

June 14, 2023

DENR MIMAROPA RECORDS SECTION	
RECEIVED	
BY:	<i>PRC</i>
DATE:	
TIME:	

LORMELYN E. CALUDIO
Regional Executive Director
DENR MIMAROPA Region

THROUGH: FELIZARDO B. CAYATOC

Provincial Environment and Natural Resources Officer
Sta. Monica, Puerto Princesa City, Palawan

PEDRO A. VELASCO

Community Environment and Natural Resources Officer
Sta. Monica, Puerto Princesa City, Palawan

Ma'am;

Good Day!

Yurich Builders and Construction Supply has been awarded of a project for the City of Puerto Princesa thru DPWH- Region 4-B entitled "Construction of Rizal Avenue Extension Boardwalk located at Barangay Banca-Banca, Puerto Princesa City, Palawan". This is a 600 meters Boardwalk channeling from end of the existing pavement of Rizal Avenue Extension going to the scenic view of Puerto Princesa Bay.


However, during the conduct of survey and as-staking, there is a portion of at least around 10 meters of mangrove area where the boardwalk parking area is to be constructed. As per initial count, there are Thirty-Four (34) Mangrove trees that might be affected of the project development.

The proponent barangay, DPWH-Region 4B and the 3rd District wish to continue with the boardwalk construction as this may promote tourism in the area.

With this, may we request a clearance from your good Office or seek legal advice on how to go about with the mangrove portion in the area where the boardwalk is to be constructed, given the Presidential Proclamation 2152.

Attached is the plan for the boardwalk project and pictures of the mangrove area that may be affected.

Respectfully yours,


BERNARDO B. GO JR.
Owner/ Proprietor
Yurich Builders and Construction Supply

RS-3-7 6/23



BUILDERS & CONSTRUCTION SUPPLY
Calamansi Street, Bgry. San Jose, Pto Princesa City, Palawan
Email: yurichbuilders2008@gmail.com / Contact #: 09989977967

TRANSMITTAL

June 20, 2023

NO.	PROJECT	CONTRACTOR	TYPE OF DOCS	REMARKS	NOTE
1	BAC INFRA 2023-06-16 - Concreting/Completion of Bukang Liwayway HOA Road with	YURICH BUILDERS AND CONSTRUCTION SUPPLY	REQUEST LETTER FOR CLEARANCE (BOARDWALK BRGY. BANCAO-BANCAO, PPC)		
2	Drainage System,		ANNEX A		
3	Barangay Banca-Bancao, Puerto		ANNEX B		
4	Princesa City		ANNEX C		

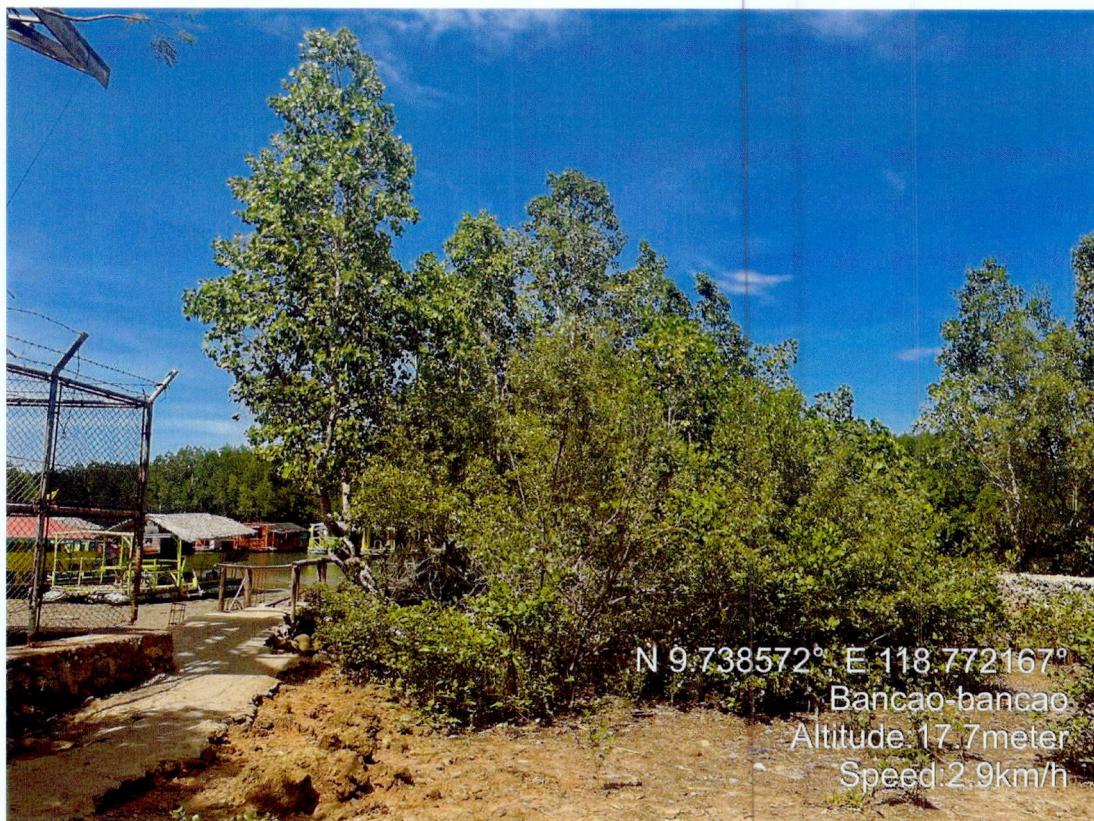
PREPARED BY :

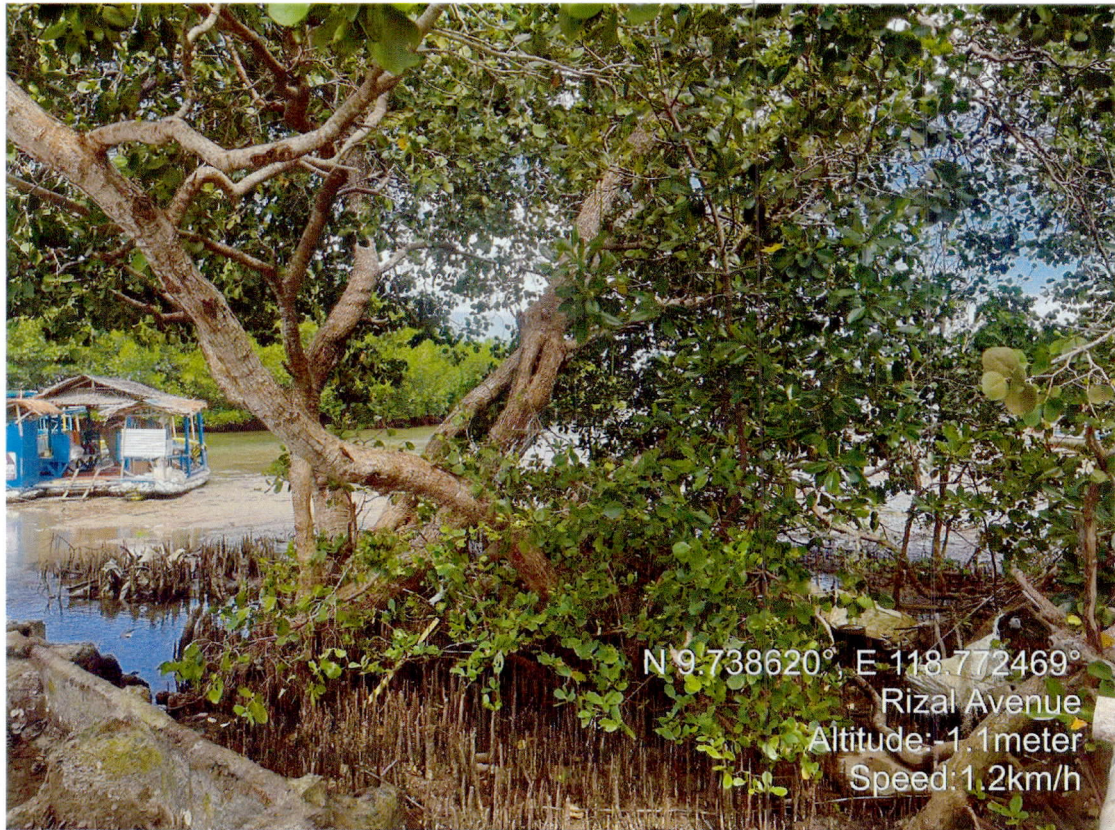

VICTORINA BADILLA

RECEIVED BY :

