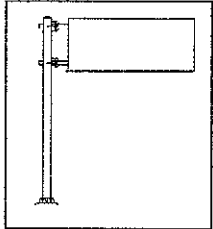
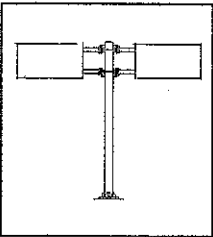
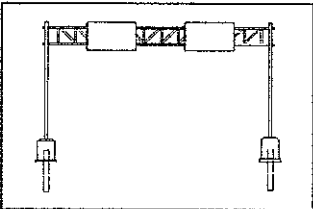
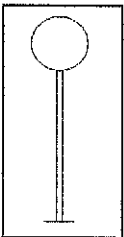
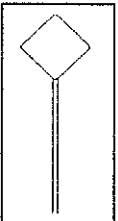
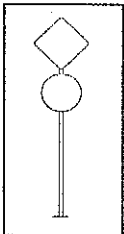
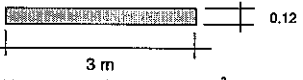
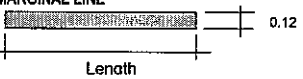

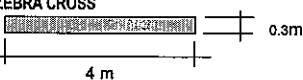






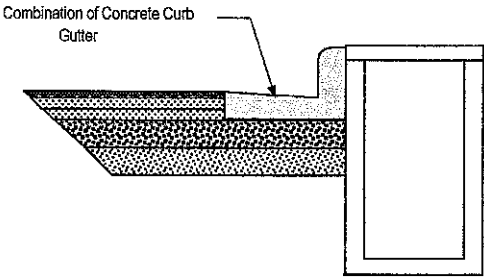
DIVISION 8.
Miscellaneous

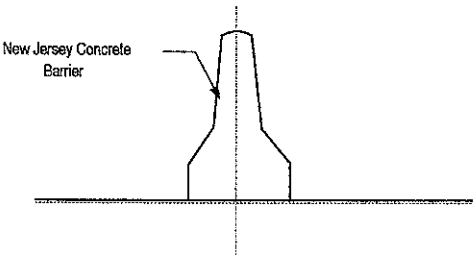
CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared	Sheet : of
PROJECT : PETERONGAN FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT		BACK UP QUAMTITY ROAD SIGN	
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :		ESTIMATOR :	CHECKED BY :
SKETCH DRAWING		CALCULATION	
		REMARKS Drawing No.	
 <p>Overhead Sign Type A</p>			
 <p>Overhead Sign Type B</p>		- Overhead Sign Type B = 1 Each PTR - 001 - Overhead Sign Type B = 1 Each PTR - 002 2	
 <p>Overhead Sign Type C</p>			
 <p>Regulatory and Warning Sign Type A</p>		- Reg & Warning Sign Type A = 3 Each PTR - 001 - Reg & Warning Sign Type A = 3 Each PTR - 002 - Reg & Warning Sign Type A = 15 Each PTR - 003 - Reg & Warning Sign Type A = 6 Each PTR - 004 27	
 <p>Regulatory and Warning Sign Type A</p>		- Reg & Warning Sign Type A = 1 Each PTR - 001 - Reg & Warning Sign Type A = 1 Each PTR - 002 - Reg & Warning Sign Type A = 7 Each PTR - 003 - Reg & Warning Sign Type A = 0 Each PTR - 004 9	
 <p>Regulatory and Warning Sign Type A</p>		- Reg & Warning Sign Type B = 2 Each TTR - 003	
		SUMMARY QUANTITY ROAD SIGN	
		- Overhead Sign Type A 0 Each	
		- Overhead Sign Type B 2 Each	
		- Overhead Sign Type C 0 Each	
		- Regulatory & Warning Sign Type A 36 Each	
		- Regulatory & Warning Sign Type B 2 Each	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared	Sheet: of				
PROJECT : PETERONGAN FLY OVER							
NORTH JAVA CORRIDOR FLYOVER PROJECT							
KATAHIRA AND ENGINEERS INTERNATIONAL							
DRAWING NO :		ESTIMATOR :	CHECKED BY :				
SKETCH DRAWING		CALCULATION				REMARKS	
		Peterongan Flyover - Contract Package 3					
1	SEPARATOR LINE  3 m 'Note : - Area of 1 Marking = 0.36 M ²	Item No. Road Marking Note: See Detailed Construction Layout Plan Dwg. # PTR-003 - PTR-008 for reference.				ROAD MARKING FLYOVER	
2	MARGINAL LINE  Length 'Note : - Area of Marking = Length x 0.12 m	Station	Marginal Strip Length	Separator Line Sum of Marks	Warning Line Sum of Marks	Zebra Cross Sum of Marks	Area (m ²)
3	WARNING LINE  3 m 'Note : - Area of 1 Marking = 0.36 M ²	00 + 000.00	2460.0	0	0	0	295.194
4	ZEBRA CROSS  4 m 'Note : - Area of 1 Marking = 1.2 M ²	00 + 949.51					
5	ARROW a. TYPE 1 (DIRECT)  'Note : - Area of 1 Arrow = 1.1M ² b. TYPE 2 (TURN LEFT/RIGHT)  'Note : - Area of 1 Marking = 1.18 M ² c. TYPE 3 (DIRECT AND TURN LEFT/RIGHT)  'Note : - Area of 1 Marking = 1.48 M ²						
		TOTAL AREA ROAD MARKING FLYOVER =				295.19 (m²)	
		TOTAL AREA		850.45 (m²)			

