

LEGENDS AND SYMBOLS

1.8 EXISTING TOPOGRAPHICAL FEATURES

ROADWAY CENTERLINE		EDGE OF ROAD (PROPOSED)	
EXISTING ROAD		NORTH ARROW INDICATOR	
RIVER, CREEK		CONTOUR @ 5m	
DIRECTION OF WATER FLOW		SWAMP	
HOUSES		RICEFIELD	
COCONUT TREE		PREMIUM TREE	

1.9. DESIGN FEATURES ON PLAN

CENTERLINE		PIPE CULVERT		STONE MASONRY SLOPE PROTECTION	
BENCHMARK	BM-1	BOX CULVERT		CHEVRON	
REFERENCE POINT	RP 1	RIGHT OF WAY LINE		EDGE OF ROW LIMIT	
POINT OF TANGENCY		POINT OF INTERSECTION AND NUMBER		DIRECTION	
MATCHLINE	MATCHLINE STA. 0+000	INTERMEDIATE BENCHMARK			
INTERMEDIATE CONTROL (IBM)	IBM-1	GRID COORDINATES			

1.10 DESIGN FEATURES ON PROFILE

PIPE CULVERT		SUPERELEVATION INNER	
BOX CULVERT		SUPERELEVATION OUTER	
		FINISHED GRADE ON PROFILE	
POINT OF VERTICAL INTERSECTION STATION AND ELEVATION	PVI STA. 4+216.00 ELEV. 15.00 M LVC 100.00 M M.O. 1:8-1:20	LENGTH OF VERTICAL CURVE	
MATCHLINE	MATCHLINE STA. 0+000	FLOW ARROW	

ABBREVIATIONS

ABUTMENT
 AHEAD STATIONING
 AND
 AREA
 ASPHALT CONCRETE PAVEMENT
 AT
 AZIMUTH
 BACK STATION
 BARANGAY
 BEGINNING OF CIRCULAR CURVE
 BEARING
 BEGINNING
 BELOW MEAN SEA LEVEL
 BENCHMARK
 BORE HOLE
 BOTH HOLE
 BOTH WAYS
 BOTTOM
 BRIDGE
 SUBDIVISION OF DECREASED PROPERTY
 BY BUREAU OF LANDS LOCATION MONUMENT
 BUREAU OF LANDS AND LOCATION MONUMENT
 CENTER
 CENTERLINE
 CENTIMETER
 CONCRETE HOLLOW BLOCK
 CLEAR
 COLUMN
 CONCRETE
 CONCRETE MONUMENT
 CONSTRUCTION
 CORNER
 COVER
 CROSS PIPE
 CUBIC METER
 CYLINDRICAL
 DEGREE OF CURVE
 DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
 DETAIL
 DIAMETER
 DIAPHRAGM
 DISTANCE
 DRAWING
 EAST
 ELEVATION
 END OF CIRCULAR CURVE
 END OF PAVEMENT
 ENDING POINT
 ENGINEER
 EQUATION
 EQUALIZATION CANAL
 EXCAVATION
 EXISTING
 EXPANSION
 EXTENSION
 EXTERIOR
 EXTERNAL DISTANCE/EASTING
 FINISHED
 FINISHED GRADE
 FINISHED PAVEMENT LEVEL
 GENERAL
 GROUND LEVEL
 HEAD WALL(S)
 HIGH FLOOD LEVEL
 HIGH TIDE LEVEL
 HIGH WATER LEVEL
 HORIZONTAL
 INCHES
 INTERSECTION ANGLE
 INSIDE DIAMETER
 INTERIOR
 INTERMEDIATE BENCHMARK

ABUT
 AH STA
 &
 A
 ACP
 @
 AZM
 BK STA.
 BRGY.
 BCC
 BRG
 BEG.
 BMSL
 BM
 BET.
 BH
 BS
 BW
 BOT.
 BR.
 BSD.
 BLM
 CTR.
 ±
 CMT
 CHB
 CLR.
 COL.
 CONC.
 CONC. MON.
 CONST.
 COR.
 COV.
 CP
 cu.m/m³
 CYL.
 D
 DPWH
 DET.
 DIA./Ø
 DIAP.
 DIST.
 DRWG.
 E
 ELEV./EL
 ECC
 EOP
 EP
 ENGR.
 EQ.
 EC.
 EXCA
 EXIST./EXTG
 EXPN.
 EXTN.
 EXTR.
 F
 FIN
 FG.
 FPL
 GEN.
 GL
 HW/HWS
 HFL
 HTL
 HWL
 HOR.
 IN.
 I
 ID
 INT.
 IBM

KILOGRAM
 KILOMETER
 KILOMETER PER HOUR
 LEFT
 LENGTH OF CIRCULAR CURVE
 LENGTH OF VERTICAL CURVE
 LONGITUDINAL
 MAXIMUM
 MAXIMUM FLOOD LEVEL
 MEAN SEA LEVEL
 METER
 MILLIMETER
 MINIMUM
 MONUMENT
 NOTHING
 NOT APPLICABLE
 NUMBER
 ORDINARY WATER LEVEL
 ORIGINAL GROUND LEVEL
 OUTSIDE DIAMETER
 PAVEMENT WIDTH
 PERCENT
 PHILIPPINES
 PIECES
 PLUS/MINUS
 PUBLIC LAND SUBDIVISION
 POINT OF INTERSECTION
 POINT OF CURVATURE
 POINT OF VERTICAL CURVE
 POINT OF VERTICAL INTERSECTION
 POINT OF VERTICAL TANGENT
 POINT OF TANGENT
 PORTLAND CEMENT CONCRETE PAVEMENT
 PROJECT
 PROJECT ROAD
 PRIVATE SURVEY
 RADIUS
 REFERENCE POINT
 REINFORCED CONCRETE BOX CULVERT
 REINFORCED CONCRETE PIPE CULVERT
 RETAINING WALL
 RIGHT OF WAY
 ROAD
 SOUTH
 SIDEWALK
 SUBDIVISION OF UNDECREASED PROPERTY
 SQUARE
 SQUARE METER
 STANDARD
 STARTING POINT
 STATION
 STRAIGHT
 STREET
 STRUCTURE
 TANGENT DISTANCE
 TEMPERATURE
 TEMPORARY BENCHMARK
 VERTICAL
 WIDTH
 WITH