ANNEX A
Mangrove Area







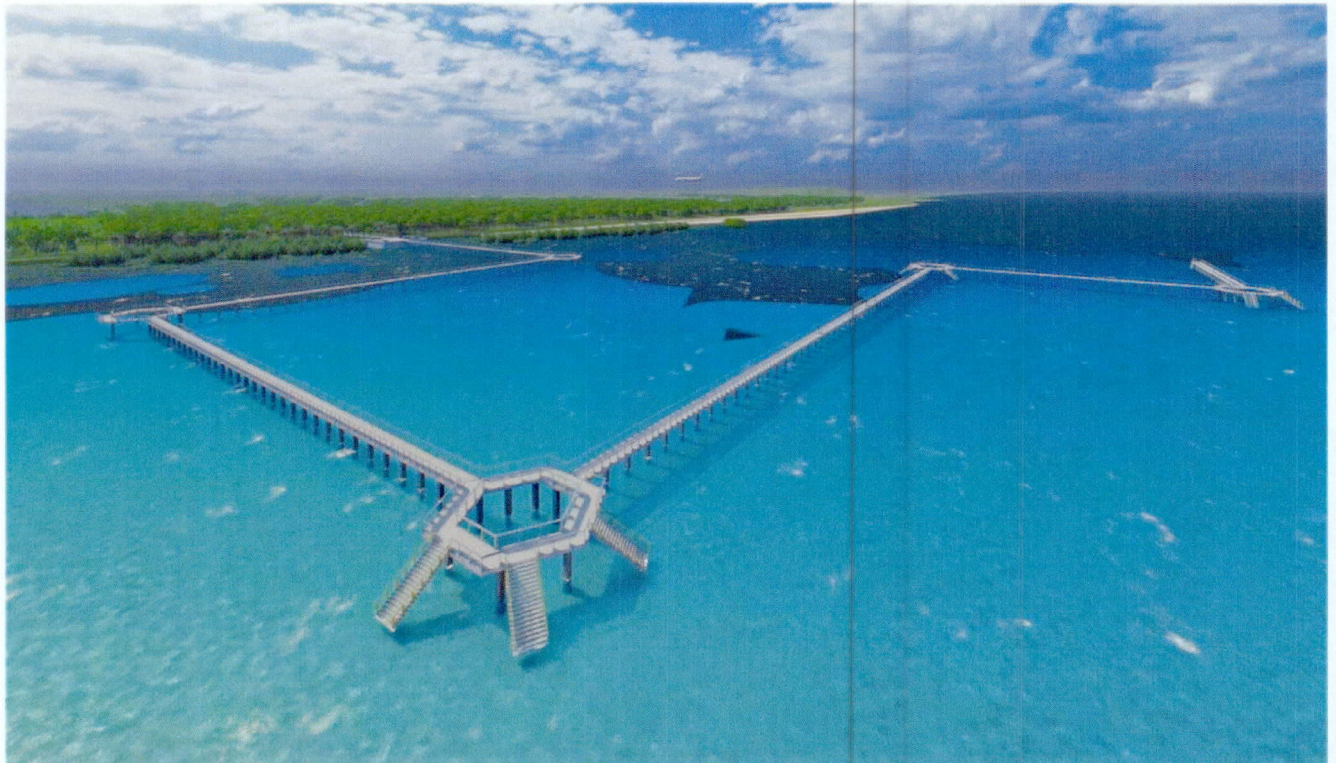
N 9.738620°, E 118.772469°

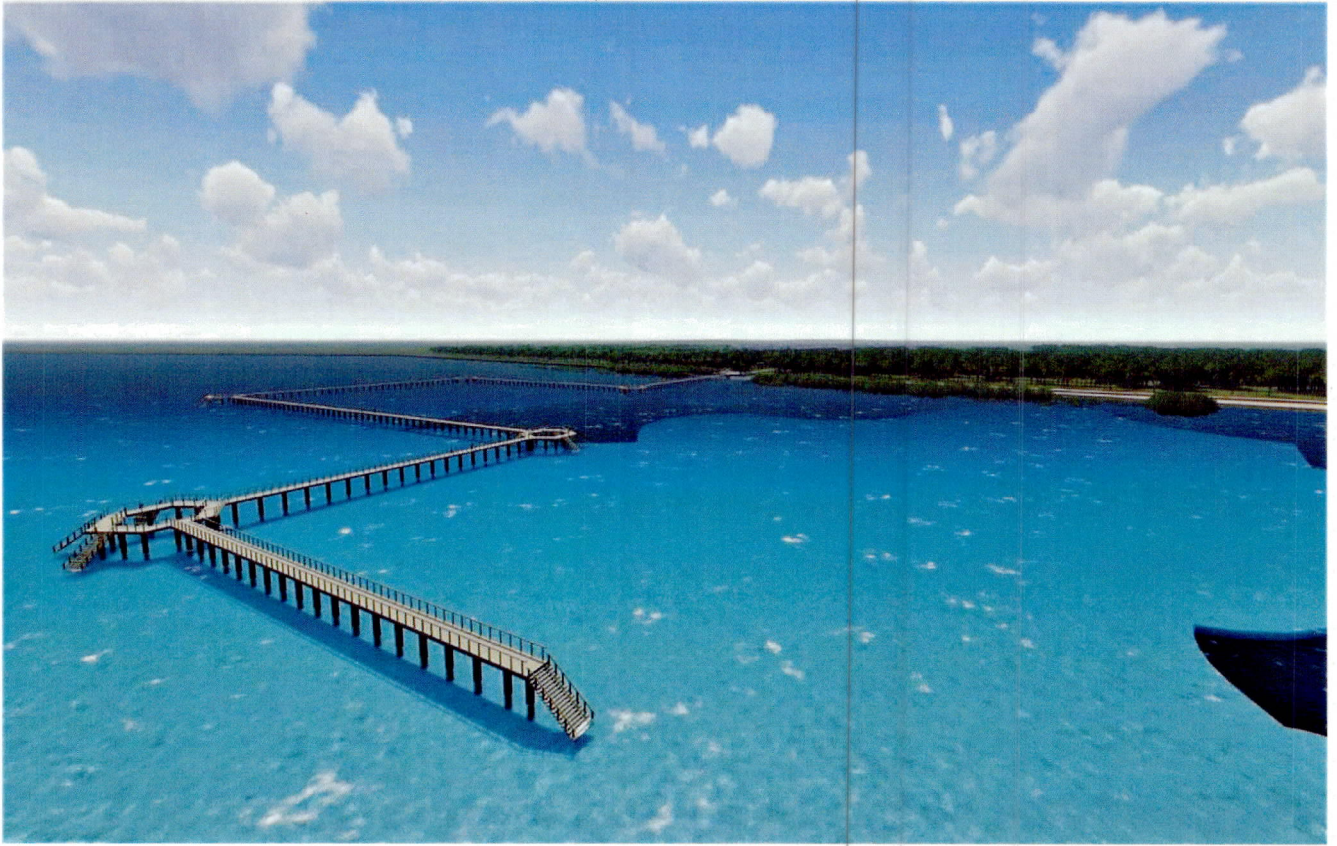
Rizal Avenue

Altitude: -1.1meter

Speed: 1.2km/h

ANNEX B
PERSPECTIVE







REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE IV - B, MIMAROPA
EDSA, Diliman, QUEZON CITY

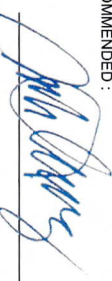
C.Y. 2023 PROJECT
DETAILED ENGINEERING DESIGN PLAN FOR THE
CONVERGE AND SPECIAL SUPPORT PROGRAM
SUSTAINABLE INFRASTRUCTURE PROJECTS ALLEVIATING GAPS (SIPAG)
ACCESS ROADS AND/OR BRIDGES FROM THE NATIONAL ROAD/S LEADING TO
MAJOR/STRATEGIC PUBLIC BUILDINGS/ FACILITIES
**CONSTRUCTION OF RIZAL AVENUE EXTENSION BOARDWALK BARANGAY
BANCAO-BANCAO, PUERTO PRINCESA CITY, PALAWAN**
PUERTO PRINCESA CITY, PALAWAN

STA. 00+000.00 - STA. 00+600.00
PROJECT LENGTH: 600.00 L.M.
PROJECT ID: P00736310LZ


SUBMITTED :

GENE RYAN A. ALTEA
CHIEF, PLANNING AND DESIGN DIVISION

DATE:

RECOMMENDED :

MELQUIADES H. STO. DOMINGO
ASSISTANT REGIONAL DIRECTOR


DATE:

APPROVED:

GERALD A. PACANAN, CESO III
REGIONAL DIRECTOR

DATE:

INDEX OF SHEET

SHEET CONTENT	SET NUMBER	SHEET NUMBER
GENERAL		
COVER SHEET/TITLE SHEET	01	01
INDEX OF SHEETS		
LOCATION PLAN/VICINITY MAP	02	02
SUMMARY OF QUANTITIES	03	03
GENERAL NOTES	04	04
GENERAL NOTES	05	05
GENERAL NOTES	06	06
TYPICAL DETAILS (1/6)	07	07
TYPICAL DETAILS (2/6)	08	08
TYPICAL DETAILS (3/6)	09	09
TYPICAL DETAILS (4/6)	10	10
TYPICAL DETAILS (5/6)	11	11
TYPICAL DETAILS (6/6)	12	12
COASTAL STRUCTURE		
PLAN AND PROFILE (1/2)	01	13
PLAN AND PROFILE (1/2)	02	14



REPUBLIC OF THE PHILIPPINES
 DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
 REGION IV-A
 OFFICE OF THE REGIONAL DIRECTOR
 EDEN, DAVAO, CEBU CITY

PROJECT NAME AND LOCATION:

DETAILED ENGINEERING DESIGN PLAN FOR THE
 REPAIR AND IMPROVEMENT OF THE ROADWAY ALONG THE
 ACCESS ROAD TO THE NATIONAL HIGHWAY 127
 (CONSTRUCTION OF 200M AND 100M EXTENSION) ALONG
 BRIDGE-ROAD, MARIKINA CITY, PANGASINAN
 PANGASINAN, MARIKINA CITY, PANGASINAN

SHEET CONTENTS:

INDEX OF SHEET

DRAWN:

CHRISTINA MADE A. BEATO
 ENGINEER (C)

PREPARED:

GLENNIE JOLENAR
 ENGINEER

REVIEWED:

CALVIN D. CADATA
 ENGINEER

SUBMITTED:

GENE RYAN A. ALTEA
 CHIEF, PLANNING AND DESIGN DIVISION

RECOMMENDED:

MELCJUANES H. STO. DOMINGO
 ASSISTANT REGIONAL DIRECTOR

APPROVED:

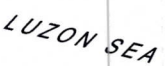
GERALD A. PANGAN, CESO III
 REGIONAL DIRECTOR

SET NO.

