal shed. The LGU collects passenger terminal fee, port usage fee, wharfage and parking fee. The LGU does not keep records on the ports' traffic data.

There is one shipping company serving the port operating on the route Pilar-Masbate with an average of five (5) trips daily. In addition to this, there are seven (7) pumpboats registered to operate the Pilar-Masbate route, two (2) for Pilar-Aroroy, one (1) for Pilar-Ticao and three (3) for Pilar-Monreal.

The main passenger OD patterns are: between the provinces of Albay and Masbate (46%), between Metro Manila and Masbate (27%) and between Camarines provinces and Masbate (14%). The main trip purposes are visiting relatives/friends (53%), business (19%), study (14) and various other purposes (14%).

b) Basic Socio-Economic Profile

Pilar had a population of 57,898 in 2000. Its main products are coconut, rice, livestock and marine products. The town is a favorite tourist destination for whale watching and it has nice beaches to offer.

2.2.3 Masbate Port

a) General Port Profile

The Port is located in Masbate City, capital of Masbate province. The city is situated at the center of Masbate Island, facing Ticao Island (which is also part of Masbate province). The port is strategically located within the city proper at the back of the public market. The main port facilities include a 330-meter wide wharf, three (3) RoRo ramps, and a 240-square meter warehouse/cargo shed. There is no passenger terminal building. The port is managed by PPA and it

collects terminal, mooring/unmooring wharfage, vehicle pass fees as well as arrastre fee share.

Port traffic volumes in 2005 are: 500,478 passengers, 282,048 metric tons of cargo and 3,256 shipcalls. There are five (5) shipping companies serving the port. These are:

Name Company	Routes	Frequency/Week
Montenegro Shipping	Masbate – Pilar	28
Trans-Asia	Masbate – Cebu	3 to 4
Sulpicio Lines	Manila – Masbate – Cebu	8
Blue Magic Ferries	Masbate – Lucena	3
MBRS Lines	Manila – Masbate	1

The main passenger OD patterns are: between Masbate and Cebu (28%), between Masbate and Metro Manila (27%), between Masbate and Bicol Mainland (18) and between Masbate and Southern Tagalog provinces (17%). The main trip purposes are visiting relative/friends (45%), other personal purposes (follow up, check up, work (22%), business and commercial (18%), study and pleasure (15%).

b) Brief Socio-Economic Profile

The city of Masbate had a population of 71,441 in 2000. Its economy is largely based on the trading of agro-livestock-fishery products of the province. The main products are coconut, root crops, rice, fruits, vegetables and livestock (particularly cattle). It has a collection of historical buildings and it is a jump-off point to major tourist attractions in the province and the Bicol region.

2.2.4 Masbate to Aroroy Highway Link

There are two alternative highway links between Masbate and Aroroy. One is via the interior road passing through the junction to Milagros and the other is via the northeastern coastal area passing through Baleno.

The link via Milagros junction has a length of 74 km, 41% of which is concrete in good condition, 33% is concrete/asphalt in fair condition and 26% is asphalt/gravel in bad condition. There are eight (8) bridges, mostly in good condition, with an average capacity of about 9 metric tons. A running count of vehicles in the opposite direction to Masbate-Aroroy, during the period 1:30 to 3:30 pm shows a volume of 79 vehicles, 81% which are tricycles/motorcycles, 10% are cars/vans, 4% are trucks and the remaining 5% are shared by jeepneys and buses.

The coastal link via Baleno is 50 km long, and 100% gravel in bad condition. There are six (6) bridges, mostly in good condition, with an average capacity of 10 metric tons. A running count of vehicles in the opposite direction to Masbate-Aroroy during the period 7:50 to 9:55 am shows a volume of 286 vehicles, 84% of which are tricycles/motorcycles, 8% are cars/vans, 4% are buses and the remaining 4% are shared by jeepneys and trucks.

2.2.5 Aroroy Port

a) General Port Profile

The port is located at Poblacion, Aroroy, Masbate, at the northernmost part of the province of Masbate. The town is about 50 km from Masbate via the northeastern coastal area of the province or about 74 km via the interior part of the Masbate passing through Milagros junction.

The main port facilities are a 100-meter causeway and a 50-square meter passenger terminal. It is managed by the municipal government. Port management collects port usage fee, anchorage fee, wharfage and entrance fees as well as cargo handling fees. The concerned LGU does not usually record port traffic data. An indicative figure is about 30,000 passengers in 2005. Cargo traffic data are incomplete.

Only pumpboats are serving the port at present on the routes Aroroy to Pilar and other coastal barangays in the area. For this type of service, there are eight (8) trips per day.

The main passenger OD pattern is between Masbate and Albay (50%) and between Masbate and Metro Manila (44%). The main trip purposes are visiting relatives/friends (41%), study (35%), business (12%) and pleasure (12%).

b) Basic Socio-Economic Profile

Aroroy has a present population of 78,000. Its major products are rice, corn, coconut, livestock and fish products. In terms of tourism, the town has white sand beaches and fish sanctuaries.

2.2.6 Aroroy to Placer Highway Link

The link from Aroroy to Placer has a length of 140 km, 36% of which is gravel-paved in bad condition, 36% is concrete/asphalt in fair condition and 28% is concrete in good condition. There are 23 bridges along the link, mostly in good condition, with an average capacity of 11 metric tons.

2.2.7 Placer Port

The municipality of Placer, Masbate is located some 96 kilometers southeast of Masbate City. It has no port at present although there are a few pumpboats serving local trips between southern Masbate and Northern Cebu. The main trip purposes are visiting relatives/friends (71%) and business (24%). These pumpboats are using a landing facility at the back of the public market.

The municipality had a population of 44,418 in 2000. Its major products are rice, corn, rootcrops and fruits. There are fine beaches, undersea scenery, caves and underground water for tourism purposes.

2.2.8 Cawayan Port

This port is an alternative for Placer Port. It is located at the municipality of Cawayan, Masbate, some 66 kilometers south of Masbate City. The port is currently under construction with about 30% of the works completed. The facilities being constructed include a 300-meter long causeway and a RoRo ramp.

There are pumpboats serving local trips between southern Masbate and Bantayan island in Cebu. Due to the absence of a port facility at present, these pumpboats anchor near the town's seashore.

The municipality of Cawayan had a population of 54,256 in 2000. The main products are corn, rice, coconut, rootcrops, fruits, livestock and fish products. The town has promising tourist spots such as beautiful islands, white beaches and undersea scenery.

2.2.9 San Remigio Port

a) General Port Profile

The port, also referred to as Hagnaya Port, is located at Barangay Hagnaya, San Remigio, Cebu. San Remigio is 66 kms. north of Cebu City. It is at the northernmost portion of Cebu Province and facing Bantayan Island. The port area is 3,000 square meters. The main port facilities are a RoRo ramp (40 linear meter), a 36-meter wharf and a 200-square meter passenger terminal. The port is being managed by Cebu Ports Authority (CPA). It collects wharfage, terminal, usage and storage fees as well as arrastre fee share. Port traffic volumes for 2005 are: 674,480 passengers, 371,007 metric tons of cargo and 5,120 shipcalls.

There are three shipping companies serving the port. They are operating on the route Hagnaya-Sta. Fe. These companies are:

<u>Company Name</u>	<u>Frequency/Week</u>
Island Shipping Corporation	42
Super Shuttle Ferry	14
EB Aznar	42

The main passenger OD pattern is between the mainland of Cebu Province and Towns in Bantayan Island (93%). The main trip purposes are visiting relatives/friends (20%), study (30%), other purposes (25%), business/commerce (14%) and pleasure (11%).

b) Basic Socio-Economic Profile

The estimated 2005 population of San Remigio based on 2000 data is 50,348. The town's major products are coconut, sugar cane, corn, marine products and livestock. There is no tourist destination of significance in San Remigio. But the port of Hagnaya is the gateway to Bantayan Island, a major tourist destination.

2.2.10 Sta. Fe Port

For this study, the port of Sta. Fe is an alternative to Hagnaya Port (San Remigio).

a) General Port Profile

The port is located in Sta. Fe, one of the municipalities in Bantayan Island. The island is at the north end of Cebu Province. The main facilities of the port are: 2 RoRo ramps, a 4-berth pier/wharf, a rock causeway, a passenger terminal and a port office. The port is managed by CPA and it collects wharfage, usage, storage, terminal fees as well as arrastre fee share. The port's traffic volumes are similar to Hagnaya Port since shipping services operate regularly between the two ports. Consequently, passenger travel characteristics for the two ports are also the same.

b) Basic Socio-Economic Profile

Based on 2000 population data, the estimated population of Sta. Fe in 2005 is 25,677. The town's major products are fish/marine products, corn, poultry and rootcrops. Since Sta. Fe is in Bantayan Island, it is part of the tourist attraction areas of the island.

2.2.11 San Remigio to Cebu City Highway Link

The link from San Remigio to Cebu City is 66 kms. long and 100% concrete in good condition. There are 18 bridges, 56% of which are in good condition, 38% are in fair condition and 6% in bad condition. A remaining count of vehicles in the opposite direction to San Remigio-Cebu during the period 8:35 to 10:40 am, shows a volume of 547 vehicles, 49% of which are motorcycles/tricycles, 25% are cars/vans, 12% are trucks and the remaining 14% are shared by jeepneys and buses.

2.2.12 Tubigon Port

a) General Port Profile

The port is located in the Poblacion of Tubigon, some 54 km away from Tagbilaran City, the capital of Bohol Province. It serves as the gateway of the northern part of Bohol to Cebu City. The main port facilities are a RoRo ramp, a 126-meter pier, a 700-meter causeway, a 600-meter storage area and a 300-square meter passenger terminal. The port is managed by PPA and it collects terminal, mooring/unmooring, wharfage, vehicle pass fees as well as arrastre fee share. The port's traffic data for 2005 are: 1,444,945 passengers, 181,459 metric tons of cargo and 5,219 shipcalls.

There are five (5) shipping companies serving the port operating on the route Tubigon-Cebu. These companies are:

<u>Company Name</u>	<u>Frequency/Week</u>
Rolly Shipping Lines	7
Kinswell Shipping Lines	14
Island Shipping	7
Jadestar Shipping	14
	28

The main passenger OD pattern is between the provinces of Bohol and Cebu (99%). The main trip purpose, categorized as other purposes, such as work, personal reasons (e.g. medical check up, follow up of papers, etc. is 80%. The other purposes are distributed among business, commercial, visiting of relatives/friends, study.

b) Brief Socio-Economic Profile

The town of Tubigon had a population of 48,385 in 2000. Its main products are rice and corn. The main tourist attractions of the town are white sandy beaches.

2.2.13 Tubigon to Jagna Highway Link

The link is 81 km long. It runs via the interior part of Bohol passing through the towns of Carmen and Sierra Bullones. About 56% of the link is concrete in good condition and the remaining 44% is gravel in fair condition. There are 24 bridges, 88% of which are in good condition. The remaining 12% are in fair condition. Average capacity is 15 metric tons. Traffic data from the Third District Engineering Office of DPWH are as follows.

Section	Average Daily Traffic, Both Directions					
	Cars	Jeepneys	Buses	Trucks	Motorcycles/ Tricycles	Total
Jagna-Sierra Bullones	110	8	13	31	1,211	1,373
Carmen-Sagbayan	66	13	14	46	30	169

2.2.14 Jagna Port

a) General Port Profile

The port is located in the Poblacion of Jagna, some 63 km east of Tagbilaran City, the capital of Bohol province. It serves as southern Bohol's gateway to Mindanao particularly Camiguin and Misamis Oriental. The port's main facilities include: a 106-meter cemented rock causeway. It has a 57 meter by 9 meter pier and an 80 m x 12 meter wharf, a RoRo ramp and a 240 square passenger meter terminal. At present, the port is under rehabilitation thus port operations are suspended. Rehabilitation work is expected to be completed in January 2007. The port is managed by PPA and it collects terminal, mooring/unmooring, wharfage, vehicle pass fees as well as arrastre fee share.

Port traffic volumes of the port in 2005 are: 265,698 passengers, 80,151 metric tons of cargo and 405 shipcalls. Two shipping companies have been serving the port on the routes Jagna-Cagayan de Oro and Jagna-Nasipit. These companies are:

<u>Company Name</u>	<u>Frequency/Week</u>
Sulpicio Lines	14
Cebu Ferries	7

Data on passenger OD pattern and trip purposes could not be generated because port operations were suspended during the survey period.

b) Basic Socio-Economic Profile

The town's population in 2002 was 31,877. Its major products are coconut, rootcrops, rice and corn. The town can boast of several tourist attraction areas consisting of natural spots such as caves, water falls and beaches.

2.2.15 Guindulman Port

This port is an alternative to Jagna Port.

a) General Port Profile

The port is located in Poblacion, Guindulman, some 85 km east of Tagbilaran and 22 km northeast of Jagna. The port is specifically located at the back of the town's municipal hall. Except for a 70-meter rock causeway, there are no other

facilities in the port. The port is owned by the municipal government and basically it is not in operation.

b) Basic Socio-Economic Profile

The town of Guindulman had a population of 31,028 in 2000. Its major products are rice, fruits, rootcrops and corn. The main tourist attractions are beaches, undersea scenery, caves and underground water.

2.2.16 Mambajao Port (Balbagon)

a) General Port Profile

The port is located in Barangay Balbagon, Mambajao, Camiguin Province. The town of Mambajao is at the northern part of Camiguin and it is facing Bohol. It is the capital of Camiguin Province. The main port facilities are: a reinforced concrete pier 93 meters long, a RoRo ramp, a back-up area and warehouse. The port is managed by PPA and it collects terminal, mooring/unmooring, wharfage, vehicle pass fees as well as arrastre fee share.

Traffic volumes of the port in 2005 are: 20,458 passengers, 25,872 metric tons of cargo and 85 shipcalls. Asian Marine Transport Corporation is servicing the Mambajao-Cebu route once a week. The main passenger OD pattern is between Camiguin and Cebu (91%). The main trip purposes are visiting relatives/friends (36%) other personal purposes (32%) and commercial (18%).

b) Basic Socio-Economic Profile

Based on the 2000 population data, the estimated population of Mambajao in 2005 is 34,431. Agricultural production has declined, particularly on the main product which is coconut. This is due to inadequate maintenance of farm to market roads. ??? However, in tourism, the municipality abounds in natural and historical attractions such as waterfalls, hot springs and beach resorts.

2.2.17 Mambajao to Guinsiliban Highway Link

The link between Mambajao and Guinsiliban is 22 km long and 100% concrete in good condition. There are 10 bridges, all in good condition. A running count of vehicles in the opposite direction to Mambajao-Guinsiliban during the period 7:00 to 8:00 am, shows a volume of 31 vehicles, 45% of which are cars/vans, 45% are motorcycles/tricycles and 10% are trucks.

2.2.18 Guinsiliban Port

a) General Port Profile

The port of Guinsiliban is located in Poblacion, Guinsiliban, Camiguin, some 22 km southeast of Mambajao. It faces the town of Balingoan in Misamis Oriental. The port area is about 1,730 square meters and the main port facilities are: a 142-meter rock causeway, a 30-meter pier and a RoRo ramp. It is managed both by PPA and the municipal government. As such, the LGU collects municipal, vehicle pass and cargo handling fees while PPA is collecting wharfage.

In 2005, the port's traffic volumes are: 91,243 passengers, 12,322 metric tons of cargo and 1,066 shipcalls. Only Asian Marine Transport Corporation is

operating at the port on the route Guinsiliban-Balingoan with 21 trips per week. The main passenger OD pattern is between Camiguin and Misamis Oriental (97%). The main trip purposes are visiting relatives/friends (64%) and other personal purposes (36%).

b) Basic Socio-Economic Profile

Guinsiliban town had a population of 5,092 in 2000. No data on production have been obtained. In terms of tourism, the town has several natural spots, such as white sand beaches and diving camps.

2.2.19 Mahinog (Benoni) Port

The port is an alternative to Guinsiliban Port in this study.

a) General Port Profile

The port is located at Barangay Benoni, Mahinog, Camiguin, some 15 km southeast of Mambajao or 7 km north of Guinsiliban. The main port facilities are a 2,115-square meter wharf and two (2) RoRo ramps. The port is managed by PPA and it collects terminal, mooring/unmooring, wharfage, vehicle pass fees as well as arrastre fee share. Port traffic volumes in 2005 are: 295,584 passengers, 15,245 metric tons of cargo and 4,221 shipcalls. There are three (3) shipping companies serving the port on the routes Balingoan-Benoni. These companies are:

<u>Company Name</u>	<u>Frequency/Week</u>
Higos de Juan Corrales	21
Philstone Shipping	42
Asian Marine Transport	21

The main passenger OD pattern is between Camiguin and Misamis Oriental (96%). The main trip purpose is pleasure (100%).

b) Basic Socio-Economic Profile

The town of Mahinog had a population of 12,592 in 2000. Its main products are coconut, fruits, rice and rootcrops. The town is endowed with natural attractions and scenic beauty, such as beaches, marine and mountains. These provide opportunities for sight seeing and recreation activities by both local and foreign tourists.

2.2.20 Balingoan Port

a) General Port Profile

The port is located at the municipality of Balingoan, Misamis Oriental, some 84 km from Cagayan de Oro City. The port is a focal point of trade and tourism for Camiguin. The main port facilities include: a reinforced concrete pier 105 meters long, two (2) RoRo ramps, and a 400-square meter passenger terminal building. The port is managed by PPA and it collects terminal, mooring/unmooring, wharfage, vehicle pass fees as well as arrastre fee share.

Port traffic volumes in 2005 are: 387,479 passengers, 27,917 metric tons of cargo and 5,404 shipcalls. There are three (3) shipping companies serving the port. These are:

Name Company	Routes	Frequency/Week
Philstone Shipping	Balingoan-Benoni (Mahinog)	42
Asian Marine Transport	Balingoan – Benoni (Mahinog)	42
	Balingoan - Guinsiliban	21
Hijos de Juan Corrales	Balingoan – Benoni (Mahinog)	21

The main passenger OD pattern is between Misamis Oriental and Camiguin (87%). The rest is distributed on some places in Mindanao (such as Bukidnon) and Visayas (such as Cebu). The main trip purposes are for various personal reasons, such as medical check-up, work, paper follow ups (64%), visiting relatives/friends (22%) and business (14%)

b) Basic Socio-Economic Profile

The town of Balingoan had a population of 9,988 in 2005. Its major products are fruits (mangoes, bananas, lanzones), coconut and corn. In terms of tourism, the town has a diving resort, springs, natural scenic locations for people to visit.

2.3 Eastern Route

The Eastern Route links the island of Masbate with Northern Leyte. The port and highway links of this route are given in Table 2.3 below. **Figure A 6.2-2** in **Appendix 6** shows the map of the route.

Table 2.3 Port and Highway Links : Eastern Route

Transport Link		Mode of Transport	Distance ^(a) (km.)
From	To		
Masbate Port	Cataingan Port	Road	90
Cataingan Port	Kawayan (Biliran) Port	Water	52
Kawayan (Biliran) Port	Tacloban Port	Road	118

^(a) approximation

Note: Esperanza Port (in Masbate) is an alternative to Cataingan Port.

