

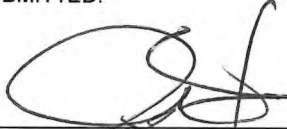


REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE IV-A
CAVITE 3RD DISTRICT ENGINEERING OFFICE
CARMONA CITY, CAVITE

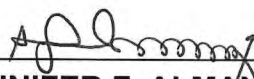
C.Y. 2025 PROJECT
DETAILED ENGINEERING DESIGN PLAN FOR
**CONVERGENCE AND SPECIAL SUPPORT PROGRAM - BASIC INFRASTRUCTURE
PROGRAM (BIP) - ACCESS ROADS AND/OR BRIDGES FROM THE NATIONAL ROAD/S
LEADING TO MAJOR/ STRATEGIC PUBLIC BUILDINGS/ FACILITIES - REHABILITATION OF
ROAD, BARANGAY KALUBKOB, SILANG, CAVITE**

ROAD SECTION : N/A
LOCATION : SILANG, CAVITE
STATION LIMITS : ALIGNMENT 1: STA. 0+000.00 - STA. 0+372.00
ALIGNMENT 2: STA. 0+000.00 - STA. 0+144.00
NET LENGTH : 516.00 l.m. (1.032 lane km.)
ROAD SECTION ID : N/A

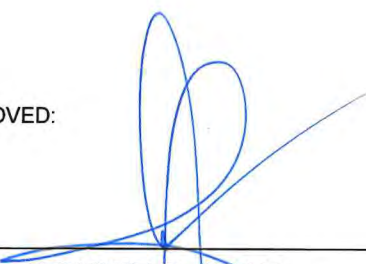
SUBMITTED:


REIMART REGIN P. BAUTISTA
CHIEF, PLANNING AND DESIGN SECTION
DATE: 9/30/24

RECOMMENDED:


JENNIFER F. ALMANZOR
ASSISTANT DISTRICT ENGINEER
DATE: 9/30/24

APPROVED:


DONNIE D. CUNA
DISTRICT ENGINEER
DATE: 9/30/24

INDEX OF DRAWING

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SHEET CONTENTS:
INDEX OF DRAWING

DRAFTED:
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SUBMITTED BY:
JOED MICHAEL F. BENIEGAS
ENGINEER I

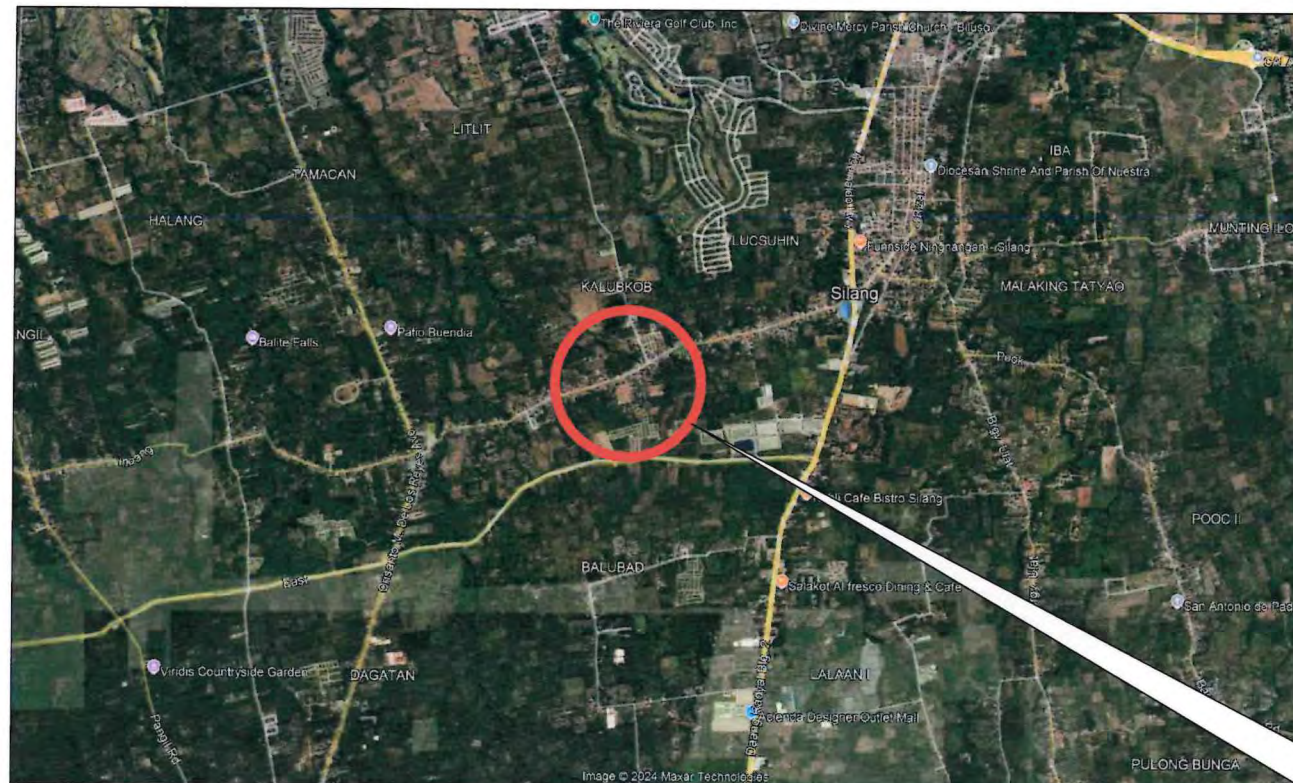
REVIEWED:
ISAAC EMANUEL C. MOJICA
ENGINEER II
DATE: 9/27/24

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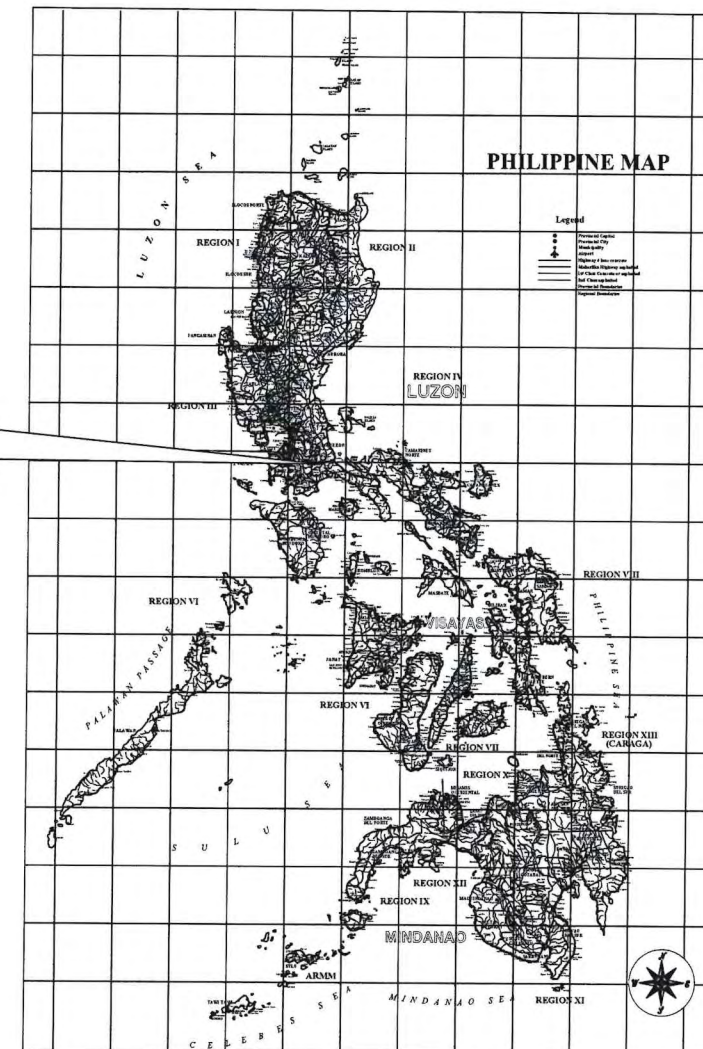
APPROVED:
DONNIE D. CUNA
DISTRICT ENGINEER
DATE: 9/30/24