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared	Sheet: of								
PROJECT : PETERONGAN FLY OVER NORTH JAVA CORRIDOR FLYOVER PROJECT											
KATAHIRA AND ENGINEERS INTERNATIONAL											
DRAWING NO :		ESTIMATOR :	CHECKED BY :								
SKETCH DRAWING			CALCULATION			REMARKS					
			Peterongan Flyover - Contract Package 3								
1	SEPARATOR LINE 3 m 0.12 'Note : - Area of 1 Marking = 0.36 M ²		Item No. ... Road Marking			ROAD MARKING					
						AT GRADE					
			Note: See Detailed Construction Layout Plan								
			Dwg. # PTR-003 - PTR-008 for reference.								
2	MARGINAL LINE Length 0.12 'Note : - Area of Marking = Length x 0.12 m		Station		Marginal Strip Length	Separator Line Sum of Marks	Warning Line Sum of Marks	Zebra Cross Sum of Marks	Area (m ²)		
			00 + 000.00		672.6	22	22	0	96.548		
			00 + 185.00								
			00 + 464.00		600.5	0	0	19	94.857		
			00 + 800.00		696.8	0	0	17	104.022		
			00 + 949.51		499.14	14	18	0	71.417		
				SUM				366.84			
3	WARNING LINE 3 m 0.12 'Note : - Area of 1 Marking = 0.36 M ²		ARROW								
			Station		TYPE 1 Qty	TYPE 2 Qty	TYPE 3 Qty	AREA (m ²)			
			00 + 000.00								
			00 + 949.51		27	0	6	39			
					SUM			38.58			
4	ZEBRA CROSS 4 m 0.3m 'Note : - Area of 1 Marking = 1.2 M ²		CHEVRON AND STOP LINE								
			Station		CHEVRON Length	STOP LINE Length	AREA (m ²)				
			00 + 135.13		243.0	0	72.9				
			00 + 185.00		15.5	0	4.7				
			00 + 464.00								
			00 + 800.00		240.9	0	72.3				
			00 + 949.51								
				SUM		149.84					
				TOTAL AREA ROAD MARKING AT GRADE =		555.26 (m ²)					
5	ARROW a. TYPE 1 (DIRECT) 'Note : - Area of 1 Arrow = 1.1M ²										
	b. TYPE 2 (TURN LEFT/RIGHT) 'Note : - Area of 1 Marking = 1.18 M ²										
	c. TYPE 3 (DIRECT AND TURN LEFT/RIGHT) 'Note : - Area of 1 Marking = 1.48 M ²										