2.3.1 Masbate Port

A general profile of this port is given in Subsection 2.2.3.

2.3.2 Masbate to Cataingan Highway Link

The link from Masbate to Cataingan is 90 km long, 43% of which is concrete in good condition and 57% is concrete/asphalt in fair condition. There are 15 bridges, mostly in good condition, with an average capacity of 11.7 metric tons. A running count of vehicles in the opposite direction to Masbate-Cataingan, shows a volume of 276 vehicles, 70% of which are motorcycles/tricycles, 12% are cars/vans, 13% are jeepney and the rest is shared by buses and trucks.

2.3.3 Cataingan Port

a) General Port Profile

The port is located at the municipality of Cataingan, Masbate, some 77 km southeast of Masbate City. To its east is Western Samar, and southeast is Biliran Island of Leyte. The main port facilities are: a 400-meter long cemented rock causeway and a 150-meter long pier. The port is managed by the municipal government of Cataingan which collects terminal, wharfage, berthing, verification and arrastre fees. Traffic volume data for 2005 are 75,600 passengers, about 20,000 metric tons of cargo and 1,159 shipcalls.

There are two shipping companies serving the port. These are:

Name Company	Routes	Frequency/Week
Lapu Lapu Shipping	Cataingan-Cebu	7
Key West Shipping Line	Cebu-Cataingan-Aroroy	No fixed schedule

The main passenger OD patterns are: between the provinces of Masbate and Cebu (42%), between Masbate and Eastern Visayas (65%). The main trip purposes are business and commerce (44%), visiting relatives/friends (40%), study (9%).

b) Basic Socio-Economic Profile

The town of Cataingan had a population of 46,593 in 2000. Its major products are rootcrops, rice, corn and fish products. In terms of tourism, the town has several natural spots such as white beaches, caves, natural springs but tourist arrivals have been scarce due to the lack of basic infrastructure facilities.

2.3.4 Esperanza Port

The port is an alternative to Cataingan port. It is situated at the municipality of Esperanza, Masbate, some 113 kilometers southeast of Masbate City. It is located right at the southernmost tip of Masbate island, facing Biliran Island to its east. It is nearer to Biliran Island than Cataingan.

There are no port facilities at present, although the site has been mentioned by the President in her SONA as one of the priority projects in the Nautical Highway system. In the meantime, the PPA is conducting consultations and coordination with the municipal government for the construction of the port and its access road.

The municipality had a population of 16,209 in 2000. Its major products are rice, corn, root crops and fruits. Like other Masbate towns, Esperanza has fine white beaches as well as crystal clear sea water abounding with sea grass, coral reefs and aesthetic fishes which can invite tourists to visit the place.

2.3.5 Kawayan (Biliran) Port

The port is located at the municipality of Kawayan, Biliran, north of Leyte. West of Kawayan is the southernmost tip of Masbate Island and to its east is Western Samar. By land, Kawayan is 118 km north of Tacloban City. The main facility of the port at present is a 300-meter causeway. The port is managed by the municipal government. However, there are practically no existing port operations. Except for a few pumpboats which are occasionally hired by local residents, there are no shipping lines serving the port.

As of 2000, Kawayan had a population of 17,507. Its main products are coconut, rice, rootcrops, fruits and vegetables. Some of the town's tourism potential areas include clean beaches, beautiful islets, waterfalls and the enchanting Mt. Panamao.

2.3.6 Kawayan to Tacloban Highway Link

The link is 118 km long, 72% of which is concrete/asphalt in good condition and 28% concrete/asphalt in fair condition. A running count of vehicles in the opposite direction of Tacloban-Kawayan during the 9:00 to 11:30 am period shows a volume of 267 vehicles. Of this number, 44% are cars/vans, 22% are jeepney, 20% are trucks and 14% are buses.

2.4 East-West Route 1

East-West Route 1 connects the Visayan islands of Negros, Cebu, and Bohol and Leyte. The port and highway links are given in Table 2.4 and the route Map is shown in **Fig. A 6.2 – 6** in **Appendix 6**.

Table 2.4 - Port and Highway Links : East-West Route 1

Transport Link		Mode of Transport	Distance ^(a) (km.)
From	To		
Bacolod Port	San Carlos (Negros Occ.) Port	Road	87 (direct) 146 (via Cadiz)
San Carlos Port	Toledo Port	Water	23
Toledo Port	Cebu City	Road	45
Cebu City	Tubigon Port	Water	38
Tubigon Port	Ubay (Tapal) Port	Road	78
Ubay (Tapal) Port	Maasin Port	Water	34
Maasin Port	Liloan (So. Leyte)	Road	94

^(a) Approximate

2.4.1 Bacolod Port

This port is described in Subsection 2.1.13 of this report.

2.4.2 Bacolod-San Carlos Highway Link

The link is part of the Bacolod-Dumaguete highway link. As such, it is described in the Bacolod-Dumaguete highway link in Subsection 2.1.14 of this report.

2.4.3 San Carlos Port

a) General Port Profile

The port is located at San Carlos City, Negros Occidental. San Carlos City is at the upper eastern coast of Negros Island facing Cebu Island. It is 87 km east of Bacolod City via the direct cross-country road or 146 km from Bacolod City via the northern Negros Occidental towns of Cadiz and Escalante, among others.

The port's main facilities include three (3) RoRo ramps and a temporary passenger terminal building. The port is being managed by the PPA and it collects the usual PPA charges, such as terminal, usage fees as well as arrastre fee share. The Port's traffic volumes in 2005 are: 535,131 passengers, 139,488 metric tons of cargoes and 7,668 shipcalls. There are three (3) shipping

companies serving the port on the route San Carlos-Toledo with a total weekly frequency of about 77 trips per week.

The main passenger OD pattern is basically between the provinces of Cebu and Negros Occidental. The main trip purposes are business (60%), visiting relatives/friends (20%) and study (20%).

b) Basic Socio-Economic Profile

The City of San Carlos has an estimated 2006 population of 127,342 based on an average annual growth rate of 1.7% and population data from 2000. Its major products are sugarcane, rice, corn, coconut, livestock and marine products. Its tourist attractions include falls, nature lagoon and beautiful islands.

2.4.4 Toledo Port

a) General Port Profile

The port is located at Toledo City, Cebu. Toledo City is at the mid-point of the west coast of Cebu province and is about 45 km from Cebu City. The main port facilities are: a RoRo ramp, a four-berth wharf, a 200-square meter passenger terminal and a 220-meter causeway (inclusive of the wharf). The port is managed by Cebu Ports Authority (CPA) and it collects wharfage, usage, passenger terminal fees as well as arrastre fee share. Port traffic volumes in 2005 are: 525,570 passengers, 133,260 metric tons of cargo and 3,520 shipcalls. There are three (3) shipping companies serving the port on the route Toledo-San Carlos City. These companies are:

Name Company	Frequency/Week
Lite Shipping	21
Aznar Shipping	21
AS Express	35

Passenger travel characteristics are similar to the trip patterns of passengers at San Carlos Port.

b) Basic Socio-Economic Profile

Toledo City had a population of 141,174 in 2000. Its major products are corn, coconut and rice. The city has no major tourist spots.

2.4.5 Toledo to Cebu City Highway Link

The link between Toledo and Cebu City is 45 km long and is 100% asphalt/concrete in good condition. There are ten bridges in the link, 70% of which are in good condition with the remaining 30% in fair condition. Average capacity of the bridges is 17 metric tons. A running count of vehicles in the opposite direction to Cebu-Toledo during the period from 9:30 to 11:00 showed a volume of 440 vehicles, 57% of which are motorcycles/tricycles, 33% are cars/vans, 7% are trucks and the remaining 3% is shared by jeepneys and buses.

2.4.6 Tubigon Port

The port, being also a part of the Central Route, is described in Subsection 2.2.12 of this report.

2.4.7 Tubigon to Ubay Highway Link

The link is 78 km long, 100% in good condition. There are 31 bridges all in good condition with an average capacity of 15 metric tons. Based on traffic count data from the Second District Engineering Office of the DPWH, the average daily traffic volume for both directions at one point along the link, is as follows:

Cars/Vans	:	248
Jeepneys	:	170
Buses	:	55
Trucks	:	<u>174</u>
		647

2.4.8 Ubay Port

a) General Port Profile

There are two ports in the municipality of Ubay. One is located in the Poblacion, within the vicinity of the town's public market. The other is located in Barangay Tapal, part of the municipality, and about 7 km east of the poblacion area. Currently, most of the port activities are concentrated in the Poblacion port. The Tapal port is occasionally used by unscheduled cargo vessels. In terms of RoRo development, the Tapal port has good potential because it has the needed water depth for RoRo vessels compared to the poblacion port which has a shallow water depth. Furthermore, Tapal is nearer to Maasin compared to the Poblacion port.

The Poblacion Port has a 427-meter concrete causeway in good condition with two (2) RoRo ramps. It has a 300-square meter TMO office/passenger terminal building. It has also a 2,300-square meter reclaimed area now being used as parking and temporary terminal of buses catering to passengers on the bus route Ubay to Metro Manila. These buses are using a RoRo service between Ubay and Bato (Leyte), proceeding along the Maharlika Highway to Metro Manila. The port has a lighthouse and a guard house.

Tapal Port has an 88-meter causeway connected to a reinforced concrete deck, 48 meters by 9 meters. It has a 12 meter by 9.5 meter RoRo ramp. It has a 2,390 square meter reclaimed area and an 80-square meter PPA office building.

Both the Poblacion and Tapal ports are managed by the PPA through the Ubay Terminal Management Office (TMO) and standard PPA port fees are collected, such as wharfage, usage, mooring fees as well as arrastre fee share. In terms of port traffic, the Poblacion port served a total of around 276,000 passengers in 2005, cargo traffic of 41,000 metric tons and 1,800 shipcalls for the same year. Tapal Port had a cargo traffic of 33,000 metric tons and shipcalls of 51 vessels in 2005. Scheduled shipping services are concentrated at the Poblacion Port. There are two shipping lines serving the port, namely, Medallion Transport and J & N Shipping Lines Corporation. The former operates two (2) RoRo vessels between Ubay and Bato (Leyte) at 14 trips per week. The latter operates a combined passenger/cargo ferry service on the route Ubay to Cebu City, at fourteen (14) trips per week. In addition to these companies, there are three (3) pumpboat operators serving the Ubay-Maasin and Ubay-Bato routes, with a combined frequency of twenty-one (21) trips per week. Other pumpboat services are also serving the Ubay to nearby island barangay routes at a combined frequency of twenty-seven (27) trips per week.

The major passenger OD patterns are: between Bohol and Leyte (45%), between Bohol and Cebu (20%), between Bohol and Metro Manila/Luzon provinces (20%) and short local trips to nearby islands (15%). The major trip purposes are visiting relatives/friends (32%), other personal trips (such as work, medical check up, job search, etc: 30%), study (23%) and business (13%).

b) Brief Socio-Economic Profile

The municipality of Ubay had a population of 66,000 in 2005 with an average annual population growth rate of 1.96%. It has a total land area of 30,000 sq. km. One of its major agricultural products is rice, the town being the rice granary of the province of Bohol. The town is also producing corn, cassava, copra, mangoes, livestock and fish products, particularly crabs and shrimps. The town is 123 kilometers east of the province’s capital, Tagbilaran City. Strategically located at the northeastern tip of Bohol, it links northeastern and eastern Bohol towns with other islands, such as Cebu, Leyte and Metro Manila. The nearest port is the Port of Talibon which is 26 kilometers west of Ubay.

Tourists are coming to Ubay to see the Ubay Agricultural Park where different animals are cared for and bred, such as cattles, carabaos, horses, etc., and several agri-business establishments are producing coconut oil and milk soaps. Other potential tourist attractions are the floating restaurant at the Kapayas Dam Site and scuba diving sites at nearby barangay islands.

2.4.9 Maasin Port

a) General Port Profile

The port is located at Maasin City, the capital of Southern Leyte. The city is located at the southwest side of Southern Leyte, facing the northeastern part of Bohol province. The port’s main facilities include a 25-meter long causeway, a 103-meter long wharf, a 102-meter long reinforced concrete pier, a RoRo ramp, a 1.1-hectare reclaimed area and a 325-square meter passenger terminal. The port is managed by the PPA and it collects standard PPA port fees such as wharfage, usage, mooring fees an arrastre fee share.

The port’s traffic volumes in 2005 are: 98,280 passengers, 85,890 metric tons of cargo and 518 shipcalls. There are two shipping lines serving the port. These are:

Name Company	Routes	Frequency/Week
Sulpicio Lines, Inc.	Maasin-Surigao	14
	Maasin-Baybay	7
Cokaliong Shipping Lines	Cebu-Maasin-Surigao	21

In addition to the above, there are pumpboats operating on the Maasin-Ubay route with a frequency of 7 trips per week.

The main passenger OD patterns are: between Southern Leyte and Cebu (39%), between Metro Manila/Luzon provinces and Mindanao provinces (28%), between Leyte and Mindanao provinces (15%) and between Southern Leyte and Surigao provinces (13%). The main trip purposes are: visiting relatives/friends (56%),

business/commerce (22%), other personal reasons (such as work, job search, check up, etc.: 9%), study (7%), pleasure (7%).

b) Basic Socio-Economic Profile

Maasin City had a population of about 72,000 in 2000. Its main products are coconut/copra, abaca, fish products, small-scale ceramics. In terms of tourism, the city can offer several undersea sceneries, caves and some religious shrines.

2.4.10 Maasin to Liloan Highway Link

The link is 94 km long, 100% concrete in good condition. There are 76 bridges all in good condition. A running count of vehicles in the opposite direction to Maasin-Liloan during the 2:30 to 5:30 pm period shows a volume of 116 vehicles, 57% of which are cars/vans, 26% are jeepneys, 10% are motorcycles/tricycles and 7% are buses.

2.5 East-West Route 2

East-West Route 2 links the islands of Panay, Negros, Cebu and Leyte. The route is shown in **Fig. A 6.2 – 7** in **Appendix 6**. **Table 2.5** below gives the port and highway links of the route.

Table 2.5 – Port and Highway Links: East-West Route 2

Transport Link		Mode of Transport	Distance ^(a) (km.)
From	To		
Culasi (Roxas) Port	Concepcion Port	Road	93
Concepcion Port	Cadiz Port	Water	33
Cadiz Port	Escalante Port	Road	40
Escalante Port	Tuburan Port	Water	31
Tuburan Port	Bogo Port	Road	52
Bogo Port	Palompon Port	Water	40
Palompon Port	Tacloban Port	Road	152

^(a) Approximate

2.5.1 Culasi (Roxas) Port

This port is described in Subsection 2.1.8 of this report.

2.5.2 Culasi to Concepcion Highway Link

The link is 93 km long, 49% of which is concrete/asphalt in good condition, 41% is concrete/asphalt in fair condition and 10% is asphalt in bad condition. A running count of vehicles in the opposite direction of Culasi-Concepcion during the 8:00 am to 1:50 pm period shows a volume of 922 vehicles, 65% of which are tricycles/motorcycles, 17% are cars/vans, 8% are trucks, 7% are jeepneys and the remaining 3% are buses.

2.5.3 Concepcion Port

The coastal town of Concepcion, Iloilo is located at the upper eastern part of Panay Island. It is about 93 km northeast of Roxas City in Capiz and about 100 km northeast of Iloilo City. The town's port is currently dilapidated and has not been in operation for a couple of years. If the port will be developed, it can provide a link to Negros Island via Cadiz port.

Concepcion has a population of 34,240. Its major products are rice, mango, corn, coconut, sugarcane, livestock and fish products. Its major tourism attraction is the beautiful Pan de Azucar Island. Other islands belonging to the municipality have potential as tourist areas as well.

2.5.4 *Ajuy Port*

a) General Profile

Ajuy Port is an alternative to Concepcion Port. The town of Ajuy is only about 10 km southwest of Concepcion. The existing port is privately owned and operated. Its main facilities include an unconventional RoRo ramp, a pier and a 30-square meter passenger terminal. There are no available port traffic data. One shipping company is serving the port at present.

b) Brief Socio-Economic Profile

The municipality of Ajuy had a population of 45,192 in 2000. The main products are root crops, livestock and fish. The municipality has islets, beaches and waterfalls for tourists to visit.

2.5.5 *Cadiz Port*

The City of Cadiz is located at the northern part of Negros Occidental, some 65 km northeast of Bacolod City, capital of Negros Occidental. The port is currently under construction thus operations are suspended. It is owned by the city government. In 2005, the port catered to the following traffic volumes: 32,880 passengers, 10,054 metric tons of cargo and 3,974 shipcalls.

The city had a population of 141,954 in 2000. Its main products are sugarcane, coconut, rice, corn, mango and livestock, fish products and mining products. The city is endowed with tourist attraction areas such as beaches, resorts, spring, waterfalls and some shrines.

2.5.6 *Cadiz to Escalante Highway Link*

The link is part of the Bacolod to San Carlos coastal link explained in Section 2.1.14. Specifically, the link Cadiz to Escalante is 40 km long, concrete/asphalt in fair condition. Data on bridge conditions are similar to the Bacolod-San Carlos link. Traffic volume along the Cadiz-Escalante section is part of the total volume for the Bacolod-San Carlos link. Specifically, the running count of vehicles on the opposite direction to Cadiz-Escalante, shows a volume of 46 vehicles, 26% of which are cars/vans, 52% are trucks, 20% are buses and the remaining 2% are jeepneys.

2.5.7 *Escalante Port*

a) General Port Profile

The port is located at the municipality of Escalante, Negros Occidental. The municipality is situated at the northeastern part of Negros Occidental, some 40 km east of Cadiz City, or 105 km northeast of Bacolod City. The main port facility consists of two RoRo ramps. The port is managed by PPA and it collects usage, wharfage fees as well as arrastre fee share.

Traffic volumes at the port in 2005 are: 159,860 passengers, 426,202 metric tons of cargo and 2,263 shipcalls. There are three shipping companies serving the port,

operating RoRo vessels on the route Escalante-Tabuelan. One company operates a weekly frequency of seven (7) trips while the other two have unscheduled trips.

b) Basic Brief Socio-Economic Profile

The town of Escalante had a population of 79,098 in 2000. Its main products are sugarcane, corn, fruits, rice and fish products. The town has beach resorts for tourists.

2.5.8 Tuburan/Tabuelan Port

a) General Port Profile

Initial port identification of the study has named Tuburan Port in Cebu as part of East-West Route 2. During the survey, it was discovered that Tabuelan Port, located also in Cebu province, which is about 12 kms north of Tuburan, is the more appropriate port to be considered.

The port of Tabuelan is 90 kms north west of Cebu City. It is facing Escalante, Negros Occidental. The main port facilities are three RoRo berths. The port is managed by the municipal government and it collects fees patterned after CPA port fees. In 2005, the port catered to 120,000 passengers and 1,360 shipcalls.

