

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE No. IV-A
BATANGAS 2ND DISTRICT ENGINEERING OFFICE
KUMINTANG ILAYA, BATANGAS CITY

C.Y. 2025 PROJECT
DETAILED ENGINEERING DESIGN PLAN FOR
**CARRIAGEWAY MAINTENANCE - PAVEMENT MAINTENANCE -
SELECTIVE REPLACEMENT OF CONCRETE PAVEMENT ALONG
BATANGAS-QUEZON ROAD WITHIN K0134+(-654) - K0134+898**
BATANGAS CITY, BATANGAS
BATANGAS-QUEZON ROAD
K0134+(-654) - K0134+898
NET LENGTH = 76.50 l.m.

SUBMITTED:

RONALDO C. FRAGO

CHIEF, MAINTENANCE SECTION

DATE:

RECOMMENDED:

ARIEL V. ARMEDILLA

ASSISTANT DISTRICT ENGINEER

DATE:

APPROVED:

SONIA D. PAGLICAUAN

DISTRICT ENGINEER

DATE:

INDEX OF DRAWINGS

A. GENERAL

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TYPICAL ROADWAY SECTION

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GENERAL NOTES

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 SECTIONS, AND STANDARD DRAWINGS ARE IN MILLIMETERS UNLESS OTHERWISE
INDICATED ON THE DRAWINGS