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared	Sheet : of	
PROJECT : PETERONGAN FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT		BACK UP QUANTITY CON. CURB TYPE A 8.8 (1)		
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO :		ESTIMATOR :	CHECKED BY :	
SKETCH DRAWING	CALCULATION		REMARKS Drawing No.	
	Concrete Curb Type A Left Side			
	L = 185.393	M median before app	PRD-019	
	L = 209.098	M biside app A1	PRD-021	
	L = 266.755	M biside app A2	PRD-021	
	L = 51.000	M med under bridge	PRD-021	
	L = 48.000	M med under bridge	PRD-021	
	L = 10.500	M med under bridge	PRD-021	
	L = 13.100	M med under bridge	PRD-021	
	L = 45.650	M med under bridge	PRD-022	
	L = 70.000	M med under bridge	PRD-022	
	L = 149.507	M median after app	PRD-024	
	1049.003			
	Concrete Curb Type A Right Side			
	R = 185.393	M median before app	PRD-019	
	R = 209.034	M biside app A1	PRD-021	
	R = 265.844	M biside app A2	PRD-021	
	R = 51.000	M med under bridge	PRD-021	
	R = 48.000	M med under bridge	PRD-021	
	R = 10.500	M med under bridge	PRD-021	
	R = 13.100	M med under bridge	PRD-021	
	R = 45.650	M med under bridge	PRD-022	
	R = 70.000	M med under bridge	PRD-022	
	R = 149.507	M median after app	PRD-024	
	1048.028			
	Quantity Concrete Curb Type A =		2097.03 Ln.M	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared	Sheet : of		
PROJECT : PETERONGAN FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT		BACK UP QUANTITY CON. CURB TYPE B			
KATAHIRA AND ENGINEERS INTERNATIONAL		8-8(2)			
DRAWING NO :		ESTIMATOR :	CHECKED BY :		
SKETCH DRAWING		CALCULATION	REMARKS		
 <p>Combination of Concrete Curb Gutter</p>			Drawing No.		
		Concrete Curb and Gutter Left Side			
		L = 76.489	M	PRD-019,20	
		L = 289.701	M	PRD-020,21	
		L = 457.266	M	PRD-022,23	
		823.456		M	
		Concrete Curb and Gutter Right Side			
		R = 117.442	M	PRD-019	
		R = 311.812	M	PRD-020,21	
		R = 81.133	M	PRD-021,22	
		R = 400.531	M	PRD-022,23,24	
		910.918		M	
		Quantity Concrete Curb & Gutter =		1734.37 Ln.M	

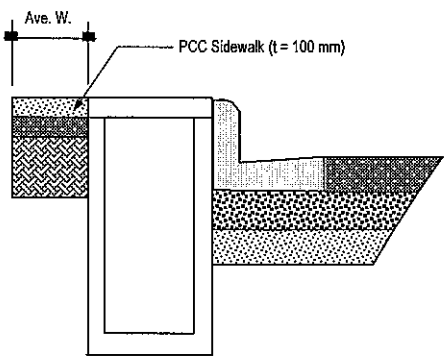
CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared	Sheet : of	
PROJECT : PETERONGAN FLYOVER				
NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO :		ESTIMATOR :	CHECKED BY :	
SKETCH DRAWING	CALCULATION		REMARKS	
 <p style="text-align: center;">Section of Concrete Median Type B</p>	859 Peterongan Flyover - Contract Package 3			
	(Item No. 8.4.12(2) - Concrete Median Type-B)			
	(New Jersey Barrier)			
	Note: See Detailed Construction Layout Plan			
	Dwg. # PRD-019 - PRD-024 for reference.			
		Station	Length	
	From	To	(m)	
	0 + 185.00	0 + 800.00	613.63	✓

PROJECT : PETERONGAN FLYOVER	
NORTH JAVA CORRIDOR FLYOVER PROJECT	
KATAHIRA AND ENGINEERS INTERNATIONAL	

DRAWING NO :	ESTIMATOR :	CHECKED BY :
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SKETCH DRAWING	CALCULATION	REMARKS
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Peterongan Flyover - Contract Package 3



Section of PCC Sidewalk at Left Service Road

Item No. 8.4.13 - Concrete Sidewalk	Location : At Shoulder
-------------------------------------	------------------------

Note: See Detailed Construction Layout Plan

Dwg. # PRD-019 - PRD-024 for reference.