There are two shipping operators serving the port on the Tabuelan-Escalante route with a combined frequency of 28 trips per week.

b) Brief Socio-Economic Profile

Estimated population of Tabuelan for 2004 is 19,830. Its major products are corn, coconut and vegetables. There are no major tourist destinations in the town.

2.5.9 Tabuelan to Bogo Highway Link

The link has a length of 52 km, 73% of which is concrete/asphalt in fair condition and 27% is asphalt/gravel in bad condition. There are 12 bridges, 50% of which are in good condition, 42% in bad condition and 8% in fair condition. Average capacity of the bridges is 14 metric tons.

A running count of vehicles in the opposite direction to Tabuelan-Bogo during the period 1:00 to 3:30 pm, shows a volume of 182 vehicles, 60% of which are motorcycles/tricycles, 35% are cars/vans, 14% are trucks and the remaining 7% is shared by jeepneys and buses.

2.5.10 Bogo Port

a) General Port Profile

The port is located at Barangay Polambato, Bogo, Cebu, some three kilometers north of Bogo town proper. The town of Bogo is located at the northern tip of Cebu province, about 85 km north of Cebu City. The port's main facilities include a 2-berth RoRo ramp and a 34-meter long wharf. The port is managed by the municipal government. The port is not yet fully operational and there are as yet no commercial vessels serving the port at present although some fishing boat operators use it as a fish landing area. There is a small port in the town proper and several pumpboats are serving it on the Bogo-Cawayan (Masbate) route. The

main passenger OD patterns are between Masbate and Bohol (60%), between Masbate and Cebu (20%) and between Masbate and Surigao (20%). The main trip purposes are visiting relatives/friends (40%), pleasure (40%) and commercial (20%).

b) Basic Socio-Economic Profile

The town of Bogo has a population of 73,450. Its major products are coconut, corn, sugarcane, fish products. The town is the trading and education center for Northern Cebu. There are no major tourist destinations in the town.

2.5.11 Palompon Port

a) General Port Profile

The port is located at the municipality of Palompon, Leyte. The municipality is situated at the northeastern part of Leyte Province, facing Bogo, Cebu to its west. Palompon is 152 kms west of Tacloban City, the capital of Leyte Province. The main port facilities are a RoRo ramp, a pier, an 18,000 square meter reclaimed area, a passenger terminal and transit and storage area. The port is managed by the PPA and it collects usage, wharfage, terminal, storage fees as well as arrastre fee share.

Port traffic volumes in 2005 are: 116,993 passengers, 58,973 metric tons of cargo and 477 shipcalls. There are three shipping lines serving the port with scheduled trips. These are:

Company Name	Route Served	Frequency/Week
Cokaliong Shipping Lines	Palompon-Cebu	7
Rolly Shipping Lines	Palompon-Cebu	6
Sulpicio Lines, Inc.	Palompon-Cebu-Naval	1

In addition to the above, there are unscheduled vessels operated by some companies serving the routes Palompon-Manila and Palompon-Iligan.

The main passenger OD patterns are: between Leyte and Cebu (83%) and between Leyte and Mindanao (11%). The main trip purposes are: visiting relatives/friends (44%), other personal purposes (such as work, job search, medical check-up: 28%), business (17%) and study (11%).

b) Basic-Socio-Economic Profile

The municipality has a population of 50,754 in 2000. Its major products are coconut, rice, corn, livestock and fish products. Major tourist attractions include beaches and beautiful islands. Potential exists for bird and fish sanctuaries.

2.5.12 Palompon to Tacloban Highway Link

The link is 152 km long, 53% of which is concrete/asphalt in fair condition and 47% is concrete/asphalt in good condition.

A running count of vehicles in the opposite direction of Palompon-Ormoc during the period 5:15 to 6:45 pm shows a volume of 98 vehicles, 49% of which are cars/vans, 33% are jeepneys, 13% are trucks and 5% are buses.

2.6 Panay – Sorsogon Route

Panay-Sorsogon Route connects the islands of Panay, Masbate and Sorsogon province. **Table 2.6** gives the port and highway links in the route. **Figure A 6.2 – 8** in **Appendix 7.1** shows the route alignment.

Table 2.6 – Port and Highway Links: Panay – Sorsogon Route

Transport Link		Mode of Transport	Distance ^(a) (km.)
From	To		
Culasi (Roxas) Port	Balud Port	Water	
Balud Port	Mandaon	Road	85
Mandaon	Aroroy	Road	40
Aroroy	Masbate Port	Road	50 (via Baleno) 74 (via Milagros)
Masbate Port	San Antonio (Port) (Pilar, Sorsogon)	Water	

^(a) Approximate

2.6.1 Culasi (Roxas) Port

This is described in Subsection 2.1.8 of this report.

2.6.2 Balud Port

a) General Port Profile

The port is located in Poblacion, Balud, Masbate. The town of Balud is situated at the southwestern prong of Masbate Province. It is about 62 km southwest of Masbate City, the capital of Masbate Province. The port's main facility is a 200-meter causeway. The port is managed by the municipal government and it collects usage, verification fees as well as a share of the Bureau of Animal Industry (BAI) fee. There are no formal records of port traffic data by the LGU concerned. Estimated annual volume of passengers handled by the port is around 27,000 passengers.

Only pumpboats are serving the port at present on the routes Balud-Roxas and Balud-Estancia at an estimated total frequency of 35 trips per week.

The main passenger OD pattern is between Masbate and Panay provinces (Iloilo, Aklan, Capiz), 93%. The main trip purposes are: business (55%), study (15%), pleasure (15%) and other personal purposes (such as work, job search, medical check up, etc: 15%).

b) Basic Socio-Economic Profile

Balud has a population of 32,191 at present. Its major products are coconut, rice, corn, fruits and vegetables, livestock. Like the other towns in Masbate, Balud can boast of its white sand beaches and beautiful islands for tourists to visit.

2.6.3 Balud to Mandaon Highway Link

The link has a length of 85 km long, 49% of which is concrete in good condition, 36% is gravel in bad condition and 15% is concrete in fair condition. There are 14 bridges in the link, 64% of which is in fair condition and 36% in good condition.

A running count of vehicles in the opposite direction of Masbate-Balud during the 2:30 to 3:30 pm and 8:40 to 10:25 pm periods show a volume of 96 vehicles, 76% of which are tricycles/motorcycles, 15% are cars/vans, 7% are buses and the remaining 2% is shared by jeepneys and trucks.

2.6.4 Mandaon Port

a) General Port Profile

The port is located Poblacion, Mandaon, Masbate. The town of Mandaon is situated at the western portion of Masbate province. It is about 38 km. north of Balud and about 70 km west of Masbate City. The main port facilities are: a 220-meter causeway, a 27-meter pier, a 900-square meter passenger terminal. The port is managed by the municipal government and it charges landing fees on vessel users. Port traffic volumes in 2005 are: 17,930 passengers, 127 metric tons of cargo and 425 shipcalls. Only pumboats are serving the port at present on various routes, such as Mandaon-Estancia, Mandaon-Iloilo via Romblon at a combined frequency of 10 trips per week.

The main passenger OD patterns are: between Masbate and Panay provinces (Aklan, Antique, Capiz, Iloilo), 73% and between Masbate and Romblon, 20%. The main trip purposes are visiting relatives/friends (50%), business (40%) and pleasure (10%).

b) Basic Socio-Economic Profile

The town of Mandaon has a population of 35,419. Its major products are rice, corn, coconut, livestock and fish products. There are some tourist attractions such as caves and beautiful islands.

2.6.5 Mandaon to Aroroy Highway Link

The link has a length of 40 km, concrete/gravel all in bad condition. There are nine (9) bridges all in good condition with an average capacity of 10 metric tons. Traffic volume is low as shown by the running count of vehicles in the opposite direction to Milagros Junction-Mandaon during the period 2:30 to 3:30 pm. The count has shown a volume of 34 vehicles, 32% of which are cars/vans, 65% are tricycles/motorcycles and 3% are buses.

2.6.6 Aroroy to Masbate Highway Link

This link is described in Subsection 2.2.4.

2.6.7 San Antonio (Pilar), Sorsogon Port

This port is described in Subsection 2.2.2.

2.7 Palawan-Luzon Route

The Palawan-Luzon Route connects Mindoro Occidental with Palawan. **Table 2.7** gives the port and highway links. **Figure A 6.2 – 9 in Appendix 7.1** shows the route alignment.

Table 2.7 – Port and Highway Links: Palawan-Luzon Route

Transport Link		Mode of Transport	Distance ^(a) (km.)
From	To		
Roxas (Mindoro Oriental) Port	San Jose (Mindoro Occidental) Port	Road	83

San Jose (Mindoro Occidental) Port	Coron (Palawan) Port	Water	100
Coron (Palawan) Port	Taytay Port	Water	154
Taytay	Puerto Princesa	Road	213

^(a) Approximate

2.7.1 Roxas (Mindoro Oriental) Port

This port is described in Subsection 2.1.3.

2.7.2 Roxas (Mindoro Oriental) to San Jose (Mindoro Occidental) Highway Link

This link connects Mindoro Oriental and Mindoro Occidental at the southern part of Mindoro island. From Roxas to Bulalacao (passing by Mansalay) the distance is 42 kms., 47% of which is gravel in bad condition, 29% is concrete in fair condition and 24% is concrete in good condition. There are 14 bridges along the section, 40% of which are in good condition, 32% in bad condition and 28% in fair condition. A running count of vehicles in the opposite direction to Roxas-Bulalacao, during the period 8:00 to 10:30 am, shows a volume of 109 vehicles 73% of which are motorcycles/tricycles, 11% are jeepney, 10% are trucks, 7% are cars/vans and the remaining 2% are buses.

The section from Bulalacao to San Jose is 41 km long, unpaved in bad condition. The road is impassable during the rainy season.

2.7.3 San Jose Port (Mindoro Occidental)

a) General Port Profile

The port is located at the town of San Jose, Mindoro Occidental. The town of San Jose is near the southern tip of Mindoro Island. It is approximately 125 km southeast of Mamburao, the capital of Mindoro Occidental. The main port facilities are three (3) RoRo ramps, a passenger terminal and transit shed, and storage areas. The port is managed by PPA and it collects usage, wharfage, terminal fees as well as arrastre fee share.

Port traffic volumes in 2005 are: 184,502 passengers, 206,696 metric tons of cargo and 1,492 shipcalls. There are three shipping companies serving the port. These are:

Company Name	Route Served	Frequency/Week
San Nicolas Shipping Lines	San Jose-Semirara	14
	San Jose-Coron	2
Montenegro Shipping	San Jose-Batangas	2
Viva Shipping Lines	San Jose-Batangas	2

The main passenger OD patterns are between Mindoro and Metro Manila/Southern Tagalog (84%) and between Antique and Metro Manila (8%). The main trip purposes are business (36%), visiting relatives/friends (32%), and other personal purposes, such as work, job search, medical check-up, etc. (28%).

b) Brief Socio-Economic Profile

The town of San Jose had a population of 110,812 in 2000. Its major products are corn, vegetables, fruits, rootcrops, livestock, marine products and cement. In terms of tourism, the town has fine beach resorts and coral reefs.

2.7.4 *Coron Port*

a) General Port Profile

The port is located at the municipality of Coron in the island of Busuanga, which is north of the mainland of Palawan province. The main port facilities are: a one-berth RoRo ramp, a 225-meter wharf, a 375-square meter passenger terminal and a 450-square meter warehouse and transit shed.

The port is managed by PPA and it collects standard PPA port charges, such as wharfage, usage, storage, terminal fees as well as arrastre fee share. The port traffic volumes in 2005 are: 98,433 passengers, 44,937 metric tons of cargo and 1,883 shipcalls. The shipping companies serving the port are as follows:

Company Name	Route Served	Frequency/Week
Negros Navigation	Manila-Coron-Puerto Princesa	1
San Nicolas	Manila-Coron Coron-Culion	3 1
Atienza Shipping	Manila-Coron Coron-El Nido	1 1
Aboitiz Shipping	Manila-Coron-Puerto Princesa	1

b) Brief Socio-Economic Profile

Coron has a population of 38,928 in 2005. Its major products are rice, livestock, fish products. Tourism is a major industry in Coron. Among its famous tourist attractions are scuba diving, white sand beaches and resorts.

2.7.5 *Taytay Port*

The municipality of Taytay is located at the northern tip of Palawan mainland, some 213 kms northeast of Puerto Princesa City, the capital of Palawan province.

There is no existing port facility except for a pumpboat landing area in the Poblacion area catering to pumpboat services patronized by local travelers to nearby small islands. However, a RoRo port facility is being proposed to be put up in Barangay Sta. Cruz which is about 5 kilometers from the Poblacion area.

The municipality of Taytay had a population of 53,657 in 2000. Taytay is the gateway to world famous tourist spots in north and northeastern Palawan such as El Nido, Coron, etc.

2.7.6 *Taytay to Puerto Princesa Highway Link*

The link has a length of 213 km, 60% of which is concrete in good condition and 36% is gravel in bad condition. There are 24 bridges, mostly in good condition with an average capacity of 10.8 metric tons. Running count surveys of vehicles in the opposite direction were made for two sections in the link, to wit:

- For the period 11:00 am to 2:00 pm, vehicles moving in the opposite direction to Taytay-Roxas were counted at 27 vehicles, 48% of which are motorcycles/tricycles, 22% each are buses and trucks, and 8% shared between cars and jeepneys.

- For the section, Roxas to Puerto Princesa during the period 3:00 to 5:00 pm, the number of vehicles counted is 153, 73% of which are motorcycles/tricycles, 14% are cars/vans, 7% are buses and the remaining 6% is shared by trucks and jeepneys.

2.8 Palawan – Visayas Route

The Palawan-Visayas Route connects Palawan with Panay Island. **Figure A 6.2 – 9** in **Appendix 7.1** shows the route alignment and **Table 2.8** gives the port highway links in the route.

Table 2.8 – Port and Highway Links: Palawan-Visayas Route

Transport Link		Mode of Transport	Distance ^(a) (km.)
From	To		
Iloilo City	San Jose de Buenavista (Antique)	Road	96
San Jose de Buenavista Port	Taytay (Palawan) Port	Water	262

^(a) Approximate

2.8.1 Iloilo Port

The port is described in Subsection 2.1.10.

2.8.2 Iloilo to San Jose de Buenavista Highway Link

The link is 96 km long, 100% concrete in fair condition. There are 38 bridges, all in good condition. A running count of vehicles in the opposite direction to Iloilo-San Jose de Buenavista during the period 6:00 to 10:00 an shows a volume of 756 vehicles, 26% are jeepney, 45% of which are motorcycles/tricycles, 24% are cars/vans, 3% are buses and 2% are trucks.

2.8.3 San Jose de Buenavista Port

a) General Port Profile

The port is located at the Municipality of San Jose de Buenavista, capital of Antique Province. The municipality is situated in the southwestern coastal quadrant of Panay Island. It is approximately 96 km west of Iloilo City. The port's main facilities are: a 108-meter long reinforced concrete, a 202-square meter passenger terminal and an administrative building. The port is managed by PPA and it collects standard PPA port charges such as usage, wharfage, mooring/unmooring fees as well as arrastre share fee.

Port traffic volumes for 2005 are: 77,328 passengers, 51,166 metric tons of cargo and 234 shipcalls. The port is now catering only to tramping vessels, i.e., the RoRo/passenger/cargo/fast craft vessels pulled out from the port since the early part of 2006.

b) Basic Socio-Economic Profile

The municipality has a population of 48,261 in 2000. Its main products are fish, rice, crops and vegetables. The municipality has some fine beaches for tourism purposes.

APPENDIX I-7-2-1

Proposed Nautical Highways and RORO Ports

Current Status of Proposed Route, RoRo Terminal and connecting Highways

Eastern Route (Pan Philippine Highway Route)

Location		RoRo Facilities		Link	Condition of Link
NCR					
Legaspi City	Sorsogon			National Highway	Good
Matnog Port (PPA)	Sorsogon	3 RopRo Ramps	with/pier	National Highway	Good
Allen(Private) Dapdap (Private)	Samar Samar	5 RoRo Ramps 2 Ramps	Mediterranean* Causeway, no pier	RoRo link	17/day (Annual average)
Tacloban City	Leyte			National Highway	Good
Liloan (PPA)	S. Leyte	1 RoRo Ramps	w/pier	National Highway	Good
San Ricardo (PPA)	S. Leyte	New Port		National Highway	Under Construction
Lipata (PPA)	Surigao N	2 RoRo Ramps	1 Ramp w/Pier 1 Mediterranean	RoRo link to Liloan	4/day
Surigao City	Surigao N			National Highway	Good
Cagayan de Oro/Butuan	S. Mindanao			National Highway	Good
Davao/G.Santos	S. Mindanao			National Highway	Good

* Mediterranean: Ramps that are made by reforming a portion of existing piers and wharves

Eastern Route Extension

Location		RoRo Facilities		Link	Condition of Link
Masbate City (Central Route)	Masbate				
Cataingan Port (LGU)	Masbate	No Ramp		National Highway	Good
Esperanza Port (PPA?)	Masbate	New Port		Provincial Highway	New construction
Kawayan Port (PPA)	Biliran	New Port		RoRo link	Not yet in service
Tacloban City (Eastern Route)	Leyte			National Highway	Good

Western Route

Location		RoRo Facilities		Link	Condition of Link
Junction: Eastern Route					
Batangas City	Batangas	8 Ramps	4 w/mooring pier 4 Mediterranean	National Highway	Good
Calapan Port (PPA)	Mindoro Or.	7 Ramps	Mediterranean	RoRo link	22 / day
Roxas Port (PPA)	Dangay, Roxas Mindoro Or.	1 Ramp	with mooring pier	National Highway	Good
Caticlan Port (LGU)	Aklan	1 Ramp	Mediterranean	RoRo link	6/day
Iloilo City	Iloilo			National Highway	Good
Dumangas Port (PPA)	Iloilo	1 Ramp	with mooring pier Shallow (Siltation)	National Highway	Good
Bacolod (BREDCO, Private)	Negros Occ.	Existing		RoRo link	4/day (Iloilo-Bacolod 2/day)
Dunaguete	Bohol	2 Ramps	with mooring pier	National Highway	Good
Dapitan (PPA)/ Dipolog (Peivate)	Minsamis Or.	2 Ramps		RoRo link	2 / day + Inter-island service
Dunaguete					
Siaton	Bohol	New	Port construction has been suspended	National Highway	Under construction
Dapitan (PPA)/ Dipolog (Peivate)	Minsamis Or.	2 Ramps		RoRo Link	Not in service (Dumaguete:Dapitan 4/day)