SET NO. SHEET NO.
B 2
1 1 25



C
1 LOCATION MAP
SCALE: NOT TO SCALE

S I T E



C
3 KEY MAP (PHILIPPINE MAP)
SCALE: NOT TO SCALE

ALIGNMENT 2
END OF PROJECT
STA. 0 + 144.00
NORTHING: 1,571,563.92
EASTING: 494,966.39



C
2 VICINITY MAP
SCALE: NOT TO SCALE

ALIGNMENT 2
BEGINNING OF PROJECT
STA. 0 + 000.00
NORTHING: 1,571,607.32
EASTING: 495,097.26

ALIGNMENT 1
BEGINNING OF PROJECT
STA. 0 + 000.00
NORTHING: 1,571,254.42
EASTING: 494,294.57

ALIGNMENT 1
END OF PROJECT
STA. 0 + 372.00
NORTHING: 1,571,377.20
EASTING: 494,645.03



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THE NATIONAL ROADS LEADING TO MAJOR/ STRATEGIC
PUBLIC BUILDINGS/ FACILITIES - REHABILITATION OF ROAD,
BARANGAY KALUBKOB, SILANG, CAVITE

SHEET CONTENTS:
LOCATION MAP, VICINITY MAP,
KEY MAP (PHILIPPINE MAP)

DRAFTED:
AARON JAY E. FABELLA
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SET NO. SHEET NO.
C 3
1 1 25

ELEMENTS OF CURVE										
P.I. NUMBER	STATION	I	D	R (m.)	T (m.)	E (m.)	LC (m.)	PC	PT	AZIMUTH (FROM SOUTH)
L1										253°27'58"
P.I. 1-1	0+034.81	0°35'15"	5°43'55"	200.000	1.026	0.003	2.051	0+033.79	0+035.84	
L2										252°52'43"
P.I. 1-2	0+056.27	2°18'14"	5°43'55"	200.000	4.021	0.040	8.041	0+052.25	0+060.29	
L3										255°10'56"
P.I. 1-3	0+068.03	0°39'12"	5°43'55"	200.000	1.140	0.003	2.280	0+066.89	0+069.17	
L4										254°31'45"
P.I. 1-4	0+113.46	0°01'54"	5°43'55"	200.000	0.056	0.000	0.111	0+113.41	0+113.52	
L5										254°29'50"
P.I. 1-5	0+168.17	0°10'18"	5°43'55"	200.000	0.300	0.000	0.599	0+167.87	0+168.47	
L6										254°40'08"
P.I. 1-6	0+224.45	0°59'27"	5°43'55"	200.000	1.729	0.007	3.459	0+222.72	0+226.18	
L7										253°40'41"
P.I. 1-7	0+257.80	4°32'06"	5°43'55"	200.000	7.919	0.157	15.826	0+249.88	0+265.71	
L8										249°06'36"
P.I. 1-8	0+282.78	5°16'54"	5°43'55"	200.000	9.225	0.213	18.430	0+273.56	0+291.99	
L9										243°51'42"
P.I. 1-9	0+318.48	4°34'31"	5°43'55"	200.000	7.990	0.160	15.967	0+310.49	0+326.46	
L10										239°17'10"

TOPOGRAPHIC LAYOUT

SCALE:

1:900 MTS.

LEGEND:

- PROPOSED CONCRETE PAVEMENT
- EXISTING STRUCTURES

BENCHMARK 1 (BM - 1)
NAIL ON CONCRETE
MONUMENT
N = 1,571,274.12
E = 494,348.39
ELEV = 351.44m

TO LUCSUHIN

ALIGNMENT 1
BEGINNING OF PROJECT
STA. 0 + 000.00
NORTHING :1,571,254.42
EASTING: 494,294.57

ALIGNMENT 1
END OF PROJECT
STA. 0 + 372.00
NORTHING :1,571,377.20
EASTING: 494,645.03

ALIGNMENT 2
BEGINNING OF PROJECT
STA. 0 + 000.00
NORTHING :1,571,607.32
EASTING: 495,097.26

ALIGNMENT 2
END OF PROJECT
STA. 0 + 144.00
NORTHING :1,571,563.92
EASTING: 494,966.39

NOTES:

- HORIZONTAL CONTROLS SHOWN ON THIS PLAN WERE TRUE COORDINATES IN PHILIPPINE REFERENCE SYSTEM OF 1992 (PRS92) FORM AS SHOWN.
- VERTICAL CONTROLS WERE BASED FROM THE SEA LEVEL DATUM.

ELEMENTS OF CURVE										
P.I. NUMBER	STATION	I	D	R (m.)	T (m.)	E (m.)	LC (m.)	PC	PT	AZIMUTH (FROM SOUTH)
L11										88°47'56"
P.I. 1-10	0+032.25	15°24'39"	26°45'10"	43.225	5.848	0.394	11.591	0+026.40	0+038.03	
L12										73°23'17"
P.I. 1-11	0+046.80	1°59'49"	5°43'55"	200.000	3.486	0.030	6.970	0+043.32	0+050.29	
L13										71°23'28"
P.I. 1-12	0+076.04	6°52'58"	16°33'22"	69.455	4.177	0.125	8.338	0+071.86	0+080.21	
L14										64°30'30"
P.I. 1-13	0+086.47	2°42'23"	5°43'55"	200.000	4.724	0.056	9.446	0+081.75	0+091.20	
L15										61°48'07"
P.I. 1-14	0+105.18	0°02'50"	5°43'55"	200.000	0.082	0.000	0.165	0+105.10	0+105.27	
L16										61°50'57"
P.I. 1-15	0+113.65	1°19'59"	5°43'55"	200.000	2.327	0.014	4.653	0+111.33	0+115.98	
L17										63°10'56"



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SHEET CONTENTS:
TOPOGRAPHIC LAYOUT PLAN
(ALIGNMENT 1 & 2)

DRAFTED:
AARON JAY F. ABELLA
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REVIEWED:
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REIMART REGIN P. BAUTISTA
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DATE: 9/20/24

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DONNIE D. CUNA
DISTRICT ENGINEER
DATE: 9/20/24

SET NO. SHEET NO.
D 4
1 25

GENERAL NOTES FOR ROADWAY STRUCTURES

1.0 SPECIFICATIONS :

1.1 ALL WORKS SHALL COMPLY WITH THE "DPWH STANDARD SPECIFICATIONS, 2013 EDITIONS, VOLUME II - HIGHWAYS, BRIDGES AND AIRPORTS", SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS TO THIS PROJECT.

2.0 DIMENSIONS :

2.1 ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2.2 DIMENSIONS ON DRAINAGE, TYPICAL ROAD SECTION AND STANDARD DRAWINGS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

3.0 STATIONINGS AND RADIUS OF HORIZONTAL CURVE :

3.1 THE STATIONINGS OF HORIZONTAL ALIGNMENT OF THE PROJECT ROADS ARE RELATIVE TO THE CENTERLINE SHOWN ON THE PLANS.
3.2 STATIONINGS OF CIM, MH AND OTHER STRUCTURES ARE RECKONED AT THE STATIONINGS OF THE CENTERLINE SHOWN ON THE PLANS.
3.3 THE RADIUS OF HORIZONTAL CURVE SHOWN ON THE PLAN WERE BASED ON THE LAID-OUT ROADWAY CENTERLINE

4.0 HORIZONTAL CONTROL :

4.1 HORIZONTAL GROUND CONTROLS SHALL BE ESTABLISHED AT OR NEAR AN ACCEPTABLE VICINITY OF SUBJECT PROJECT USING SECONDARY TRAVERSE PRECISION AND ACCURACY, EXISTING BUREAU OF LANDS LOCATION MONUMENTS (BLMS), MUNICIPAL BOUNDARY MONUMENTS (MBM), BARRIO BOUNDARY MONUMENTS (BBM) TRIANGULATION STATIONS WITHIN THE PROJECT SHALL BE MADE PART OF THE PROJECT CONTROL. THE HORIZONTAL GROUND CONTROLS SHALL BE CONNECTED TO THE PREVIOUSLY APPROVED BLM'S AND/OR TRIANGULATION STATIONS OR HIGHER ORDERS ESTABLISHED BY THE BUREAU OF COAST AND GEODETIC SURVEY.