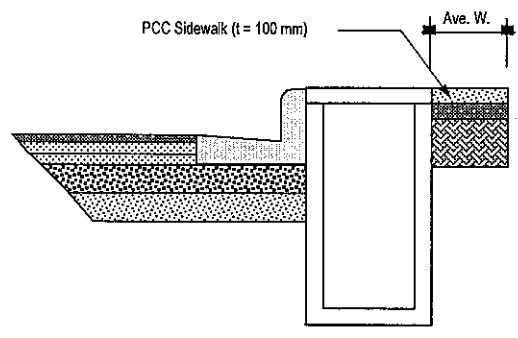
At Left Service Road

Length	Ave. Width	Area	
(m)	(m)	(m ²)	
265.147	0.579	153.520	
236.000	0.404	95.344	
73.000	0.628	45.844	
Total Area =		294.708	sqm.

PROJECT : PETERONGAN FLYOVER
NORTH JAVA CORRIDOR FLYOVER PROJECT
KATAHIRA AND ENGINEERS INTERNATIONAL

DRAWING NO : ESTIMATOR : CHECKED BY :

SKETCH DRAWING



Section of PCC Sidewalk at Right Service Road

CALCULATION
Peterongan Flyover - Contract Package 3

REMARKS

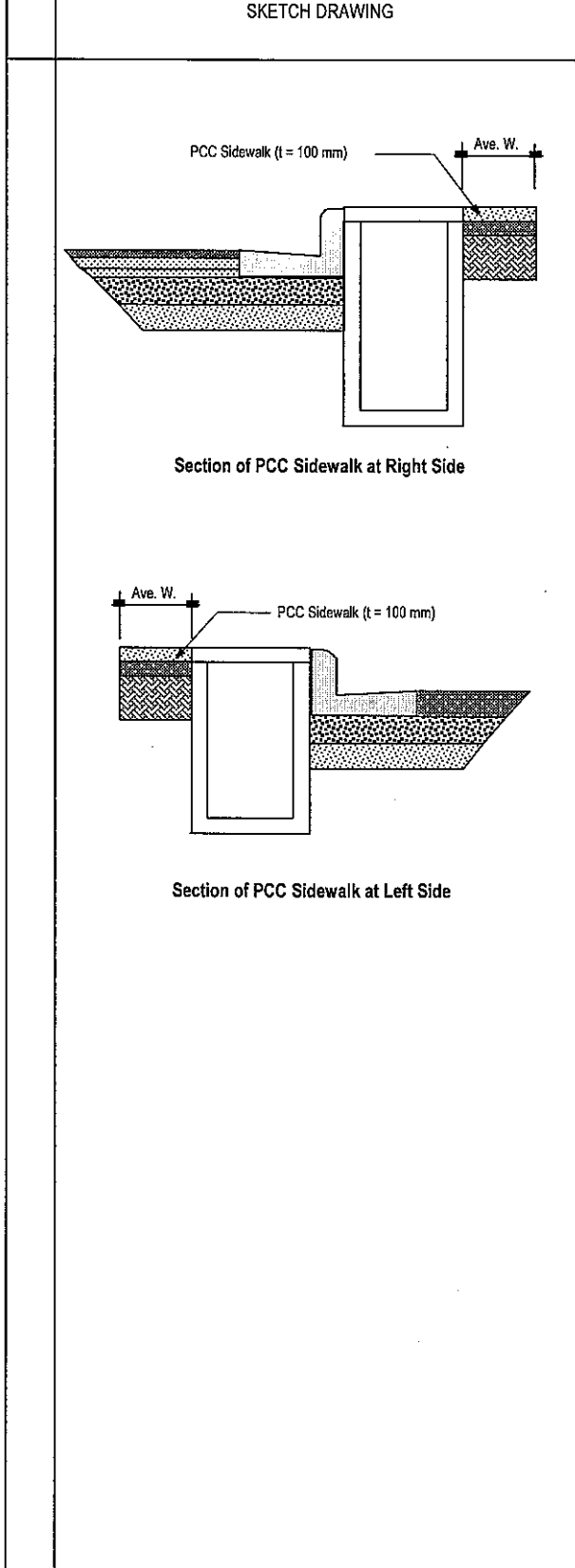
Item No. 8.4.13 - Concrete Sidewalk Location : At Shoulder

Note: See Detailed Construction Layout Plan
 Dwg. # PRD-019 - PRD-024 for reference.

At Right Service Road

Length (m)	Ave. Width (m)	Area (m ²)
255.881	0.531	135.873
69.122	0.823	56.887
276.000	0.610	168.360
Total Area =		361.120 sqm.