Central Route

Location		RoRo Facilities		Link	Condition of Link
Junction: Eastern Route					
Legaspi City	Sorsogon			National Highway	Good
San Antonio Port (PPA)	Pilar, Sorsogon	New Port		Provincial Highway	Fair
				RoRo link	About to start (Apr., 2007)
Masbate Port (PPA)	Masbate	3 RoRo Ramps	Mediterranean	National Highway	Good
Cataingan Port (LGU)	Masbate	No Ramp		National Highway	New construction
Esperanza Port (PPA)	Masbate	New Port		RoRo link	Not yet in service
Daan Bantayan Port (LGU, Under Const.)	Cebu	New Port	(Plan) Causeway Ramp with no Pier	National Highway ?	Good
Bogo Port (LGU)	Cebu	2 RoRo Ramps	No mooring pier	National Highway	Good
Cebu Port (CPA) & Private ports	Cebu	Existing	Mediterranean	RoRo Link	7/day
Tubigon (PPA)	Bohol	2 Ramps	1 w/Mooring pier 1 wo/mooring pier		
Central Route Alternative Route Between Bohol - North Mindanao (1)					
Tubigon (PPA)	Bohol	2 Ramps	1 w/Mooring pier 1 wo/mooring pier	National Highway	Good (Circumferencial Rd) Direct Route Dev. needed
Jagna	Bohol	1 Ramp	Mediterranean	RoRo Link	4/wk
Nasipit	Agusan Norte	3 Ramps	Mediterranean	National Highway	Good
Butuan City	Agusan Norte			National Highway	Good
Surigao City Eastern Route	Surigao N				
Central Route Alternative Route Between Bohol - North Mindanao (2)					
Tubigon (PPA)	Bohol	2 Ramps	1 w/Mooring pier 1 wo/mooring pier	Link	Condition of Link
Jagna (PPA)	Bohol	1 Ramp		National Highway	Good (Circumferencial Rd) Direct Route Dev. needed
Balingoan (PPA)	Agusan Norte	2 Ramps	1 w/Mooring pier 1 wo/mooring pier	RoRo Link	Not yet operational
Butuan City Cagayan de Oro City	Agusan Norte Misamis Or.			National Highway	Good
Central Route Alternative Route Between Bohol - North Mindanao (3)					
Location		Condition		Link	Condition of Link
Tubigon (PPA)	Bohol	2 Ramps	1 w/Mooring pier 1 wo/mooring pier	National Highway	Good
Tagbilaran (PPA)	Bohol	2 Ramps	W/wharf	RoRo Link	Not inservice (Cebu-CDO 1/day)
Cagayan de Oro (PPA)	Minsamis Or.	Existing	Mediterranean		
Central Route Extension					
Cebu City	Cebu			National Highway	Good
Santander ¹⁾	Cebu	Total 4 Ramps	No mooring pier	RoRo Link	14/day
Dumaguete ²⁾ Western Route	Negros Or.	1 Ramp	w/Mooring pier		

1) Two Private Port for RoRo Ferry at Mainit and Matiao and two ports for Fast Craft aqt Bato (Talisay, Mainit) and Liloan

2) PPA Dumaguete Port. Beside PPA Port two private RoRo ports are used at Sibulan and Tampi (outside of Dumaguete Port)

East-West Route 1

Location		RoRo Facilities		Link	Condition of Link
Bacolod City (Western Route)				National Highway	Good
San Carlos Port (PPA)	Negros Or.	3 Ramps	1 Ramp w/pier 2 Mediterranean Ramp	RoRo link	8/day
Toledo (CPA)	Cebu	1 RoRo Ramp	Need realignment No back up area Mediterranean	National Highway	Good
Cebu City	Cebu			National Highway	Good
Punta Engano (CPA)	Cebu	1 RoRo Ramp	wo/Pier No back up area	RoRo link	1/day
Getafe (PPA)	Bohol	1 RoRo Ramp	wo/Pier No back up area	National Highway	Good
Ubay (PPA)	Bohol	2 RoRo Ramps		RoRo link	Not yet in service (Currently Ubay - Bato)
Maasin (PPA)	Southern Leyte	1 RoRo Ramp	w/mooring Pier	National Highway	Good
Eastern Route					

East-West Route 2

Location		RoRo Facilities		Link	Condition of Link
Western Route (Roxas City, Capis)				National Highway	Good
Culasi (Port), Ajuy	Iloilo			RoRo link	Not in service
Cadiz Port (LGU)	Negros Or.	Undre Const.		National Highway	Good
Escalante Port (PPA/Private)	Negros Or.	2 Ramps (Private Port)		RoRo link	3/day
Tabuelan Port (LGU)	Cebu	2 Ramps Need Improve.		National Highway	Good
Bogo Port (LGU)	Capis	2 Ramps Need Improve.		RoRo link	Currently Not in service
Palompon (PPA)	Leyte	1 RoRo Ramp	Mediterranean	National Highway	Good
Tacloban Eastern Route					

Panay - Sorsogon Route

Location		RoRo Facilities		Link	Condition of Link
Masbate City (Central Route)				National Highway	Bad
Balud Port	Masbate	New Port		RoRo link	No RoRo Service
Culasi, Roxas (PPA)	Capis	1 RoRo Ramp	W/Mooring Pier	National Highway	Good
Western Route					

Palawan - Luzon Route

Location		RoRo Facilities		Link	Condition of Link
Batangas Port (PPA)	Western Route	8 RoRo Ramps		RoRo link	5/day
Abra de Ilog (PPA)	Mindoro Occ.	2 RoRo Ramps	w/ Mooring Pier	National Highway	Bad (Improvement Plan)
San Jose (PPA)	Mindoro Occ.	2 RoRo Ramp	1 W/Mooring Pier (-3m) 1 W/Mooring Pier (-4m)	RoRo link	No RoRo Service
Coron (PPA)	Palawan	1 RoRo Ramp	w/ Mooring Pier	RoRo link	No RoRo Service
Taytay (PPA)	Palawan	New Port		National Highway	Bad (Improvement Plan)
Roxas	Palawan			National Highway	Good
Puerto Princesa City					

Palawan - Visayas Route

Location		RoRo Facilities		Link	Condition of Link
Iloilo City (Western Route)				National Highway	Need Improvement
San Jose de Buenavista (PPA)	Aklan	No RoRo Ramo		RoRo link	Not yet in service
Cuyo (PPA)	Plawan	1 RoRo Ramp	wo/ Mooring Pier	RoRo link	No RoRo Service
Taytay (PPA) Jct: Palawan - Luzon Route	Palawan	New Port			

APPENDIX II-4-1-1

Breakdown of the Estimated Construction Cost

Road RoRo Terminal System Project – Estimated Construction Cost – Summary

Unit : Pesos	1-1 Naval	2-1 Caticlan	2-2 Dumangas
1. Marine Works	20,187,440	284,027,520	10,078,700
2. Navigational Aids	0	1,500,000	1,500,000
3. Berthing Facilities	13,308,000	81,432,000	17,907,800
4. Civil Works	36,435,400	11,531,100	4,045,600
5. Building Works	11,512,500	15,280,000	14,512,500
6. Utility Works	35,460,000	35,460,000	35,460,000
7. Electrical Works	17,200,000	17,200,000	17,200,000
8. Lightings	6,100,000	8,800,000	5,500,000
9. Appurtenant Works	9,965,000	9,747,500	9,035,000
10. Access Road	0	0	0
Total	150,168,340	464,978,120	115,239,600

Unit : Pesos	3-1 San Antonio	3-2 Esperanza	3-3 Daan Bantayan
1. Marine Works	104,619,800	163,723,980	163,723,980
2. Navigational Aids	1,500,000	1,500,000	1,500,000
3. Berthing Facilities	67,540,800	67,136,800	67,540,800
4. Civil Works	30,570,500	33,372,900	36,447,900
5. Building Works	25,923,500	28,045,000	28,345,000
6. Utility Works	35,460,000	35,460,000	35,460,000
7. Electrical Works	17,200,000	17,200,000	17,200,000
8. Lightings	5,500,000	5,500,000	7,700,000
9. Appurtenant Works	14,832,500	14,832,500	14,832,500
10. Access Road	6,600,000	0	0
Total	309,747,100	366,771,180	372,750,180

Unit : Pesos	4-1 Toledo	4-2 Punta Engano	4-3 Getafe	4-4 Ubay
1. Marine Works	25,993,020	91,494,850	41,089,200	86,015,600
2. Navigational Aids	1,500,000	1,500,000	1,500,000	1,500,000
3. Berthing Facilities	109,486,000	64,555,800	61,470,800	67,540,800
4. Civil Works	12,537,500	27,935,100	15,629,500	30,570,500
5. Building Works	16,080,000	16,702,500	12,780,000	28,045,000
6. Utility Works	35,460,000	35,460,000	35,460,000	35,460,000
7. Electrical Works	17,200,000	17,200,000	17,200,000	17,200,000
8. Lightings	10,400,000	7,200,000	10,400,000	5,500,000
9. Appurtenant Works	10,572,500	10,932,500	9,657,500	14,832,500
10. Access Road	0	3,300,000	0	0
Total	239,229,020	276,280,750	205,187,000	286,664,400

Unit : Pesos	5-1 Culasi/Ajuy	5-2 Tabuelan	5-3 Bogo
1. Marine Works	60,217,700	96,446,900	36,876,750
2. Navigational Aids	1,500,000	1,500,000	1,500,000
3. Berthing Facilities	68,940,800	67,540,800	64,555,800
4. Civil Works	32,287,700	30,570,500	23,497,900
5. Building Works	13,800,000	28,345,000	13,162,500
6. Utility Works	35,460,000	35,460,000	35,460,000
7. Electrical Works	17,200,000	17,200,000	17,200,000
8. Lightings	3,300,000	5,500,000	6,800,000
9. Appurtenant Works	9,042,500	14,832,500	10,572,500
10. Access Road	0	0	0
Total	241,748,700	297,395,700	209,625,450

Unit : Pesos	6-1 Balud	7-1 Taytay
1. Marine Works	163,723,980	44,635,300
2. Navigational Aids	1,500,000	11,500,000
3. Berthing Facilities	67,540,800	109,486,000
4. Civil Works	40,922,900	27,419,000
5. Building Works	28,345,000	28,045,000
6. Utility Works	35,460,000	35,460,000
7. Electrical Works	17,200,000	17,200,000
8. Lightings	10,300,000	5,500,000
9. Appurtenant Works	14,832,500	11,982,500
10. Access Road	4,400,000	0
Total	384,225,180	291,227,800

Road RORO Terminal System Project
Estimated Construction Cost
Candidate Site: Naval, Biliran

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
1	Marine Works				20,187,440	
1-1	Breakwater (Armor Stone)	m3	0	4,500	0	
1-2	Breakwater (Core Stone)	m3	0	3,600	0	
1-3	Breakwater (Top Concrete)	m3	0	15,000	0	
1-4	Dredging	m3	29,707	360	10,694,520	
1-5	Revetment (Armor Stone)	m3	1,043	4,500	4,693,500	
1-6	Revetment (Core Stone)	m3	316	3,600	1,137,600	
1-7	Revetment (Filter Cloth)	m2	998	740	738,520	
1-8	Reclamation	m3	5,870	350	2,054,500	
1-9	Parapet Concrete	l.m.	72	12,000	868,800	
1-10	Banca Landing (Core Stone)	m3	0	3,600	0	
1-11	Banca Landing (Concrete Stair)	m3	0	15,000	0	
2	Navigational Aids				0	
2-1	Light Beacon	set		1,500,000	0	
2-2	Buoy Marker	set		2,500,000	0	
3	Berthing Facilities				13,308,000	
3-1	Demolition & Renovation	L.S.	1	2,000,000	2,000,000	
3-2	Breasting Dolphin (Pile)	pcs	0	404,000	0	
3-3	Breasting Dolphin (Concrete)	m3	0	12,000	0	
3-4	Mooring Dolphin (Pile)	pcs	0	404,000	0	
3-5	Mooring Dolphin (Concrete)	m3	0	12,000	0	
3-6	Pier (Pile)	pcs	0	404,000	0	
3-7	Pier (Concrete)	m3	0	12,000	0	
3-8	Steel Sheet Pile Wall (Pile)	l.m.	0	320,000	0	
3-9	Steel Sheet Pile Wall (Tie Cable)	pcs	0	300,000	0	
3-10	Steel Sheet Pile Wall (Coping Concrete)	m3	0	15,000	0	
3-11	Pile Bent (Pile)	pcs	0	404,000	0	
3-12	Pile Bent (Concrete)	m3	0	12,000	0	
3-13	Catwalk	l.m.	0	30,000	0	
3-14	RoRo Ramp (Pile)	pcs	15	404,000	6,060,000	
3-15	RoRo Ramp (Concrete)	m3	104	12,000	1,248,000	
3-16	Fender (Cylinder)	pcs	10	400,000	4,000,000	
3-17	Fender (V-type)	pcs	0	120,000	0	
3-18	Mooring Bitts	pcs	0	150,000	0	
3-19	Boarding/Deboarding Stairs	nos		500,000	0	
4	Civil Works				36,435,400	
4-1	Causeway (Rockmound w/Pavement)	l.m.	0	25,000	0	
4-2	Pavement	m2	8,564	4,000	34,256,000	
4-3	Pavement Marking	L.S.	1	500,000	500,000	
4-4	Sidewalk	m2	322	1,500	483,000	
4-5	Curb and Gutter	l.m.	358	1,200	429,600	
4-6	Landscaping	m2	1,917	400	766,800	
5	Building Works				11,512,500	
5-1	Passenger Building	m2	0	25,000	0	
5-2	Control House	m2	0	40,000	0	
5-3	Admin Building	m2	200	20,000	4,000,000	
5-4	Guard House	m2	2	15,000	22,500	
5-5	Waiting Shed	m2	56	25,000	1,400,000	
5-6	Ticket Booth	m2	40	35,000	1,400,000	
5-7	Kiosk	m2	20	25,000	500,000	
5-8	Power House	m2	16	35,000	560,000	
5-9	Sewage Treatment House	m2	32	30,000	960,000	
5-10	Public Toilet	m2	8	15,000	120,000	
5-11	Main Gate	m2	22	15,000	330,000	

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
5-12	Covered Parking	m2	0	15,000	0	
5-13	Covered Walkway	m2	55	20,000	1,100,000	
5-14	Vendor House	m2	0	25,000	0	
5-15	Coast Guard Office	m2	32	35,000	1,120,000	
6	Utilities Works				35,460,000	
6-1	Sewage Treatment Plant	L.S.	1	10,000,000	10,000,000	
6-2	Elevated Water Tank	L.S.	1	3,000,000	3,000,000	
6-3	Underground Reservoir	m2	32	30,000	960,000	
6-4	Water Supply Distribution	L.S.	1	10,000,000	10,000,000	
6-5	Drainage System	L.S.	1	10,000,000	10,000,000	
6-6	Fire Fighting System	L.S.	1	1,500,000	1,500,000	
7	Electrical Works				17,200,000	
7-1	Power Supply System	L.S.	1	10,000,000	10,000,000	
7-2	Standby Generator	L.S.	1	7,200,000	7,200,000	
8	Lightings				6,100,000	
8-1	High Mast Lighting	set	2	600,000	1,200,000	
8-2	Double Arm Lighting	set	2	400,000	800,000	
8-3	Single Arm Lighting	set	7	200,000	1,400,000	
8-4	Dome Lighting	set	27	100,000	2,700,000	
9	Appurtenant Works				9,965,000	
9-1	Gate	L.S.	1	500,000	500,000	
9-2	Perimeter Fence	l.m.	262	7,500	1,965,000	
9-3	Public Address System	L.S.	1	500,000	500,000	
9-4	Weigh Bridge	set	1	2,000,000	2,000,000	
9-5	Xray Scanner & Metal Detector	set	1	5,000,000	5,000,000	
10	Access Road				0	
10-1	Concrete Pavement	l.m.		22,000	0	
10-2	Gravel Surface	l.m.		6,200	0	
Total					150,168,340	

Road RORO Terminal System Project
Estimated Construction Cost
Candidate Site: Caticlan, Panay

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
1	Marine Works				284,027,520	
1-1	Breakwater (Armor Stone)	m3	7,907	4,500	35,581,500	
1-2	Breakwater (Core Stone)	m3	27,102	7,860	213,021,720	
1-3	Breakwater (Top Concrete)	m3	800	15,000	12,000,000	
1-4	Dredging	m3	0	360	0	
1-5	Revetment (Armor Stone)	m3	2,860	4,500	12,870,000	
1-6	Revetment (Core Stone)	m3	835	3,600	3,006,000	
1-7	Revetment (Filter Cloth)	m2	1,135	740	839,900	
1-8	Reclamation	m3	12,584	350	4,404,400	
1-9	Parapet Concrete	l.m.	192	12,000	2,304,000	
1-10	Banca Landing (Core Stone)	m3	0	3,600	0	
1-11	Banca Landing (Concrete Stair)	m3	0	15,000	0	
1-12	Banca Landing (Filter Fabric)	l.m.	0	740	0	
2	Navigational Aids				1,500,000	
2-1	Light Beacon	set	1	1,500,000	1,500,000	
2-2	Buoy Marker	set	0	2,500,000	0	
3	Berthing Facilities				81,432,000	
3-1	Demolition & Renovation	L.S.	0		0	
3-2	Breasting Dolphin (Pile)	pcs	0	404,000	0	
3-3	Breasting Dolphin (Concrete)	m3	0	12,000	0	
3-4	Mooring Dolphin (Pile)	pcs	0	404,000	0	
3-5	Mooring Dolphin (Concrete)	m3	0	12,000	0	
3-6	Pier (Pile)	pcs	126	404,000	50,904,000	
3-7	Pier (Concrete)	m3	488	12,000	5,856,000	
3-8	Steel Sheet Pile Wall (Pile)	l.m.	0	320,000	0	
3-9	Steel Sheet Pile Wall (Tie Cable)	pcs	0	300,000	0	
3-10	Steel Sheet Pile Wall (Coping Concrete)	m3	0	15,000	0	
3-11	Pile Bent (Pile)	pcs	0	404,000	0	
3-12	Pile Bent (Concrete)	m3	0	12,000	0	
3-13	Passenger Walkway	l.m.	0	200,000	0	Connecting Dolphins
3-14	RoRo Ramp (Pile)	pcs	30	404,000	12,120,000	
3-15	RoRo Ramp (Concrete)	m3	431	12,000	5,172,000	
3-16	Fender (Cylinder)	pcs	8	400,000	3,200,000	
3-17	Fender (V-type)	pcs	9	120,000	1,080,000	
3-18	Mooring Bitt	pcs	14	150,000	2,100,000	
3-19	Boarding Stairs	nos	2	500,000	1,000,000	for Passenger Boarding
4	Civil Works				11,531,100	
4-1	Causeway (Rockmound w/Pavement)	l.m.	0	25,000	0	
4-2	Pavement	m2	2,352	4,000	9,408,000	
4-3	Pavement Marking	L.S.	1	500,000	500,000	
4-4	Sidewalk	m2	425	1,500	637,500	
4-5	Curb and Gutter	l.m.	558	1,200	669,600	
4-6	Landscaping	m2	790	400	316,000	
5	Building Works				15,280,000	
5-1	Passenger Building	m2	0	25,000	0	
5-3	Admin Building	m2	200	40,000	8,000,000	
5-4	Guard House	m2	4	20,000	80,000	
5-5	Waiting Shed	m2	94	15,000	1,410,000	
5-6	Ticket Booth	m2	40	25,000	1,000,000	
5-7	Canteen	m2	0	35,000	0	
5-8	Power House	m2	16	25,000	400,000	
5-9	Sewage Treatment House	m2	32	35,000	1,120,000	
5-10	Public Toilet	m2	16	30,000	480,000	