3.0 ELEVATIONS AND GRADES :

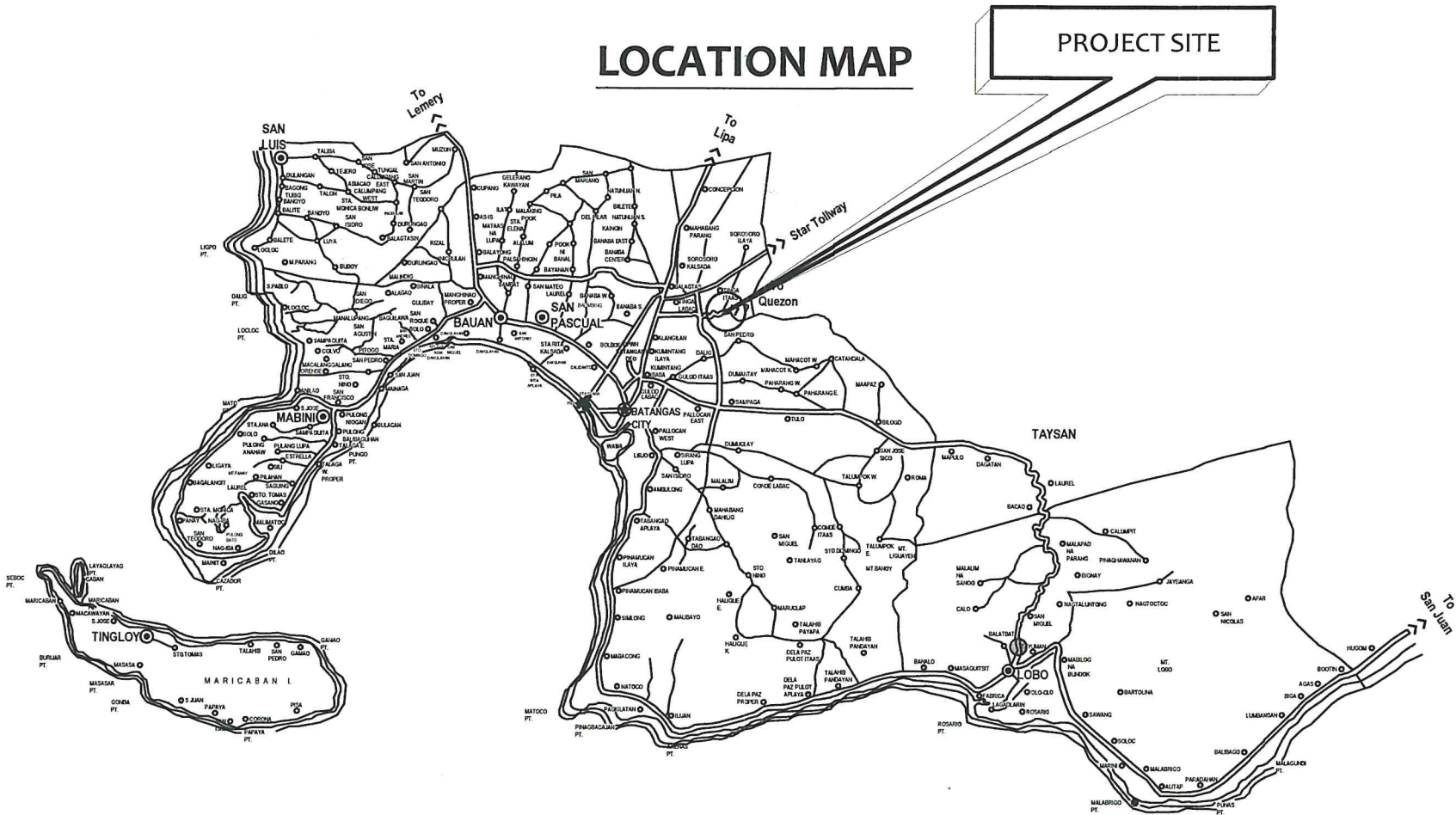
3.1 FINISHED GRADE ELEVATIONS ARE RELATIVE TO THE EXISTING GRADE LINE

4.0 ROAD CONNECTIONS AND PRIVATE ENTRANCES :

4.1 APPROACHES AND CONNECTIONS SHALL BE CONSTRUCTED BY THE CONTRACTOR AS SHOWN ON THE PLAN OR AS DIRECTED BY THE
ENGINEER IN SUCH MANNER AS TO ENSURE SMOOTH CONNECTIONS AND RIDING QUALITY.
4.2 NO OPENING FOR DRIVEWAYS OR PRIVATE ENTRANCES SHALL BE ALLOWED SPECIALLY ALONG CRITICAL SECTIONS EXCEPT WITH
PRIOR APPROVAL OF THE PROPER AUTHORITIES

5.0 STANDARD DRAWINGS:

5.1 THE NECESSARY DRAWINGS CONTAINED IN THE DPWH STANDARD DRAWINGS FOR ROADS AND BRIDGES SHALL BE UTILIZED FOR
THIS PROJECT, UNLESS OTHERWISE A MORE DETAILED DRAWINGS IS SPECIFIED AND/OR PROVIDED AND APPROVED.



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PROJECT NAME AND LOCATION:

CARRIAGEWAY MAINTENANCE - PAVEMENT
MAINTENANCE - SELECTIVE REPLACEMENT OF
CONCRETE PAVEMENT ALONG BATANGAS-QUEZON
ROAD WITHIN K0134+(-654) - K0134+898
BATANGAS CITY, BATANGAS

SHEET CONTENT:

INDEX OF DRAWINGS
GENERAL NOTES
LOCATION PLAN

DRAFTED:
MAVERICK D. OLAYA
ADMINISTRATIVE ASSISTANT II (CAD OPERATOR) J.O.
PREPARED:
ANTHONY LAURENCE P. DY
ENGINEER II

REVIEWED :
REINALD KEVIN L. JOBOG
ENGINEER II
DATE:

SUBMITTED :
RONALDO C. FRAGO
CHIEF, MAINTENANCE SECTION
DATE:

RECOMMENDED:
ARIEL V. ARMEDILLA
ASSISTANT DISTRICT ENGINEER
DATE:

APPROVED:
SONIA D. PAGLICAUAN
DISTRICT ENGINEER
DATE:

SET NO.

G-2
2 4

SHEET NO.

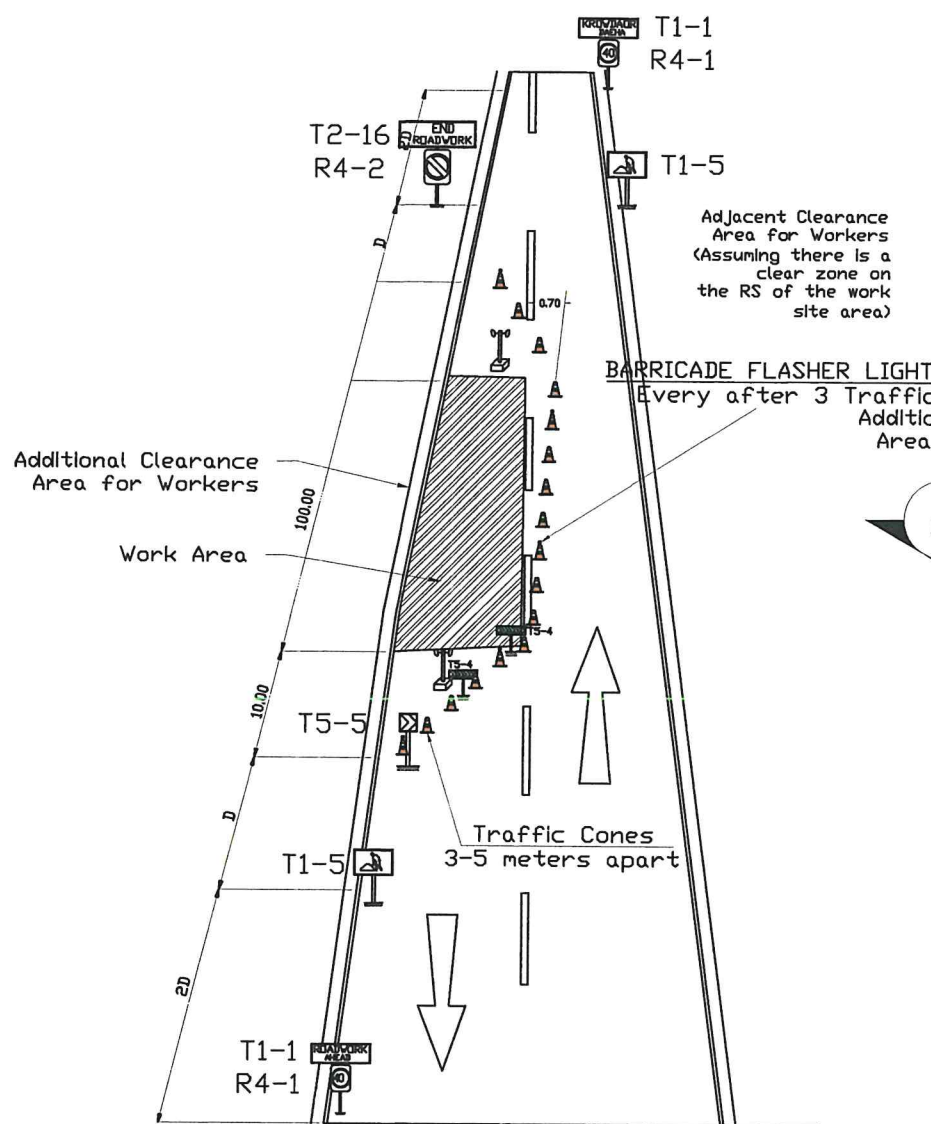
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SUMMARY OF QUANTITIES