4.2 HORIZONTAL TRAVERSE MUST BE TIED TO A GPS STATION ESTABLISHED IN THE PROJECT ROAD. PRIMARY TRAVERSE STATION SHALL BE ESTABLISHED USING CONCRETE MONUMENT OF DIMENSIONS 20 CM X 20 CM X 60 CM WITH 10 MM DIAMETER, 60 CM LONG STEEL BAR EMBEDDED AT THE CENTER OF THE MONUMENT.

4.3 INDICATED AZIMUTH OF LINES ARE TRUE AZIMUTH BASED FROM THE GPS STATIONS ESTABLISHED ALONG THE ROAD.

5.0 VERTICAL CONTROL :

5.1 A VERTICAL GROUND CONTROL SYSTEM SHALL BE ESTABLISHED FOR THE ENTIRE PROJECT WHICH WILL BE CONNECTED AND REFERRED TO AT LEAST THREE (3) EXISTING BENCHMARKS (BM). ALL ELEVATIONS SHALL BE REFERRED TO A REFERENCE DATUM PLANE, EITHER THE MEAN SEA LEVEL (MSL) OR THE MEAN LOWER LOW WATER (MLLW) AS ESTABLISHED BY THE BUREAU OF COAST AND GEODETIC SURVEY. IN ALL CASES, THE DATUM PLANE SHALL BE CLEARLY INDICATED IN THE SURVEY PLANS.

5.2 WHEN LEVELING ALONG A HIGHWAY OR A WELL DEFINED ROAD, THE ELEVATION OF THE TOP ROAD HAS TO BE DETERMINED BY MEANS OF EXTRA FORESIGHTS. IN FRONT OF EACH RAILROAD STATION OR AT EACH INTERSECTION RAILROAD, ROAD OR HIGHWAYS, AT PRINCIPAL FORKS, AT WELL DEFINED ANGLES IN THE ROAD, AT POINTS OPPOSITE INTERSECTING FENCE LINES DEFINED BY TREES OR BRUSH, AT POINTS OPPOSITE INTERSECTING FENCE LINES DEFINED BY TREES OR BRUSH, AT POINTS OPPOSITE SHARP BOUNDARIES BETWEEN CLEARED AND ERODED AREA AND AT BRIDGE FLOORS

6.0 ELEVATIONS AND GRADES :

6.1 FINISHED GRADE ELEVATIONS ARE RELATIVE TO CENTERLINE OF EACH ROAD.
6.2 THE ELEVATIONS SHOWN ON THE ORIGINAL GROUND ON THE PLAN AND PROFILE ARE RELATIVE TO CENTERLINE OF THE ROAD.

7.0 ROAD CONNECTIONS AND PRIVATE ENTRANCES.

7.1 APPROACHES AND CONNECTIONS SHALL BE CONSTRUCTED BY THE CONTRACTOR AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN SUCH MANNER AS ENSURE SMOOTH CONNECTION AND RIDING QUALITY.

7.2 EXACT LOCATIONS OF INTERSECTIONS ROAD AND PRIVATE ENTRANCES OR DRIVEWAYS WHERE ITEM 7.1 ABOVE APPLIES, SHALL BE VERIFIED BY THE ENGINEER.

7.3 PROVIDE A DROP CURB AND GUTTER TO EXISTING ENTRANCES AS SHOWN ON THE STANDARD CURB AND GUTTER DRAWINGS.

8.0 DRAINAGE STRUCTURES :

8.1 LOCATIONS OF EXISTING DRAINAGE STRUCTURES REFLECTED IN THE PLAN WAS BASED ON THE TOPO SURVEY.

8.2 EXACT LOCATIONS, GRADIENTS, OUTFALLS AND TOP AND INVERT ELEVATIONS OF DRAINAGE STRUCTURES SHALL BE CHECKED AND VERIFIED IN THE FIELD, DURING CONSTRUCTION BY THE ENGINEER. FIELD ADJUSTMENT MAY BE MADE BY THE ENGINEER TO SUIT ACTUAL FIELD CONDITIONS.

8.3 EXTENSIONS AND OTHER IMPROVEMENTS OF EXISTING DRAINAGE STRUCTURES ARE SUBJECT TO CHANGE AND SHALL BE VERIFIED BY THE ENGINEER.

8.4 PRIOR TO INSTALLATION OF RCPC AND OTHER DRAINAGE STRUCTURES, ALL MATERIALS MUST BE TESTED AND CONFORMING WITH THE TECHNICAL SPECIFICATION.

8.5 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF ANY MATERIALS INSTALLED AND FOUND TO BE DEFICIENT IN WORKMANSHIP AND QUALITY OF WORK.

8.6 RCPC DIAMETERS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.

8.7 INLETS AND OUTLETS OF NEW AND EXISTING CULVERTS TO BE UTILIZED SHOULD BE CHANNELIZED AND CLEARED OF DEBRIS IN ORDER TO HAVE A SMOOTH FLOW OF WATER.

9.0 REMOVAL OF EXISTING STRUCTURES AND RELOCATION OF EXISTING UTILITIES :

9.1 REMOVAL OF EXISTING BUILDING, HOUSES, AND FENCES, WILL BE THE RESPONSIBILITY OF THE CONTRACTOR, THEY WILL BE PAID ACCORDING TO THE CONTRACT.

9.2 PORTIONS OF EXISTING UTILITIES, SUCH AS WATER LINES, TELEPHONES, TRUCK LINES, ELECTRIC LINES, ETC., THAT MAY OBSTRUCT THE CONSTRUCTION OF THE PROJECT SHALL BE RELOCATED BY THE ENTITIES OR OWNER'S CONCERNED. EXTREME PRECAUTION SHALL BE EXERCISED BY THE CONTRACTOR SO AS NOT TO DAMAGE THE EXISTING UTILITIES DURING CONSTRUCTION. ANY DAMAGE THEREOF SHALL BE ON THE ACCOUNT OF THE CONTRACTOR.

10.0 ROAD SIGNS :

10.1 ROAD SIGNS SHALL CONFORM WITH THE LATEST MANUAL ON PHILIPPINES ROAD SIGNS (REVISED EDITION) OF THE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS, TRAFFIC ENGINEERING AND MANAGEMENT PROJECTS, 2012

11.0 ACCESSIBILITY LAW :

11.1 STRICT COMPLIANCE WITH THE BATAS PAMBANSA BILANG 344 AND ITS IMPLEMENTING RULES AND REGULATIONS SHALL BE IMPOSED.

12.0 DESIGN DATA / REFERENCES :

12.1 THE DESIGN DATA ADOPTED IN THIS PROJECT WAS MAINLY ESTABLISHED WITH REFERENCE TO AASHTO'S, A POLICY ON GEOMETRIC DESIGN OF HIGHWAY AND STREETS DESIGN GUIDELINES, CRITERIA AND STANDARDS (DGCS 2015) DPWH.

12.2 GUIDELINES FOR ROAD DRAINAGE, DPWH.

13.0 CONSTRUCTION

13.1. SPECIFICATION

ALL WORKS CONFORM WITH THE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH) STANDARD SPECIFICATIONS FOR HIGHWAYS, BRIDGES AND AIRPORTS, VOL. II 2004

13.2. SETTING OUT

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

13.3. REINFORCED CONCRETE

a. CONCRETE MIX AND PLACING

- DESIGN OF CONCRETE MIX SHALL MEET THE DESIGN CONCRETE STRENGTH SPECIFIED IN ITEM 405.
- CONCRETE SHALL BE DEPOSITED, VIBRATED AND CURED IN ACCORDANCE WITH THE SPECIFICATIONS.
- FOR CONCRETE DEPOSITED AGAINST THE GROUND, LEAN CONCRETE WITH A MINIMUM THICKNESS OF 50mm SHALL BE LAID FIRST BEFORE INSTALLING THE REINFORCEMENT. THIS LEAN CONCRETE SHALL NOT BE CONSIDERED IN MEASURING THE STRUCTURAL DEPTH OF CONCRETE.
- THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL PLACING SEQUENCES FOR ALL CONCRETE WORK.