PROJECT : PETERONGAN FLYOVER		
NORTH JAVA CORRIDOR FLYOVER PROJECT		
KATAHIRA AND ENGINEERS INTERNATIONAL		
DRAWING NO :	ESTIMATOR :	CHECKED BY :



CALCULATION			REMARKS
Peterongan Flyover - Contract Package 3			
Item No. 8.4.13 - Concrete Sidewalk			Location : At Shoulder
Note: See Detailed Construction Layout Plan			
Dwg. # PRD-019 - PRD-024 for reference.			
A. Approach A			
At Right Side			
Length	Ave. Width	Area	
(m)	(m)	(m ²)	
89.750	0.403	36.169	
49.000	1.301	63.749	
	Sub-Total =	99.918	
At Left Side			
Length	Ave. Width	Area	
(m)	(m)	(m ²)	
69.229	1.302	90.136	
20.500	1.302	26.691	
	Sub-Total =	116.827	
A. Approach B			
At Right Side			
Length	Ave. Width	Area	
(m)	(m)	(m ²)	
144.000	1.278	184.032	
	Sub-Total =	184.032	
At Left Side			
Length	Ave. Width	Area	
(m)	(m)	(m ²)	
136.000	1.302	177.072	
	Sub-Total =	177.072	
Total Area =	577.849	sqm.	

DIVISION 9.

Facilities

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared	Sheet : of
PROJECT : PETERONGAN FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT		BACK UP ELECTRICAL	
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :		ESTIMATOR :	CHECKED BY :
	SKETCH DRAWING	CALCULATION	REMARKS
	ELECTRICAL UNDER VIADUCT	1. Panel LP-PJU FO = 0 Each	
		2. Cealling sont 150 watt = 24 Each	
		3. Cable NYY 2 x 2.5 mm2= (595-353)+12X5 = 302 m	
	FLY OVER	1. Panel LP-PJU.FO = 1 Each	
		2. Ligthing Pole (sont 250 watt) = 20 Each	
		3. Cable NYY 2x2.5mm2= 20x11.5 = 230 m	
		4. Cable NYFGBY 4 x 10mm2 = 540X2+20X2 = 1120 M	
	SERVICE ROAD	1. Panel LP-PJU.1 = 1 Each	
		2. Panel LP-PJU.2 = 1 Each	
		3. Panel LP-PJU.3 = 1 Each	
		4. Panel LP-PJU.4 = 1 Each	
		5. Panel LP-PJU.5 = 1 Each	
		6. Panel LP-PJU.6 = 1 Each	
		7. Lighting Pole (sont 250 watt) = 48 Each	
		8. Cable NYY 2x2.5 mm2 = 48 x 11.5 = 552 M	
		9. Cable NYFGBY 4 x 10 mm2= 920X2+24X2 = 1888 m	
		10 Cable NYFGBY 4 x 25 mm2 :	
		PLN to LP-PJU.1 = 740 m	
		PLN to LP-PJU.2 = 380 m	
		PLN to LP-PJU.3 = 100 m	
		PLN to LP-PJU.4 = 770 m	
		PLN to LP-PJU.5 = 410 m	
		PLN to LP-PJU.6 = 130 m	
		2530 M	
		Cable NYFGBY 4 x 50 mm2 = 200 M	
		SUMMARY QUANTITY PETERONGAN FO	
		1. Panel LP-PJU.FO = 1 Each	
		Panel LP-PJU.1 = 1 Each	
		Panel LP-PJU.2 = 1 Each	
		Panel LP-PJU.3 = 1 Each	
		Panel LP-PJU.4 = 1 Each	
		Panel LP-PJU.5 = 1 Each	
		Panel LP-PJU.6 = 1 Each	
		2. Ligthing Pole (sont 250 watt) = 68 Each	
		3. Ceilling Sont 150 watt = 24 Each	
		4. Cable NYY 2 x 2.5 mm2 = 1084 M	
		Cable NYFGBY 4 x 10 mm2 = 3008 M	
		Cable NYFGBY 4 x 25 mm2 = 2530 M	
		Cable NYFGBY 4 x 50 mm2 = 200 M	