01 12

SHEET NO.

01 14

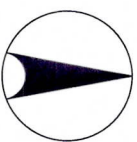


PUERTO PRINCESA,
PALAWAN

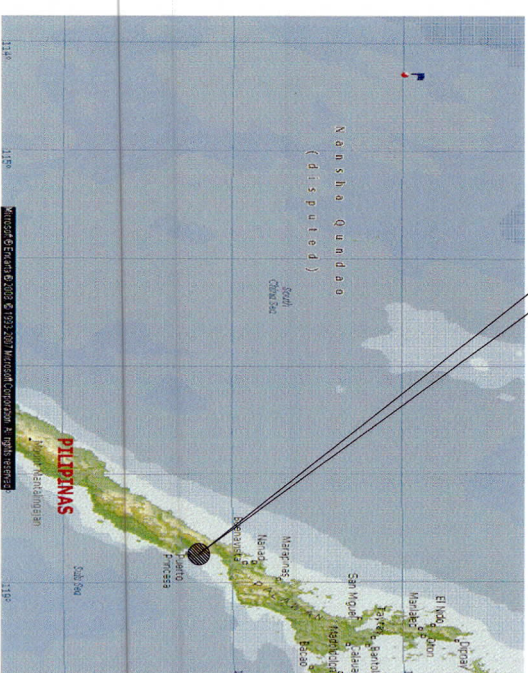
PALAWAN

SULU SEA

PHILIPPINE SEA



KEY MAP



THIS SITE

LOCATION MAP



BEG. OF PROJECT
STA. 0+000.00

VICINITY MAP

END OF PROJECT
STA. 0+600.00



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGION IV-B
OFFICE OF THE REGIONAL DIRECTOR
ESSA, DILIMAN, QUEZON CITY

PROJECT NAME AND LOCATION:

DETAILED ENGINEERING DESIGN PLAN FOR THE
CONSTRUCTION OF A 1.5 KM² RURAL
SUSTAINABLE INFRASTRUCTURE PROJECT ALLOCATING 0.4% (5000)
ACCESS ROADS AND/OR BARRIERS FROM THE
NATIONAL BODIES LEADING TO
MAJOR/STRATEGIC PUBLIC BUILDINGS/ACTIVITIES
CONSTRUCTION OF RURAL AVENUE EXTENSION ROADWAY
BANCIO-BANCIO, PUERTO PRINCESA CITY, PALAUAN
PUERTO PRINCESA CITY, PALAUAN

SHEET CONTENTS:

KEY MAP
LOCATION MAP
VICINITY MAP

DRAFTED:

CHRISTIAN JADE A. BEATO

ENGINEER I (COS)

~~GLENN AILEN P/O JEÑAR~~

REVIEWED:

CALVIN D. CADATA

ENGINEER II

SUBMITTED

GENE RYAN A. ALTEA

CHIEF, PLANNING AND DESIGN DIVISION

RECOMMENDED:

MELQUIADES H. STO. DOMINGO

ASSISTANT REGIONAL DIRECTOR

APPROVED:

GERALD A. PACANAN, CE
REGIONAL DIRECTOR

REGIONAL DIRECTOR

SET NO.	SHEET NO.
---------	-----------


02	12	6
----	----	---

02	12	44
----	----	----

SUMMARY OF QUANTITIES

Item	Description	QUANTITY		
		Qty	Unit	REMARKS
Part A	A.11 Field Office/Storage Facility			
A.1(6)	Provision of Combined Field Office, Laboratory and Living Quarters Building for the Engineer (Rental Basis)	2.00	mos.	
A.1(7)	Provision of Furniture/Fixture, Equipment and Appliances for Field Office for the Engineer	100	ls.	
A.1(8)	Provision of the Laboratory Testing Equipment, Apparatus and Publications for the Engineer	100	ls.	
A.1(9)	Operation and Maintenance of Temporary Field Office, Laboratory and Living Quarters Building for the Engineer	2.00	mos.	
A.1(10)	Provision of 4x2 Pick-Up Type Service Vehicle for the Engineer on Bare Rental Basis	2.00	mos.	
A.1(11)	Operation and Maintenance of 4x2 Pick Up Type Service Vehicle for the Engineers	2.00	mos.	
A.1(12)	Provision of Survey Personnel for the Assistance to the Engineer	2.00	mos.	
A.1(13)	Provision of Progress Photographs	600.00	ea.	
Part B	OTHER GENERAL REQUIREMENTS			
B.1	Medical Room and First Aid Facilities	100	ls.	
B.2	Project Billboard/Signboard	2.00	ea.	
B.3	Occupational Safety and Health Program	100	ls.	
B.4	Detour/Access Road	100	ls.	
Part C	EARTHWORKS			
C.1	Embankment from Borrow	2,632.35	cum.	
Part D	SUBBASE COURSE			
D.1	Aggregate Subbase Course	700.00	cum.	
Part E				
E.1	Grouted Riprap, Class A	338.90	cum.	
Part F	Flood Control and Drainage Part I-A Earthworks			
F.1	Structure Excavation	5,111.97	cum.	
F.2	Shoring, Cribbing and Related Works, Cribbing Cofferdam and Fill and Backfill	100	ls.	
F.3		3,840.54	cum.	

Item	Description	QUANTITY		
		Qty	Unit	REMARKS
Part I-B	Bank and Slope Protection Works			
I-B.1	Stone Masonry	2,144.00	cum.	
I-B.2	Handled Rock Embankment	5,285.88	cum.	
Part III	Civil, Mechanical, Electrical and Sanitary/Plumbing Works			
III.1	Structural Concrete Class "A" (Footing & lean Concrete)	502.08	cum.	
III.2	Structural Concrete Class "A" (Column)	27.135	cum.	
III.3	Structural Concrete Class "A" (Slab, Parapet & Stairs)	662.79	cum.	
III.4	Structural Concrete Class "A" (Beam)	128.94	cum.	
III.5	Reinforcing Steelbar (Deformed) Grade 40	21,682.51	kg.	
III.6	Forms and Falseworks	9,674.25	cum.	
Part C	Finishes and Other Civil Works			
C.1	Sheet Piles, Finished	2,025.00	lm.	
C.2	Sheet Piles, Driven	1,913.00	lm.	
C.3	Geotextile	36.00	bags	
C.4	Floor Finishes with floor Hardener	3,939.38	sq.m.	
C.5	Cement plaster finish	8,514.69	sq.m.	
C.6	Painting Works, Masonry/Concrete	8,334.79	sq.m.	
C.7	Railings	2,663.48	lm.	
C.8	Solar LED Street Light (Integrated Street Light)	244.00	ea.	

 DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGION IV-B OFFICE OF THE REGIONAL DIRECTOR ESOL, DAVAO, DAVAO CITY		PROJECT NAME AND LOCATION: DETAILED ENGINEERING DESIGN (A-E) FOR THE REHABILITATION AND IMPROVEMENT OF THE NATIONAL HIGHWAY (N.H. 10) ALIANTING (S-1840) SECTION 100+00 TO 100+200, ALIANTING (S-1840) CONSTRUCTION OF 200.00 METER EMBANKMENT AND BRIDGE-DECK, ALIANTING (S-1840), ALIANTING ALYAN, DAVAO CITY, PALAWAN		SHEET CONTENTS: SUMMARY OF QUANTITIES		DRAFTED: CHRISTIAN AND A. BEATO ENGINEER (C) PREPARED: GLENN E. JOELAR ENGINEER DATE: _____		REVIEWED: DAVID D. CADATA ENGINEER DATE: _____		SUBMITTED: GENE RYAN A. ALTEA CHIEF, PLANNING AND DESIGN DIVISION DATE: _____		RECOMMENDED: MELCIBENES H. SIO DOMINGO ASSISTANT REGIONAL DIRECTOR DATE: _____		APPROVED: GERALD A. PANGANAN, CESO III REGIONAL DIRECTOR DATE: _____		SET NO. 10 12	SHEET NO. 03 14
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	----------------------------------------------	--	---------------------------------------------------------------------------------------------------------------	--	---------------------------------------------------------	--	----------------------------------------------------------------------------------------	--	-----------------------------------------------------------------------------------------	--	-------------------------------------------------------------------------------	--	------------------	--------------------

DRAINAGE PIPE / WEEP HOLE

DRAINAGE PIPES/WEEP HOLES SHOULD BE DESIGNED AND PROVIDED FOR BOTH TYPES OF RETENTION FOR Diked AND NON-Diked RIVERS. DURING FLOOD TIMES, THE RISE OF FLOOD WATER LEVEL IN THE RIVER IS ALMOST CONCORDING WITH THE RISE OF GROUNDWATER BEHIND THE RETENTION ESPECIALLY WHEN THE GROUND HAS BEEN ALREADY SATURATED. AFTER THE FLOODS, THE RATE OF SUBSIDENCE OF FLOODWATER IN THE RIVER IS USUALLY GREATER THAN THE RECESSON OF GROUNDWATER LEVEL BEHIND THE RETENTION WITHOUT DRAINAGE PIPES/WEEP HOLES. IF THE DISPARITY BETWEEN THE SUBSIDING FLOODWATER AND GROUNDWATER STAGES IS SIGNIFICANTLY HIGH, RESIDUAL HYDRAULIC PRESSURE EXISTS AT BACK OF THE RETENTION WHICH MIGHT BECOME HIGHER (FIGURE 2.6). WEEP HOLES SHOULD BE PROVIDED IN THE RETENTION USING 90-75 MM DIAMETER PVC DRAINPIPES, STAGGEREDLY PLACED IN THE HORIZONTAL DIRECTION AND SPACED 2 METERS CENTER TO CENTER. ONE OF THE MAIN CAUSES OF CAVING IN OF SOIL PARTICLES BEHIND THE RETENTION IS THE FLOWING OUT OF FINE BACKFILL MATERIALS THROUGH THE JOINTS OF RETENTION AND WEEP HOLES. THIS PHENOMENON LEADS TO THE COLLAPSE OF THE RETENTION IN ORDER TO PREVENT THE OUTFLOW OF THESE FINE MATERIALS. MOREOVER, PERVIOUS MATERIALS CONSISTING OF CRUSHED GRAVEL OR GEO-TEXTILE IS PLACED BETWEEN THE RETENTION AND ORIGINAL GROUND TO PREVENT THE OUTFLOW OF THE BANK MATERIALS THROUGH THE WEEP HOLES. THE LOWEST WEEP HOLES SHALL BE INSTALLED JUST ABOVE THE ORDINARY WATER LEVEL.