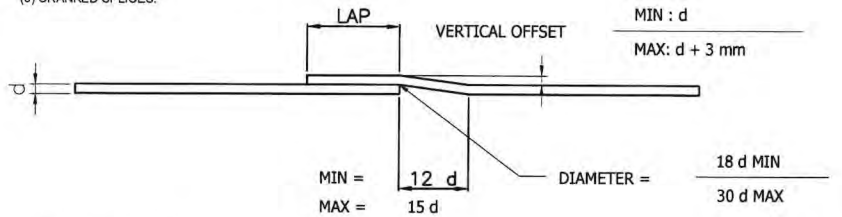
b. BAR BENDING, SPLICING, AND PLACING

- THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL OF SHOP DRAWINGS INDICATING THE BENDING, CUTTING, SPLICING AND INSTALLATION OF ALL REINFORCING BARS.
- BARS SHALL BE BENT COLD. BARS PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT UNLESS SHOWN ON THE DRAWING OR SPECIFICALLY PERMITTED BY THE ENGINEER.
- BAR SPLICING SHALL BE AS INDICATED ON DRAWINGS. SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
- NO SPLICING SHALL BE PERMITTED IN BEAMS AND GIRDERS WHERE CRITICAL BENDING MOMENTS OCCUR. STAGGER SPLICES BETWEEN ADJACENT BARS. MINIMUM DISTANCE OF 40 BAR DIAMETERS FOR TENSION SPLICES, AND 20 BAR DIAMETER FOR COMPRESSION SPLICES BUT NOT LESS THAN 300mm.
- WELDED SPLICES, IF APPROVED BY THE ENGINEER, SHALL DEVELOP IN TENSION AT LEAST 125% OF THE SPECIFIED YIELD STRENGTH OF THE BAR.

(6) NOT MORE THAN 50% OF THE BARS AT ANY ONE SECTION SHALL BE SPLICED.

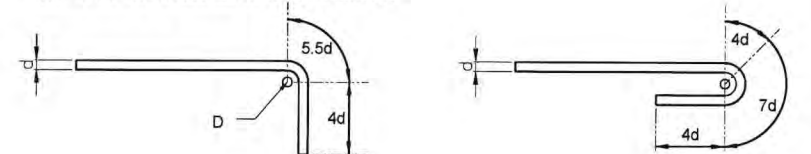
(7) UNLESS OTHERWISE SHOWN ON DRAWINGS, THE CLEAR DISTANCE BETWEEN PARALLEL BARS IN A LAYER SHALL NOT BE LESS THAN 1.5 TIMES THE NOMINAL DIAMETER OF THE BAR NOR LESS THAN 1.5 TIMES THE MAXIMUM SIZE OF THE COARSE AGGREGATE. THE CLEAR DISTANCE BETWEEN LAYERS SHALL NOT BE LESS THAN 25mm NOR ONE BAR DIAMETER.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

(8) CRANKED SPLICES.



(9) HOOKS AND BENDS

(i) DIMENSIONS OF 90 - DEGREE AND 180 - DEGREE HOOKS



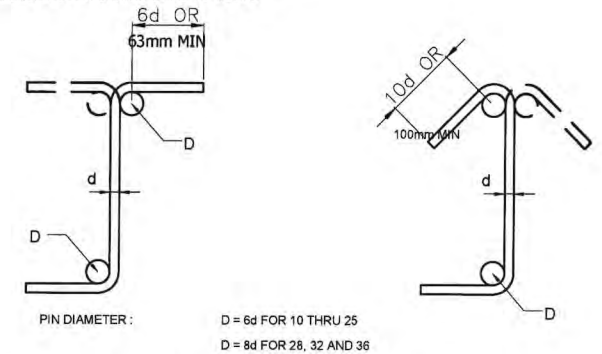
90° HOOK

PIN DIAMETER :

D = 6d FOR 10 THRU 25
D = 8d FOR 28, 32 AND 36

180° HOOK

(ii) DIMENSIONS FOR STIRRUPS AND TIE HOOKS



14.0 PORTLAND CEMENT CONCRETE PAVEMENT (PCCP)

- CONSTRUCTION (CONTACT) JOINTS ARE FORMED WHEN CONCRETE ON ONE SIDE OF THE JOINT IS POURED AHEAD AND ALLOWED TO SET BEFORE POURING ON THE OTHER SIDE.
- AT CONSTRUCTION JOINTS (LONGITUDINAL OR TRANSVERSE) CARE SHOULD BE TAKEN THAT NO CONCRETE FROM THE LAST SLAB PLACED OVERHANGS ANY PORTION OF THE FIRST SLAB.
- TIE BARS SHOULD BE DEFORMED STEEL BARS, ALL DOWEL BAR SHALL BE SMOOTH ROUND STEEL BAR FREE FROM RUST AND OTHER DEFECTS WHICH MIGHT RESTRICT THEIR MOVEMENT. CONSTRUCTION JOINTS (LONGITUDINAL OR TRANSVERSE) CARE SHOULD BE TAKEN THAT NO CONCRETE FROM THE LAST SLAB PLACED OVERHANGS ANY PORTION OF THE FIRST SLAB.
- TYPE OF WEAKENED JOINT TO BE USED SHALL BE AS SPECIFIED IN THE PLANS AND ONLY ONE TYPE SHALL BE USED FOR THE WHOLE PROJECT.
- MATERIAL FOR THE METAL SIDE FORM SHALL BE BRAND NEW SHEET METAL GAUGE NO. 18 OF BLACK IRON FREE FROM RUST AND LINKS.
- AT LEAST SIX (6) SUCCESSIVE DOWELED BUTT JOINTS AS NORMAL JOINT SPACING SHALL BE PROVIDED BEFORE OR AFTER AN EXPANSION JOINT.
- THE GROOVE OR CRACK ABOVE JOINTS (LONGITUDINAL OR TRANSVERSE) SHALL BE SEALED WITH 30-50 PENETRATION ASPHALT SEAL OR COLD APPLIED LIQUID RUBBER COMPOUND AFTER THE CONCRETE HAD BEEN CURED AND BEFORE OPENING PAVEMENT TO TRAFFIC.
- ALL TRANSVERSE JOINTS, EXCEPT CONSTRUCTION JOINT, SHALL BE CONTINUOUS FROM EDGE TO EDGE.
- ALL LONGITUDINAL JOINT SHALL MEET AT INTERSECTION WITH NO GAPS OR OFFSET.
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
- AVOID STOPPAGE OF FRAMEWORKS ALONG CURVES.
- TRANSVERSE CONSTRUCTION (CONTACT) JOINT SHALL BE PROVIDED AT THE END OF ANY RUN WHERE LAYING OF CONCRETE HAS BEEN STOPPED FOR THIRTY (30) MINUTES OR LONGER.
- TRANSVERSE CONSTRUCTION JOINTS WHICH OCCUR LOCATION OF WEAKENED PLANE JOINTS WITH DOWELS IF POINT OCCURS IN THE MIDDLE THIRD OF THE WEAKENED JOINT INTERVAL (1500-300mm) IT SHOULD BE KEVED JOINTS WITH THE BARS.

 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE IV-A CAVITE 3 RD DISTRICT ENGINEERING OFFICE CARMONA CITY, CAVITE	PROJECT NAME AND LOCATION: DETAILED ENGINEERING PLAN FOR CONVERGENCE AND SPECIAL SUPPORT PROGRAM - BASIC INFRASTRUCTURE PROGRAM (BIP) - ACCESS ROADS AND/OR BRIDGES FROM THE NATIONAL ROAD/S LEADING TO MAJOR/ STRATEGIC PUBLIC BUILDINGS/ FACILITIES - REHABILITATION OF ROAD, BARANGAY KALUBKOB, SILANG, CAVITE	SHEET CONTENTS: GENERAL NOTES FOR ROADWAY STRUCTURES	DRAFTED:  AARON JAY F. FABELLA ENGINEERING ASSISTANT SUBMITTED BY:  JOED MICHAEL F. BENIEGAS ENGINEER	REVIEWED:  ISAAC EMANUEL C. MOJICA ENGINEER II DATE: 11/21/24	SUBMITTED:  REIMAR T. REGIN P. BAUTISTA CHIEF PLANNING AND DESIGN SECTION DATE: 9/30/24	RECOMMENDED:  JENNIFER F. ALMANZOR ASSISTANT DISTRICT ENGINEER DATE: 9/30/24	APPROVED:  DONNIE D. CUNA DISTRICT ENGINEER I DATE: 9/30/24	SET NO. E 1 2	SHEET NO. 5 25
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SURVEY GENERAL NOTES