**Relocation & Protection
of Existing Utilities**

COST ESTIMATE FOR UTILITY PROTECTION AND RELOCATION

PETERONGAN FLYOVER

No.	Description	Unit	Estimate Quantity	Unit Price (Rp.)	Amount (Rp.)	Remarks
	ABOVE GROUND					
1	Relocation of Existing Electricity (PLN), Pole medium Voltage	Each				
2	Relocation of Existing Electricity (PLN), Pole Low Voltage	Each				
3	Electric Cable Above Ground	Ln.M				
4	Relocation of Existing Telephone Utility pole	Each				
5	Telephone Cable Above Ground	Ln.M				
6	Relocation Optic Cable	Ln.M				
	UNDER GROUND					
7	Dig and Deepen Telephone Cable	Ln.M				
8	Dig and Deepen Optic Cable	Ln.M				
9	Dig and Deepen Electric Cable	Ln.M				
			TOTAL COST		0.00	



JAPAN INTERNATIONAL
COOPERATION AGENCY



DIRECTORATE GENERAL OF HIGHWAY
MINISTRY OF PUBLIC WORKS
REPUBLIC OF INDONESIA

DETAILED DESIGN STUDY
OF
NORTH JAVA CORRIDOR FLYOVER PROJECT
IN THE REPUBLIC OF INDONESIA

QUANTITY CALCULATION
TANGGULANGIN FLYOVER

CONTRACT PACKAGE 3
(PETERONGAN - TANGGULANGIN)



KATAHIRA & ENGINEERS INTERNATIONAL

**THE NORTH JAVA CORRIDOR FLYOVER PROJECT
QUANTITY CALCULATION
TANGGULANGIN FLYOVER**

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8 Division - 8 : Miscellaneous	8-1 -- 8-10
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DIVISION 1.
General

DIVISION 2.
Drainage

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared 10/9/2006 14:37	BACK UP QUANTITY OF MORTARED STONE WORK		Sheet : of				
PROJECT : TANGGULANGIN FLYOVER									
NORTH JAVA CORRIDOR FLYOVER PROJECT									
KATAHIRA AND ENGINEERS INTERNATIONAL									
DRAWING NO :		ESTIMATOR :		CHECKED BY :					
SKETCH DRAWING			CALCULATION		REMARKS				
<p>MORTARED STONE WORK TYPE III</p>			PROJECT : TANGGULANGIN FLYOVER						
			Drawing TDG - 001 (Drainage Schedule at grade)						
			DMH to DMH	Heigh	Length	Area	Quantity		
				M	M	Sq.M	Cu. M		
			DMH-45	DMH-44	0.717	9.500	1.114	10.579	Type III
			DMH-54	DMH-55	0.858	8.800	1.226	10.792	
			DMH-64	DMH-63	0.859	7.500	1.227	9.204	
			DMH-61	Existing	1.314	8.000	1.591	12.730	
			TOTAL				43.305		
			QUANTITY OF MORTARED STONWORK =		43.305	Cu. M			