STRENGTHENING UPPER AND LOWER ENDS

GENERALLY, THE END PORTS OF RETENTION ARE ALWAYS SUBJECTED TO EXTERNAL FORCES, WHICH MAKE THESE PORTIONS OF THE STRUCTURE BECOME WEAK AND PRONE TO DAMAGE OR POSSIBLE COLLAPSE. IN CONSTRUCTING A PIECE-MEAL PROJECT, TEMPORARY PROTECTION WORKS (E.G., BOULDER AND GABION) SHALL BE PROVIDED. THE END PROTECTION WORK IS INDISPENSABLE TO THE RIGID STRUCTURE TYPE RETENTMENTS. THE END PROTECTION SHALL COVER THE EXTENT OF THE COVERING WORK AND CREST WORK. THE THICKNESS OF THE END PROTECTION WORK SHALL BE FROM THE SURFACE OF RETENTION UP TO THE BACKFILL MATERIAL. THE THICKNESS OF THE END PROTECTION SHALL BE MORE THAN 50 CM.

B. MATERIALS SPECIFICATION & CONST. METHODS

1. STONE MASONRY

DESCRIPTION

THIS ITEM SHALL CONSIST OF STONE MASONRY IN MINOR STRUCTURES, IN HEADWALLS FOR CULVERTS, IN RETAINING WALLS AT THE TOES OF SLOPES, AND AT OTHER PLACES CALLED FOR ON THE PLANS, CONSTRUCTED ON THE PREPARED FOUNDATION BED. IN ACCORDANCE WITH THIS SPECIFICATION AND IN CONFORMITY WITH THE LINES, GRADES, SECTIONS, AND DIMENSIONS SHOWN ON THE PLANS OR AS ORDERED IN WRITING BY THE ENGINEER, ALL WORKS SHALL COMPLY WITH ITEM 506 OF THE STANDARD SPECIFICATION FOR HIGHWAYS, BRIDGES AND AIRPORTS 2013 EDITION.

2. SHEET PILES

THIS SHALL CONSIST OF FURNISHING, DRIVING AND CUTTING OFF OF SHEET PILING COVERED BY THE 2013 STANDARD SPECIFICATION FOR HIGHWAYS, BRIDGES AND AIRPORTS.

STEEL SHEET PILES

STEEL SHEET PILES SHALL BE THE TYPE, WEIGHT AND SECTION MODULUS INDICATED ON THE PLANS OR SPECIAL PROVISIONS, AND SHALL CONFORM TO THE REQUIREMENT OF ITEM 400, PLANS, SUBSECTION 400.2.7, SHEET PILES. PAINTING SHALL CONFORM TO THE REQUIREMENTS FOR ITEM 411, PAINT, SUBSECTION 411.3.6.2, PAINTING STRUCTURAL STEEL.

3. CONCRETE

ALL CONCRETE MIXTURE SHALL BE CLASS "A" (124 MIX) FOR R.C. RETENTION

NOTE:

THE CEMENT CONTENT OF THE DESIGN MIX SHALL BE ADJUSTED IN ACCORDANCE WITH THE ASPHALT PROVISIONS WHEN CONCRETING UNDER WATER TO COMPENSATE FOR THE LOSS OF STRENGTH DUE TO WATER INFILTRATION.

4. REINFORCING STEEL

(a) REINFORCING STEEL SHALL CONFORM TO ASTM A615 (ASTM A615), GRADE 40 AND 60, DEFORMED WITH MINIMUM YIELD STRENGTH AS DESCRIBED BELOW:

REBAR GRADE	YIELD STRENGTH fy (MPa)	SIZE (mm)
40	276 (40 Ksi) 414	16mmØ & BELOW; UNLESS OTHERWISE NOTED
60	414 (60 Ksi)	20mmØ & ABOVE

(b) REINFORCING STEEL SHALL BE FREE OF MILL SCALES, OIL OR ANY SUBSTANCES WHICH WILL WEAKEN THE BOND WITH CONCRETE.
(c) REINFORCING STEEL SHALL BE WELDABLE TYPE. WELDING REINFORCING STEEL SHALL CONFORM TO ANSI / AWS D1.4.

5. BEDDING/ GRAVEL LAYER

STONES SHOULD BE WELL BLENDED. THE STONES WITH THE LARGEST DIMENSION, GREATER THAN THREE TIMES THE LEAST DIMENSION SHOULD NOT CONSTITUTE MORE THAN 10 PERCENT OF THE TOTAL.

MATERIALS SHOULD BE INERT TO CHEMICAL AND BIOLOGICAL DEGRADATION IN SEA WATER.

GRADATION REQUIREMENTS OF THE BEDDING LAYER OF FILTER BLANKET SHALL BE 015 (FILTER) 5.065 (FOUNDATION); I.e., THE DIAMETER EXCEEDED BY THE COARSEST 16 PERCENT OF THE FILTER MATERIAL MUST BE LESS THAN OR EQUAL TO FIVE TIMES THE DIAMETER EXCEEDED BY THE COARSEST 16 PERCENT OF THE FOUNDATION MATERIAL. QUARRY SPALLS RANGING IN SIZE FROM 0.45 KG TO 23 KG WILL GENERALLY SURFACE IF THE BEDDING LAYER IS PLACED ON A FILTER CLOTH OR A COARSE GRAVEL (OR CRUSHED STONE) FILTER LAYER WHICH MEETS THE STATED FILTER DESIGN CRITERIA.

THE FOLLOWING STANDARD TESTS SHALL BE CONDUCTED TO ESTABLISH MATERIAL DURABILITY:

ABRASION TEST
TOUGHNESS TEST
HARDNESS TEST
APPARENT SPECIFIC GRAVITY AND ABSORPTION TEST

ASTM C-536 OR EQUIVALENT
ASTM C-170 OR EQUIVALENT
ASTM C-238 OR EQUIVALENT
ASTM C-127 OR EQUIVALENT

6. GEOTEXTILE

GEOTEXTILES SHALL BE WOVEN AND/OR NONWOVEN FABRIC AS SPECIFIED IN THE DRAWINGS SPECIALLY ENGINEERED TO PROVIDE EXCELLENT ROBUSTNESS, UV PROTECTION AND DURABILITY IN MARINE AND HYDRAULIC CONDITION (SEE DRAWINGS AND SPECIFICATIONS). THE GEOTEXTILES TO BE USED SHALL HAVE HIGH MODULUS AND EXTREMELY HIGH STRENGTH AT LOW STRAIN. IT MUST HAVE A GOOD WATER PERMEABILITY AND IS RESISTANT TO CHEMICAL AND BACTERIOLOGICAL ATTACK. PLACEMENT AND MATERIAL STRENGTH IS AS SPECIFIED IN THE SECTION DRAWINGS.


7. GEOTUBES

GEOTUBES TO BE USED SHALL BE MANUFACTURED FROM HIGH MODULUS POLYPROPYLENE ENGINEERED FABRICS COMBINED WITH HIGH CAPACITY BEAMS TO PRODUCE TUBULAR CONTAINERS WITH ENSURED INTEGRITY DURING FILLING AND DURING OPERATIONAL LIFE. THE TENSILE STRENGTH IS AS SPECIFIED ON THE SECTION DRAWINGS. GEOTUBES MANUFACTURED FROM POLYESTER FIBER SHALL NOT BE ACCEPTED. THE GEOTUBE SUPPLIER/ MANUFACTURER SHALL CERTIFY COMPLIANCE OF THESE REQUIREMENTS.

8. SAND FILL

THE SAND INFILL MATERIAL SHALL CONSIST OF NATURALLY OCCURRING OR PROCESSED MATERIAL WHICH AT THE TIME OF FILLING IS CAPABLE OF FIL/FILLING THE SPECIFIED REQUIREMENTS TO PROVIDE MASS AND INTEGRITY. THE FILL MATERIAL SHALL NOT CONTAIN MATERIALS SUSCEPTIBLE TO VOLUME CHANGE (I.e. MARINE MUD, SWELLING CLAYS AND COLLAPSIBLE SOILS), PEAT, VEGETATION, TIMBER, ORGANIC, SOLUBLE OR PERSHABLE MATERIAL, TOXIC, COMBUSTIBLE OR DANGEROUS MATERIAL, METAL, RUBBER OR OTHER UNSUITABLE MATERIAL.