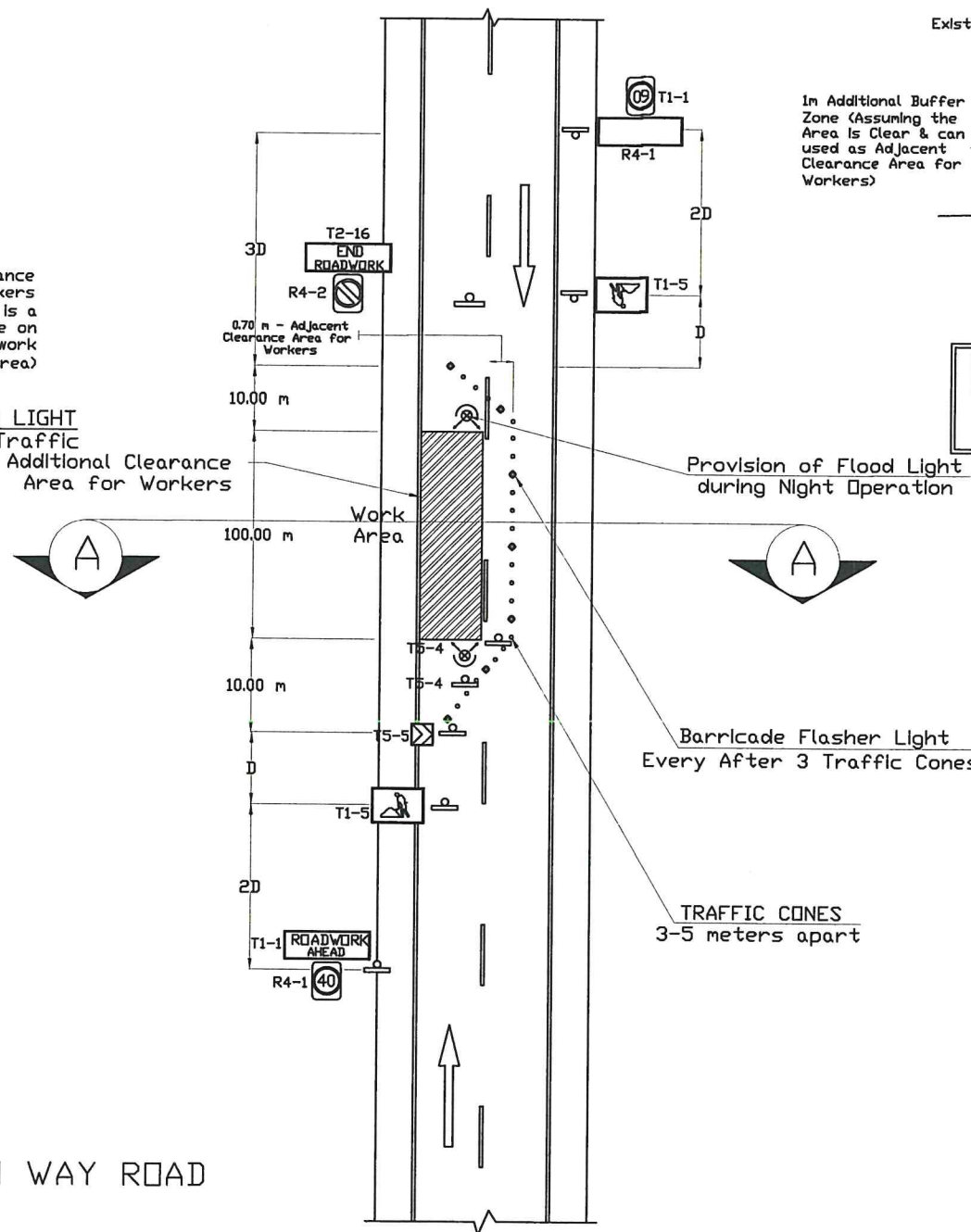
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
PART A	OTHER GENERAL REQUIREMENT		
B.7 (2)	Occupational Safety and Health	1.00	Lump Sum
B.8 (1)	Traffic Management	1.50	Month
B.9	Mobilization / Demobilization	1.00	Lump Sum
	TOTAL OF PART A		
PART B	EARTHWORKS		
101(3)b3	Removal of Actual Structures/Obstruction, 0.23 m thick, PCCP (Unreinforced)	260.00	sq. m.
102(2)	Surplus Common Excavation	96.00	cu.m.
105(1)b	Subgrade Preparation (Existing Pavement)	260.00	sq.m.
	TOTAL OF PART B		
PART C	SUBBASE COURSE		
200(1)	Aggregate Subbase Course	78.00	cu.m.
207 (1) a	Portland Cement Treated Plant Mix Course, New Soil Aggregate	78.00	cu.m.
	TOTAL OF PART C		
PART D	SURFACE COURSES		
311(2)f2	Portland Cement Concrete Pavement (Reinforced), 0.30 m thick, 7 days	260.00	sq.m.
	TOTAL OF PART D		