KG.
 km.
 KPH
 LL
 LC
 VC
 LONGIT
 MAX.
 MFL
 MSL
 m
 mm.
 MIN
 MON
 N
 NA
 NO.
 OWL
 OGL
 bc.
 PW
 %
 PHL.
 PCS.
 ±
 PLS
 PI
 PC
 PVC
 PVI
 PVT
 POT
 PCGP
 PROJ.
 PROJ. RD
 P. S
 R
 RP
 RCBC
 RCPC
 RET. WALL
 ROW
 RD
 S
 SDWK
 Csd
 SQ.
 sq.m/ m²
 STD
 SP
 STA.
 STR
 ST.
 STRUCT.
 T
 TEMP
 TBM
 VERT
 w
 w/



REPUBLIC OF THE PHILIPPINES
 DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
 REGIONAL OFFICE VIII
 SARAS PABO 18110

PROJECT NAME AND LOCATION
 SIPAG - ACCESS ROADS AND/OR BRIDGES FROM THE
 NATIONAL ROADS LEADING TO MAJOR STRATEGIC
 PUBLIC BUILDINGS/FACILITIES - CONSTRUCTION OF
 ROAD, SEGMENT 1 - PHASE 1, BARANGAY PAGLAUM
 TO BARANGAY TABANGOHAY, TACLOBAN CITY
 TACLOBAN CITY, ID

SHEET CONTENTS
 ABBREVIATIONS, LEGEND, AND SYMBOLS

PREPARED
 FRANCIS ALVIN C. NADERA
 ENGINEER
 DATE

REVIEWED
 FELIX E. BACUS
 CHIEF ENGINEER/SECTION
 DATE

SUBMITTED
 ARNOLD M. BARONDA
 CHIEF PLANNER/DESIGN SECTION
 DATE

RECOMMENDED
 MA. MARICELITA JUNIA, D.M.
 ASSISTANT REGIONAL DIRECTOR
 DATE

APPROVED
 EDGAR B. TABACON, CES IV
 REGIONAL DIRECTOR
 DATE

SET NO.
 1
 SHEET NO.
 175

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITIES		REMARKS
			AS SUBMITTED	AS EVALUATED	
PART B	OTHER GENERAL REQUIREMENTS				
B.3	Permits and Clearances	L.S.	1.000		
B.4(1)	Construction survey and staking	Km.	4.800		
B.5	Project Billboard / Signboard	Each	8.000		DPWH, COA, ECC, TREE CUTTING
B.7(2)	Occupational Safety and Health Program	L.S.	1.000		
B.8(2)	Traffic Management	L.S.	1.000		
B.9	Mobilization/Demobilization	L.S.	1.000		
B.12	Removal and Relocation of Utilities	L.S.	1.000		
B.14	Environmental Management and Monitoring	Month	12.000		
PART C	EARTHWORK				
100(1)	Clearing and Grubbing	Ha.	8.40		
100(3)a1	Individual Removal of Trees, 150 - 300 mm dia., Small	Each	85.00		
100(3)a2	Individual Removal of Trees, 301 - 500 mm.dia., Small	Each	45.00		
100(3)a3	Individual Removal of Trees, 501 - 750 mm.dia., Small	Each	10.00		
100(3)a4	Individual Removal of Trees, 751 - 900 mm.dia., Small	Each	3.00		
101(1)	Removal of Structures and Obstruction	L.S.	1.00		
102(2)	Surplus Common Excavation	Cu.m.	21,077.00		
103(1)a	Structure Excavation, Common Soil	Cu.m.	1,719.00		
103(6)a	Pipe culverts and drain excavation, Common Soil	Cu.m.	96.00		
104(1)a	Embankment from roadway/structure excavation, Common Soil	Cu.m.	47,161.00		95% COMPACTION
105(1)a	Subgrade Preparation, Common Material	Sq.m.	31,568.00		
PART D	SUBBASE AND BASE COURSE				
200(1)	Aggregate Subbase Course	Cu.m.	6,313.67		
PART E	SURFACE COURSES				
300(1)	Gravel Surface Course	Cu.m.	2,160.00		
311(1)c1	PCC Pavement (Unreinforced), 0.23m thick, 14 days	Sq.m.	17,168.35		
PART F	BRIDGE CONSTRUCTION				
404(1)a	Reinforcing Steel, Grade 40	Kg.	13.36		PIPE HEADWALLS
405(1)a2	Structural Concrete, 20.68 Mpa, Class A, 14 Days	Cu.m.	4.56		PIPE HEADWALLS
PART G	DRAINAGE AND SLOPE PROTECTION STRUCTURES				
500(1)b	Pipe Culvert, Class II, RCPC	Ln.M.	24.00		
500(3)a	Lined Canal, Rectangular, Reinforced Concrete	Ln.M.	1,145.00		
506(1)	Stone Masonry	Cu.m.	10,337.06		EMBANKMENT PROTECTION
PART H	MISCELLANEOUS STRUCTURES				
603(3)a1	Metal Guardrail (Metal Beam) Including Post, Single, W-Beam	L.M.	1,912.00		
603(4)a	Metal Beam End Piece, Fish Tail	Each	20.00		
605(1)e1	Warning Signs, 600 mm, W1-5A Horizontal Alignment Winding Road L or R	Each	2.00		
605(1)aa1	Warning Signs, 600 mm, W5-4B, Road Obstacle Signs Steep Descent	Each	4.00		
605(1)ab2	Warning Signs, 600 mm, W5-5B, Road Obstacle Signs Steep Climb	Each	4.00		
605(5)b1	Traffic Instruction Signs, 1500mm X 750 mm, S2-1 Movement Instruction Signs REDUCE SPEED	Each	1.00		
605(6)e1	Hazard Markers, 450x600mm, Chevron Sign	Each	63.00		
611(3)	Seedlings/Saplings for Other Programs/Initiatives	Each	10,800.00		
612(1)	Reflectorized Thermoplastic Pavement Markings White	Sq.m.	1,200.30		