GENERAL NOTES



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGION IV-B
DIVISION OFFICE - MARIKINA CITY

PROJECT NAME AND LOCATION:
DETAILS OF THE PROJECT: THE
REPAIR AND STRENGTHENING OF THE
DRAINAGE PIPES/WEEP HOLES ALONG THE
EXISTING NATIONAL HIGHWAY (N-101) IN
THE AREA OF THE MARIKINA RIVER
BRIDGE AND APPROACH ROAD, MARIKINA
CITY, MARIKINA CITY, MARIKINA CITY

SHEET CONTENTS:
GENERAL NOTES (03)

DATE: CHRISTIAN AND A. BEATO
PREPARED BY: CHRISTIAN AND A. BEATO
CHECKED BY: GLENNIE JOY L. JOY
DATE: 10/12/2023

REVIEWED: CALVIN D. CADATAY
DATE: 10/12/2023

SUBMITTED: GENE EVAN A. ALTEA
DATE: 10/12/2023

RECOMMENDED: MELCIBUENOS H. SIO DOMINGO
DATE: 10/12/2023

APPROVED: GERALD A. PANGANAN, CESO III
DATE: 10/12/2023

SET NO. 06
SHEET NO. 14

CODES AND REFERENCES

1. DPWH DESIGN GUIDELINES, CRITERIA AND STANDARDS (DGCS) - VOL. III, 2015 ED.
2. DPWH STANDARD SPECIFICATIONS FOR HIGHWAYS, BRIDGES AND AIRPORTS - VOL. II, 2013 ED.
3. DPWH STANDARD SPECIFICATIONS FOR PUBLIC WORKS STRUCTURES (BUILDINGS, PORTS AND HARBORS, FLOOD CONTROL AND DRAINAGE STRUCTURES AND WATER SUPPLY SYSTEMS) VOL. III, 2019 EDITION

CONSTRUCTION

THESE NOTES ARE PROVIDED FOR QUICK REFERENCE ONLY AND SHALL BE READ IN CONJUNCTION WITH THE TECHNICAL SPECIFICATIONS FOR THE PROJECT.

THE DESIGN OF BRIDGES IS BASED ON THE CONSTRUCTION SEQUENCE SHOWN IN THE DRAWING. ANY VARIATION FROM THE SEQUENCE MUST BE APPROVED BY THE ENGINEER.

CONSTRUCTION SHALL COMPLY WITH 1995 DPWH STANDARD SPECIFICATION FOR HIGHWAYS, BRIDGES AND AIRPORTS OR MODIFIED BY SPECIAL PROVISIONS.

1. DIMENSIONS

- 1.1 SECTION, DIMENSIONS AND DISTANCES SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES. THE INDICATED DIMENSION SHALL GOVERN UNLESS OTHERWISE SPECIFIED.
- 1.2 ALL DIMENSION SHOWN ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
- 1.3 ALL STATIONING ARE IN KILOMETER PLUS METER AND ELEVATION IN METER.

2. SETTING OUT

THE SETTING OUT AND THE ELEVATIONS OF THE DIFFERENT COMPONENTS OF THE STRUCTURE SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE START OF ANY CONSTRUCTION WORK.

3. REINFORCED CONCRETE

- 3.1 CAST IN PLACE CONCRETE SHALL BE CLASS "A" EXCEPT BALINGS WHICH SHALL BE CLASS "C" UNLESS OTHERWISE NOTED ON THE PLANS. ALL EXPOSED EDGES SHALL BE CHAMFERED 25mm EXCEPT BALINGS AND RE-ENTRANT ANGLES WHICH SHALL BE CHAMFERED AND FILED 15mm RESPECTIVELY.

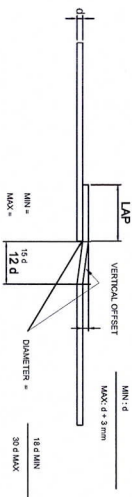
3.2 CONCRETE MIX AND PLACING

- (1) DESIGN OF CONCRETE MIX SHALL MEET THE DESIGN CONCRETE STRENGTH GIVEN UNDER ITEM 1 OF MATERIALS.
- (2) CONCRETE SHALL BE DEPOSITED VIBRATED AND CURED IN ACCORDANCE WITH THE SPECIFICATIONS.
- (3) FOR CONCRETE DEPOSITED AGAINST THE GROUND, LEAN CONCRETE WITH A MINIMUM THICKNESS OF 50mm SHALL LAD FIRST BEFORE INSTALLING THE REINFORCEMENT. THIS LEAN CONCRETE SHALL NOT BE CONSIDERED IN MEASURING THE STRUCTURAL DEPTH OF CONCRETE SECTION.
- (4) THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL POURING SEQUENCES FOR ALL CONCRETE WORKS.

3.3 BAR BENDING, SPlicing AND PLACING

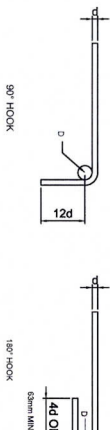
- (1) THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL SHOP DRAWINGS INDICATING THE BENDING, CUTTING, SPlicing AND INSTALLATION OF ALL REINFORCING BARS.
- (2) BARS SHALL BE BENT COLD. BARS PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT UNLESS PERMITTED BY THE ENGINEER.
- (3) BAR SPlicing NOT INDICATED ON DRAWINGS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
- (4) WELDED SPlices, IF APPROVED BY THE ENGINEER SHALL DEVELOP IN TENSION AT LEAST 125% OF THE SPECIFIED YIELD STRENGTH OF THE BARS.
- (5) NOT MORE THAN 50% OF THE BARS AT ANY ONE SECTION SHALL BE SPliced.

- (6) UNLESS OTHERWISE SHOWN ON DRAWINGS, THE CLEAR DISTANCE BETWEEN PARALLEL BARS IN LAYER SHALL NOT BE LESS THAN 1.5 TIMES THE NOMINAL DIAMETER OF THE BAR NOT LESS THAN 1.5 TIMES THE MAXIMUM SIZE OF COARSE AGGREGATE. THE CLEAR DISTANCE BETWEEN LAYERS SHALL NOT BE LESS THAN 25mm NOR ONE BAR DIAMETER. THE BARS IN THE UPPER LAYER SHALL BE PLACED DIRECTLY ABOVE THOSE IN THE BOTTOM LAYER.
- (7) CRANKED SPlices



- (8) HOOKS AND BENDS

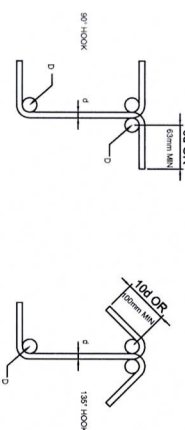
DIMENSIONS OF 90° - DEGREE AND 180° - DEGREE HOOKS



PIN DIAMETER :

D = 6d FOR Ø10 THRU Ø25
D = 8d FOR Ø28, Ø32 AND Ø36

DIMENSIONS FOR STIRRUPS AND THE HOOKS



PIN DIAMETER :

D = 6d FOR Ø10 THRU Ø25
D = 8d FOR Ø28, Ø32 AND Ø36

3.4 CONCRETE COVER TO REINFORCEMENT

UNLESS OTHERWISE NOTED, ALL BAR DIMENSIONS ARE REFERRED TO THE CENTER OF BARS AND THE MINIMUM COVERING MEASURED FROM THE SURFACE OF THE CONCRETE TO THE FACE OF ANY BAR SHALL BE 40mm.

FOR SUBSTRUCTURE, COVERING SHALL BE PERMANENTLY EXPOSED TO EARTH AND WEATHER

- a. FRESH WATER.....75
- b. SALT WATER.....100

RUBBLE CONCRETE SPECIFICATION

1. ALL CONCRETE MIXTURE SHOULD BE CLASS "B" (1:2.5:5) MIX.

2. EMBEDDED SOULERS FOR THE FACING SHOULD NOT BE LESS THAN THIRTY (30mm) APART AND SHALL BE AT LEAST THIRTY (30mm) BELOW THE OUTSIDE.

3.3 CONCRETE COVER TO REINFORCEMENT

UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE REFERRED TO THE CENTER OF BARS AND THE MINIMUM COVERING MEASURED FROM THE SURFACE OF THE CONCRETE TO THE FACE OF ANY BAR SHALL BE 40mm.