1. SURVEY STANDARD

- 1.1. THE DPWH "DESIGN GUIDELINES, CRITERIA AND STANDARDS (DGCS), VOLUME 2B, 2015 EDITION (ENGINEERING SURVEY)" WILL BE THE OFFICIAL GUIDE FOR DESIGNS CARRIED OUT WITHIN THE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH). IT SHALL APPLY IN LINKING ALL THE PHASES OF PROJECT FROM PLANNING TO DESIGN, LAND ACQUISITION AND CONSTRUCTION. FURTHERMORE, IT DEPENDS THE RELIABILITY AND EFFECTIVENESS OF PROJECT PHASE THROUGH PROPER PERFORMED SURVEYS THAT RESULT TO COMPLETE AND ACCURATE DATA. THE DESIGN GUIDELINES CONTAINED IN THE DPWH DGCS SHALL BE GOVERNED BY APPLICABLE PROVISIONS OF EXISTING/GOVERNING LAWS, LOCAL ORDINANCES, CODES (LATEST EDITIONS) AND DEPARTMENTAL ISSUANCES:
- 1.1.1. DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES (DENR) ADMINISTRATIVE ORDER (AO) NO. 2007-29, REVISED REGULATIONS FOR LAND SURVEYS
- 1.1.2. DENR (AO) NO. 2005-13, REVISED GUIDELINES FOR THE IMPLEMENTATION OF THE PHILIPPINES REFERENCE SYSTEM OF 1992
- 1.1.3. EXECUTIVE ORDER NO. 45, SERIES OF 1993, ADOPTING THE PHILIPPINE REFERENCE SYSTEM OF 1992 AS THE STANDARD REFERENCE FOR ALL SURVEYS IN THE PHILIPPINES
- 1.1.4. DENR MEMORANDUM CIRCULAR NO. 2010-13: MANUAL ON LAND SURVEY PROCEDURES
- 1.1.5. MINISTRY OF PUBLIC WORKS AND HIGHWAYS(1984), DESIGN GUIDELINES CRITERIA AND THE STANDARD FOR PUBLIC WORKS AND HIGHWAYS, VOLUME 1, PART 1 \\\
- 1.1.6. PRESIDENTIAL DECREE NO. 399 DATED 28 FEBRUARY1974 · PRESIDENTIAL DECREE NO. 748 DATED 16JULY 1975 · BATAS PAMBANSA BILANG 8
- 1.1.7. REPUBLIC ACT 8560, PHILIPPINE GEODETIC ENGINEERING ACT OF 1998, AS AMENDED BY REPUBLIC ACT 9200

2. SURVEY SPECIFICATIONS

- 2.1. ALL SURVEY WORKS SHALL COMPLY WITH THE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS GENERAL SPECIFICATIONS FOR BUILDING, ROADS AND BRIDGES, 2013, SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS PERTAINING TO THIS PROJECT.
- 2.2. REFERENCE DATUM
- 2.2.1. HORIZONTAL DATUM
- 2.2.1.1. THE DPWH CAVITE 3RD DEO PLANNING AND DESIGN SECTION ENGINEERING SURVEYS & INVESTIGATION UNIT SHALL GATHER DATA AND CONDUCT SURVEY OF INFRASTRUCTURE PROJECT BASED ON PHILIPPINE REFERENCE SYSTEM OF 1992 (PRS 92) ZONE III. AND SHALL COMPLY WITH (PRS 92) ACCURACY AS TO REVISED DPWH HORIZONTAL SURVEY ACCURACY STANDARD AT MAXIMUM OF FIRST-ORDER AT A RELATIVE PRECISION 1:100,000 OR +/-1 CM/KM AND AT A MINIMUM OF THIRD-ORDER AT A RELATIVE PRECISION OF 1:20,000 OR +/-5 CM/KM
- 2.2.2. VERTICAL DATUM
- 2.2.2.1. PROJECT ELEVATION USED SHALL BE REFERRED TO MEAN SEA LEVEL AND SHALL COMPLY WITH DPWH VERTICAL SURVEY ACCURACY STANDARDS-LEVELING WITH MINIMUM REQUIREMENT NOT TO EXCEED THIRD-ORDER 12 MM/K
- 2.3. COORDINATE SYSTEM
- 2.3.1. PPC-PRS92 - SHALL SERVE AS THE STANDARD COORDINATE SYSTEM FOR ALL SURVEY CONDUCTED OF PHASES PROJECT.

2.3. COORDINATE SYSTEM

- 2.3.1. PPC-PRS92 - SHALL SERVE AS THE STANDARD COORDINATE SYSTEM FOR ALL SURVEY CONDUCTED OF PHASES PROJECT.

CHARACTERISTICS OF PPCS-PRS92		
ELLIPSOID	CLARKE'S ELLISOID OF 1866	
PROJECTION	TRAVERSE MERCATOR, ZONES OF TWO DEGREES NET WIDTH	
POINT OF ORIGIN	INTERSECTION OF THE EQUATOR AND THE CENTRAL MERIDIAN OF EACH ZONES, WITH A NORTHING OF 0m AND AN EASTING OF 500,000 M.	
SCALE FACTOR AT CENTRAL MERIDIAN	0.99995	
EXTENTS OF ZONES		
ZONE	CENTRAL MERIDIAN	LIMITS
I	117° E	116°00' TO 118°30'
II	119° E	117°30' TO 120°30'
III	121° E	119°30' TO 122°30'
IV	123° E	121°30' TO 124°30'
V	125° E	123°30' TO 127°00'

2.3.2. CONVERSION EQUATION

GEOGRAPHIC TO GRID COORDINATES

$N = I + IIp2 + IIIp4$
 $E = IVp + Vp3 + VIp5 + 500,000$
WHERE:
N = NORTHINGS, IN METERS
E = EASTINGS, IN METERS
 $p = 0.0001 (\Delta\lambda)$
 $\Delta\lambda$ = DIFFERENCE IN THE LONGITUDES BETWEEN THE CENTRAL MERIDIAN AND THE POINT UNDER CONSIDERATION I, II, III, IV, V AND VI ARE CONSTANTS IN TECHNICAL BULLETIN NO. 26.

GRID TO GEOGRAPHIC COORDINATES

$\Phi = \Phi' - VII q2 + VIII q4$
 $\lambda = IXq - Xq3 + \lambda CM$
where:
 Φ = LATITUDE, IN DEGREES
 λ = LONGITUDE, IN DEGREES
 $q = 0.000001(E-500,000)$ VII, VIII, IX AND X ARE CONSTANTS IN TECHNICAL BULLETIN NO. 26.

3. REFERENCE BENCHMARKS AND DETAILS

3.1. PROJECT CONTROL

BENCHMARK NAME	: BM-1
DESCRIPTION	: NAIL ON CONCRETE MONUMENT
NORTHING	: 1,571,274.12 m
EASTING	: 494,348.39 m
ELEVATION	: 351.44 m

 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE IV-A CAVITE 3 RD DISTRICT ENGINEERING OFFICE CARMONA CITY, CAVITE	PROJECT NAME AND LOCATION DETAILED ENGINEERING PLAN FOR CONVERGENCE AND SPECIAL SUPPORT PROGRAM - BASIC INFRASTRUCTURE PROGRAM (BIP) - ACCESS ROADS AND/OR BRIDGES FROM THE NATIONAL ROAD/S LEADING TO MAJOR/ STRATEGIC PUBLIC BUILDINGS/ FACILITIES - REHABILITATION OF ROAD, BARANGAY KALUBKOB, SILANG, CAVITE	SHEET CONTENTS: SURVEY GENERAL NOTES	DRAFTED: AARON JAY F. FABELLA ENGINEERING ASSISTANT SUBMITTED BY: JOEL MICHAEL F. BENIGAS ENGINEER I	REVIEWED: ISAAC EMANUEL C. MOJICA ENGINEER II DATE: 9/27/24	SUBMITTED: REIMART REGIN P. BAUTISTA CHIEF, PLANNING AND DESIGN SECTION DATE: 9/27/24	RECOMMENDED: JENNIFER F. ALMANZOR ASSISTANT DISTRICT ENGINEER DATE: 9/30/24	APPROVED: DONNIE D. CUNA DISTRICT ENGINEER DATE: 9/30/24	SET NO. E 2 2	SHEET NO. 6 25