NOTE:

1. THE CONTRACTOR SHALL CONDUCT JOINT AS-STAKED SURVEY WITH THE IMPLEMENTING OFFICE TO VALIDATE CONTRACT QUANTITIES IN COMPLIANCE WITH D.O. NO. 15, SERIES OF 2016.
2. THE QUANTITIES SHOWN ARE SUBJECT TO CHANGE IF SIGNIFICANT IMPROVEMENT HAVE OCCURRED BETWEEN THE APPROVED DETAILED ENGINEERING PLAN AND ACTUAL CONDITION OF THE PROJECT DURING THE CONDUCT OF AS-STAKED SURVEY.

 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE VIII BANGAL, PALO, LEYTE TACLOBAN CITY LD	PROJECT NAME AND LOCATION SIPAG - ACCESS ROADS AND/OR BRIDGES FROM THE NATIONAL ROADS LEADING TO MAJOR STRATEGIC PUBLIC BUILDINGS/FACILITIES - CONSTRUCTION OF ROAD, SEGMENT 1 - PHASE 1, BARANGAY PAGLAUM TO BARANGAY TABANDOHAY, TAGLOBAN CITY	SHEET CONTENTS SUMMARY OF QUANTITIES	PREPARED FRANCIS ALVIN C. NADERA ENGINEER DATE	REVIEWED FELIX R. BACOS CHIEF ENGINEERING DIVISION DATE	SUBMITTED AGNES M. BARONDA CHIEF PLANNING AND DESIGN DIVISION DATE	RECOMMENDED MA. MARGRITA C. JUNIA, D.M. ASSISTANT REGIONAL DIRECTOR DATE	APPROVED EDGAR B. TABACON, CESO IV REGIONAL DIRECTOR DATE	SET NO. A	SHEET NO. 10 175

Item no. 311(1)c1
Item Description: PCC Pavement (Unreinforced), 0.23 m thick, 14 days

Qty. Unit
17,168.35 Sq.m

Station	Distance m	Width m	Area m²
0+000.00	2,082.00	3.05	6,350.10
2+082.00		3.05	
2+082.00		6.10	
2+807.00	725.00	6.10	4,422.50
2+807.00		3.05	
4+800.00		3.05	
TOTAL:			16,851.25 sq.m
WIDENING AREA:			317.10 sq.m

TOTAL: 17,168.35 sq.m

Item no. 200(1)
Item Description: Aggregate Subbase Course

Qty. Unit
6,313.67 Cu.m

AGGREGATE (CARRIAGEWAY)				
Station	Length	Width	Thickness	Volume @ t=0.20 m
	m	m	m	m ³
0+000.00	2,082.00	3.05	0.20	1270.02
2+082.00				
2+082.00		6.10	0.20	884.50
2+807.00	725.00	6.10	0.20	
2+807.00	1,993.00	3.05	0.20	1215.73
4+800.00				
WIDENING AREA:				53.42 cu.m
SUB-TOTAL 1				3,433.67 cu.m

AGGREGATE (SHOULDER)				
Station	Length	Width	Thickness	Volume @ t=0.20 m
	m	m	m	m ³
0+000.00	2,082.00	3.00	0.20	1,249.20
2+082.00				
2+082.00		725.00	3.00	0.20
2+807.00	1,993.00			
2+807.00		3.00	0.20	1,195.80
4+800.00				
SUB-TOTAL 2				2,880.00 cu.m
TOTAL VOLUME				6,313.67 cu.m

Item no. 105(1)a
Item Description: Subgrade Preparation, Common Material

Qty. Unit
31,568.00 Sq.m

(CARRIAGEWAY)			
Station	Length m	Width m	Area m ²
0+000.00	2,082.00	3.05	6,350.10
2+082.00			
2+082.00		6.10	4,422.50
2+807.00	725.00	6.10	
2+807.00	1,993.00	3.05	6,078.65
4+800.00			
WIDENING AREA:			317.10
SUB-TOTAL 1			17,168.35 sq.m

(SHOULDER)			
Station	Length m	Width m	Area m²
0+000.00	2,082.00	3.00	6,246.00
2+082.00			
2+082.00			
2+807.00	725.00	3.00	2,175.00
2+807.00	1,993.00	3.00	5,979.00
4+800.00			
SUB-TOTAL 2			14,400.00 sq.m
TOTAL VOLUME			31,568.00 sq.m

Item no. 506(1)
Item Description: Stone Masonry

Qty. Unit
10,337.06 Cu.m

STATION LIMITS	TOTAL LENGTH	LOCATION	A.V.E. AREA	VOLUME
0+038.00	0+162.00	LEFT SIDE	3.77	467.83
0+240.00	0+580.00	LEFT SIDE	8.48	2883.96
0+760.00	0+990.00	LEFT SIDE	7.22	1661.37
1+322.00	1+460.00	LEFT SIDE	9.35	1290.47
1+560.00	1+960.00	LEFT SIDE	4.10	1638.67
2+100.00	2+280.00	LEFT SIDE	2.62	471.65
2+580.00	2+616.00	LEFT SIDE	4.01	144.48
3+140.00	3+347.00	LEFT SIDE	4.09	846.44
4+105.00	4+282.00	LEFT SIDE	3.64	643.93
4+685.00	4+765.00	LEFT SIDE	3.41	272.64
1,912.00		TOTAL VOLUME 1		10,337.06 Cu.m