DIMENSION "D"

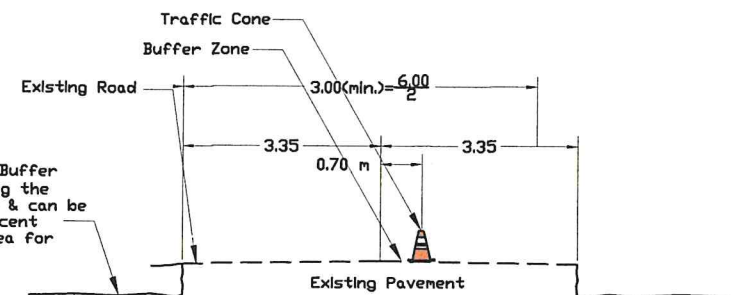
A distance expressed in meters equal to the approach speed of traffic in kilometers per hour



PART LANE CLOSURE OF TWO LANE & TWO WAY ROAD
LOW SPEED, SHORT TERM



PLAN



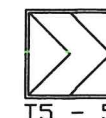
SECTION A-A



T1 - 1



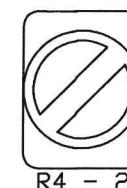
T1 - 5



T5 - 5



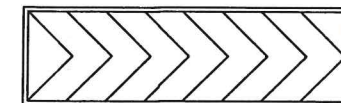
R4 - 1



R4 - 2



T2 - 16



T5-4

Sign No.	Size	Letter	Background
T1-1	1800 x 600	Line 1 - Black 200 DM Line 2 - Black 160 DM	Yellow Reflectorized

WORKMEN AHEAD

Sign No.	Size	Letter	Background
T1-5	900 x 600	Black	Red / Orange -Flourescent for day use -Reflectorized for night use

TEMPORARY HAZARD MARKERS

Sign No.	Size	Letter	Background
T5-5	600 x 600	Black 194 wide at 45°	Yellow Reflectorized

SPEED RESTRICTIONS

Sign No.	Size	Letter	Background
R4-1	600 x 800 (size B)	Black 240 DN Circle -600 dia. Red	White- Refelctorized Red Circle- Reflectorized

DE-RESTRICTION

Sign No.	Size	Letter	Background
R4-2	600 x 800 (size B)	Symbol - 600 dia. Black	White Reflectorized

Sign No.	Size	Letter	Background
T2-16	1800 x 600	Line 1 - Black 200 DM Line 2 - Black 160 DM	Yellow Reflectorized

Sign No.	Size	Letter	Background
T5-4	1500 x 450	Black 177 wide at 45°	Yellow Reflectorized

ROADWORKS SIGN

COMPONENTS OF TRAFFIC MANAGEMENT PLAN PART LANE CLOSURE - TWO LANE & TWO WAY ROAD LOW SPEED, SHORT TERM



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PROJECT NAME AND LOCATION:

CARRIAGEWAY MAINTENANCE - PAVEMENT
MAINTENANCE - SELECTIVE REPLACEMENT OF
CONCRETE PAVEMENT ALONG BATANGAS-QUEZON
ROAD WITHIN K0134+(-654) - K0134+898
BATANGAS CITY, BATANGAS

SHEET CONTENT:

TRAFFIC MANAGEMENT PLAN

DRAFTED:

MAVERICK D. OLAYA
ADMINISTRATIVE ASSISTANT II (CAD OPERATOR) J.O.

PREPARED:

ANTHONY LAURENCE P. DY
ENGINEER II

REVIEWED:

REINALD KEVIN L. JOBOG
ENGINEER II

DATE:

SUBMITTED:

RONALDO C. FRAGO
CHIEF, MAINTENANCE SECTION

DATE:

RECOMMENDED:

ARIEL V. ARMEDILLA
ASSISTANT DISTRICT ENGINEER

DATE:

APPROVED:

SONIA D. PAGLICAUAN
DISTRICT ENGINEER

DATE:

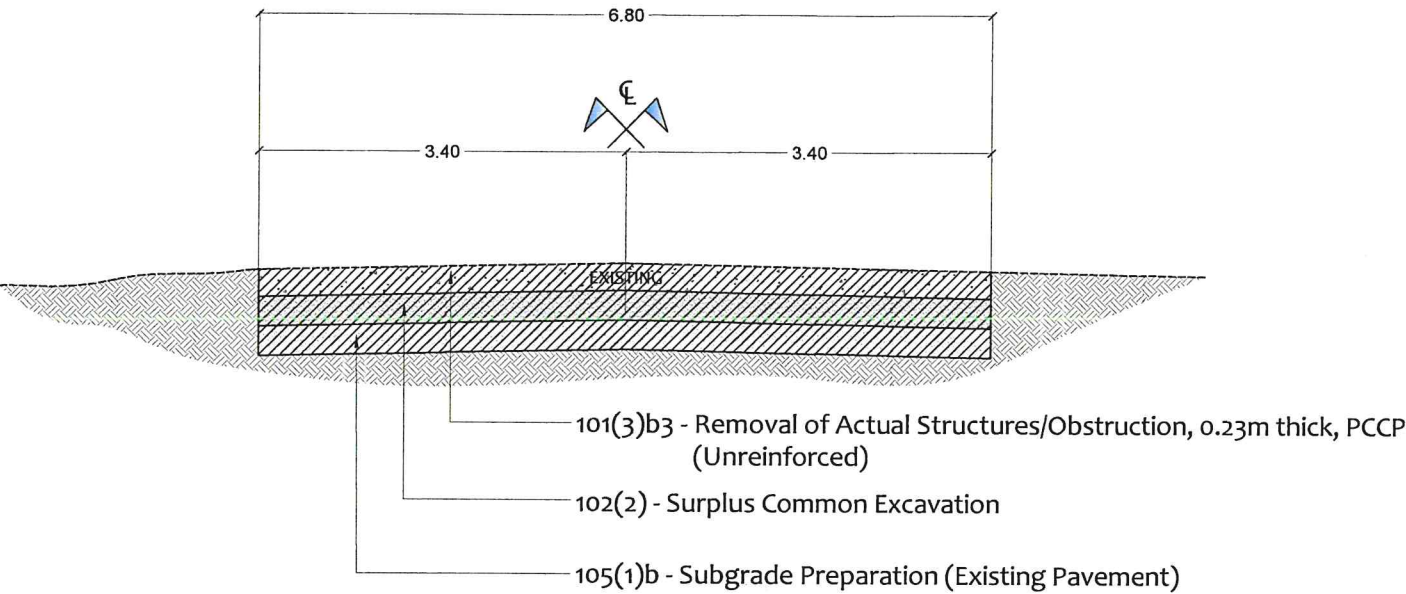
SET NO.

G-4
4 4

SHEET NO.

4
8

BATANGAS - QUEZON ROAD



EXISTING ROADWAY SECTION
SC. NTS.


Item 105 - SUBGRADE PREPARATION

This Item shall consist of the preparation of the subgrade for the support of overlying structural layers. It shall extend to full width of the roadway. Unless authorized by the Engineer, subgrade preparation shall not be done unless the Contractor is able to start immediately the construction of the pavement structure.

ITEM 102 - EXCAVATION

Roadway excavation will include excavation and grading for roadways, parking areas, intersections, approaches, slope rounding, benching, waterways and ditches; removal of unsuitable material from the roadbed and beneath embankment areas; and excavating selected material found in the roadway as ordered by the Engineer for specific use in the improvement. Roadway excavation will be classified as "unclassified excavation", "rock excavation", "common excavation", or "muck excavation" as indicated in the Bill of Quantities and hereinafter described.

Common Excavation. Common excavations shall consist of all excavation not included in the Bill of Quantities under "rock excavation" or other pay items.

 <div>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE No. IV-A BATANGAS 2ND DISTRICT ENGINEERING OFFICE KUMINTANG ILAYA, BATANGAS CITY</div>	PROJECT NAME AND LOCATION:	SHEET CONTENT:	DRAFTED:	REVIEWED:	SUBMITTED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
	CARRIAGEWAY MAINTENANCE - PAVEMENT MAINTENANCE - SELECTIVE REPLACEMENT OF CONCRETE PAVEMENT ALONG BATANGAS-QUEZON ROAD WITHIN K0134+(-654) - K0134+898 BATANGAS CITY, BATANGAS	EXISTING ROADWAY SECTION	MAVERICK D. OLAYA ADMINISTRATIVE ASSISTANT II (CAD OPERATOR) J.O.	REINALDO KEVIN L. JOBOG ENGINEER II	RONALDO C. FRAGO CHIEF, MAINTENANCE SECTION	ARIEL V. ARMEDILLA ASSISTANT DISTRICT ENGINEER	SONIA D. PAGLICAUAN DISTRICT ENGINEER	R-1 1 4	5 8
			PREPARED:	DATE:	DATE:	DATE:	DATE:		
			ANTHONY LAURENCE P. DY ENGINEER II						


101(3)b3 Removal of Actual Structures/ Obstruction, 0.23m thick, PCCP (unreinforced)					
STATION		LENGTH	WIDTH	NO. OF BLOCKS	AREA
START	END				
Sta. 134 + (-127.00)	Sta. 134 + (-118.00)	9.00	3.4	2	30.6
Sta. 134 + (-164.50)	Sta. 134 + (-151.00)	13.50	3.4	3	45.9
Sta. 134 + (-178.50)	Sta. 134 + (-165.00)	13.50	3.4	3	45.9
Sta. 134 + (-202.50)	Sta. 134 + (-189.00)	13.50	3.4	3	45.9
Sta. 134 + (-347.00)	Sta. 134 + (-320.00)	27.00	3.4	6	91.8
		76.50		17.00	260.10