LEGEND:

	GROUTED RIPRAP EXISTING		PIPE CULVERT EXISTING
	STONE MASONRY		PIPE CULVERT NEW
	CUT AND FILL SECTION		PLAN FULL KM STATION
	ROAD SIGN		CL PROJECT ROAD
	TREES		EXISTING BRIDGE
	POINT OF INTERSECTION		RIVER / CREEK
	ORIGINAL GROUND		COMMERCIAL
	KILOMETER POST		REFERENCE POINT
	NORTH SIGN		STATION
	BENCH MARK		LENGTH OF VERTICAL CURVE
	RECTANGULAR CULVERT		RROW
	FLOW		PROPOSED BRIDGE
	PIPE CULVERT EXISTING		GOOD / NEW PCCP
	PIPE CULVERT NEW		PARAPET WALL PLAN
			EXISTING PCCP

ABBREVIATIONS:

ACP	ASPHALT CONCRETE PAVEMENT	Max	MAXIMUM
AZIM	AZIMUTH	MH	MANHOLE
BLDG	BUILDING	mm	MILLIMETER
BM	BENCH MARK	Mo	MIDDLE ORDINATE
BOQ	BILL OF QUANTITIES	MUN	MUNICIPAL
BR	BRIDGE	NB	NORTH BOUND
BRDY	BOUNDARY	O.C.	ON CENTER
BRGY	BARANGAY	OIE	OUTLET INVERT ELEVATION
BVCE	BEGIN OF VERTICAL CURVE ELEV.	PC	POINT OF CURVATURE
BVCS	BEGIN OF VERTICAL CURVE STATION	PCCP	PORTLAND CONCRETE CEMENT PAVEMENT
BW	BOTHWAYS	PI	POINT OF INTERSECTION
CIM	CURB INLET MANHOLE	PT	POINT OF TANGENCY
CL	CENTERLINE	PVI	POINT OF VERTICAL INTERSECTION
cm	CENTIMETER	PVC	POINT OF VERTICAL CURVE
CS	CURB TO SPIRAL	PVT	POINT OF VERTICAL TANGENCY
CU	CULVERT	R	RADIUS
D	DEGREE OF CURVE	RC	REINFORCED CONCRETE
DIST.	DISTANCE	RCBC	REINFORCED CONCRETE BOX CULVERT
DLI - 01	DRAINAGE MANHOLE MEMBER	RCPC	REINFORCED CONCRETE PIPE CULVERT
DPWH	DEPARTMENT OF PUBLIC WORKS AND HIGHWAY	RD	ROAD
E	EXTERNAL DISTANCE/EASTING	RROW	ROAD RIGH - OF - WAY
e	SUPERELEVATION	RT	RIGHT
EB	EAST BOUND	S	NORMAL CROSSFALL
ELEV.	ELEVATION	SB	SOUTH BOUND
EXTG.	EXISTING	SHLDR	SHOULDER
g	GRADIENT	STA	STATION
HOR	HORIZONTAL	STD	STANDARD
I	INTERSECTION ANGLE	SW	SOUTH WEST
I I E	INLET INVERT ELEVATION	T	TANGENT
INTL	INTERNATIONAL	TBM	TEMPORARY BENCH MARK
KMS	KILOMETERS	VC	VERTICAL CURVE
L	LEFT/LENGTH	VERT , V	VERTICAL
Lc	LENGTH OF HORIZONTAL CURVE	W	WIDENING
Lm	LINEAR METER	WB	WEST BOUND
LT	LEFT	WW	WINGWALL
LVC	LENGTH OF VERTICAL CURVE		DIAMETER
M	METER	N C	NORMAL CROWN



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE IV-A
CAVITE 3RD DISTRICT ENGINEERING OFFICE
CARMONA CITY, CAVITE

PROJECT NAME AND LOCATION:
DETAILED ENGINEERING PLAN FOR CONVERGENCE AND SPECIAL SUPPORT PROGRAM - BASIC INFRASTRUCTURE PROGRAM (BIP) - ACCESS ROADS AND/OR BRIDGES FROM THE NATIONAL ROAD/S LEADING TO MAJOR/ STRATEGIC PUBLIC BUILDINGS/ FACILITIES - REHABILITATION OF ROAD, BARANGAY KALUBKOB, SILANG, CAVITE

SHEET CONTENTS:
LEGENDS AND ABBREVIATIONS

DRAFTED:
AARON JAY F. FABELLA
ENGINEERING ASSISTANT
SUBMITTED BY:
JOEL MICHAEL F. BENEGAS
ENGINEER I

REVIEWED:
ISAAC EMANUEL C. MOJICA
ENGINEER II
DATE: 9/24/24

SUBMITTED:
REIMART REGIN P. BAUTISTA
CHIEF, PLANNING AND DESIGN SECTION
DATE: 9/24/24

RECOMMENDED:
JENNIFER F. ALMANZOR
ASSISTANT DISTRICT ENGINEER
DATE: 9/30/24

APPROVED:
DONNIE D. GUNA
DISTRICT ENGINEER
DATE: 9/30/24

SET NO. SHEET NO.
F 7
1 1 25

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	REMARKS
			ALIGNMENT 1: STA. 0 + 000- STA. 0 + 372 ✓	
			ALIGNMENT 2: STA. 0 + 000- STA. 0 + 144 ✓	
			Net Length of 516 l.m. (1.032 lane km) ✓	
PART A	FACILITIES FOR THE ENGINEER			
A.1.1 (3)	Construction of Field Office for the Engineer	l.s.	1.00 ✓	- See Detailed Drawing -
A.1.4 (1)	Provision of Progress Photographs	mos.	3.00 ✓	
PART B	OTHER GENERAL REQUIREMENTS			
B.5	Project Billboard/ Signboard	ea.	3.00 ✓	- See Detailed Drawing -
B.7 (2)	Occupational Safety and Health Program	l.s.	1.00 ✓	
B.8 (2)	Traffic Management	l.s.	1.00 ✓	- See Detailed Drawing -
B.9	Mobilization/Demobilization	l.s.	1.00 ✓	
PART C	EARTHWORK			
101 (3)b3	Removal of Actual Structures/Obstruction, 0.23 m thick, PCCP (Unreinforced)	sq.m.	3,096.00 ✓	- See Schedule of Quantities and Drawing Details -
102 (4)	Surplus Unclassified Excavation	cu.m.	619.31 ✓	-do-
105 (1)a	Subgrade Preparation (Common Material)	sq.m.	3,096.00 ✓	-do-
PART D	SUBBASE AND BASE COURSE			
200 (1)	Aggregate Subbase Course	cu.m.	619.20 ✓	- See Schedule of Quantities and Drawing Details -
PART E	SURFACE COURSES			
311 (1)c1	Portland Cement Concrete Pavement (Unreinforced), 0.23 m thick (14 days)	sq.m.	3,096.00 ✓	- See Schedule of Quantities and Drawing Details -

NOTE:

1. THE STAKE-OUT SURVEY BETWEEN THE CONTRACTOR AND THE GOVERNMENT SHALL BE CONSIDERED AS THE FINAL PLAN.
2. THE ITEMS OF WORK IDENTIFIED WITH THE CORRESPONDING COMPUTED QUANTITIES IN THE APPROVED JOINT AS - STAKE SURVEY PLANS WILL BE THE BASIS OF PAYMENT.