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
5-11	Main Gate	m2	22	15,000	330,000	
5-12	Covered Parking	m2	44	15,000	660,000	
5-13	Covered Walk	m2	0	15,000	0	
5-14	Vendor House	m2	0	20,000	0	
5-15	Coast Guard Office	m2	72	25,000	1,800,000	
6	Utilities Works				35,460,000	
6-1	Sewage Treatment Plant	L.S.	1	10,000,000	10,000,000	
6-2	Elevated Water Tank	L.S.	1	3,000,000	3,000,000	
6-3	Underground Reservoir	m2	32	30,000	960,000	
6-4	Water Supply Distribution	L.S.	1	10,000,000	10,000,000	
6-5	Drainage System	L.S.	1	10,000,000	10,000,000	
6-6	Fire Fighting System	L.S.	1	1,500,000	1,500,000	
7	Electrical Works				17,200,000	
7-1	Power Supply System	L.S.	1	10,000,000	10,000,000	
7-2	Standby Generator	L.S.	1	7,200,000	7,200,000	
8	Lightings				8,800,000	
8-1	High Mast Lighting	set	3	600,000	1,800,000	
8-2	Double Arm Lighting	set	3	400,000	1,200,000	
8-3	Single Arm Lighting	set	13	200,000	2,600,000	
8-4	Dome Lighting	set	32	100,000	3,200,000	
9	Appurtenant Works				9,747,500	
9-1	Gate	L.S.	1	500,000	500,000	
9-2	Perimeter Fence	l.m.	233	7,500	1,747,500	
9-3	Public Address System	L.S.	1	500,000	500,000	
9-4	Weigh Bridge	set	1	2,000,000	2,000,000	
9-5	Xray Scanner & Metal Detector	set	1	5,000,000	5,000,000	
10	Access Road				0	to N'tl Hwy only
10-1	Concrete Pavement	l.m.		22,000	0	
10-2	Gravel Surface	l.m.		6,200	0	
Total					464,978,120	

Road RORO Terminal System Project
Estimated Construction Cost
Candidate Site: Dumangas, Iloilo

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
1	Marine Works				10,078,700	
1-1	Breakwater (Armor Stone)	m3	0	4,500	0	
1-2	Breakwater (Core Stone)	m3	0	3,600	0	
1-3	Breakwater (Top Concrete)	m3	0	15,000	0	
1-4	Dredging	m3	0	360	0	
1-5	Revetment (Armor Stone)	m3	1,238	4,500	5,571,000	
1-6	Revetment (Core Stone)	m3	368	3,600	1,324,800	
1-7	Revetment (Filter Cloth)	m2	990	740	732,600	
1-8	Reclamation	m3	4,738	350	1,658,300	
1-9	Parapet Concrete	l.m.	66	12,000	792,000	
1-10	Banca Landing (Core Stone)	m3	0	3,600	0	
1-11	Banca Landing (Concrete Stair)	m3	0	15,000	0	
2	Navigational Aids				1,500,000	
2-1	Light Beacon	set	1	1,500,000	1,500,000	
2-2	Buoy Marker	set		2,500,000	0	
3	Berthing Facilities				17,907,800	
3-1	Demolition & Renovation	L.S.	1	5,000,000	5,000,000	
3-2	Breasting Dolphin (Pile)	pcs	0	404,000	0	
3-3	Breasting Dolphin (Concrete)	m3	0	12,000	0	
3-4	Mooring Dolphin (Pile)	pcs	3	404,000	1,212,000	
3-5	Mooring Dolphin (Concrete)	m3	5.4	12,000	64,800	
3-6	Pier (Pile)	pcs	0	404,000	0	
3-7	Pier (Concrete)	m3	0	12,000	0	
3-8	Steel Sheet Pile Wall (Pile)	l.m.	8	320,000	2,560,000	
3-9	Steel Sheet Pile Wall (Tie Cable)	pcs	2	300,000	600,000	
3-10	Steel Sheet Pile Wall (Coping Concrete)	m3	25	15,000	375,000	
3-11	Pile Bent (Pile)	pcs	0	404,000	0	
3-12	Pile Bent (Concrete)	m3	0	12,000	0	
3-13	Catwalk	l.m.	0	30,000	0	
3-14	RoRo Ramp (Pile)	pcs	0	404,000	0	
3-15	RoRo Ramp (Concrete)	m3	208	12,000	2,496,000	
3-16	Fender (Cylinder)	pcs	8	400,000	3,200,000	
3-17	Fender (V-type)	pcs	20	120,000	2,400,000	
3-18	Mooring Bitts	pcs	0	150,000	0	
3-19	Boarding/Deboarding Stairs	nos	0	500,000	0	
4	Civil Works				4,045,600	
4-1	Causeway (Rockmound w/Pavement)	l.m.	0	25,000	0	
4-2	Pavement	m2	658	4,000	2,632,000	
4-3	Pavement Marking	L.S.	1	500,000	500,000	
4-4	Sidewalk	m2	0	1,500	0	
4-5	Curb and Gutter	l.m.	294	1,200	352,800	
4-6	Landscaping	m2	1,402	400	560,800	
5	Building Works				14,512,500	
5-1	Passenger Building	m2	300	25,000	7,500,000	
5-2	Control House	m2	0	40,000	0	
5-3	Admin Building	m2	200	20,000	4,000,000	
5-4	Guard House	m2	2	15,000	22,500	
5-5	Waiting Shed	m2	0	25,000	0	
5-6	Ticket Booth	m2	40	35,000	1,400,000	
5-7	Canteen	m2	0	25,000	0	
5-8	Power House	m2	16	35,000	560,000	
5-9	Sewage Treatment House	m2	0	30,000	0	
5-10	Public Toilet	m2	8	15,000	120,000	
5-11	Main Gate	m2	0	15,000	0	
5-12	Covered Parking	m2	0	15,000	0	

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
5-13	Covered Walk	m2	0	20,000	0	
5-14	Vendor House	m2	0	25,000	0	
5-15	Coast Guard Office	m2	26	35,000	910,000	
6	Utilities Works				35,460,000	
6-1	Sewage Treatment Plant	L.S.	1	10,000,000	10,000,000	
6-2	Elevated Water Tank	L.S.	1	3,000,000	3,000,000	
6-3	Underground Reservoir	m2	32	30,000	960,000	
6-4	Water Supply Distribution	L.S.	1	10,000,000	10,000,000	
6-5	Drainage System	L.S.	1	10,000,000	10,000,000	
6-6	Fire Fighting System	L.S.	1	1,500,000	1,500,000	
7	Electrical Works				17,200,000	
7-1	Power Supply System	L.S.	1	10,000,000	10,000,000	
7-2	Standby Generator	L.S.	1	7,200,000	7,200,000	
8	Lightings				5,500,000	
8-1	High Mast Lighting	set	3	600,000	1,800,000	
8-2	Double Arm Lighting	set	2	400,000	800,000	
8-3	Single Arm Lighting	set	2	200,000	400,000	
8-4	Dome Lighting	set	25	100,000	2,500,000	
9	Appurtenant Works				9,035,000	
9-1	Gate	L.S.	1	500,000	500,000	
9-2	Perimeter Fence	l.m.	138	7,500	1,035,000	
9-3	Public Address System	L.S.	1	500,000	500,000	
9-4	Weigh Bridge	set	1	2,000,000	2,000,000	
9-5	Xray Scanner & Metal Detector	set	1	5,000,000	5,000,000	
10	Access Road				0	to N'tl Hwy only
10-1	Concrete Pavement	l.m.		22,000	0	
10-2	Gravel Surface	l.m.		6,200	0	
Total					115,239,600	

Road RORO Terminal System Project
Estimated Construction Cost
Candidate Site: San Antonio, Sorsogon

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
1	Marine Works				104,619,800	
1-1	Breakwater (Armor Stone)	m3	0	4,500	0	
1-2	Breakwater (Core Stone)	m3	0	7,860	0	
1-3	Breakwater (Top Concrete)	m3	0	15,000	0	
1-4	Dredging	m3	0	360	0	
1-5	Revetment (Armor Stone)	m3	11,960	4,500	53,820,000	
1-6	Revetment (Core Stone)	m3	3,491	3,600	12,567,600	
1-7	Revetment (Filter Cloth)	m2	7,680	740	5,683,200	
1-8	Reclamation	m3	81,580	350	28,553,000	
1-9	Parapet Concrete	l.m.	333	12,000	3,996,000	
1-10	Banca Landing (Core Stone)	m3	0	3,600	0	
1-11	Banca Landing (Concrete Stair)	m3	0	15,000	0	
1-12	Banca Landing (Filter Fabric)	l.m.	0	740	0	
2	Navigational Aids				1,500,000	
2-1	Light Beacon	set	1	1,500,000	1,500,000	
2-2	Buoy Marker	set	0	2,500,000	0	
3	Berthing Facilities				67,540,800	
3-1	Demolition & Renovation	L.S.	0		0	
3-2	Breasting Dolphin (Pile)	pcs	16	404,000	6,464,000	
3-3	Breasting Dolphin (Concrete)	m3	50	12,000	600,000	
3-4	Mooring Dolphin (Pile)	pcs	4	404,000	1,616,000	
3-5	Mooring Dolphin (Concrete)	m3	5.4	12,000	64,800	
3-6	Pier (Pile)	pcs	0	404,000	0	
3-7	Pier (Concrete)	m3	0	12,000	0	
3-8	Steel Sheet Pile Wall (Pile)	l.m.	62	320,000	19,840,000	
3-9	Steel Sheet Pile Wall (Tie Cable)	pcs	16	300,000	4,800,000	
3-10	Steel Sheet Pile Wall (Coping Concrete)	m3	198	15,000	2,970,000	
3-11	Pile Bent (Pile)	pcs	16	404,000	6,464,000	
3-12	Pile Bent (Concrete)	m3	48	12,000	576,000	
3-13	Catwalk	l.m.	106	30,000	3,180,000	
3-14	RoRo Ramp (Pile)	pcs	30	404,000	12,120,000	
3-15	RoRo Ramp (Concrete)	m3	208	12,000	2,496,000	
3-16	Fender (Cylinder)	pcs	4	400,000	1,600,000	
3-17	Fender (V-type)	pcs	20	120,000	2,400,000	
3-18	Mooring Bitts	pcs	9	150,000	1,350,000	
3-19	Boarding/Deboarding Stairs	nos	2	500,000	1,000,000	
4	Civil Works				30,570,500	
4-1	Causeway (Rockmound w/Pavement)	l.m.	320	25,000	8,000,000	
4-2	Pavement	m2	3,374	4,000	13,496,000	
4-3	Pavement Marking	L.S.	1	500,000	500,000	
4-4	Sidewalk	m2	1,891	1,500	2,836,500	
4-5	Curb and Gutter	l.m.	3,115	1,200	3,738,000	
4-6	Landscaping	m2	5,000	400	2,000,000	
5	Building Works				25,923,500	
5-1	Passenger Building	m2	300	25,000	7,500,000	
5-3	Admin Building	m2	200	40,000	8,000,000	
5-4	Guard House	m2	2	35,000	52,500	
5-5	Waiting Shed	m2	184	3,000	552,000	
5-6	Ticket Booth	m2	40	25,000	1,000,000	
5-7	Canteen	m2	102	35,000	3,570,000	
5-8	Power House	m2	16	25,000	400,000	
5-9	Sewage Treatment House	m2	32	35,000	1,120,000	
5-10	Public Toilet	m2	16	40,000	640,000	
5-11	Main Gate	m2	22	25,000	550,000	

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
5-12	Covered Parking	m2	63	3,000	189,000	
5-13	Covered Walkway	m2	10	3,000	30,000	
5-14	Vendor House	m2	48	25,000	1,200,000	
5-15	Coast Guard Office	m2	32	35,000	1,120,000	
6	Utilities Works				35,460,000	
6-1	Sewage Treatment Plant	L.S.	1	10,000,000	10,000,000	
6-2	Elevated Water Tank	L.S.	1	3,000,000	3,000,000	
6-3	Underground Reservoir	m2	32	30,000	960,000	
6-4	Water Supply Distribution	L.S.	1	10,000,000	10,000,000	
6-5	Drainage System	L.S.	1	10,000,000	10,000,000	
6-6	Fire Fighting System	L.S.	1	1,500,000	1,500,000	
7	Electrical Works				17,200,000	
7-1	Power Supply System	L.S.	1	10,000,000	10,000,000	
7-2	Standby Generator	L.S.	1	7,200,000	7,200,000	
8	Lightings				5,500,000	
8-1	High Mast Lighting	set	2	600,000	1,200,000	
8-2	Double Arm Lighting	set	0	400,000	0	
8-3	Single Arm Lighting	set	11	200,000	2,200,000	
8-4	Dome Lighting	set	21	100,000	2,100,000	
9	Appurtenant Works				14,832,500	
9-1	Gate	L.S.	1	500,000	500,000	
9-2	Perimeter Fence	l.m.	911	7,500	6,832,500	
9-3	Public Address System	L.S.	1	500,000	500,000	
9-4	Weigh Bridge	set	1	2,000,000	2,000,000	
9-5	Xray Scanner & Metal Detector	set	1	5,000,000	5,000,000	
10	Access Road				6,600,000	
10-1	Concrete Pavement	l.m.	300	22,000	6,600,000	
10-2	Gravel Surface	l.m.		6,200	0	
Total					309,747,100	

Road RORO Terminal System Project
Estimated Construction Cost
Candidate Site: Esperanza, Masbate

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
1	Marine Works				163,723,980	
1-1	Breakwater (Armor Stone)	m3	2,650	4,500	11,925,000	
1-2	Breakwater (Core Stone)	m3	7,854	7,860	61,732,440	
1-3	Breakwater (Top Concrete)	m3	268	15,000	4,020,000	
1-4	Dredging	m3	0	360	0	
1-5	Revetment (Armor Stone)	m3	5,211	4,500	23,449,500	
1-6	Revetment (Core Stone)	m3	1,664	3,600	5,990,400	
1-7	Revetment (Filter Cloth)	m2	4,580	740	3,389,200	
1-8	Reclamation	m3	81,580	350	28,553,000	
1-9	Parapet Concrete	l.m.	333	12,000	3,996,000	
1-10	Banca Landing (Core Stone)	m3	1,455	3,600	5,238,000	
1-11	Banca Landing (Concrete Stair)	m3	984	15,000	14,760,000	
1-12	Banca Landing (Filter Fabric)	l.m.	906	740	670,440	
2	Navigational Aids				1,500,000	
2-1	Light Beacon	set	1	1,500,000	1,500,000	
2-2	Buoy Marker	set	0	2,500,000	0	
3	Berthing Facilities				67,136,800	
3-1	Demolition & Renovation	L.S.	0		0	
3-2	Breasting Dolphin (Pile)	pcs	16	404,000	6,464,000	
3-3	Breasting Dolphin (Concrete)	m3	50	12,000	600,000	
3-4	Mooring Dolphin (Pile)	pcs	3	404,000	1,212,000	
3-5	Mooring Dolphin (Concrete)	m3	5.4	12,000	64,800	
3-6	Pier (Pile)	pcs	0	404,000	0	
3-7	Pier (Concrete)	m3	0	12,000	0	
3-8	Steel Sheet Pile Wall (Pile)	l.m.	62	320,000	19,840,000	
3-9	Steel Sheet Pile Wall (Tie Cable)	pcs	16	300,000	4,800,000	
3-10	Steel Sheet Pile Wall (Coping Concrete)	m3	198	15,000	2,970,000	
3-11	Pile Bent (Pile)	pcs	16	404,000	6,464,000	
3-12	Pile Bent (Concrete)	m3	48	12,000	576,000	
3-13	Catwalk	l.m.	106	30,000	3,180,000	
3-14	RoRo Ramp (Pile)	pcs	30	404,000	12,120,000	
3-15	RoRo Ramp (Concrete)	m3	208	12,000	2,496,000	
3-16	Fender (Cylinder)	pcs	4	400,000	1,600,000	
3-17	Fender (V-type)	pcs	20	120,000	2,400,000	
3-18	Mooring Bitts	pcs	9	150,000	1,350,000	
3-19	Boarding/Deboarding Stairs	nos	2	500,000	1,000,000	
4	Civil Works				33,372,900	
4-1	Causeway (Rockmound w/Pavement)	l.m.	261	25,000	6,525,000	
4-2	Pavement	m2	4,314	4,000	17,256,000	
4-3	Pavement Marking	L.S.	1	500,000	500,000	
4-4	Sidewalk	m2	2,073	1,500	3,109,500	
4-5	Curb and Gutter	l.m.	3,198	1,200	3,837,600	
4-6	Landscaping	m2	5,362	400	2,144,800	
5	Building Works				28,045,000	
5-1	Passenger Building	m2	300	25,000	7,500,000	
5-3	Admin Building	m2	200	40,000	8,000,000	
5-4	Guard House	m2	2	20,000	30,000	
5-5	Waiting Shed	m2	184	15,000	2,760,000	
5-6	Ticket Booth	m2	40	25,000	1,000,000	
5-7	Canteen	m2	102	35,000	3,570,000	
5-8	Power House	m2	16	25,000	400,000	
5-9	Sewage Treatment House	m2	32	35,000	1,120,000	
5-10	Public Toilet	m2	16	30,000	480,000	
5-11	Main Gate	m2	22	15,000	330,000	

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
5-12	Covered Parking	m2	63	15,000	945,000	
5-13	Covered Walkway	m2	10	15,000	150,000	
5-14	Vendor House	m2	48	20,000	960,000	
5-15	Coast Guard Office	m2	32	25,000	800,000	
6	Utilities Works				35,460,000	
6-1	Sewage Treatment Plant	L.S.	1	10,000,000	10,000,000	
6-2	Elevated Water Tank	L.S.	1	3,000,000	3,000,000	
6-3	Underground Reservoir	m2	32	30,000	960,000	
6-4	Water Supply Distribution	L.S.	1	10,000,000	10,000,000	
6-5	Drainage System	L.S.	1	10,000,000	10,000,000	
6-6	Fire Fighting System	L.S.	1	1,500,000	1,500,000	
7	Electrical Works				17,200,000	
7-1	Power Supply System	L.S.	1	10,000,000	10,000,000	
7-2	Standby Generator	L.S.	1	7,200,000	7,200,000	
8	Lightings				5,500,000	
8-1	High Mast Lighting	set	2	600,000	1,200,000	
8-2	Double Arm Lighting	set	0	400,000	0	
8-3	Single Arm Lighting	set	11	200,000	2,200,000	
8-4	Dome Lighting	set	21	100,000	2,100,000	
9	Appurtenant Works				14,832,500	
9-1	Gate	L.S.	1	500,000	500,000	
9-2	Perimeter Fence	l.m.	911	7,500	6,832,500	
9-3	Public Address System	L.S.	1	500,000	500,000	
9-4	Weigh Bridge	set	1	2,000,000	2,000,000	
9-5	Xray Scanner & Metal Detector	set	1	5,000,000	5,000,000	
10	Access Road				0	
10-1	Concrete Pavement	l.m.		22,000	0	
10-2	Gravel Surface	l.m.		6,200	0	
Total					366,771,180	