STATION	STRUCTURE	VOLUME m ³
0+835.50	1 ROW - 0.91 M Ø x 12 M INSTALL RCPC, CATCH BASIN	8.11
1+630.50	1 ROW - 0.91 M Ø x 12 M INSTALL RCPC, CATCH BASIN	8.11
TOTAL VOLUME 2		16.22 Cu.m
TOTAL VOLUME		10,337.06 Cu.m

Item no. 500(3)a
Item Description: Lined Canal, Rectangular, Reinforced Concrete

Qty. Unit
1,146.00 L.M.

SCHEDULE OF LINED CANAL, RECTANGULAR, CONCRETE			
Station	Location	Length m	
0+750.00	0+835.00 RIGHT SIDE	85.00	
0+836.00	0+880.00 RIGHT SIDE	44.00	
0+910.00	1+072.00 RIGHT SIDE	162.00	
1+510.00	1+630.00 RIGHT SIDE	120.00	
1+631.00	1+831.00 RIGHT SIDE	200.00	
1+832.00	1+902.00 RIGHT SIDE	70.00	
2+955.00	3+040.00 RIGHT SIDE	85.00	
3+908.00	4+100.00 RIGHT SIDE	192.00	
4+180.00	4+368.00 RIGHT SIDE	188.00	
TOTAL LENGTH:		1,146.00	

Item no. 300(1)
Item Description: Gravel Surface Course

Qty. Unit
2,160.00 Cu.m

AGGREGATE (SHOULDER)				
Station	Length m	Width m	Thickness m	Volume @ t=0.15 m ³
0+000.00	2,082.00	3.00	0.15	936.90
2+082.00		3.00	0.15	326.25
2+807.00		3.00	0.15	898.85
4+800.00	1,993.00			
TOTAL VOLUME				2,160.00 cu.m

Item no. 603(3)a1
Item Description: Metal Guardrail (Metal Beam) Including Post, Single, W-Beam

Qty. Unit
1,952.00 L.m

STATION LIMITS	LOCATION	TOTAL LENGTH
0+038.00	0+162.00 LEFT SIDE	124.00
0+240.00	0+580.00 LEFT SIDE	340.00
0+760.00	0+990.00 LEFT SIDE	230.00
1+322.00	1+460.00 LEFT SIDE	138.00
1+560.00	1+960.00 LEFT SIDE	400.00
2+100.00	2+280.00 LEFT SIDE	180.00
2+580.00	2+616.00 LEFT SIDE	36.00
3+120.00	3+367.00 LEFT SIDE	247.00
4+105.00	4+282.00 LEFT SIDE	177.00
4+685.00	4+765.00 LEFT SIDE	80.00
TOTAL		1,952.00

Item no. 603(4)a
Item Description: Metal Beam End Piece, Fish Tail

20.00 Each

STATION LIMITS	LOCATION	No. of Pcs.
0+038.00	0+162.00 LEFT SIDE	2.00
0+240.00	0+580.00 LEFT SIDE	2.00
0+760.00	0+990.00 LEFT SIDE	2.00
1+322.00	1+460.00 LEFT SIDE	2.00
1+560.00	1+960.00 LEFT SIDE	2.00
2+100.00	2+280.00 LEFT SIDE	2.00
2+580.00	2+616.00 LEFT SIDE	2.00
3+120.00	3+367.00 LEFT SIDE	2.00
4+105.00	4+282.00 LEFT SIDE	2.00
4+685.00	4+765.00 LEFT SIDE	2.00
TOTAL		20.00

Item no. 612(1)
Item Description: ReflectORIZED Thermoplastic Pavement Markings White

Qty. Unit
1,200.30 Sq.m

STATION LIMITS	LENGTH	REMARKS
0+000.00	2,082.00	
2+082.00		LEFT/ RIGHT SIDE
2+082.00		
2+807.00	725.00	LEFT/ RIGHT SIDE
2+807.00	1993.00	
4+800.00		LEFT/ RIGHT SIDE
TOTAL		4,800.00

(BROKEN LINE) - ROAD

TOTAL LENGTH = 4,800.00 Meters
LENGTH PER STRIPES = 3 Meters
WIDTH = 0.15 Meters
AREA PER STRIPES = 0.45 SQ.M

NO. OF STRIPES = $\frac{LENGTH}{WIDTH}$
= $\frac{4800.00}{0.15}$
= 32,000

NO. OF STRIPES = 32,000 Stripes
SAY = 32,000 Stripes
NO. OF SIDES = 2
AREA = NO. OF STRIPES X AREA PER STRIPES X NO. OF SIDES
AREA = 32,000 X 0.45 X 2
AREA 1 = 28,800 SQ.M