 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE IV-A CAVITE 3RD DISTRICT ENGINEERING OFFICE CARMONA CITY, CAVITE	PROJECT NAME AND LOCATION:	SHEET CONTENTS:	DRAFTED:	REVIEWED:	SUBMITTED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
	DETAILED ENGINEERING PLAN FOR CONVERGENCE AND SPECIAL SUPPORT PROGRAM - BASIC INFRASTRUCTURE PROGRAM (BIP) - ACCESS ROADS AND/OR BRIDGES FROM THE NATIONAL ROAD/S LEADING TO MAJOR/ STRATEGIC PUBLIC BUILDINGS/ FACILITIES - REHABILITATION OF ROAD, BARANGAY KALUBKOB, SILANG, CAVITE	SUMMARY OF QUANTITIES	AARON JAY F. FABELLA ENGINEERING ASSISTANT JOED MICHAEL F. BENIEGAS ENGINEER I	ISAAC EMANUEL C. MOJICA ENGINEER II REIMART REGIN P. BAUTISTA CHIEF, PLANNING AND DESIGN SECTION	JENNIFER F. ALMANZOR ASSISTANT DISTRICT ENGINEER	DONNIE D. CUNA DISTRICT ENGINEER	1	8	

SCHEDULE OF QUANTITIES

102(4) Surplus Unclassified Excavation				
STA.	Length (m.)	Location	Cut Area (sq.m.)	Volume Cut (cu.m.)
ALIGNMENT 1				
0+000.00	20.00	B/S	1.2000	24.00
0+020.00	20.00	B/S	1.2000	24.00
0+040.00	20.00	B/S	1.2000	24.00
0+060.00	20.00	B/S	1.2000	24.00
0+080.00	20.00	B/S	1.2000	24.00
0+100.00	20.00	B/S	1.2000	24.00
0+120.00	20.00	B/S	1.2000	24.00
0+140.00	20.00	B/S	1.2000	24.00
0+160.00	20.00	B/S	1.2000	24.00
0+180.00	20.00	B/S	1.2000	24.00
0+200.00	20.00	B/S	1.2000	24.00
0+220.00	20.00	B/S	1.2000	24.00
0+240.00	20.00	B/S	1.2000	24.00
0+260.00	20.00	B/S	1.2000	24.00
0+280.00	20.00	B/S	1.2000	24.00
0+300.00	20.00	B/S	1.2000	24.00
0+320.00	20.00	B/S	1.2000	24.00
0+340.00	20.00	B/S	1.2000	24.00
0+360.00	12.00	B/S	1.2000	14.40
0+372.00				
ALIGNMENT 2				
0+000.00	20.000	B/S	1.200	24.00
0+020.00	20.000	B/S	1.200	24.00
0+040.00	20.000	B/S	1.200	24.00
0+060.00	20.000	B/S	1.200	24.00
0+080.00	20.000	B/S	1.200	24.00
0+100.00	20.000	B/S	1.200	24.00
0+120.00	20.000	B/S	1.200	24.00
0+140.00	4.000	B/S	1.200	4.80
0+144.00				
FIELD OFFICE	0.300		0.360	0.11
TOTAL			619.31 cu.m	
SAY			619.31 cu.m	

105 (1)a Subgrade Preparation (Common Material)				
STA.	Location	Length (m.)	Width (m.)	Area (sq.m)
ALIGNMENT 1				
0+000.00	B/S	20.00	6.000	120.00
0+020.00	B/S	20.00	6.000	120.00
0+040.00	B/S	20.00	6.000	120.00
0+060.00	B/S	20.00	6.000	120.00
0+080.00	B/S	20.00	6.000	120.00
0+100.00	B/S	20.00	6.000	120.00
0+120.00	B/S	20.00	6.000	120.00
0+140.00	B/S	20.00	6.000	120.00
0+160.00	B/S	20.00	6.000	120.00
0+180.00	B/S	20.00	6.000	120.00
0+200.00	B/S	20.00	6.000	120.00
0+220.00	B/S	20.00	6.000	120.00
0+240.00	B/S	20.00	6.000	120.00
0+260.00	B/S	20.00	6.000	120.00
0+280.00	B/S	20.00	6.000	120.00
0+300.00	B/S	20.00	6.000	120.00
0+320.00	B/S	20.00	6.000	120.00
0+340.00	B/S	20.00	6.000	120.00
0+360.00	B/S	12.00	6.000	72.00
0+372.00				
ALIGNMENT 2				
0+000.00	B/S	20.00	6.000	120.00
0+020.00	B/S	20.00	6.000	120.00
0+040.00	B/S	20.00	6.000	120.00
0+060.00	B/S	20.00	6.000	120.00
0+080.00	B/S	20.00	6.000	120.00
0+100.00	B/S	20.00	6.000	120.00
0+120.00	B/S	20.00	6.000	120.00
0+140.00	B/S	4.00	6.000	24.00
0+144.00				
TOTAL			3,096.00 sq.m	
SAY			3,096.00 sq.m	

200 (1) Aggregate Subbase Course				
STA.	Location	Length (m.)	Area (sq.m.)	Subbase Volume (cu.m.)
ALIGNMENT 1				
0+000.00	B/S	20.00	1.200	24.00
0+020.00	B/S	20.00	1.200	24.00
0+040.00	B/S	20.00	1.200	24.00
0+060.00	B/S	20.00	1.200	24.00
0+080.00	B/S	20.00	1.200	24.00
0+100.00	B/S	20.00	1.200	24.00
0+120.00	B/S	20.00	1.200	24.00
0+140.00	B/S	20.00	1.200	24.00
0+160.00	B/S	20.00	1.200	24.00
0+180.00	B/S	20.00	1.200	24.00
0+200.00	B/S	20.00	1.200	24.00
0+220.00	B/S	20.00	1.200	24.00
0+240.00	B/S	20.00	1.200	24.00
0+260.00	B/S	20.00	1.200	24.00
0+280.00	B/S	20.00	1.200	24.00
0+300.00	B/S	20.00	1.200	24.00
0+320.00	B/S	20.00	1.200	24.00
0+340.00	B/S	20.00	1.200	24.00
0+360.00	B/S	12.00	1.200	14.40
0+372.00				
ALIGNMENT 2				
0+000.00	B/S	20.00	1.200	24.00
0+020.00	B/S	20.00	1.200	24.00
0+040.00	B/S	20.00	1.200	24.00
0+060.00	B/S	20.00	1.200	24.00
0+080.00	B/S	20.00	1.200	24.00
0+100.00	B/S	20.00	1.200	24.00
0+120.00	B/S	20.00	1.200	24.00
0+140.00	B/S	4.00	1.200	4.80
0+144.00				
TOTAL			619.20 cu.m	
SAY			619.20 cu.m	

(1)c1 Portland Cement Concrete Pavement (Unreinforced), 0.23 m thick (14 days)				
STA.	Location	Length (m.)	Width (m.)	Area (sq.m)
ALIGNMENT 1				
0+000.00	B/S	20.00	6.00	120.00
0+020.00	B/S	20.00	6.00	120.00
0+040.00	B/S	20.00	6.00	120.00
0+060.00	B/S	20.00	6.00	120.00
0+080.00	B/S	20.00	6.00	120.00
0+100.00	B/S	20.00	6.00	120.00
0+120.00	B/S	20.00	6.00	120.00
0+140.00	B/S	20.00	6.00	120.00
0+160.00	B/S	20.00	6.00	120.00
0+180.00	B/S	20.00	6.00	120.00
0+200.00	B/S	20.00	6.00	120.00
0+220.00	B/S	20.00	6.00	120.00
0+240.00	B/S	20.00	6.00	120.00
0+260.00	B/S	20.00	6.00	120.00
0+280.00	B/S	20.00	6.00	120.00
0+300.00	B/S	20.00	6.00	120.00
0+320.00	B/S	20.00	6.00	120.00
0+340.00	B/S	20.00	6.00	120.00
0+360.00	B/S	12.00	6.00	72.00
0+372.00				
ALIGNMENT 2				
0+000.00	B/S	20.00	6.00	120.00
0+020.00	B/S	20.00	6.00	120.00
0+040.00	B/S	20.00	6.00	120.00
0+060.00	B/S	20.00	6.00	120.00
0+080.00	B/S	20.00	6.00	120.00
0+100.00	B/S	20.00	6.00	120.00
0+120.00	B/S	20.00	6.00	120.00
0+140.00	B/S	4.00	6.00	24.00
0+144.00				
TOTAL			3,096.00 sq.m	
SAY			3,096.00 sq.m	

101 (3)b3 Removal of Actual Structures/Obstruction, 0.23 m thick, PCCP (Unreinforced)				
STA.	Location	Area (sq.m)		
0+000.00	-	0+372.00	B/S	2,232.00
0+000.00	-	0+144.00	B/S	864.00
TOTAL			3,096.00 sq.m	
SAY			3,096.00 sq.m	