200(1) Aggregate Subbase Course						
STATION	STATION	LENGTH	WIDTH	NO. OF BLOCKS	THICKNESS	TOTAL
Sta. 134 + (-127.00)	Sta. 134 + (-118.00)	9	3.4	2	0.30	9.18
Sta. 134 + (-164.50)	Sta. 134 + (-151.00)	13.5	3.4	3	0.30	13.77
Sta. 134 + (-178.50)	Sta. 134 + (-165.00)	13.5	3.4	3	0.30	13.77
Sta. 134 + (-202.50)	Sta. 134 + (-189.00)	13.5	3.4	3	0.30	13.77
Sta. 134 + (-347.00)	Sta. 134 + (-320.00)	27	3.4	6	0.30	27.54
		76.50		17.00		78.03

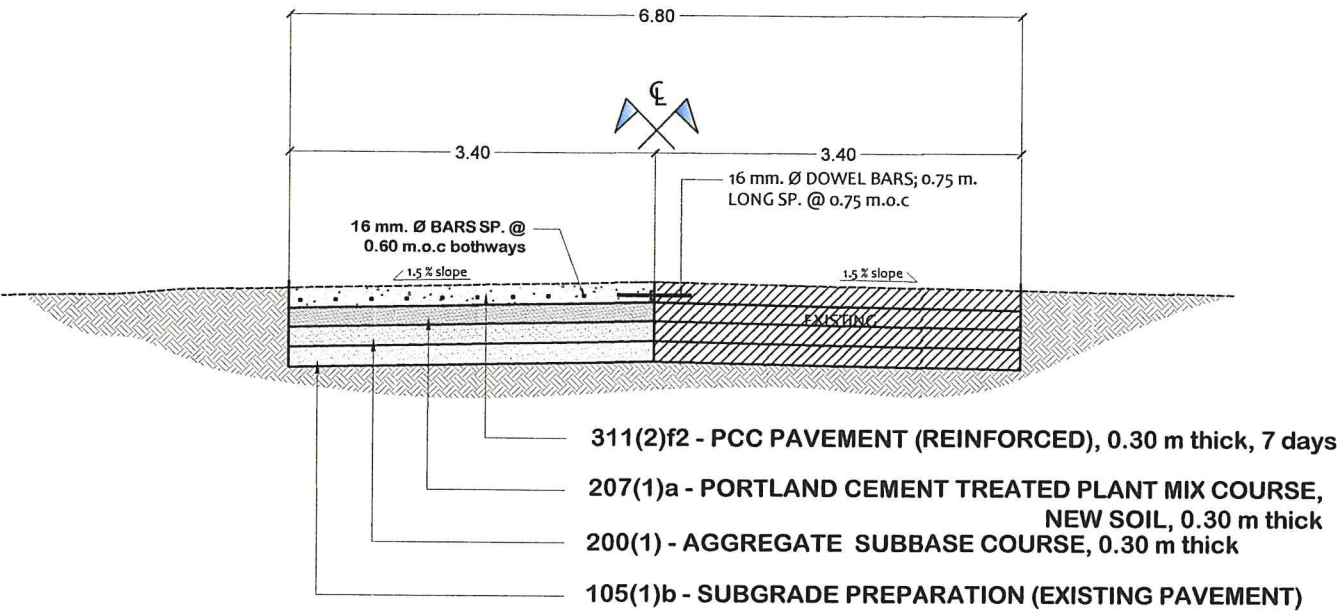
102(2) Surplus Common Excavation						
STATION	STATION	LENGTH	WIDTH	NO. OF BLOCKS	THICKNESS	TOTAL
Sta. 134 + (-127.00)	Sta. 134 + (-118.00)	9.00	3.40	2.00	0.37	11.322
Sta. 134 + (-164.50)	Sta. 134 + (-151.00)	13.50	3.40	3.00	0.37	16.983
Sta. 134 + (-178.50)	Sta. 134 + (-165.00)	13.50	3.40	3.00	0.37	16.983
Sta. 134 + (-202.50)	Sta. 134 + (-189.00)	13.50	3.40	3.00	0.37	16.983
Sta. 134 + (-347.00)	Sta. 134 + (-320.00)	27.00	3.40	6.00	0.37	33.966
		76.50		17.00		96.24

207 (1) a Portland Cement Treated Plant Mix Course, New Soil Aggregate						
STATION	STATION	LENGTH	WIDTH	NO. OF BLOCKS	THICKNESS	TOTAL
Sta. 134 + (-127.00)	Sta. 134 + (-118.00)	9	3.4	2	0.30	9.18
Sta. 134 + (-164.50)	Sta. 134 + (-151.00)	13.5	3.4	3	0.30	13.77
Sta. 134 + (-178.50)	Sta. 134 + (-165.00)	13.5	3.4	3	0.30	13.77
Sta. 134 + (-202.50)	Sta. 134 + (-189.00)	13.5	3.4	3	0.30	13.77
Sta. 134 + (-347.00)	Sta. 134 + (-320.00)	27	3.4	6	0.30	27.54
		76.50		17.00		78.03