Highway Construction						
	Gravel Pavement	l.m.	30,000	6,118.3	183,549,000	
Total					183,549,000	
	Concrete Pavement	l.m.	30,000	21,829.4	654,882,000	Reference Only

Road RORO Terminal System Project
Estimated Construction Cost
Candidate Site: Daan Bantayan, Cebu

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
1	Marine Works				163,723,980	
1-1	Breakwater (Armor Stone)	m3	2,650	4,500	11,925,000	
1-2	Breakwater (Core Stone)	m3	7,854	7,860	61,732,440	
1-3	Breakwater (Top Concrete)	m3	268	15,000	4,020,000	
1-4	Dredging	m3	0	360	0	
1-5	Revetment (Armor Stone)	m3	5,211	4,500	23,449,500	
1-6	Revetment (Core Stone)	m3	1,664	3,600	5,990,400	
1-7	Revetment (Filter Cloth)	m2	4,580	740	3,389,200	
1-8	Reclamation	m3	81,580	350	28,553,000	
1-9	Parapet Concrete	l.m.	333	12,000	3,996,000	
1-10	Banca Landing (Core Stone)	m3	1,455	3,600	5,238,000	
1-11	Banca Landing (Concrete Stair)	m3	984	15,000	14,760,000	
1-12	Banca Landing (Filter Fabric)	l.m.	906	740	670,440	
2	Navigational Aids				1,500,000	
2-1	Light Beacon	set	1	1,500,000	1,500,000	
2-2	Buoy Marker	set	0	2,500,000	0	
3	Berthing Facilities				67,540,800	
3-1	Demolition & Renovation	L.S.	0		0	
3-2	Breasting Dolphin (Pile)	pcs	16	404,000	6,464,000	
3-3	Breasting Dolphin (Concrete)	m3	50	12,000	600,000	
3-4	Mooring Dolphin (Pile)	pcs	4	404,000	1,616,000	
3-5	Mooring Dolphin (Concrete)	m3	5.4	12,000	64,800	
3-6	Pier (Pile)	pcs	0	404,000	0	
3-7	Pier (Concrete)	m3	0	12,000	0	
3-8	Steel Sheet Pile Wall (Pile)	l.m.	62	320,000	19,840,000	
3-9	Steel Sheet Pile Wall (Tie Cable)	pcs	16	300,000	4,800,000	
3-10	Steel Sheet Pile Wall (Coping Concrete)	m3	198	15,000	2,970,000	
3-11	Pile Bent (Pile)	pcs	16	404,000	6,464,000	
3-12	Pile Bent (Concrete)	m3	48	12,000	576,000	
3-13	Catwalk	l.m.	106	30,000	3,180,000	
3-14	RoRo Ramp (Pile)	pcs	30	404,000	12,120,000	
3-15	RoRo Ramp (Concrete)	m3	208	12,000	2,496,000	
3-16	Fender (Cylinder)	pcs	4	400,000	1,600,000	
3-17	Fender (V-type)	pcs	20	120,000	2,400,000	
3-18	Mooring Bitt	pcs	9	150,000	1,350,000	
3-19	Boarding/Deboarding Stairs	nos	2	500,000	1,000,000	
4	Civil Works				36,447,900	
4-1	Causeway (Rockmound w/Pavement)	l.m.	384	25,000	9,600,000	
4-2	Pavement	m2	4,314	4,000	17,256,000	
4-3	Pavement Marking	L.S.	1	500,000	500,000	
4-4	Sidewalk	m2	2,073	1,500	3,109,500	
4-5	Curb and Gutter	l.m.	3,198	1,200	3,837,600	
4-6	Landscaping	m2	5,362	400	2,144,800	
5	Building Works				28,345,000	
5-1	Passenger Building	m2	312	25,000	7,800,000	
5-3	Admin Building	m2	200	40,000	8,000,000	
5-4	Guard House	m2	2	20,000	30,000	
5-5	Waiting Shed	m2	184	15,000	2,760,000	
5-6	Ticket Booth	m2	40	25,000	1,000,000	
5-7	Canteen	m2	102	35,000	3,570,000	
5-8	Power House	m2	16	25,000	400,000	
5-9	Sewage Treatment House	m2	32	35,000	1,120,000	
5-10	Public Toilet	m2	16	30,000	480,000	
5-11	Main Gate	m2	22	15,000	330,000	

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
5-12	Covered Parking	m2	63	15,000	945,000	
5-13	Covered Walkway	m2	10	15,000	150,000	
5-14	Vendor House	m2	48	20,000	960,000	
5-15	Coast Guard Office	m2	32	25,000	800,000	
6	Utilities Works				35,460,000	
6-1	Sewage Treatment Plant	L.S.	1	10,000,000	10,000,000	
6-2	Elevated Water Tank	L.S.	1	3,000,000	3,000,000	
6-3	Underground Reservoir	m2	32	30,000	960,000	
6-4	Water Supply Distribution	L.S.	1	10,000,000	10,000,000	
6-5	Drainage System	L.S.	1	10,000,000	10,000,000	
6-6	Fire Fighting System	L.S.	1	1,500,000	1,500,000	
7	Electrical Works				17,200,000	
7-1	Power Supply System	L.S.	1	10,000,000	10,000,000	
7-2	Standby Generator	L.S.	1	7,200,000	7,200,000	
8	Lightings				7,700,000	
8-1	High Mast Lighting	set	2	600,000	1,200,000	
8-2	Double Arm Lighting	set	0	400,000	0	
8-3	Single Arm Lighting	set	22	200,000	4,400,000	
8-4	Dome Lighting	set	21	100,000	2,100,000	
9	Appurtenant Works				14,832,500	
9-1	Gate	L.S.	1	500,000	500,000	
9-2	Perimeter Fence	l.m.	911	7,500	6,832,500	
9-3	Public Address System	L.S.	1	500,000	500,000	
9-4	Weigh Bridge	set	1	2,000,000	2,000,000	
9-5	Xray Scanner & Metal Detector	set	1	5,000,000	5,000,000	
10	Access Road				0	
10-1	Concrete Pavement	l.m.		22,000	0	
10-2	Gravel Surface	l.m.		6,200	0	
Total					372,750,180	

Road RORO Terminal System Project
Estimated Construction Cost
Candidate Site: Toledo, Cebu

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
1	Marine Works				25,993,020	
1-1	Breakwater (Armor Stone)	m3	0	4,500	0	
1-2	Breakwater (Core Stone)	m3	0	3,600	0	
1-3	Breakwater (Top Concrete)	m3	0	15,000	0	
1-4	Dredging	m3	2,400	360	864,000	
1-5	Revetment (Armor Stone)	m3	2,700	4,500	12,150,000	
1-6	Revetment (Core Stone)	m3	818	3,600	2,944,800	
1-7	Revetment (Filter Cloth)	m2	2,573	740	1,904,020	
1-8	Reclamation	m3	17,332	350	6,066,200	
1-9	Parapet Concrete	l.m.	172	12,000	2,064,000	
1-10	Banca Landing (Core Stone)	m3	0	3,600	0	
1-11	Banca Landing (Concrete Stair)	m3	0	15,000	0	
2	Navigational Aids				1,500,000	
2-1	Light Beacon	set	1	1,500,000	1,500,000	
2-2	Buoy Marker	set		2,500,000	0	
3	Berthing Facilities				109,486,000	
3-1	Demolition & Renovation	L.S.	0	10,000,000	0	
3-2	Breasting Dolphin (Pile)	pcs	0	404,000	0	
3-3	Breasting Dolphin (Concrete)	m3	0	12,000	0	
3-4	Mooring Dolphin (Pile)	pcs	0	404,000	0	
3-5	Mooring Dolphin (Concrete)	m3	0	12,000	0	
3-6	Pier (Pile)	pcs	126	404,000	50,904,000	
3-7	Pier (Concrete)	m3	488	12,000	5,856,000	
3-8	Steel Sheet Pile Wall (Pile)	l.m.	62	320,000	19,840,000	
3-9	Steel Sheet Pile Wall (Tie Cable)	pcs	25	300,000	7,500,000	
3-10	Steel Sheet Pile Wall (Coping Concrete)	m3	198	15,000	2,970,000	
3-11	Pile Bent (Pile)	pcs	0	404,000	0	
3-12	Pile Bent (Concrete)	m3	0	12,000	0	
3-13	Catwalk	l.m.	0	30,000	0	
3-14	RoRo Ramp (Pile)	pcs	30	404,000	12,120,000	
3-15	RoRo Ramp (Concrete)	m3	208	12,000	2,496,000	
3-16	Fender (Cylinder)	pcs	8	400,000	3,200,000	
3-17	Fender (V-type)	pcs	10	120,000	1,200,000	
3-18	Mooring Bitts	pcs	16	150,000	2,400,000	
3-19	Boarding/Deboarding Stairs	nos	2	500,000	1,000,000	
4	Civil Works				12,537,500	
4-1	Causeway (Rockmound w/Pavement)	l.m.	0	25,000	0	
4-2	Pavement	m2	2,787	4,000	11,148,000	
4-3	Pavement Marking	L.S.	1	500,000	500,000	
4-4	Sidewalk	m2	53	1,500	79,500	
4-5	Curb and Gutter	l.m.	478	1,200	573,600	
4-6	Landscaping	m2	591	400	236,400	
5	Building Works				16,080,000	
5-1	Passenger Building	m2	300	25,000	7,500,000	
5-2	Control House	m2	0	25,000	0	
5-3	Admin Building	m2	126	40,000	5,040,000	
5-4	Guard House	m2	4	35,000	140,000	
5-5	Waiting Shed	m2	0	3,000	0	
5-6	Ticket Booth	m2	44	25,000	1,100,000	
5-7	Canteen	m2	0	35,000	0	
5-8	Power House	m2	16	25,000	400,000	
5-9	Sewage Treatment House	m2	0	35,000	0	
5-10	Public Toilet	m2	18	40,000	720,000	
5-11	Main Gate	m2	22	25,000	550,000	

Road RORO Terminal System Project
Estimated Construction Cost
Candidate Site: Punta Engano, Cebu

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
1	Marine Works				91,494,850	
1-1	Breakwater (Armor Stone)	m3	0	4,500	0	
1-2	Breakwater (Core Stone)	m3	0	3,600	0	
1-3	Breakwater (Top Concrete)	m3	0	15,000	0	
1-4	Dredging	m3	2,400	360	864,000	
1-5	Revetment (Armor Stone)	m3	9,059	4,500	40,765,500	
1-6	Revetment (Core Stone)	m3	2,636	3,600	9,489,600	
1-7	Revetment (Filter Cloth)	m2	5,595	740	4,140,300	
1-8	Reclamation	m3	52,187	350	18,265,450	
1-9	Parapet Concrete	l.m.	424	12,000	5,088,000	
1-10	Banca Landing (Core Stone)	m3	870	3,600	3,132,000	
1-11	Banca Landing (Concrete Stair)	m3	650	15,000	9,750,000	
2	Navigational Aids				1,500,000	
2-1	Light Beacon	set	1	1,500,000	1,500,000	
2-2	Buoy Marker	set		2,500,000	0	
3	Berthing Facilities				64,555,800	
3-1	Demolition & Renovation	L.S.	1	5,000,000	5,000,000	
3-2	Breasting Dolphin (Pile)	pcs	16	404,000	6,464,000	
3-3	Breasting Dolphin (Concrete)	m3	50	12,000	600,000	
3-4	Mooring Dolphin (Pile)	pcs	4	404,000	1,616,000	
3-5	Mooring Dolphin (Concrete)	m3	5.4	12,000	64,800	
3-6	Pier (Pile)	pcs	0	404,000	0	
3-7	Pier (Concrete)	m3	0	12,000	0	
3-8	Steel Sheet Pile Wall (Pile)	l.m.	37	320,000	11,840,000	
3-9	Steel Sheet Pile Wall (Tie Cable)	pcs	20	300,000	6,000,000	
3-10	Steel Sheet Pile Wall (Coping Concrete)	m3	119	15,000	1,785,000	
3-11	Pile Bent (Pile)	pcs	16	404,000	6,464,000	
3-12	Pile Bent (Concrete)	m3	48	12,000	576,000	
3-13	Catwalk	l.m.	106	30,000	3,180,000	
3-14	RoRo Ramp (Pile)	pcs	30	404,000	12,120,000	
3-15	RoRo Ramp (Concrete)	m3	208	12,000	2,496,000	
3-16	Fender (Cylinder)	pcs	4	400,000	1,600,000	
3-17	Fender (V-type)	pcs	20	120,000	2,400,000	
3-18	Mooring Bitts	pcs	9	150,000	1,350,000	
3-19	Boarding/Deboarding Stairs	nos	2	500,000	1,000,000	
4	Civil Works				27,935,100	
4-1	Causeway (Rockmound w/Pavement)	l.m.	128	25,000	3,200,000	
4-2	Pavement	m2	5,698	4,000	22,792,000	
4-3	Pavement Marking	L.S.	1	500,000	500,000	
4-4	Sidewalk	m2	233	1,500	349,500	
4-5	Curb and Gutter	l.m.	378	1,200	453,600	
4-6	Landscaping	m2	1,600	400	640,000	
5	Building Works				16,702,500	
5-1	Passenger Building	m2	300	25,000	7,500,000	
5-2	Control House	m2	0	40,000	0	
5-3	Admin Building	m2	200	20,000	4,000,000	
5-4	Guard House	m2	2	15,000	22,500	
5-5	Waiting Shed	m2	60	25,000	1,500,000	
5-6	Ticket Booth	m2	40	35,000	1,400,000	
5-7	Canteen	m2	0	25,000	0	
5-8	Power House	m2	16	35,000	560,000	
5-9	Sewage Treatment House	m2	0	30,000	0	
5-10	Public Toilet	m2	18	15,000	270,000	
5-11	Main Gate	m2	22	15,000	330,000	
5-12	Covered Parking	m2	0	15,000	0	

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
5-13	Covered Walkway	m2	0	20,000	0	
5-14	Vendor House	m2	0	25,000	0	
5-15	Coast Guard Office	m2	32	35,000	1,120,000	
6	Utilities Works				35,460,000	
6-1	Sewage Treatment Plant	L.S.	1	10,000,000	10,000,000	
6-2	Elevated Water Tank	L.S.	1	3,000,000	3,000,000	
6-3	Underground Reservoir	m2	32	30,000	960,000	
6-4	Water Supply Distribution	L.S.	1	10,000,000	10,000,000	
6-5	Drainage System	L.S.	1	10,000,000	10,000,000	
6-6	Fire Fighting System	L.S.	1	1,500,000	1,500,000	
7	Electrical Works				17,200,000	
7-1	Power Supply System	L.S.	1	10,000,000	10,000,000	
7-2	Standby Generator	L.S.	1	7,200,000	7,200,000	
8	Lightings				7,200,000	
8-1	High Mast Lighting	set	2	600,000	1,200,000	
8-2	Double Arm Lighting	set	6	400,000	2,400,000	
8-3	Single Arm Lighting	set	6	200,000	1,200,000	
8-4	Dome Lighting	set	24	100,000	2,400,000	
9	Appurtenant Works				10,932,500	
9-1	Gate	L.S.	1	500,000	500,000	
9-2	Perimeter Fence	l.m.	391	7,500	2,932,500	
9-3	Public Address System	L.S.	1	500,000	500,000	
9-4	Weigh Bridge	set	1	2,000,000	2,000,000	
9-5	Xray Scanner & Metal Detector	set	1	5,000,000	5,000,000	
10	Access Road				3,300,000	
10-1	Concrete Pavement	l.m.	150	22,000	3,300,000	
10-2	Gravel Surface	l.m.		6,200	0	
Total					276,280,750	

Road RORO Terminal System Project
Estimated Construction Cost
Candidate Site: Getafe, Bohol

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
1	Marine Works				41,089,200	
1-1	Breakwater (Armor Stone)	m3	0	4,500	0	
1-2	Breakwater (Core Stone)	m3	0	3,600	0	
1-3	Breakwater (Top Concrete)	m3	0	15,000	0	
1-4	Dredging	m3	0	360	0	
1-5	Revetment (Armor Stone)	m3	5,144	4,500	23,148,000	
1-6	Revetment (Core Stone)	m3	1,521	3,600	5,475,600	
1-7	Revetment (Filter Cloth)	m2	3,840	740	2,841,600	
1-8	Reclamation	m3	21,600	350	7,560,000	
1-9	Parapet Concrete	l.m.	172	12,000	2,064,000	
1-10	Banca Landing (Core Stone)	m3	0	3,600	0	
1-11	Banca Landing (Concrete Stair)	m3	0	15,000	0	
2	Navigational Aids				1,500,000	
2-1	Light Beacon	set	1	1,500,000	1,500,000	
2-2	Buoy Marker	set		2,500,000	0	
3	Berthing Facilities				61,470,800	
3-1	Demolition & Renovation	L.S.	0	10,000,000	0	
3-2	Breasting Dolphin (Pile)	pcs	16	404,000	6,464,000	
3-3	Breasting Dolphin (Concrete)	m3	50	12,000	600,000	
3-4	Mooring Dolphin (Pile)	pcs	4	404,000	1,616,000	
3-5	Mooring Dolphin (Concrete)	m3	5.4	12,000	64,800	
3-6	Pier (Pile)	pcs	0	404,000	0	
3-7	Pier (Concrete)	m3	0	12,000	0	
3-8	Steel Sheet Pile Wall (Pile)	l.m.	62	320,000	19,840,000	
3-9	Steel Sheet Pile Wall (Tie Cable)	pcs	25	300,000	7,500,000	
3-10	Steel Sheet Pile Wall (Coping Concrete)	m3	198	15,000	2,970,000	
3-11	Pile Bent (Pile)	pcs	0	404,000	0	
3-12	Pile Bent (Concrete)	m3	0	12,000	0	
3-13	Catwalk	l.m.	0	30,000	0	
3-14	RoRo Ramp (Pile)	pcs	30	404,000	12,120,000	
3-15	RoRo Ramp (Concrete)	m3	208	12,000	2,496,000	
3-16	Fender (Cylinder)	pcs	8	400,000	3,200,000	
3-17	Fender (V-type)	pcs	10	120,000	1,200,000	
3-18	Mooring Bitts	pcs	16	150,000	2,400,000	
3-19	Boarding/Deboarding Stairs	nos	2	500,000	1,000,000	
4	Civil Works				15,629,500	
4-1	Causeway (Rockmound w/Pavement)	l.m.	0	25,000	0	
4-2	Pavement	m2	3,572	4,000	14,288,000	
4-3	Pavement Marking	L.S.	1	500,000	500,000	
4-4	Sidewalk	m2	149	1,500	223,500	
4-5	Curb and Gutter	l.m.	291	1,200	349,200	
4-6	Landscaping	m2	672	400	268,800	
5	Building Works				12,780,000	
5-1	Passenger Building	m2	300	25,000	7,500,000	
5-2	Control House	m2	0	40,000	0	
5-3	Admin Building	m2	126	20,000	2,520,000	
5-4	Guard House	m2	4	15,000	60,000	
5-5	Waiting Shed	m2	0	25,000	0	
5-6	Ticketing Booth	m2	44	35,000	1,540,000	
5-7	Canteen	m2	0	25,000	0	
5-8	Power House	m2	16	35,000	560,000	
5-9	Sewage Treatment House	m2	0	30,000	0	
5-10	Public Toilet	m2	18	15,000	270,000	
5-11	Main Gate	m2	22	15,000	330,000	