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE IV-A
CAVITE 3RD DISTRICT ENGINEERING OFFICE
CARMONA CITY, CAVITE

PROJECT NAME AND LOCATION:
DETAILED ENGINEERING PLAN FOR CONVERGENCE AND SPECIAL SUPPORT PROGRAM - BASIC INFRASTRUCTURE PROGRAM (BIP) - ACCESS ROADS AND/OR BRIDGES FROM THE NATIONAL ROAD/S LEADING TO MAJOR/ STRATEGIC PUBLIC BUILDINGS/ FACILITIES - REHABILITATION OF ROAD, BARANGAY KALUBKOB, SILANG, CAVITE

SHEET CONTENTS:
SCHEDULE OF QUANTITIES

DRAFTED:
AARON JAY F. FABELLA
ENGINEERING ASSISTANT
SUBMITTED BY:
JOED MICHAEL F. BEMEGAS
ENGINEER I

REVIEWED:
ISAAC EMANUEL C. MOJICA
ENGINEER II
DATE: 9/24/24

SUBMITTED:
REIMART REGIN P. BAUTISTA
CHIEF, PLANNING AND DESIGN SECTION
DATE: 9/24/24

RECOMMENDED:
JENNIFER F. ALMANZOR
ASSISTANT DISTRICT ENGINEER
DATE: 9/26/24

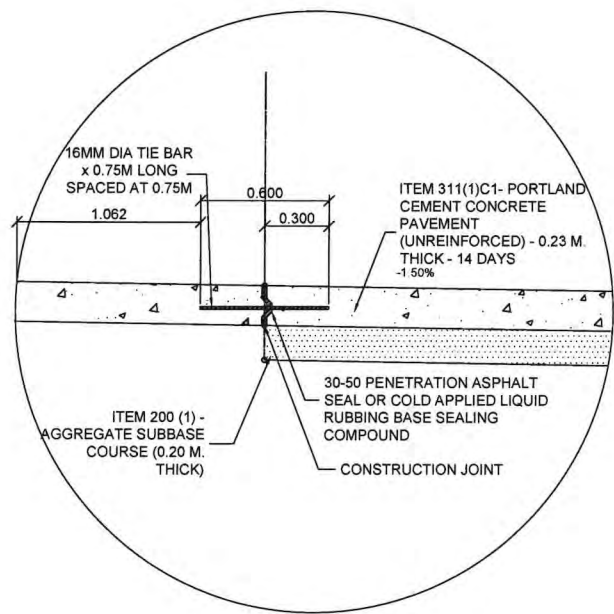
APPROVED:
DONNIE D. CUNA
DISTRICT ENGINEER
DATE: 9/30/24

SET NO. 1
SHEET NO. 9
25

TYPICAL ROADWAY SECTIONS AND DETAILS

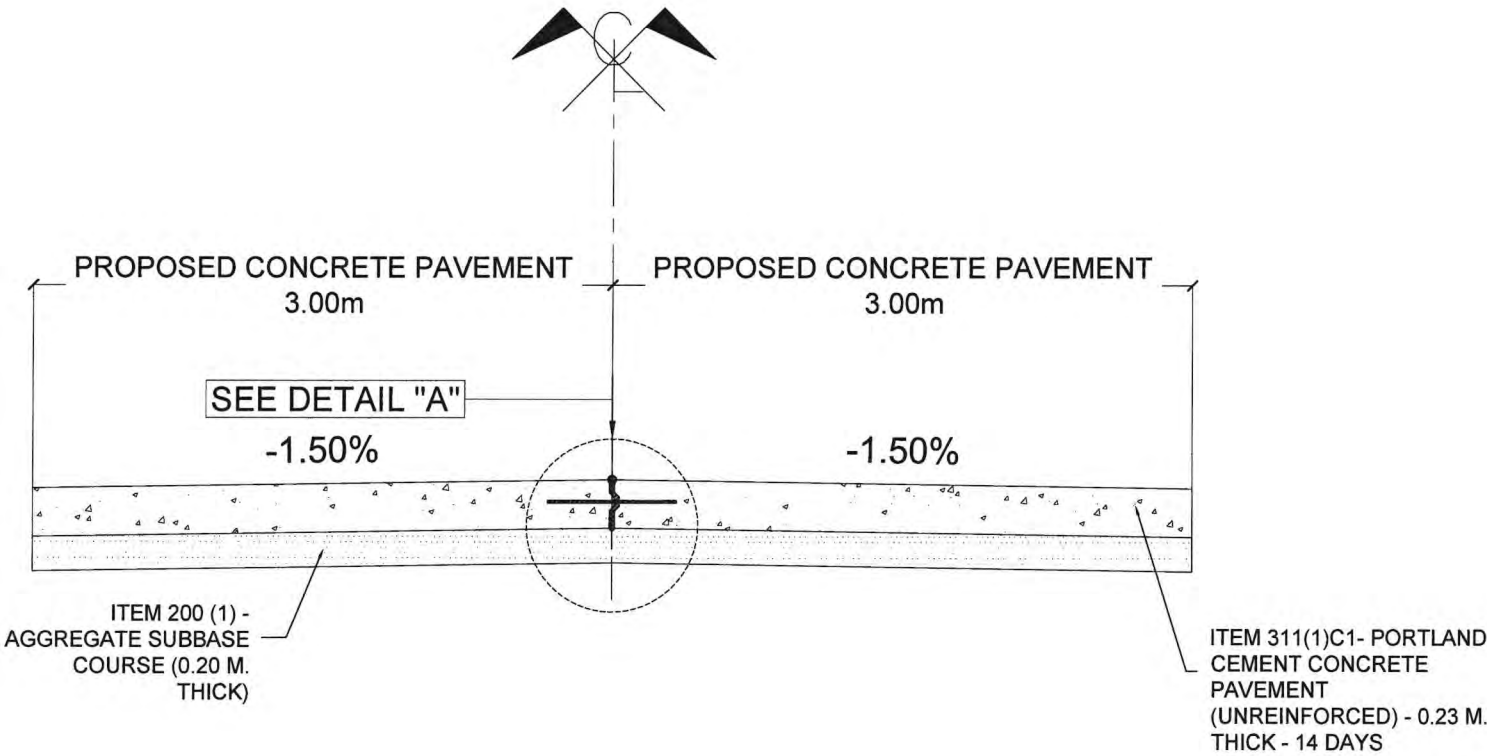
SCALE:

1:30MTS



DETAIL "A"

SCALE: NOT TO SCALE



TYPICAL SECTION SHOWING PROPOSED CONCRETE PAVEMENT

ALIGNMENT 1: STA. 0+000.00 - STA. 0+372.00

ALIGNMENT 2: STA. 0+000.00 - STA. 0+144.00

NET LENGTH = 516.00 l.m. (1.032 lane km.)

 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE IV-A CAVITE 3 RD DISTRICT ENGINEERING OFFICE CARMONA CITY, CAVITE	PROJECT NAME AND LOCATION: DETAILED ENGINEERING PLAN FOR CONVERGENCE AND SPECIAL SUPPORT PROGRAM - BASIC INFRASTRUCTURE PROGRAM (BIP) - ACCESS ROADS AND/OR BRIDGES FROM THE NATIONAL ROAD/STRATEGIC PUBLIC BUILDINGS/FACILITIES - REHABILITATION OF ROAD, BARANGAY KALUBKOB, SILANG, CAVITE	SHEET CONTENTS: TYPICAL ROADWAY SECTIONS AND DETAILS	DRAFTED: AARON JAY F. PABELLA ENGINEERING ASSISTANT	REVIEWED: ISAAC EMANUEL C. MOJICA ENGINEER II	SUBMITTED: REIMART REGIN P. BAUTISTA CHIEF, PLANNING AND DESIGN SECTION	RECOMMENDED: JENNIFER F. ALMANZOR ASSISTANT DISTRICT ENGINEER	APPROVED: DONNIE D. CUNA DISTRICT ENGINEER	SET NO. 1	SHEET NO. 10
			SUBMITTED BY: JOED MICHAEL F. BENEGAS ENGINEER I	DATE: 9/27/24	DATE: 9/27/24	DATE: 9/30/24	DATE: 9/30/24	1	25