AT EDGE LINE (SOLID LINE) - ROAD

TOTAL LENGTH = 4800.00 Meters
WIDTH = 0.10 Meters
NO. OF EDGE = 1.00

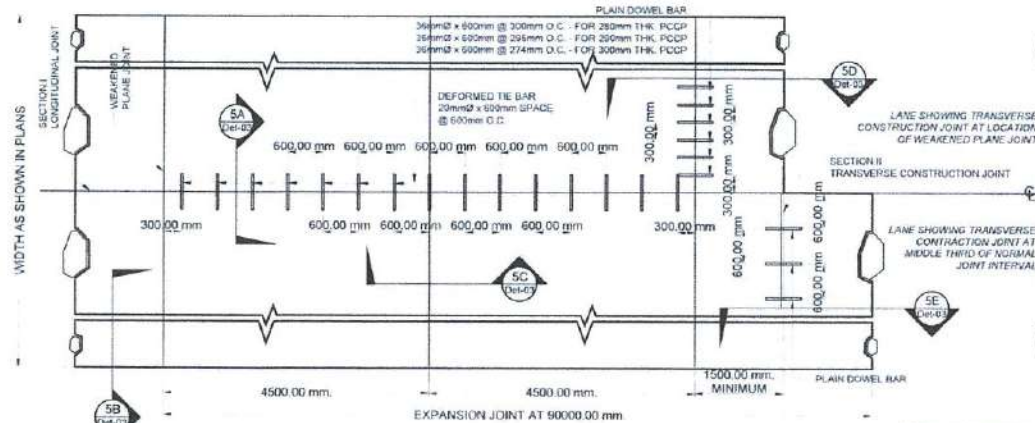
AREA = TOTAL LENGTH X WIDTH
= 4800.00 X 0.10 = 480.00 SQ.M

AREA 2 = 480.00 SQ.M

TOTAL AREA = 1,200.30 SQ.M

 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE VIII BARANGAL, PALO, LEYTE	PROJECT NAME AND LOCATION BIPAD - ACCESS ROADS AND/OR BRIDGES FROM THE NATIONAL ROADS LEADING TO MAJOR STRATEGIC PUBLIC BUILDINGS/FACILITIES - CONSTRUCTION OF ROAD, SEGMENT 1 - PHASE 1, BARANGAY PAGLAUM TO BARANGAY TABANGOHAY, TAGLOBAN CITY	SHEET CONTENTS SCHEDULE OF ITEMS	PREPARED FRANCIS ALMADA, NADERA ENGINEER	REVIEWED FELIX BACOS CHIEF HIGHWAY DESIGN SECTION	SUBMITTED AGNES M. BARONDA CHIEF PLANNING AND DESIGN DIVISION	RECOMMENDED MA. MARICRITA C. JENIA, D.M. ASST. CHIEF REGIONAL OFFICE	APPROVED EDGAR B. TABACON, CESOM REGIONAL DIRECTOR	SET NO. A	SHEET NO. 11
	DATE	DATE	DATE	DATE	DATE	DATE	DATE	11	175

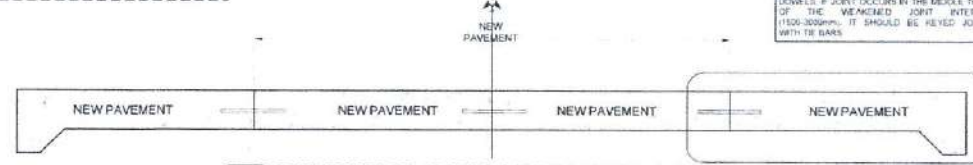
SET NO.	SHEET NO.
A 12 33	12 175



1 TYPICAL PLAN OF TWO-LANE PAVEMENT

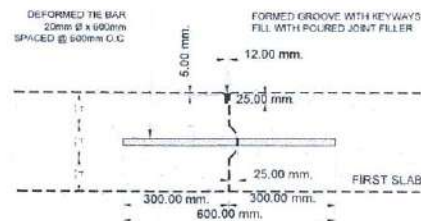
SCALE: 1:60 M.

CARRIAGE WAY = 280mm THICKNESS



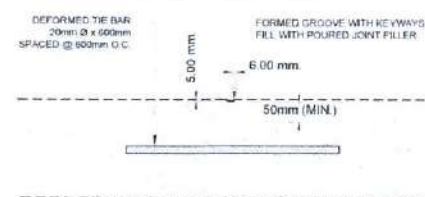
2 PAVEMENT WITH ADDITIONAL LANE

SCALE: 1:50 M.



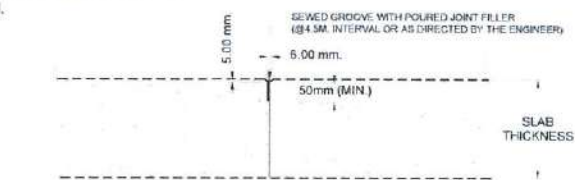
5A PCCP DETAIL - A

SCALE: 1:10 M.



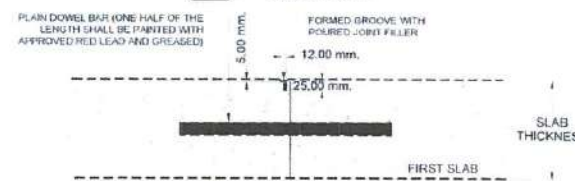
5B PCCP DETAIL - B

SCALE: 1:10 M.



5C PCCP DETAIL - C

SCALE: 1:10 M.

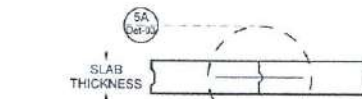


5D PCCP DETAIL - D

SCALE: 1:10 M.

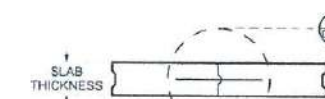
5 TYPICAL PCCP DETAILS

SCALE AS SHOWN



3A CONTACT JOINT (HALF-LANE PAVING)

SCALE: 1:30 M.

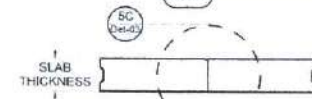


3B SAWED JOINT (TWO-LANE PAVING)

SCALE: 1:30 M.