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared 10/9/2006 14:40	Sheet : 1 of 1
PROJECT : TANGGULANGIN FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT		BACK UP DRAINAGE	
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO.		ESTIMATOR	CHECKED BY
SKETCH DRAWING	CALCULATION		REMARKS
Drainage Schedule at Flyover	Drawing No. TDV 001: Drainage Schedule - Deck drain Type II (L) = 4 Each - Deck drain Type II (R) = 4 Each - PVC dia 200 mm = 72.9 M - Steel Gutter = 0 M - Outer Gutter = 75 M Approach 1 - Deck drain Type II (L) = 6 Each - Deck drain Type II (R) = 7 Each - PVC dia 200 mm = 25.4 M Approach 2 - Deck drain Type II (L) = 7 Each - Deck drain Type II (R) = 7 Each - PVC dia 200 mm = 27.52 M		
Drainage Schedule Under Flyover	Drawing No. TDV 002 : - Uditch DS 1 = 80.5 M - Uditch DS 5 = 340 M - PVC dia 250 mm = 260.5 M - RCP dia 600 mm = 51.9 M (Type B) - Manhole Type VII = 8 Each - Manhole Type VIII = 4 Each - Catch Basin Type I = 8 Each Drawing No. PDG 001 : Drainage Slope Right - Uditch DS 3 = 6.2 M - Uditch DS 4 = 648.9 M - RCP dia 400 mm = 2.5 M (Type A) - RCP dia 800 mm = 176.4 M (Type A) - Manhole Type I = 37 Each - Manhole Type II = 1 Each - Manhole Type III = 8 Each - Manhole Type IV = 0 Each - Manhole Type V = 3 Each - Manhole Type VI = 2 Each Drainage Slope Left - Uditch DS 4 = 720.1 M - RCP dia 400 mm = 3 M (Type A) - RCP dia 800 mm = 68.5 M (Type A) - Manhole Type I = 47 Each - Manhole Type II = 1 Each - Manhole Type III = 3 Each - Manhole Type IV = 0 Each - Manhole Type V = 2 Each - Manhole Type VI = 1 Each		
SUMMARY QUANTITY OF DRAINAGE - PVC Drain Pipe dia 150 mm 0.00 M - PVC Drain Pipe dia 200 mm 125.82 M - PVC Drain Pipe dia 250 mm 260.50 M - RCP dia 600 mm (Type B) 51.90 M - RCP dia 800 mm (Type A) 244.90 M - RCP dia 800 mm (Type B) 0.00 M - Manhole Type I 84.00 Each - Manhole Type II 2.00 Each - Manhole Type III 11.00 Each - Manhole Type IV 0.00 Each - Manhole Type V 5.00 Each - Manhole Type VI 3.00 Each - Manhole Type VII 8.00 Each - Manhole Type VIII 4.00 Each - Catch Basin Type I 8.00 Each - Uditch DS 1 80.50 M - Uditch DS 4 1369.00 M - Uditch DS 5 340.00 M - Deck Drain Type I 0.00 Each - Deck Drain Type II 35.00 Each - Steel Gutter 0.00 M - Outer Gutter 75.00 M			

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared	Sheet : 1 of 1
PROJECT : TANGGULANGIN FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT		BACK UP DRAINAGE	
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :		ESTIMATOR :	CHECKED BY :
SKETCH DRAWING	CALCULATION		REMARKS
Drainage Schedule at Flyover	Drawing No. TDV 001: Drainage Schedule - Deck drain Type II (L) = 4 Each - Deck drain Type II (R) = 4 Each - PVC dia 200 mm = 72.9 M - Steel Gutter = 0 M - Outer Gutter = 75 M Approach 1 - Deck drain Type II (L) = 6 Each - Deck drain Type II (R) = 7 Each - PVC dia 200 mm = 25.4 M Approach 2 - Deck drain Type II (L) = 7 Each - Deck drain Type II (R) = 7 Each - PVC dia 200 mm = 27.52 M		
Drainage Schedule Under Flyover	Drawing No. TDV 002 : - Uditch DS 1 = 80.5 M - Uditch DS 5 = 340 M - PVC dia 250 mm = 260.5 M - RCP dia 600 mm = 51.9 M (Type B) - Manhole Type VII = 8 Each - Manhole Type VIII = 4 Each - Catch Basin Type I = 8 Each Drawing No. PDG 001 : Drainage Slope Right - Uditch DS 3 = 6.2 M - Uditch DS 4 = 648.9 M - RCP dia 400 mm = 2.5 M (Type A) - RCP dia 800 mm = 176.4 M (Type A) - Manhole Type I = 37 Each - Manhole Type II = 1 Each - Manhole Type III = 8 Each - Manhole Type IV = 0 Each - Manhole Type V = 3 Each - Manhole Type VI = 2 Each Drainage Slope Left - Uditch DS 4 = 720.1 M - RCP dia 400 mm = 3 M (Type A) - RCP dia 800 mm = 68.5 M (Type A) - Manhole Type I = 47 Each - Manhole Type II = 1 Each - Manhole Type III = 3 Each - Manhole Type IV = 0 Each - Manhole Type V = 2 Each - Manhole Type VI = 1 Each		
SUMMARY QUANTITY OF DRAINAGE - PVC Drain Pipe dia 150 mm 0.00 M - PVC Drain Pipe dia 200 mm 125.82 M - PVC Drain Pipe dia 250 mm 260.50 M - RCP dia 600 mm (Type B) 51.90 M - RCP dia 800 mm (Type A) 244.90 M - RCP dia 800 mm (Type B) 0.00 M - Manhole Type I 84.00 Each - Manhole Type II 2.00 Each - Manhole Type III 11.00 Each - Manhole Type IV 0.00 Each - Manhole Type V 5.00 Each - Manhole Type VI 3.00 Each - Manhole Type VII 8.00 Each - Manhole Type VIII 4.00 Each - Catch Basin Type I 8.00 Each - Uditch DS 1 80.50 M - Uditch DS 4 1369.00 M - Uditch DS 5 340.00 M - Deck Drain Type I 0.00 Each - Deck Drain Type II 35.00 Each - Steel Gutter 0.00 M - Outer Gutter 75.00 M			