FOR SUBSTRUCTURE, COVERING SHALL BE PERMANENTLY EXPOSED TO EARTH AND WEATHER

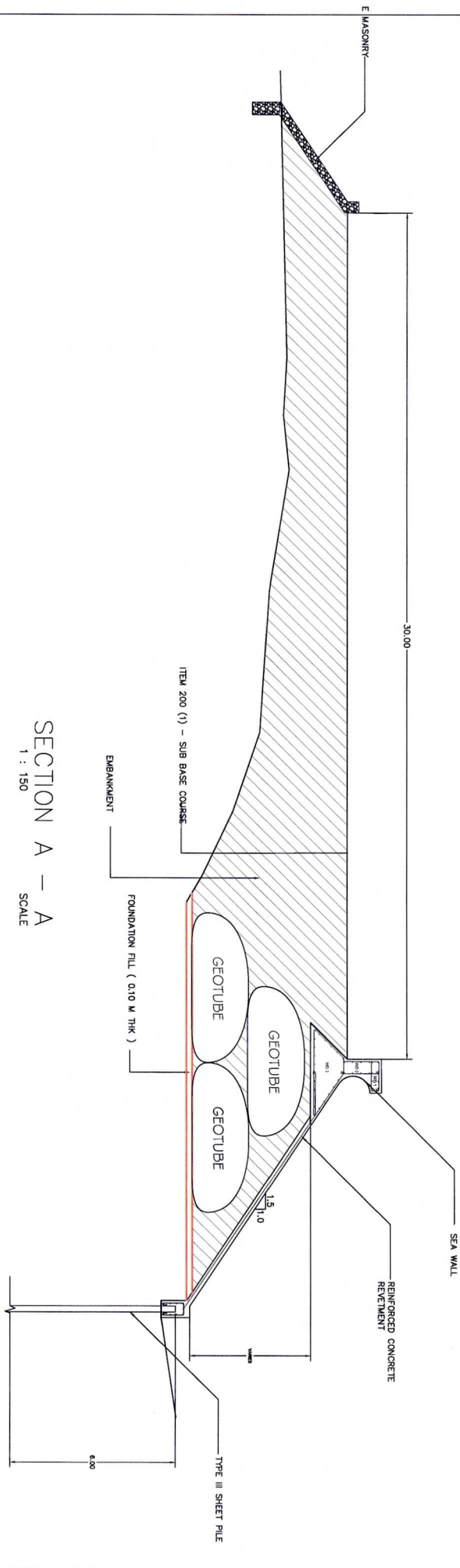
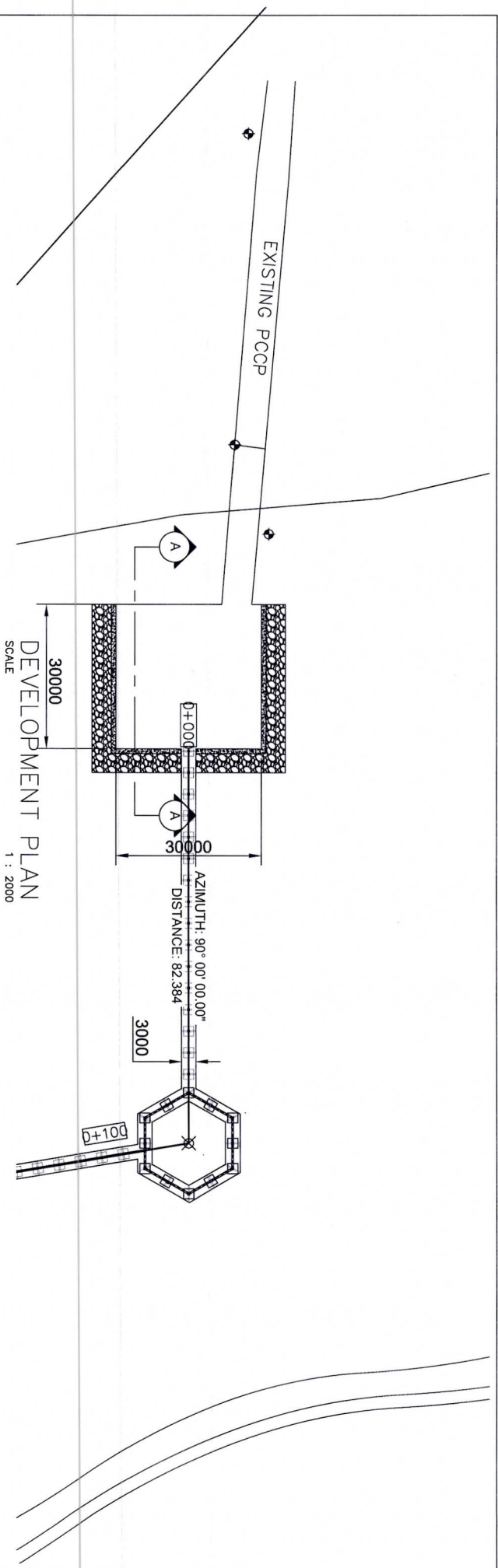
- a. FRESH WATER.....75
- b. SALT WATER.....100


3.4 CONSTRUCTION JOINT

(1) THE POSITION AND FORM OF ANY CONSTRUCTION JOINT SHALL BE AS SHOWN ON DRAWINGS OR AS AGREED WITH THE ENGINEER.

(2) THE INTERFACE BETWEEN THE FIRST AND SECOND POUR CONCRETES SHALL BE ROUGHENED WITH AN AMPITUDE OF 6mm MINIMUM.

<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGION IV-B OFFICE OF THE REGIONAL DIRECTOR ILOILO CITY, ILOILO</p>		<p>PROJECT NAME AND LOCATION:</p> <p>DETAILED BIDDING DESIGN FOR THE REHABILITATION AND IMPROVEMENT OF THE ACCESS ROAD TO THE CONSTRUCTION OF A NEW BRIDGE OVER THE RIVER ILOILO, ILOILO CITY, ILOILO</p>		<p>SHEET CONTENTS:</p> <p>GENERAL NOTES (G1)</p>		<p>DRAWN:</p> <p>CHRISTIAN A. BEATO INCHARGE (G1)</p>		<p>REVIEWED:</p> <p>CAVIN D. CADATA ENGINEER</p>		<p>SUBMITTED:</p> <p>GENE RYAN A. ALTA CHIEF PLANNING AND DESIGN DIVISION</p>		<p>RECOMMENDED:</p> <p>MELQUIADES H. SIO DOMINGO ASSISTANT REGIONAL DIRECTOR</p>		<p>APPROVED:</p> <p>GERALD A. PANGANAN, CESO III REGIONAL DIRECTOR</p>		<p>SET NO.</p> <p>06</p>		<p>SHEET NO.</p> <p>06</p>	
------------------------------------------------------------------------------------------------------------------------------------------------------------	--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	---------------------------------------------------------	--	------------------------------------------------------------------	--	-------------------------------------------------------------	--	------------------------------------------------------------------------------------------	--	---------------------------------------------------------------------------------------------	--	-----------------------------------------------------------------------------------	--	---------------------------------	--	-----------------------------------	--

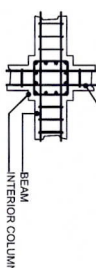


 <p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGION IV-B OFFICE OF THE REGIONAL DIRECTOR EDSA, TAYBAY, CAGAYAN CITY</p>	<p>PROJECT NAME AND LOCATION: DETAILED FOUNDATION DESIGN FOR THE REPAIR AND RECONSTRUCTION OF THE EXISTING ROAD AND BRIDGE AT THE ACCESS POINT, TAYBAY, CAGAYAN CITY CONSTRUCTION OF ROAD AND BRIDGE AT THE ACCESS POINT, TAYBAY, CAGAYAN CITY BRIDGE AND ROAD AT THE ACCESS POINT, TAYBAY, CAGAYAN CITY</p>	<p>SHEET CONTENTS: TYPICAL (16)</p>	<p>DRAFTED: CHRISTINA A. BEATO ENGINEER (IC)</p> <p>PREPARED: GLENNIE P. OLIVERA ENGINEER</p>	<p>REVIEWED: CALVIN D. CADATA ENGINEER</p>	<p>SUBMITTED: GENE RYAN A. ALTA CHIEF, PLANNING AND DESIGN DIVISION</p>	<p>RECOMMENDED: MELODY H. SIO DOMINGO ASSISTANT REGIONAL DIRECTOR</p>	<p>APPROVED: GERALD A. PANGANCESO III REGIONAL DIRECTOR</p>	<p>SET NO. 9 SHEET NO. 07</p>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------	---------------------------------------------------------------------------------------------------------------	----------------------------------------------------	---------------------------------------------------------------------------------	-------------------------------------------------------------------------------	---------------------------------------------------------------------	-----------------------------------

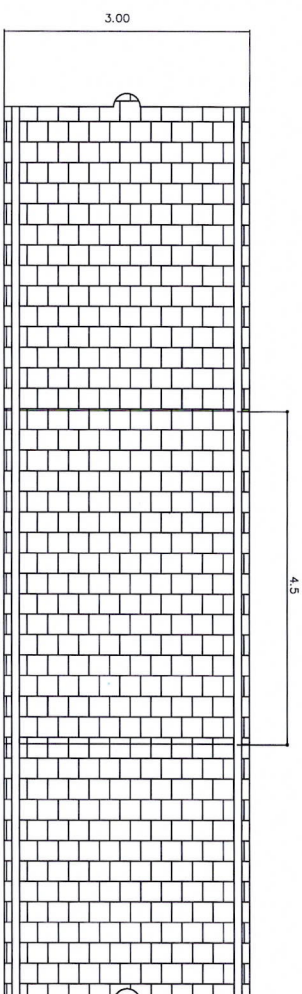
BEAMS

NOTES:

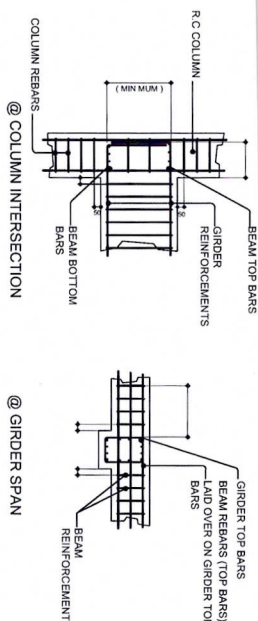
CLEAR DISTANCE BETWEEN RE-BARS ARE TO BE STRICTLY MAINTAINED.