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
5-12	Covered Parking	m2	0	15,000	0	
5-13	Covered Walk	m2	0	20,000	0	
5-14	Vendor House	m2	0	25,000	0	
5-15	Coast Guard Office	m2	0	35,000	0	
6	Utilities Works				35,460,000	
6-1	Sewage Treatment Plant	L.S.	1	10,000,000	10,000,000	
6-2	Elevated Water Tank	L.S.	1	3,000,000	3,000,000	
6-3	Underground Reservoir	m2	32	30,000	960,000	
6-4	Water Supply Distribution	L.S.	1	10,000,000	10,000,000	
6-5	Drainage System	L.S.	1	10,000,000	10,000,000	
6-6	Fire Fighting System	L.S.	1	1,500,000	1,500,000	
7	Electrical Works				17,200,000	
7-1	Power Supply System	L.S.	1	10,000,000	10,000,000	
7-2	Standby Generator	L.S.	1	7,200,000	7,200,000	
8	Lightings				10,400,000	
8-1	High Mast Lighting	set	2	600,000	1,200,000	
8-2	Double Arm Lighting	set	20	400,000	8,000,000	
8-3	Single Arm Lighting	set	6	200,000	1,200,000	
8-4	Dome Lighting	set	0	100,000	0	
9	Appurtenant Works				9,657,500	
9-1	Gate	L.S.	1	500,000	500,000	
9-2	Perimeter Fence	l.m.	221	7,500	1,657,500	
9-3	Public Address System	L.S.	1	500,000	500,000	
9-4	Weigh Bridge	set	1	2,000,000	2,000,000	
9-5	Xray Scanner & Metal Detector	set	1	5,000,000	5,000,000	
10	Access Road				0	
10-1	Concrete Pavement	l.m.		22,000	0	
10-2	Gravel Surface	l.m.		6,200	0	
Total					205,187,000	

Road RORO Terminal System Project
Estimated Construction Cost
Candidate Site: Ubay, Bohol

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
1	Marine Works				86,015,600	
1-1	Breakwater (Armor Stone)	m3	0	4,500	0	
1-2	Breakwater (Core Stone)	m3	0	7,860	0	
1-3	Breakwater (Top Concrete)	m3	0	15,000	0	
1-4	Dredging	m3	0	360	0	
1-5	Revetment (Armor Stone)	m3	9,269	4,500	41,710,500	
1-6	Revetment (Core Stone)	m3	2,097	3,600	7,549,200	
1-7	Revetment (Filter Cloth)	m2	5,685	740	4,206,900	
1-8	Reclamation	m3	81,580	350	28,553,000	
1-9	Parapet Concrete	l.m.	333	12,000	3,996,000	
1-10	Banca Landing (Core Stone)	m3	0	3,600	0	
1-11	Banca Landing (Concrete Stair)	m3	0	15,000	0	
1-12	Banca Landing (Filter Fabric)	l.m.	0	740	0	
2	Navigational Aids				1,500,000	
2-1	Light Beacon	set	1	1,500,000	1,500,000	
2-2	Buoy Marker	set	0	2,500,000	0	
3	Berthing Facilities				67,540,800	
3-1	Demolition & Renovation	L.S.	0		0	
3-2	Breasting Dolphin (Pile)	pcs	16	404,000	6,464,000	
3-3	Breasting Dolphin (Concrete)	m3	50	12,000	600,000	
3-4	Mooring Dolphin (Pile)	pcs	4	404,000	1,616,000	
3-5	Mooring Dolphin (Concrete)	m3	5.4	12,000	64,800	
3-6	Pier (Pile)	pcs	0	404,000	0	
3-7	Pier (Concrete)	m3	0	12,000	0	
3-8	Steel Sheet Pile Wall (Pile)	l.m.	62	320,000	19,840,000	
3-9	Steel Sheet Pile Wall (Tie Cable)	pcs	16	300,000	4,800,000	
3-10	Steel Sheet Pile Wall (Coping Concrete)	m3	198	15,000	2,970,000	
3-11	Pile Bent (Pile)	pcs	16	404,000	6,464,000	
3-12	Pile Bent (Concrete)	m3	48	12,000	576,000	
3-13	Catwalk	l.m.	106	30,000	3,180,000	
3-14	RoRo Ramp (Pile)	pcs	30	404,000	12,120,000	
3-15	RoRo Ramp (Concrete)	m3	208	12,000	2,496,000	
3-16	Fender (Cylinder)	pcs	4	400,000	1,600,000	
3-17	Fender (V-type)	pcs	20	120,000	2,400,000	
3-18	Mooring Bitts	pcs	9	150,000	1,350,000	
3-19	Boarding/Deboarding Stairs	nos	2	500,000	1,000,000	
4	Civil Works				30,570,500	
4-1	Causeway (Rockmound w/Pavement)	l.m.	320	25,000	8,000,000	
4-2	Pavement	m2	3,374	4,000	13,496,000	
4-3	Pavement Marking	L.S.	1	500,000	500,000	
4-4	Sidewalk	m2	1,891	1,500	2,836,500	
4-5	Curb and Gutter	l.m.	3,115	1,200	3,738,000	
4-6	Landscaping	m2	5,000	400	2,000,000	
5	Building Works				28,045,000	
5-1	Passenger Building	m2	300	25,000	7,500,000	
5-3	Admin Building	m2	200	40,000	8,000,000	
5-4	Guard House	m2	2	20,000	30,000	
5-5	Waiting Shed	m2	184	15,000	2,760,000	
5-6	Ticket Booth	m2	40	25,000	1,000,000	
5-7	Canteen	m2	102	35,000	3,570,000	
5-8	Power House	m2	16	25,000	400,000	
5-9	Sewage Treatment House	m2	32	35,000	1,120,000	
5-10	Public Toilet	m2	16	30,000	480,000	
5-11	Main Gate	m2	22	15,000	330,000	

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks	
5-12	Covered Parking	m2	63	15,000	945,000		
5-13	Covered Walkway	m2	10	15,000	150,000		
5-14	Vendor House	m2	48	20,000	960,000		
5-15	Coast Guard Office	m2	32	25,000	800,000		
6	Utilities Works				35,460,000		
6-1	Sewage Treatment Plant	L.S.	1	10,000,000	10,000,000		
6-2	Elevated Water Tank	L.S.	1	3,000,000	3,000,000		
6-3	Underground Reservoir	m2	32	30,000	960,000		
6-4	Water Supply Distribution	L.S.	1	10,000,000	10,000,000		
6-5	Drainage System	L.S.	1	10,000,000	10,000,000		
6-6	Fire Fighting System	L.S.	1	1,500,000	1,500,000		
7	Electrical Works				17,200,000		
7-1	Power Supply System	L.S.	1	10,000,000	10,000,000		
7-2	Standby Generator	L.S.	1	7,200,000	7,200,000		
8	Lightings				5,500,000		
8-1	High Mast Lighting	set	2	600,000	1,200,000		
8-2	Double Arm Lighting	set	0	400,000	0		
8-3	Single Arm Lighting	set	11	200,000	2,200,000		
8-4	Dome Lighting	set	21	100,000	2,100,000		
9	Appurtenant Works				14,832,500		
9-1	Gate	L.S.	1	500,000	500,000		
9-2	Perimeter Fence	l.m.	911	7,500	6,832,500		
9-3	Public Address System	L.S.	1	500,000	500,000		
9-4	Weigh Bridge	set	1	2,000,000	2,000,000		
9-5	Xray Scanner & Metal Detector	set	1	5,000,000	5,000,000		
10	Access Road				0		
10-1	Concrete Pavement	l.m.		22,000	0		
10-2	Gravel Surface	l.m.		6,200	0		
	Total					286,664,400	

Road RORO Terminal System Project
Estimated Construction Cost
Candidate Site: Culasi/Ajuy, Iloilo

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
1	Marine Works				60,217,700	
1-1	Breakwater (Armor Stone)	m3	0	4,500	0	
1-2	Breakwater (Core Stone)	m3	0	3,600	0	
1-3	Breakwater (Top Concrete)	m3	0	15,000	0	
1-4	Dredging	m3	0	360	0	
1-5	Revetment (Armor Stone)	m3	7,724	4,500	34,758,000	
1-6	Revetment (Core Stone)	m3	2,246	3,600	8,085,600	
1-7	Revetment (Filter Cloth)	m2	4,740	740	3,507,600	
1-8	Reclamation	m3	16,150	350	5,652,500	
1-9	Parapet Concrete	l.m.	682	12,000	8,184,000	
1-10	Banca Landing (Core Stone)	m3	0	3,600	0	
1-11	Banca Landing (Concrete Stair)	m3	2	15,000	30,000	
2	Navigational Aids				1,500,000	
2-1	Light Beacon	set	1	1,500,000	1,500,000	
2-2	Buoy Marker	set		2,500,000	0	
3	Berthing Facilities				68,940,800	
3-1	Demolition & Renovation	L.S.	1	10,000,000	10,000,000	
3-2	Breasting Dolphin (Pile)	pcs	16	404,000	6,464,000	
3-3	Breasting Dolphin (Concrete)	m3	50	12,000	600,000	
3-4	Mooring Dolphin (Pile)	pcs	4	404,000	1,616,000	
3-5	Mooring Dolphin (Concrete)	m3	5.4	12,000	64,800	
3-6	Pier (Pile)	pcs	0	404,000	0	
3-7	Pier (Concrete)	m3	0	12,000	0	
3-8	Steel Sheet Pile Wall (Pile)	l.m.	37	320,000	11,840,000	
3-9	Steel Sheet Pile Wall (Tie Cable)	pcs	18	300,000	5,400,000	
3-10	Steel Sheet Pile Wall (Coping Concrete)	m3	118	15,000	1,770,000	
3-11	Pile Bent (Pile)	pcs	16	404,000	6,464,000	
3-12	Pile Bent (Concrete)	m3	48	12,000	576,000	
3-13	Catwalk	l.m.	106	30,000	3,180,000	
3-14	RoRo Ramp (Pile)	pcs	30	404,000	12,120,000	
3-15	RoRo Ramp (Concrete)	m3	208	12,000	2,496,000	
3-16	Fender (Cylinder)	pcs	4	400,000	1,600,000	
3-17	Fender (V-type)	pcs	20	120,000	2,400,000	
3-18	Mooring Bitts	pcs	9	150,000	1,350,000	
3-19	Boarding/Deboarding Stairs	nos	2	500,000	1,000,000	
4	Civil Works				32,287,700	
4-1	Causeway (Rockmound w/Pavement)	l.m.	0	25,000	0	
4-2	Pavement	m2	7,803	4,000	31,212,000	
4-3	Pavement Marking	L.S.	1	500,000	500,000	
4-4	Sidewalk	m2	155	1,500	232,500	
4-5	Curb and Gutter	l.m.	152	1,200	182,400	
4-6	Landscaping	m2	402	400	160,800	
5	Building Works				13,800,000	
5-1	Passenger Building	m2	300	25,000	7,500,000	
5-2	Control House	m2	0	40,000	0	
5-3	Admin Building	m2	32	20,000	640,000	
5-4	Guard House	m2	4	15,000	60,000	
5-5	Waiting Shed	m2	0	25,000	0	
5-6	Ticket Booth	m2	40	35,000	1,400,000	
5-7	Canteen	m2	78	25,000	1,950,000	
5-8	Power House	m2	16	35,000	560,000	
5-9	Sewage Treatment House	m2	0	30,000	0	
5-10	Public Toilet	m2	16	15,000	240,000	
5-11	Main Gate	m2	22	15,000	330,000	

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
5-12	Covered Parking	m2	0	15,000	0	
5-13	Covered Walk	m2	0	20,000	0	
5-14	Vendor House	m2	0	25,000	0	
5-15	Coast Guard Office	m2	32	35,000	1,120,000	
6	Utilities Works				35,460,000	
6-1	Sewage Treatment Plant	L.S.	1	10,000,000	10,000,000	
6-2	Elevated Water Tank	L.S.	1	3,000,000	3,000,000	
6-3	Underground Reservoir	m2	32	30,000	960,000	
6-4	Water Supply Distribution	L.S.	1	10,000,000	10,000,000	
6-5	Drainage System	L.S.	1	10,000,000	10,000,000	
6-6	Fire Fighting System	L.S.	1	1,500,000	1,500,000	
7	Electrical Works				17,200,000	
7-1	Power Supply System	L.S.	1	10,000,000	10,000,000	
7-2	Standby Generator	L.S.	1	7,200,000	7,200,000	
8	Lightings				3,300,000	
8-1	High Mast Lighting	set	2	600,000	1,200,000	
8-2	Double Arm Lighting	set	1	400,000	400,000	
8-3	Single Arm Lighting	set	3	200,000	600,000	
8-4	Dome Lighting	set	11	100,000	1,100,000	
9	Appurtenant Works				9,042,500	
9-1	Gate	L.S.	1	500,000	500,000	
9-2	Perimeter Fence	l.m.	139	7,500	1,042,500	
9-3	Public Address System	L.S.	1	500,000	500,000	
9-4	Weigh Bridge	set	1	2,000,000	2,000,000	
9-5	Xray Scanner & Metal Detector	set	1	5,000,000	5,000,000	
10	Access Road				0	
10-1	Concrete Pavement	l.m.		22,000	0	
10-2	Gravel Surface	l.m.		6,200	0	
Total					241,748,700	

Road RORO Terminal System Project
Estimated Construction Cost
Candidate Site: Tabuelan, Cebu

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
1	Marine Works				96,446,900	
1-1	Breakwater (Armor Stone)	m3	0	4,500	0	
1-2	Breakwater (Core Stone)	m3	0	7,860	0	
1-3	Breakwater (Top Concrete)	m3	0	15,000	0	
1-4	Dredging	m3	0	360	0	
1-5	Revetment (Armor Stone)	m3	10,479	4,500	47,155,500	
1-6	Revetment (Core Stone)	m3	3,072	3,600	11,059,200	
1-7	Revetment (Filter Cloth)	m2	7,680	740	5,683,200	
1-8	Reclamation	m3	81,580	350	28,553,000	
1-9	Parapet Concrete	l.m.	333	12,000	3,996,000	
1-10	Banca Landing (Core Stone)	m3	0	3,600	0	
1-11	Banca Landing (Concrete Stair)	m3	0	15,000	0	
1-12	Banca Landing (Filter Fabric)	l.m.	0	740	0	
2	Navigational Aids				1,500,000	
2-1	Light Beacon	set	1	1,500,000	1,500,000	
2-2	Buoy Marker	set	0	2,500,000	0	
3	Berthing Facilities				67,540,800	
3-1	Demolition & Renovation	L.S.	0		0	
3-2	Breasting Dolphin (Pile)	pcs	16	404,000	6,464,000	
3-3	Breasting Dolphin (Concrete)	m3	50	12,000	600,000	
3-4	Mooring Dolphin (Pile)	pcs	4	404,000	1,616,000	
3-5	Mooring Dolphin (Concrete)	m3	5.4	12,000	64,800	
3-6	Pier (Pile)	pcs	0	404,000	0	
3-7	Pier (Concrete)	m3	0	12,000	0	
3-8	Steel Sheet Pile Wall (Pile)	l.m.	62	320,000	19,840,000	
3-9	Steel Sheet Pile Wall (Tie Cable)	pcs	16	300,000	4,800,000	
3-10	Steel Sheet Pile Wall (Coping Concrete)	m3	198	15,000	2,970,000	
3-11	Pile Bent (Pile)	pcs	16	404,000	6,464,000	
3-12	Pile Bent (Concrete)	m3	48	12,000	576,000	
3-13	Catwalk	l.m.	106	30,000	3,180,000	
3-14	RoRo Ramp (Pile)	pcs	30	404,000	12,120,000	
3-15	RoRo Ramp (Concrete)	m3	208	12,000	2,496,000	
3-16	Fender (Cylinder)	pcs	4	400,000	1,600,000	
3-17	Fender (V-type)	pcs	20	120,000	2,400,000	
3-18	Mooring Bitts	pcs	9	150,000	1,350,000	
3-19	Boarding/Deboarding Stairs	nos	2	500,000	1,000,000	
4	Civil Works				30,570,500	
4-1	Causeway (Rockmound w/Pavement)	l.m.	320	25,000	8,000,000	
4-2	Pavement	m2	3,374	4,000	13,496,000	
4-3	Pavement Marking	L.S.	1	500,000	500,000	
4-4	Sidewalk	m2	1,891	1,500	2,836,500	
4-5	Curb and Gutter	l.m.	3,115	1,200	3,738,000	
4-6	Landscaping	m2	5,000	400	2,000,000	
5	Building Works				28,345,000	
5-1	Passenger Building	m2	312	25,000	7,800,000	
5-3	Admin Building	m2	200	40,000	8,000,000	
5-4	Guard House	m2	2	20,000	30,000	
5-5	Waiting Shed	m2	184	15,000	2,760,000	
5-6	Ticket Booth	m2	40	25,000	1,000,000	
5-7	Canteen	m2	102	35,000	3,570,000	
5-8	Power House	m2	16	25,000	400,000	
5-9	Sewage Treatment House	m2	32	35,000	1,120,000	
5-10	Public Toilet	m2	16	30,000	480,000	
5-11	Main Gate	m2	22	15,000	330,000	