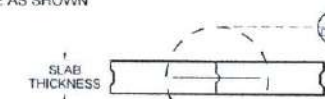
3 SECTION - I (LONGITUDINAL JOINT)

SCALE AS SHOWN



4A CONTRACTION JOINT

SCALE: 1:30 M.

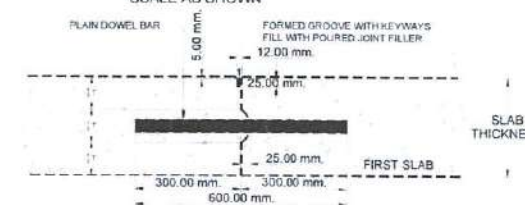


4B CONSTRUCTION JOINT

SCALE: 1:30 M.

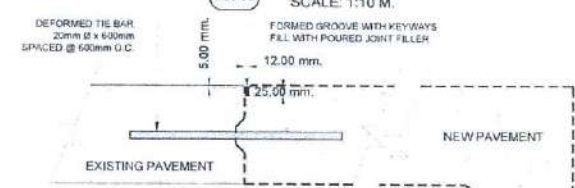
4 SECTION - II (TRANSVERSE JOINT)

SCALE AS SHOWN



5E PCCP DETAIL - E

SCALE: 1:10 M.



5F PCCP DETAIL - F

SCALE: 1:10 M.



5G PCCP DETAIL - G

SCALE: 1:10 M.



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE VIII
BARAS PAID LAYTE

PROJECT NAME AND LOCATION
SIPAG - ACCESS ROADS AND/OR BRIDGES FROM THE
NATIONAL ROADS LEADING TO MAJOR STRATEGIC
PUBLIC BUILDINGS/FACILITIES - CONSTRUCTION OF
ROAD, SEGMENT 1 - PHASE 1, BARANGAY PAGLAUM
TO BARANGAY TABANGHAY, TACLOBAN CITY
TACLOBAN CITY LG

SHEET CONTENTS
STANDARD PORTLAND CEMENT CONCRETE
PAVEMENT JOINTS (PLAIN)

PREPARED
FRANCIS ALVIN C. NADERA
ENGINEER
DATE

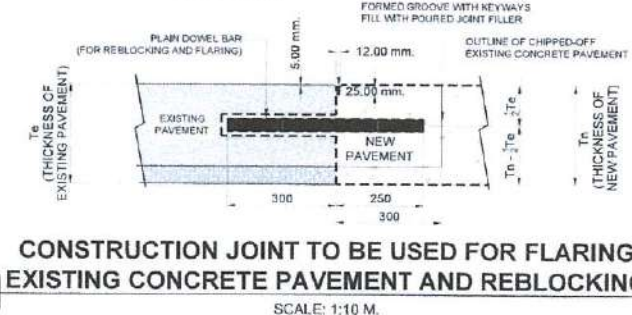
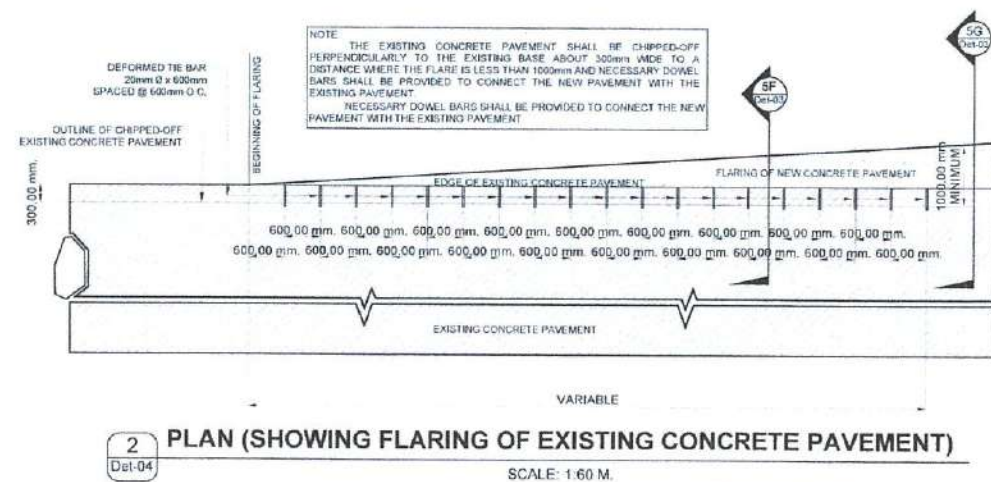
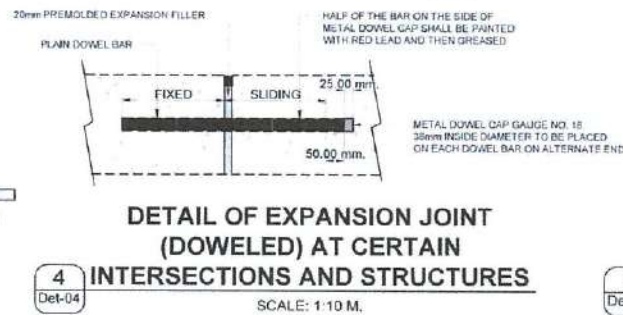
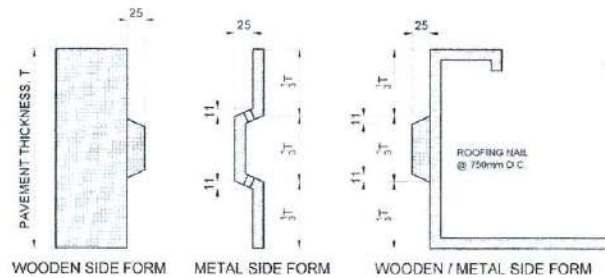
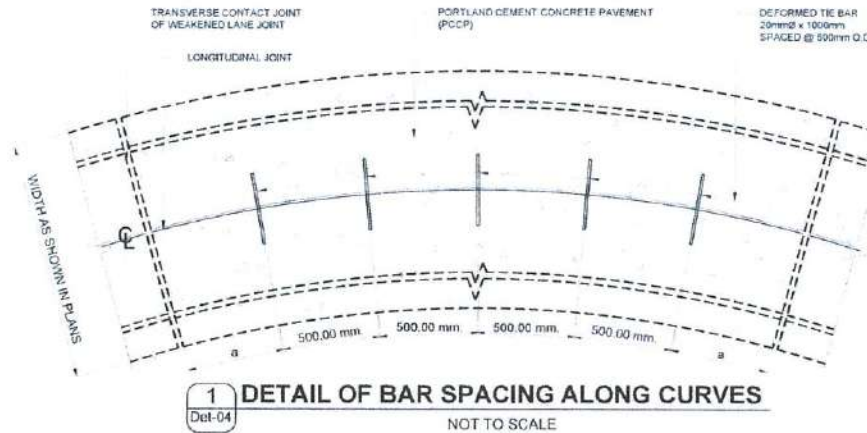
REVIEWED
FELIX R. BACOS
CHIEF HIGHWAY DESIGN ENGINEER
DATE