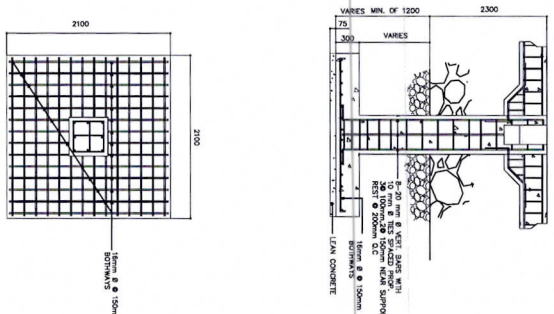
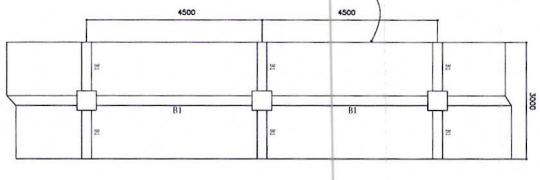
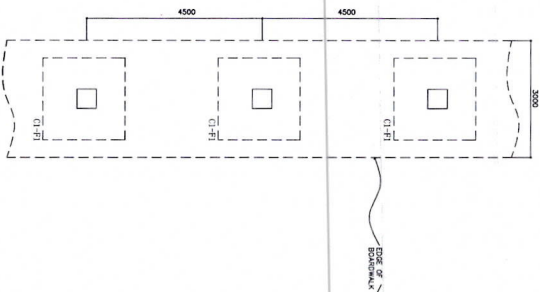
01 TYPICAL PLAN OF BEAM GIRDER COLUMN JOINT
04/51 SCALE NTS



03
04 51
TYPICAL BOARDWALK PLAN
SCALE
NTS



02 TYP. BEAM & GIRDER RE-BAR LAYOUT
SCALE 04/51 NTS



SCHEDULE OF REINFORCEMENT									
Structure Component	Bar Size (mm)	Qty per component	Bar Qty	Total Qty	Length Each (m)	Total Length (m)	Unit Weight (kg/m)	Total Weight (kg)	
Footings	Typical	224	30	6720	2.25	15120	1.579	23,874.48	
	Layby	9	30	270	2.25	607.5	1.579	959.24	
	Hexagonal	12	30	360	2.35	846	1.579	1,335.83	
Column	Vertical Bar (Typical & Layby)	233	8	1864	5.25	9786	2.466	24,132.28	
	Vertical Bar (Hexagonal)	12	8	96	7.25	696	2.466	1,716.34	
	Outer Ties	245	89.77	21994.32	1.6	35190.91	0.617	21,712.79	
Beam 1 at typical - longitudinal	Inner Ties	245	179.55	43988.64	0.4	17595.45	0.617	10,856.40	
	Main Bars	1	4	4	1122.42	4489.68	1.579	7,089.20	
	Extra Bar (Top)	232	1	232	2.5	580	1.579	915.82	
Beam 1 at typical - transverse	Extra Bar (Top)	2	1	2	1.73	3.46	1.579	5.46	
	Extra Bar (Bottom)	223	1	223	2.4	535.2	1.579	845.08	
	Web Bar	1	2	2	1090	2180	0.888	1,935.84	
Beam 2 at typical - longitudinal	Ties	223	25	5575	0.8	4460	0.617	2,751.82	
	Main Bars	233	6	1398	3.46	4837.08	1.579	7,637.75	
	Web Bar	233	2	466	2.92	1360.72	0.888	1,208.32	
Beam 2 at typical - transverse	Ties	233	24	5592	0.8	4473.6	0.617	2,760.21	
	Main Bars	12	4	48	7.75	372	3.853	1,433.32	
	Extra Bar Top	6	2	12	2.875	34.5	3.853	132.93	
Beam 3 at Hexagonal - longitudinal	Extra Bar (Top)	12	2	24	2.0675	49.62	3.853	191.19	
	Extra Bar (Bottom)	12	2	24	2.85	68.4	3.853	263.55	
	Ties	12	42	504	1.58	796.32	0.617	491.33	
Beam 3 at Hexagonal - transverse	Main Bars	10	5	50	3.46	173	0.888	153.62	
	Ties	2	110	220	1.08	237.6	0.617	146.60	
Beam 3 at Hexagonal - intersection	Main Bars	2	5	10	2.342	23.42	0.888	20.80	
	Ties	13	12	156	1.08	168.48	0.617	103.95	
	Main Bars	245	4	980	5.12	5017.6	1.579	7,922.79	
Corbel	Ties	245	4	980	1.72	1685.6	0.617	1,040.02	
	Ties	245	4	980	0.66	646.8	0.617	399.08	



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGION IV-B
OFFICE OF THE REGIONAL DIRECTOR
EDSA, DAVAO, COTABATO CITY

PROJECT NAME AND LOCATION:
SARANGANI RAILROAD STATION AND RAILROAD
CONSTRUCTION PROJECTS (SARANGANI RAILROAD STATION AND RAILROAD CONSTRUCTION PROJECTS)
SARANGANI RAILROAD STATION AND RAILROAD CONSTRUCTION PROJECTS
SARANGANI RAILROAD STATION AND RAILROAD CONSTRUCTION PROJECTS
SARANGANI RAILROAD STATION AND RAILROAD CONSTRUCTION PROJECTS

SHEET CONTENTS:
TYPICAL (4/8)

DATE: 10/12/14
PREPARED BY: GLENNIE JOYCE
CHECKED BY: GLENNIE JOYCE
APPROVED BY: GLENNIE JOYCE

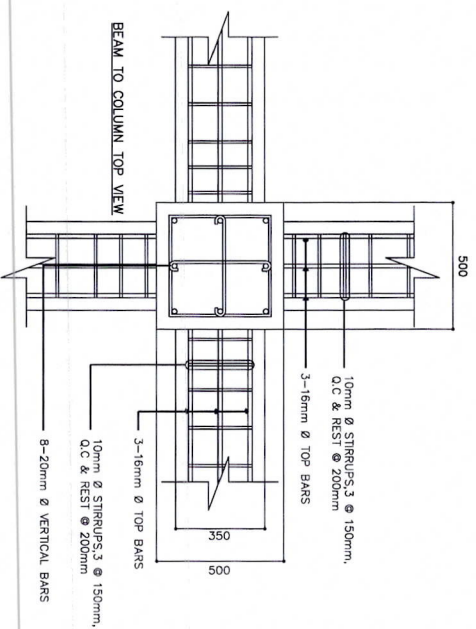
REVIEWED BY: CALVIN D. CADATA
ENGINEER

SUBMITTED BY: GENE RYAN A. ALTA
CHIEF, PLANNING AND DESIGN DIVISION

RECOMMENDED BY: MELCIBIDES H. SIO, DOMINGO
ASSISTANT REGIONAL DIRECTOR

APPROVED BY: GERALD A. PANGAN, CESO III
REGIONAL DIRECTOR

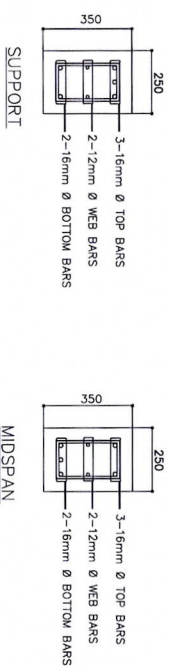
SET NO. 10/12/14
SHEET NO. 10/14



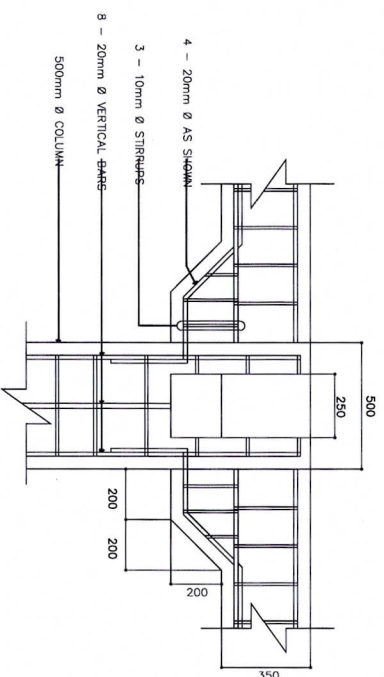
COLUMN BEAM DETAIL

SCALE

NTS



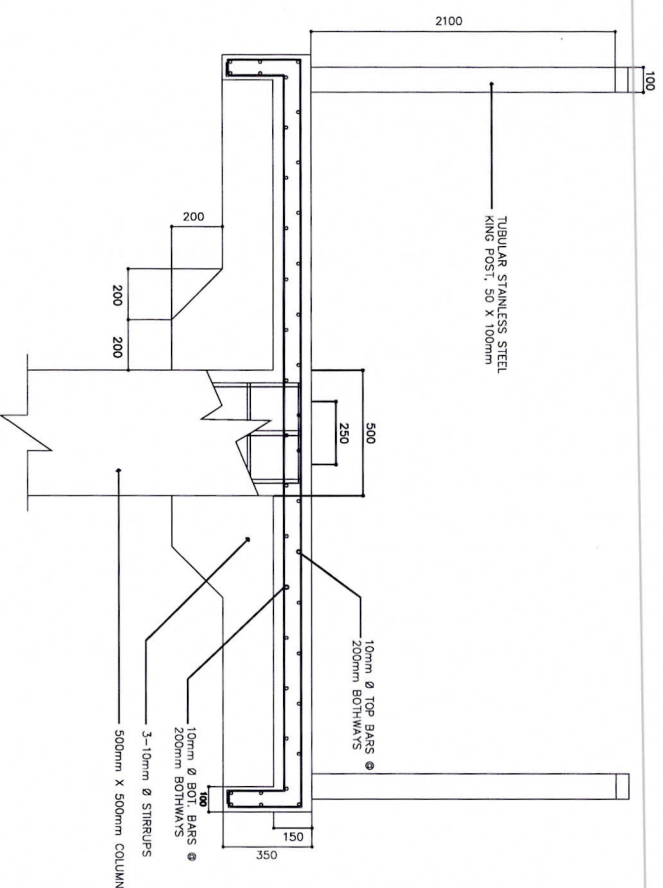
BEAM DETAIL



COLUMN CONNECTION DETAIL

SCALE

NTS



BOARDWALK SLAB SECTION

SCALE

NTS



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGION IV-B
OFFICE OF THE REGIONAL DIRECTOR
EDSA, DAVAO, COTABATO CITY