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
5-12	Covered Parking	m2	63	15,000	945,000	
5-13	Covered Walkway	m2	10	15,000	150,000	
5-14	Vendor House	m2	48	20,000	960,000	
5-15	Coast Guard Office	m2	32	25,000	800,000	
6	Utilities Works				35,460,000	
6-1	Sewage Treatment Plant	L.S.	1	10,000,000	10,000,000	
6-2	Elevated Water Tank	L.S.	1	3,000,000	3,000,000	
6-3	Underground Reservoir	m2	32	30,000	960,000	
6-4	Water Supply Distribution	L.S.	1	10,000,000	10,000,000	
6-5	Drainage System	L.S.	1	10,000,000	10,000,000	
6-6	Fire Fighting System	L.S.	1	1,500,000	1,500,000	
7	Electrical Works				17,200,000	
7-1	Power Supply System	L.S.	1	10,000,000	10,000,000	
7-2	Standby Generator	L.S.	1	7,200,000	7,200,000	
8	Lightings				5,500,000	
8-1	High Mast Lighting	set	2	600,000	1,200,000	
8-2	Double Arm Lighting	set	0	400,000	0	
8-3	Single Arm Lighting	set	11	200,000	2,200,000	
8-4	Dome Lighting	set	21	100,000	2,100,000	
9	Appurtenant Works				14,832,500	
9-1	Gate	L.S.	1	500,000	500,000	
9-2	Perimeter Fence	l.m.	911	7,500	6,832,500	
9-3	Public Address System	L.S.	1	500,000	500,000	
9-4	Weigh Bridge	set	1	2,000,000	2,000,000	
9-5	Xray Scanner & Metal Detector	set	1	5,000,000	5,000,000	
10	Access Road				0	
10-1	Concrete Pavement	l.m.		22,000	0	
10-2	Gravel Surface	l.m.		6,200	0	
Total					297,395,700	

Road RORO Terminal System Project
Estimated Construction Cost
Candidate Site: Bogo, Cebu

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
1	Marine Works				36,876,750	
1-1	Breakwater (Armor Stone)	m3	0	4,500	0	
1-2	Breakwater (Core Stone)	m3	0	3,600	0	
1-3	Breakwater (Top Concrete)	m3	0	15,000	0	
1-4	Dredging	m3	2,355	360	847,800	
1-5	Revetment (Armor Stone)	m3	3,261	4,500	14,674,500	
1-6	Revetment (Core Stone)	m3	883	3,600	3,178,800	
1-7	Revetment (Filter Cloth)	m2	3,480	740	2,575,200	
1-8	Reclamation	m3	36,447	350	12,756,450	
1-9	Parapet Concrete	l.m.	237	12,000	2,844,000	
1-10	Banca Landing (Core Stone)	m3	0	3,600	0	
1-11	Banca Landing (Concrete Stair)	m3	0	15,000	0	
2	Navigational Aids				1,500,000	
2-1	Light Beacon	set	1	1,500,000	1,500,000	
2-2	Buoy Marker	set		2,500,000	0	
3	Berthing Facilities				64,555,800	
3-1	Demolition & Renovation	L.S.	1	5,000,000	5,000,000	
3-2	Breasting Dolphin (Pile)	pcs	16	404,000	6,464,000	
3-3	Breasting Dolphin (Concrete)	m3	50	12,000	600,000	
3-4	Mooring Dolphin (Pile)	pcs	4	404,000	1,616,000	
3-5	Mooring Dolphin (Concrete)	m3	5.4	12,000	64,800	
3-6	Pier (Pile)	pcs	0	404,000	0	
3-7	Pier (Concrete)	m3	0	12,000	0	
3-8	Steel Sheet Pile Wall (Pile)	l.m.	37	320,000	11,840,000	
3-9	Steel Sheet Pile Wall (Tie Cable)	pcs	20	300,000	6,000,000	
3-10	Steel Sheet Pile Wall (Coping Concrete)	m3	119	15,000	1,785,000	
3-11	Pile Bent (Pile)	pcs	16	404,000	6,464,000	
3-12	Pile Bent (Concrete)	m3	48	12,000	576,000	
3-13	Catwalk	l.m.	106	30,000	3,180,000	
3-14	RoRo Ramp (Pile)	pcs	30	404,000	12,120,000	
3-15	RoRo Ramp (Concrete)	m3	208	12,000	2,496,000	
3-16	Fender (Cylinder)	pcs	4	400,000	1,600,000	
3-17	Fender (V-type)	pcs	20	120,000	2,400,000	
3-18	Mooring Bitts	pcs	9	150,000	1,350,000	
3-19	Boarding/Deboarding Stairs	nos	2	500,000	1,000,000	
4	Civil Works				23,497,900	
4-1	Causeway (Rockmound w/Pavement)	l.m.	0	25,000	0	
4-2	Pavement	m2	5,418	4,000	21,672,000	
4-3	Pavement Marking	L.S.	1	500,000	500,000	
4-4	Sidewalk	m2	233	1,500	349,500	
4-5	Curb and Gutter	l.m.	378	1,200	453,600	
4-6	Landscaping	m2	1,307	400	522,800	
5	Building Works				13,162,500	
5-1	Passenger Building	m2	300	25,000	7,500,000	
5-2	Control House	m2	0	40,000	0	
5-3	Admin Building	m2	200	20,000	4,000,000	
5-4	Guard House	m2	2	15,000	22,500	
5-5	Waiting Shed	m2	0	25,000	0	
5-6	Ticket Booth	m2	0	35,000	0	
5-7	Canteen	m2	0	25,000	0	
5-8	Power House	m2	16	35,000	560,000	
5-9	Sewage Treatment House	m2	0	30,000	0	
5-10	Public Toilet	m2	8	15,000	120,000	
5-11	Main Gate	m2	22	15,000	330,000	

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
5-12	Covered Parking	m2	0	15,000	0	
5-13	Covered Walkway	m2	0	20,000	0	
5-14	Vendor House	m2	0	25,000	0	
5-15	Coast Guard Office	m2	18	35,000	630,000	
6	Utilities Works				35,460,000	
6-1	Sewage Treatment Plant	L.S.	1	10,000,000	10,000,000	
6-2	Elevated Water Tank	L.S.	1	3,000,000	3,000,000	
6-3	Underground Reservoir	m2	32	30,000	960,000	
6-4	Water Supply Distribution	L.S.	1	10,000,000	10,000,000	
6-5	Drainage System	L.S.	1	10,000,000	10,000,000	
6-6	Fire Fighting System	L.S.	1	1,500,000	1,500,000	
7	Electrical Works				17,200,000	
7-1	Power Supply System	L.S.	1	10,000,000	10,000,000	
7-2	Standby Generator	L.S.	1	7,200,000	7,200,000	
8	Lightings				6,800,000	
8-1	High Mast Lighting	set	2	600,000	1,200,000	
8-2	Double Arm Lighting	set	4	400,000	1,600,000	
8-3	Single Arm Lighting	set	8	200,000	1,600,000	
8-4	Dome Lighting	set	24	100,000	2,400,000	
9	Appurtenant Works				10,572,500	
9-1	Gate	L.S.	1	500,000	500,000	
9-2	Perimeter Fence	l.m.	343	7,500	2,572,500	
9-3	Public Address System	L.S.	1	500,000	500,000	
9-4	Weigh Bridge	set	1	2,000,000	2,000,000	
9-5	Xray Scanner & Metal Detector	set	1	5,000,000	5,000,000	
10	Access Road				0	
10-1	Concrete Pavement	l.m.		22,000	0	
10-2	Gravel Surface	l.m.		6,200	0	
Total					209,625,450	

Road RORO Terminal System Project
Estimated Construction Cost
Candidate Site: Balud, Masbate

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
1	Marine Works				163,723,980	
1-1	Breakwater (Armor Stone)	m3	2,650	4,500	11,925,000	
1-2	Breakwater (Core Stone)	m3	7,854	7,860	61,732,440	
1-3	Breakwater (Top Concrete)	m3	268	15,000	4,020,000	
1-4	Dredging	m3	0	360	0	
1-5	Revetment (Armor Stone)	m3	5,211	4,500	23,449,500	
1-6	Revetment (Core Stone)	m3	1,664	3,600	5,990,400	
1-7	Revetment (Filter Cloth)	m2	4,580	740	3,389,200	
1-8	Reclamation	m3	81,580	350	28,553,000	
1-9	Parapet Concrete	l.m.	333	12,000	3,996,000	
1-10	Banca Landing (Core Stone)	m3	1,455	3,600	5,238,000	
1-11	Banca Landing (Concrete Stair)	m3	984	15,000	14,760,000	
1-12	Banca Landing (Filter Fabric)	l.m.	906	740	670,440	
2	Navigational Aids				1,500,000	
2-1	Light Beacon	set	1	1,500,000	1,500,000	
2-2	Buoy Marker	set	0	2,500,000	0	
3	Berthing Facilities				67,540,800	
3-1	Demolition & Renovation	L.S.	0	0	0	
3-2	Breasting Dolphin (Pile)	pcs	16	404,000	6,464,000	
3-3	Breasting Dolphin (Concrete)	m3	50	12,000	600,000	
3-4	Mooring Dolphin (Pile)	pcs	4	404,000	1,616,000	
3-5	Mooring Dolphin (Concrete)	m3	5.4	12,000	64,800	
3-6	Pier (Pile)	pcs	0	404,000	0	
3-7	Pier (Concrete)	m3	0	12,000	0	
3-8	Steel Sheet Pile Wall (Pile)	l.m.	62	320,000	19,840,000	
3-9	Steel Sheet Pile Wall (Tie Cable)	pcs	16	300,000	4,800,000	
3-10	Steel Sheet Pile Wall (Coping Concrete)	m3	198	15,000	2,970,000	
3-11	Pile Bent (Pile)	pcs	16	404,000	6,464,000	
3-12	Pile Bent (Concrete)	m3	48	12,000	576,000	
3-13	Catwalk	l.m.	106	30,000	3,180,000	
3-14	RoRo Ramp (Pile)	pcs	30	404,000	12,120,000	
3-15	RoRo Ramp (Concrete)	m3	208	12,000	2,496,000	
3-16	Fender (Cylinder)	pcs	4	400,000	1,600,000	
3-17	Fender (V-type)	pcs	20	120,000	2,400,000	
3-18	Mooring Bitts	pcs	9	150,000	1,350,000	
3-19	Boarding/Deboarding Stairs	nos	2	500,000	1,000,000	
4	Civil Works				40,922,900	
4-1	Causeway (Rockmound w/Pavement)	l.m.	563	25,000	14,075,000	
4-2	Pavement	m2	4,314	4,000	17,256,000	
4-3	Pavement Marking	L.S.	1	500,000	500,000	
4-4	Sidewalk	m2	2,073	1,500	3,109,500	
4-5	Curb and Gutter	l.m.	3,198	1,200	3,837,600	
4-6	Landscaping	m2	5,362	400	2,144,800	
5	Building Works				28,345,000	
5-1	Passenger Building	m2	312	25,000	7,800,000	
5-3	Admin Building	m2	200	40,000	8,000,000	
5-4	Guard House	m2	2	20,000	30,000	
5-5	Waiting Shed	m2	184	15,000	2,760,000	
5-6	Ticket Booth	m2	40	25,000	1,000,000	
5-7	Canteen	m2	102	35,000	3,570,000	
5-8	Power House	m2	16	25,000	400,000	
5-9	Sewage Treatment House	m2	32	35,000	1,120,000	
5-10	Public Toilet	m2	16	30,000	480,000	
5-11	Main Gate	m2	22	15,000	330,000	

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
5-12	Covered Parking	m2	63	15,000	945,000	
5-13	Covered Walkway	m2	10	15,000	150,000	
5-14	Vendor House	m2	48	20,000	960,000	
5-15	Coast Guard Office	m2	32	25,000	800,000	
6	Utilities Works				35,460,000	
6-1	Sewage Treatment Plant	L.S.	1	10,000,000	10,000,000	
6-2	Elevated Water Tank	L.S.	1	3,000,000	3,000,000	
6-3	Underground Reservoir	m2	32	30,000	960,000	
6-4	Water Supply Distribution	L.S.	1	10,000,000	10,000,000	
6-5	Drainage System	L.S.	1	10,000,000	10,000,000	
6-6	Fire Fighting System	L.S.	1	1,500,000	1,500,000	
7	Electrical Works				17,200,000	
7-1	Power Supply System	L.S.	1	10,000,000	10,000,000	
7-2	Standby Generator	L.S.	1	7,200,000	7,200,000	
8	Lightings				10,300,000	
8-1	High Mast Lighting	set	2	600,000	1,200,000	
8-2	Double Arm Lighting	set	0	400,000	0	
8-3	Single Arm Lighting	set	35	200,000	7,000,000	
8-4	Dome Lighting	set	21	100,000	2,100,000	
9	Appurtenant Works				14,832,500	
9-1	Gate	L.S.	1	500,000	500,000	
9-2	Perimeter Fence	l.m.	911	7,500	6,832,500	
9-3	Public Address System	L.S.	1	500,000	500,000	
9-4	Weigh Bridge	set	1	2,000,000	2,000,000	
9-5	Xray Scanner & Metal Detector	set	1	5,000,000	5,000,000	
10	Access Road				4,400,000	
10-1	Concrete Pavement	l.m.	200	22,000	4,400,000	
10-2	Gravel Surface	l.m.		6,200	0	
	Total				384,225,180	

	Highway Construction					
	Gravel Pavement	l.m.	40,000	6,118.3	244,732,000	
	Total				244,732,000	
	Concrete Pavement	l.m.	40,000	21,829.4	873,176,000	Reference Only

Road RORO Terminal System Project
Estimated Construction Cost
Candidate Site: Taytay, Palawan

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
1	Marine Works				44,635,300	
1-1	Breakwater (Armor Stone)	m3	0	4,500	0	
1-2	Breakwater (Core Stone)	m3	0	3,600	0	
1-3	Breakwater (Top Concrete)	m3	0	15,000	0	
1-4	Dredging	m3	5,260	360	1,893,600	
1-5	Revetment (Armor Stone)	m3	2,211	4,500	9,949,500	
1-6	Revetment (Core Stone)	m3	1,010	3,600	3,636,000	
1-7	Revetment (Filter Cloth)	m2	2,300	740	1,702,000	
1-8	Reclamation	m3	46,000	350	16,100,000	
1-9	Parapet Concrete	l.m.	333	12,000	3,996,000	
1-10	Banca Landing (Core Stone)	m3	260	3,600	936,000	
1-11	Banca Landing (Concrete Stair)	m3	402	15,000	6,030,000	
1-12	Banca Landing (Filter Fabric)	l.m.	530	740	392,200	
2	Navigational Aids				11,500,000	
2-1	Light Beacon	set	1	1,500,000	1,500,000	
2-2	Buoy Marker	set	4	2,500,000	10,000,000	
3	Berthing Facilities				109,486,000	
3-1	Demolition & Renovation	L.S.	0		0	
3-2	Breasting Dolphin (Pile)	pcs	0	404,000	0	
3-3	Breasting Dolphin (Concrete)	m3	0	12,000	0	
3-4	Mooring Dolphin (Pile)	pcs	0	404,000	0	
3-5	Mooring Dolphin (Concrete)	m3	0	12,000	0	
3-6	Pier (Pile)	pcs	126	404,000	50,904,000	
3-7	Pier (Concrete)	m3	488	12,000	5,856,000	
3-8	Steel Sheet Pile Wall (Pile)	l.m.	62	320,000	19,840,000	
3-9	Steel Sheet Pile Wall (Tie Cable)	pcs	25	300,000	7,500,000	
3-10	Steel Sheet Pile Wall (Coping Concrete)	m3	198	15,000	2,970,000	
3-11	Pile Bent (Pile)	pcs	0	404,000	0	
3-12	Pile Bent (Concrete)	m3	0	12,000	0	
3-13	Passenger Walkway	l.m.	0	300,000	0	
3-14	RoRo Ramp (Pile)	pcs	30	404,000	12,120,000	
3-15	RoRo Ramp (Concrete)	m3	208	12,000	2,496,000	
3-16	Fender (Cylinder)	pcs	8	400,000	3,200,000	
3-17	Fender (V-type)	pcs	10	120,000	1,200,000	
3-18	Mooring Bitts	pcs	16	150,000	2,400,000	
3-19	Boarding/Deboarding Stairs	nos	2	500,000	1,000,000	
4	Civil Works				27,419,000	
4-1	Causeway (Rockmound w/Pavement)	l.m.	0	25,000	0	
4-2	Pavement	m2	6,050	4,000	24,200,000	
4-3	Pavement Marking	L.S.	1	500,000	500,000	
4-4	Sidewalk	m2	770	1,500	1,155,000	
4-5	Curb and Gutter	l.m.	760	1,200	912,000	
4-6	Landscaping	m2	1,630	400	652,000	
5	Building Works				28,045,000	
5-1	Passenger Building	m2	300	25,000	7,500,000	
5-3	Admin Building	m2	200	40,000	8,000,000	
5-4	Guard House	m2	2	20,000	30,000	
5-5	Waiting Shed	m2	184	15,000	2,760,000	
5-6	Ticket Booth	m2	40	25,000	1,000,000	
5-7	Canteen	m2	102	35,000	3,570,000	
5-8	Power House	m2	16	25,000	400,000	
5-9	Sewage Treatment House	m2	32	35,000	1,120,000	
5-10	Public Toilet	m2	16	30,000	480,000	
5-11	Main Gate	m2	22	15,000	330,000	

Item	Description of Works	Unit	Quantity	Unit Price (Php)	Cost (Php)	Remarks
5-12	Covered Parking	m2	63	15,000	945,000	
5-13	Covered Walkway	m2	10	15,000	150,000	
5-14	Vendor House	m2	48	20,000	960,000	
5-15	Coast Guard Office	m2	32	25,000	800,000	
6	Utilities Works				35,460,000	
6-1	Sewage Treatment Plant	L.S.	1	10,000,000	10,000,000	
6-2	Elevated Water Tank	L.S.	1	3,000,000	3,000,000	
6-3	Underground Reservoir	m2	32	30,000	960,000	
6-4	Water Supply Distribution	L.S.	1	10,000,000	10,000,000	
6-5	Drainage System	L.S.	1	10,000,000	10,000,000	
6-6	Fire Fighting System	L.S.	1	1,500,000	1,500,000	
7	Electrical Works				17,200,000	
7-1	Power Supply System	L.S.	1	10,000,000	10,000,000	
7-2	Standby Generator	L.S.	1	7,200,000	7,200,000	
8	Lightings				5,500,000	
8-1	High Mast Lighting	set	2	600,000	1,200,000	
8-2	Double Arm Lighting	set	0	400,000	0	
8-3	Single Arm Lighting	set	11	200,000	2,200,000	
8-4	Dome Lighting	set	21	100,000	2,100,000	
9	Appurtenant Works				11,982,500	
9-1	Gate	L.S.	1	500,000	500,000	
9-2	Perimeter Fence	l.m.	531	7,500	3,982,500	
9-3	Public Address System	L.S.	1	500,000	500,000	
9-4	Weigh Bridge	set	1	2,000,000	2,000,000	
9-5	Xray Scanner & Metal Detector	set	1	5,000,000	5,000,000	
10	Access Road				0	
10-1	Concrete Pavement	l.m.		22,000	0	
10-2	Gravel Surface	l.m.		6,200	0	
Total					291,227,800	

Highway Construction						
	Gravel Pavement	l.m.	20,000	6,118.3	122,366,000	
Total					122,366,000	
	Concrete Pavement	l.m.	20,000	21,829.4	436,588,000	Reference Only