SUBMITTED
MA. MARGARITA A. JUNIA, D.M.
ASISTANT REGIONAL DIRECTOR
DATE

RECOMMENDED
MA. MARGARITA A. JUNIA, D.M.
ASISTANT REGIONAL DIRECTOR
DATE

APPROVED
EDGARDO TABACON, CESO IV
REGIONAL DIRECTOR
DATE

SHEET NO.
14
SHEET NO.
175



GENERAL NOTES:

- MATERIALS AND WORKMANSHIP SHALL CONFORM WITH THE "DPWH STANDARD SPECIFICATIONS FOR HIGHWAYS, BRIDGES AND AIRPORTS, 2013".
- CONSTRUCTION (CONTRACT) 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 OVERHANGS ANY PORTION OF THE FIRST SLAB.
- THE 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.
- 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 DOWELLED BUTT JOINTS AT 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 INTERSECTIONS WITH NO GAPS OR OFFSET.
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
- AVOID STOPPAGE OF FORMWORKS ALONG CURVES.
- CONSTRUCT EXPANSION JOINT AT EVERY 90 METERS AND/OR AT EVER ADJACENT EXISTING STRUCTURES.
- TRANSVERSE CONSTRUCTION (CONTACT) JOINT SHALL BE PROVIDE AT THE END OF ANY RUN WHERE LAYING OF CONCRETE HAS BEEN STOPPED FOR THIRTY (30) MINUTES OR LONGER.
- TRANSVERSE CONSTRUCTION JOINTS WHICH OCCUR AT LOCATION OF WEAKENED PLANE JOINTS WITH DOWELS. IF JOINT OCCURS IN THE MIDDLE THIRD OF THE WEAKENED JOINT INTERVAL (1500 - 3000mm) IT SHOULD BE KEYED JOINTS WITH THE BARS.

SLAB THICKNESS (mm)	DIAMETER (mm)	SPACING, S2 (mm)
230	28	300
240	30	300
250	32	300
260	32	300
270	34	300

SLAB THICKNESS (mm)	DIAMETER (mm)	SPACING, S2 (mm)
280	36	300
290	36	295
300	36	274
310	36	255
320	36	238
330	36	223
340	36	209

NOTE:
DIAMETER AND SPACING OF PLAIN DOWEL BARS MAYBE MODIFIED AS LONG AS THE EQUIVALENT STEEL AREAS IS SUSTAINED.

REFER D.O. 40, S. 2014 AND D.O. 32 S. 2016 FOR ADDITIONAL INPUTS.

SLAB THICKNESS (mm)	SPACING
230	600
240	600
250	600
260	500
270	500
280	500
290	500
300	500
310	450
320	430
330	430
340	430

Based on AASHTO Guide for the Design of Pavement Structures 1993.



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE VII
DANAO, PALO, LAYTE

PROJECT NAME AND LOCATION
SIPAG - ACCESS ROADS AND/OR BRIDGES FROM THE NATIONAL ROADS LEADING TO MAJOR STRATEGIC PUBLIC BUILDINGS/FACILITIES - CONSTRUCTION OF ROAD, SEGMENT 1 - PHASE 1, BARANGAY PAGLAUM TO BARANGAY TABANGOHAY, TACLOBAN CITY
TACLOBAN CITY, L.D.

SHEET CONTENTS
STANDARD PORTLAND CEMENT CONCRETE PAVEMENT JOINTS (PLAIN)

PREPARED
FRANCIS ALVIN C. NADERA
DATE

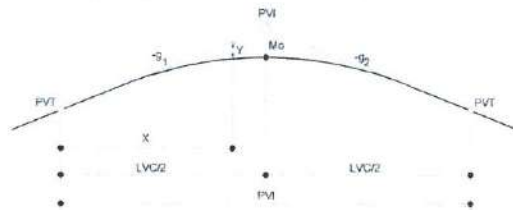
REVIEWED
FELIX R. BACOS
DATE

SUBMITTED
AGNES M. BARONDA
DATE

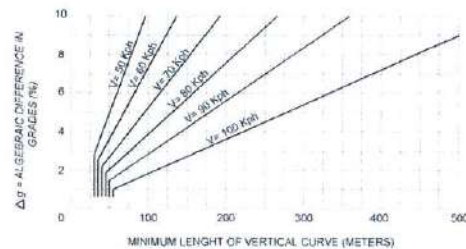
RECOMMENDED
MA. MARGARITA C. JUNIA, D.M.
DATE