PROJECT NAME AND LOCATION:
REHABILITATION OF THE BOARDWALK SLAB AND THE
ACCESS ROAD TO THE BOARDWALK SLAB (BWSL)
ACCESS ROAD TO THE BOARDWALK SLAB (BWSL)
CONSTRUCTION OF BOARDWALK SLAB AND THE
ACCESS ROAD TO THE BOARDWALK SLAB (BWSL)
BRANDS BANGSA, PABLO PABLO CITY, PABLO
PABLO PABLO CITY, PABLO

SHEET CONTENTS:

TYPICAL (66)

DRAFTED:

CHRISTIAN J. A. BEATO
ENGINEER (I/C)

PREPARED:

GLENNIE P. OLIVERA
ENGINEER

REVIEWED:

CALVIN D. CADATAL
ENGINEER II

SUBMITTED:

GENE RYAN A. ALTEA
CHIEF, PLANNING AND DESIGN DIVISION

RECOMMENDED:

MELQUILDES H. SIO DOMINGO
ASSISTANT REGIONAL DIRECTOR

APPROVED:

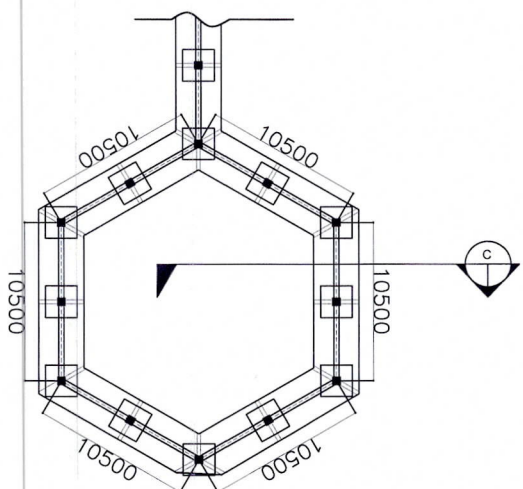
GERALD R. PABLOAN/CEO III
REGIONAL DIRECTOR

SET NO.

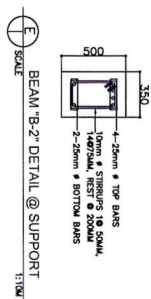
SHEET NO.

11

14




ⓑ HEXAGONAL FRAMING PLAN
SCALE N.T.S.

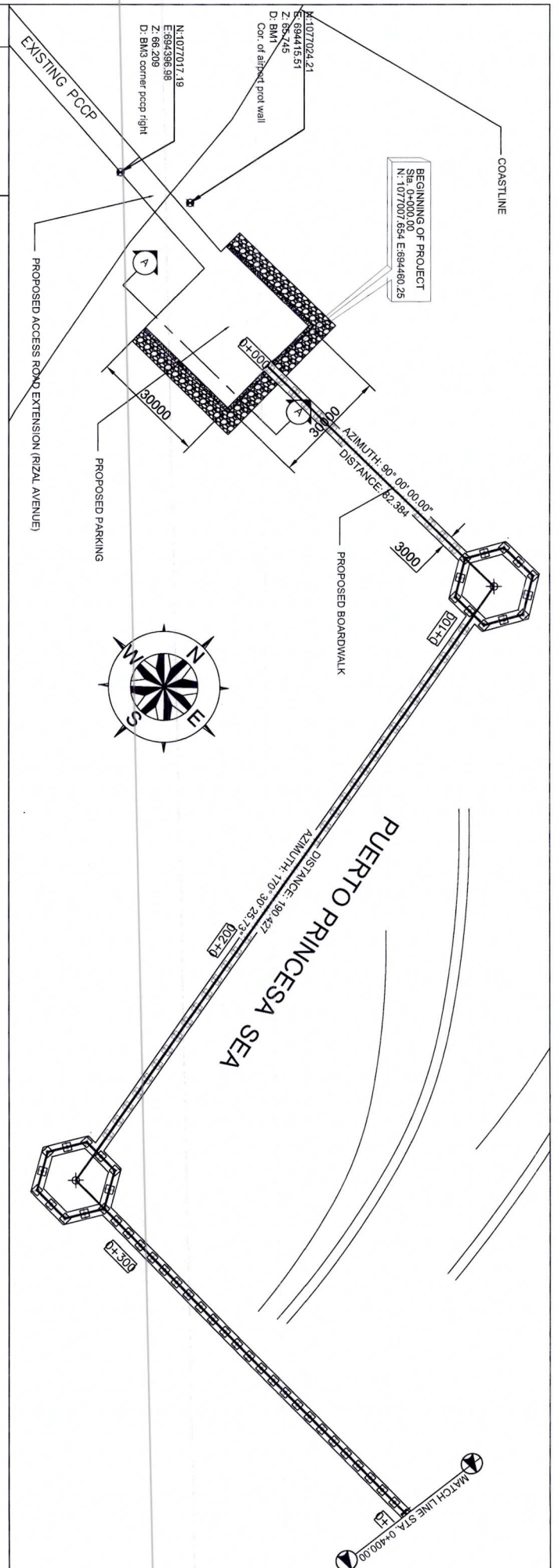


BEAM "B-3" DETAIL

SCALE 1:100



<div></div> <div>OFFICE OF THE REGIONAL DIRECTOR</div> <div>EDSA, DULUAN, CUEZAN CITY</div>	REPUBLIC OF THE PHILIPPINES		PROJECT NAME AND LOCATION:		SHEET CONTENTS:		
	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS		DETAILS ENGINEERING DESIGN FOR THE		TYPICAL (66)		
	REGION IV-B		SUPPLEMENTAL IMPROVEMENT PROJECT (SALIMPAN ROAD IMPROVEMENT PROJECT) (SIPRI)				
			ACCORDING TO THE NATIONAL ROAD POLICY AND THE NATIONAL ROAD DESIGN TO CONSTRUCTION STANDARDS (NRPDCS)				
			BASED ON THE NATIONAL ROAD POLICY AND THE NATIONAL ROAD DESIGN TO CONSTRUCTION STANDARDS (NRPDCS)				
		PLETO PINCELA CITY PALAMIN					
DRAFTED:		REVIEWED:		SUBMITTED:		RECOMMENDED:	
CHRISTIAN JADE A. BEATO		CALYDIN L. CADATIL		GENE RYAN A. ALTEA		MELOJANES H. SITO DOMINGO	
ENGINEER (CEES)		ENGINEER II		CHIEF PLANNING AND DESIGN DIVISION		ASSISTANT REGIONAL DIRECTOR	
PREPARED:		DATE:		DATE:		DATE:	
GLENNIE L. POLIAR							
ENGINEER III							



ELEVATION		STATION		TOP OF BOARDWALK		NATURAL GRADE LINE		MEAN HIGHEST HIGH WATER LEVEL		MEAN LOWEST LOW WATER LEVEL	
25.00		0+000		69.00		64.20		66.74		64.78	
20.00		0+100		68.99		64.14		66.74		64.78	
15.00		0+200		68.99		64.04		66.73		64.78	
		0+300		68.98		64.01		66.73		64.78	
		0+400		68.98		63.96		66.73		64.78	
		0+500		68.97		63.95		66.72		64.78	
		0+600		68.96		63.95		66.72		64.77	
		0+700		68.96		63.95		66.72		64.77	
		0+800		68.95		63.95		66.72		64.77	
		0+900		68.94		63.95		66.71		64.77	
		0+1000		68.94		63.95		66.71		64.77	
		0+1100		68.93		63.95		66.71		64.77	
		0+1200		68.93		63.96		66.70		64.76	
		0+1300		68.92		63.98		66.70		64.76	
		0+1400		68.91		63.94		66.70		64.76	
		0+1500		68.91		63.95		66.70		64.76	
		0+1600		68.90		63.96		66.69		64.76	
		0+1700		68.90		63.97		66.69		64.76	
		0+1800		68.89		63.98		66.69		64.75	
		0+1900		68.88		63.99		66.68		64.75	
		0+2000		68.88		64.00		66.68		64.75	

REPUBLIC OF THE PHILIPPINES
 DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
 REGION IV-B
 OFFICE OF THE REGIONAL DIRECTOR
 BSA, DAVAO, DAVAO CITY

PROJECT NAME AND LOCATION:

SUBMITTAL & PRELIMINARY DESIGN FOR THE
 CONSTRUCTION OF RIZAL AVENUE EXTENSION
 BRANDS/BAKED, TARIPO PRINCESA CITY, PALAUAN
 PUERTO PRINCESA CITY, PALAUAN

SHEET CONTENTS:

PLAN AND PROFILE (1/2)

DRAFTED:

CHRISTIAN LINDA A. BEATO
 ENGINEER (I/C)

PREPARED:

GLENN J. DENAR
 ENGINEER

REVIEWED:

CALVIN D. CADATIL
 ENGINEER

SUBMITTED:

GENE RYAN A. ALTA
 CHIEF PLANNING AND DESIGN DIVISION

RECOMMENDED:

MELQUIDES H. SIO DOMINGO
 ASSISTANT REGIONAL DIRECTOR

APPROVED:

GERALD A. PANGANCESO III
 REGIONAL DIRECTOR

SET NO.

CS

SHEET NO.

13