105(1)a Subgrade Preparation, Common Material					
STATION	STATION	LENGTH	WIDTH	NO. OF BLOCKS	AREA
Sta. 134 + (-127.00)	Sta. 134 + (-118.00)	9	3.4	2	30.6
Sta. 134 + (-164.50)	Sta. 134 + (-151.00)	13.5	3.4	3	45.9
Sta. 134 + (-178.50)	Sta. 134 + (-165.00)	13.5	3.4	3	45.9
Sta. 134 + (-202.50)	Sta. 134 + (-189.00)	13.5	3.4	3	45.9
Sta. 134 + (-347.00)	Sta. 134 + (-320.00)	27	3.4	6	91.8
		76.50		17.00	260.1

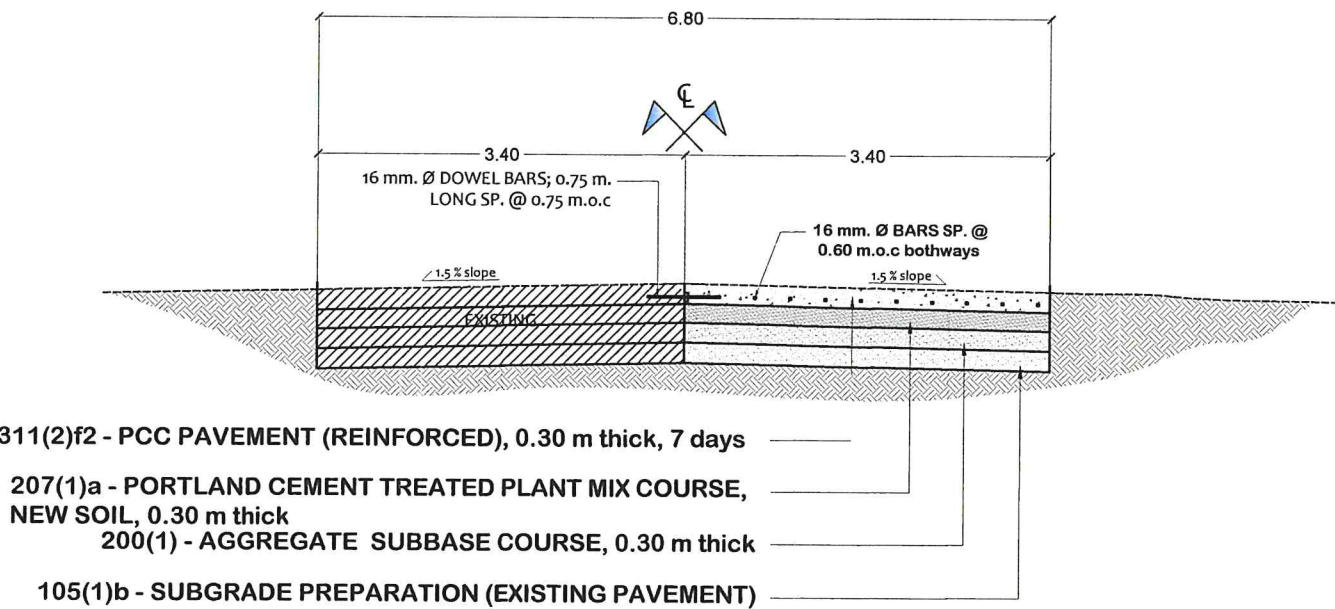
 <p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE No. IV-A BATANGAS 2ND DISTRICT ENGINEERING OFFICE KUMINTANG ILAYA, BATANGAS CITY</p>	PROJECT NAME AND LOCATION:	SHEET CONTENT:	DRAFTED:	REVIEWED:	SUBMITTED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
	<p>CARRIAGEWAY MAINTENANCE - PAVEMENT MAINTENANCE - SELECTIVE REPLACEMENT OF CONCRETE PAVEMENT ALONG BATANGAS-QUEZON ROAD WITHIN K0134+(-654) - K0134+898 BATANGAS CITY, BATANGAS</p>	SCHEDULE OF ITEMS	<p>MAVERICK D. OLAYA ADMINISTRATIVE ASSISTANT II (CAD OPERATOR) J.O.</p> <p>PREPARED:</p> <p>ANTHONY LAURENCE P. DY ENGINEER II</p>	<p>REINALDO KEVIN L. JOBOG ENGINEER II</p> <p>DATE:</p>	<p>RONALDO C. FRAGO CHIEF, MAINTENANCE SECTION</p> <p>DATE:</p>	<p>ARIEL V. ARMEDILLA ASSISTANT DISTRICT ENGINEER</p> <p>DATE:</p>	<p>SONIA D. PAGLICAUAN DISTRICT ENGINEER</p> <p>DATE:</p>	<p>R-2</p> <p>2 4</p>	<p>6</p> <p>8</p>

BATANGAS - QUEZON ROAD



(SEE TABLE OF REBLOCKING / STRAIGHT LINE DIAGRAM FOR STATIONING)

REBLOCKING AT ONE LANE (LL) LEFT LANE



(SEE TABLE OF REBLOCKING / STRAIGHT LINE DIAGRAM FOR STATIONING)

REBLOCKING AT ONE LANE (RL) RIGHT LANE



ITEM 200 - AGGREGATE SUB BASE COURSE

This item shall consist of furnishing, placing and compacting an aggregate subbase course on a prepared subgrade in accordance with this Specification and the lines, grades and cross-sections shown on the Plans, or as directed by the Engineer.