APPROVED
EDGAR B. TABACON, CESO IV
DATE

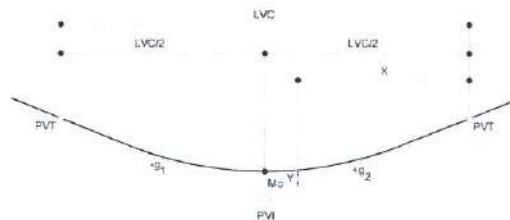
SET NO.
15/33
SHEET NO.
15



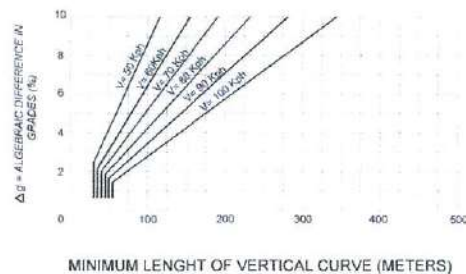
SYMMETRICAL VERTICAL PARABOLIC CURVES (CREST)



DESIGN CONTROL FOR VERTICAL CURVES (CREST)



SYMMETRICAL VERTICAL PARABOLIC CURVES (SAG)



DESIGN CONTROL FOR VERTICAL CURVES (SAG)

IN ANY VERTICAL PARABOLIC CURVE :

1. $Mo = \frac{(g_1 - g_2) (LVC)}{800}$
2. $Mo = \frac{1}{2} \left[\frac{ELEV. PVC + ELEV. PVT}{2} - ELEV. PVI \right]$
3. $Y = 4Mo$

LEGEND:

PVI - POINT OF VERTICAL INTERSECTION

PVC - POINT OF VERTICAL CURVATURE

PVT - POINT OF VERTICAL TANGENCY

LVC - LENGTH OF VERTICAL CURVES - METER

Mo - MIDDLE ORDINATE

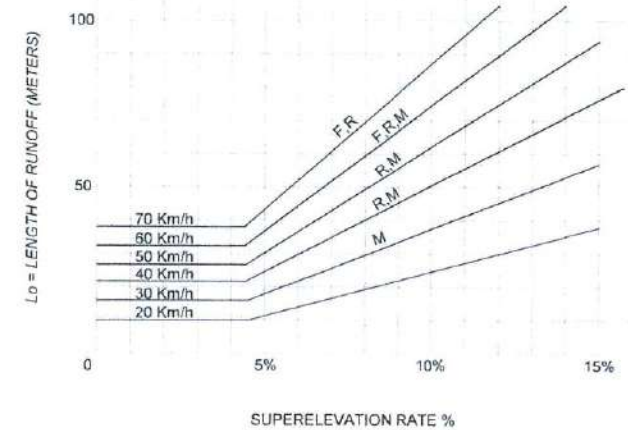
g_1, g_2 - GRADE RATES PERCENT

X - DISTANCE FROM PVC OR PVT TO ANY POINT ON CURVE - METERS

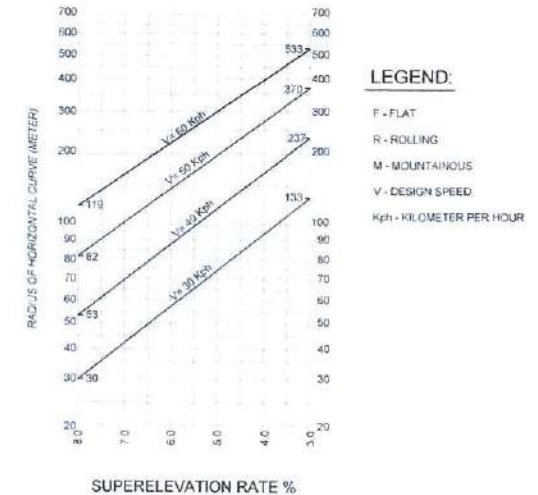
Y - VERTICAL OFFSET AT DISTANCE X - METERS

NOTES:

1. GRADES ASCENDING FORWARD ARE POSITIVE, GRADES DESCENDING FORWARD ARE NEGATIVE.
2. NO VERTICAL CURVE IS REQUIRED WHEN THE ALGEBRAIC DIFFERENCE IN GRADE IS 0.5% OR LESS.



SUPERELEVATION RUNOFF CHART



LEGEND:

F - FLAT

R - ROLLING

M - MOUNTAINOUS

V - DESIGN SPEED

Kph - KILOMETER PER HOUR

DESIGN SUPERELEVATION RATES



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE VIII
BARANG RALD LEVTE

PROJECT NAME AND LOCATION
SPAG - ACCESS ROADS AND/OR BRIDGES FROM THE
NATIONAL ROADS LEADING TO MAJOR STRATEGIC
PUBLIC BUILDINGS/FACILITIES - CONSTRUCTION OF
ROAD, SEGMENT 1 - PHASE 1, BARANGAY PAGLAUM
TO BARANGAY TABANGOHAY, TAGLOBAN CITY
TAGLOBAN CITY LGU

SHEET CONTENTS
GEOMETRIC DESIGN STANDARD
FOR VERTICAL (PARABOLIC CURVE)
AND SUPERELEVATION CHART

PREPARED BY
FRANCIS ALVIN C. NADERA
ENGINEER II
DATE

REVIEWED BY
FELIX R. BACUS
CHIEF HIGHWAY DESIGN SECTION
DATE

SUBMITTED BY
JOSEPH M. BARRONDA
CHIEF PLANNING AND DESIGN DIVISION
DATE

RECOMMENDED BY
MA. MAHARITA C. DIA, D.M.
ASSISTANT REGIONAL DIRECTOR
DATE

APPROVED BY
EDGAR B. TARACON, CESO IV
REGIONAL DIRECTOR
DATE

SHEET NO.
A
133
SHEET NO.
16
175