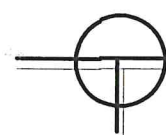
Aggregate for subbase shall consist of hard, durable particles or fragments of crushed stone, crushed slag, or crushed or natural gravel and filler of natural or crushed sand or other finely divided mineral matter. The composite material shall be free from vegetable matter and lumps or balls of clay, and shall be of such nature that it can be compacted readily to form a firm, stable subbase.

311(2)f2 Portland Cement Concrete Pavement (Reinforced), 0.30 m thick, 7 days						
STATION	STATION	LENGTH	WIDTH	NO. OF BLOCKS	AREA	REMARKS
Sta. 134 + (-127.00)	Sta. 134 + (-118.00)	9	3.4	2	30.6	LL
Sta. 134 + (-164.50)	Sta. 134 + (-151.00)	13.5	3.4	3	45.9	LL
Sta. 134 + (-178.50)	Sta. 134 + (-165.00)	13.5	3.4	3	45.9	RL
Sta. 134 + (-202.50)	Sta. 134 + (-189.00)	13.5	3.4	3	45.9	RL
Sta. 134 + (-347.00)	Sta. 134 + (-320.00)	27	3.4	6	91.8	LL
		76.50		17	260.1	

ITEM 311 - PORTLAND CEMENT CONCRETE PAVEMENT

This Item shall consist of pavement of Portland Cement Concrete, with or without reinforcement, constructed on the prepared base in accordance with this Specification and in conformity with lines, grades, thickness and typical cross-section shown on the Plans.

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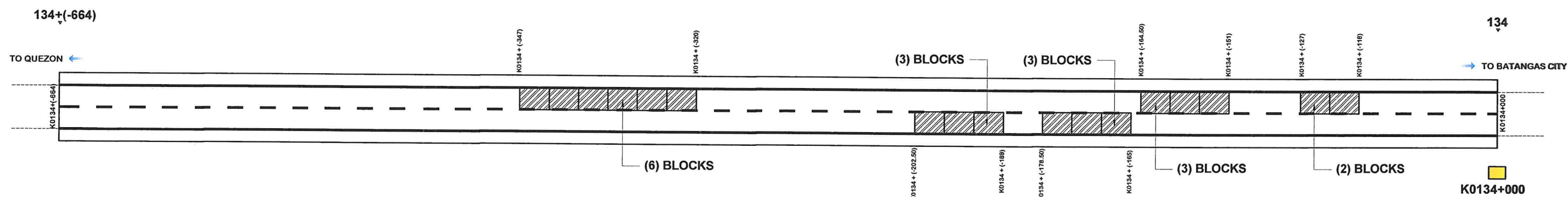
STRAIGHT LINE DIAGRAM

BATANGAS - QUEZON ROAD

LEGEND :

- NATIONAL ROAD
- SHOULDER
- KILOMETER POST
- REBLOCKING AREA

311(2)f2		Portland Cement Concrete Pavement (Reinforced), 0.30 m thick, 7 days				
STATION	STATION	LENGTH	WIDTH	NO. OF BLOCKS	AREA	REMARKS
Sta. 134 + (-127.00)	Sta. 134 + (-118.00)	9	3.4	2	30.6	LL
Sta. 134 + (-164.50)	Sta. 134 + (-151.00)	13.5	3.4	3	45.9	LL
Sta. 134 + (-178.50)	Sta. 134 + (-165.00)	13.5	3.4	3	45.9	RL
Sta. 134 + (-202.50)	Sta. 134 + (-189.00)	13.5	3.4	3	45.9	RL
Sta. 134 + (-347.00)	Sta. 134 + (-320.00)	27	3.4	6	91.8	LL
		76.50		17	260.1	



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ROAD WITHIN K0134+(-664) - K0134+898
BATANGAS CITY, BATANGAS

SHEET CONTENT:

STRAIGHT LINE DIAGRAM

DRAFTED:

MAVERICK D. OLAYA
ADMINISTRATIVE ASSISTANT II (CAD OPERATOR) J.O.

PREPARED:

ANTHONY LAURENCE P. DY
ENGINEER II

REVIEWED:

REINALD KEVIN L. JOBOG
ENGINEER II

DATE:

SUBMITTED:

RONALDO C. FRAGO
CHIEF, MAINTENANCE SECTION

DATE:

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ARIEL V. ARMEDILLA
ASSISTANT DISTRICT ENGINEER

DATE:

APPROVED:

SONIA D. PAGLICAUAN
DISTRICT ENGINEER

DATE:

SET NO.

R-4
4 4

SHEET NO.

8
8