DIVISION 3.
Earthworks

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared 9/21/2006 16:36		Sheet: of		
PROJECT : TANGGULANGIN PROJECT NORTH JAVA CORRIDOR FLYOVER PROJECT						
KATAHIRA AND ENGINEERS INTERNATIONAL						
DRAWING NO : TRS-019, TRD-020, TRD-021, TRD-022, TRD-023, TRD024		ESTIMATOR :		CHECKED BY :		
SKETCH DRAWING		CALCULATION Tanggulangin Fly Over - Contract Package 3				REMARKS
Item No. 3.1(1) - Clearing and Grubbing						
MAIN ROAD BEFORE FLYOVER						
STA	LEFT SIDE WIDTH	AVE. LEFT WIDTH	LENGTH	AREA		
0+267.761	0.000	0.000	0.000	0.000		
0+269.747	2.000	1.000	1.986	1.986		
0+295.250	2.000	2.000	25.503	51.006		
0+312.742	3.043	2.522	17.492	44.106		
0+330.770	4.439	3.741	18.028	67.443		
0+336.884	4.719	4.579	6.114	27.996		
0+337.686	6.616	5.668	0.802	4.545		
0+342.879	8.004	4.002	5.193	20.782		
0+342.879	7.258	7.631	0.000	0.000		
0+343.807	4.980	6.119	0.928	5.678		
0+369.219	5.467	5.224	25.412	132.740		
0+380.000	5.480	5.474	10.781	59.010		
SUB TOTAL LEFT AREA				415.292		
STA	RIGHT SIDE WIDTH	AVE. RIGHT WIDTH	LENGTH	AREA		
0+267.100	0.000	0.000	0.000	0.000		
0+269.086	2.000	1.000	1.986	1.986		
0+380.000	2.000	2.000	110.914	221.828		
0+000.000	0.000	0.000	0.000	0.000		
SUB TOTAL RIGHT AREA				223.814		
MAIN ROAD AFTER FLYOVER						
STA	LEFT SIDE WIDTH	AVE. LEFT WIDTH	LENGTH	AREA		
0+910.000	2.000	2.000	0.000	0.000		
0+933.596	2.000	2.000	23.596	47.192		
0+955.454	2.746	2.373	21.858	51.889		
0+980.979	3.005	2.876	25.525	73.397		
1+004.466	2.744	2.875	23.487	67.513		
1+016.142	2.000	2.372	11.676	27.695		
1+075.244	2.000	2.000	59.102	118.204		
1+093.514	2.000	2.000	18.270	36.540		
1+097.514	0.000	1.000	4.000	4.000		
1+101.680	0.000	0.000	4.166	0.000		
1+105.680	2.000	1.000	4.000	4.000		
1+130.029	2.000	2.000	24.349	48.698		
SUB TOTAL LEFT AREA				479.109		
STA	RIGHT SIDE WIDTH	AVE. RIGHT WIDTH	LENGTH	AREA		
0+910.000	5.736	5.459	0.277	1.667		
0+920.599	5.459	5.598	10.599	59.328		
0+940.369	4.838	5.149	19.770	101.786		
0+969.976	3.950	4.394	29.607	130.093		
0+990.093	3.160	3.555	20.117	71.516		
1+000.000	2.769	2.965	9.907	29.369		
1+001.150	2.584	2.677	1.150	3.078		
1+002.013	3.524	3.054	0.863	2.636		
1+002.349	0.000	1.762	0.336	0.592		

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared 9/21/2006 16:36		Sheet : of		
PROJECT : TANGGULANGIN PROJECT NORTH JAVA CORRIDOR FLYOVER PROJECT						
KATAHIRA AND ENGINEERS INTERNATIONAL						
DRAWING NO : TRS-019, TRD-020, TRD-021, TRD-022, TRD-023, TRD024		ESTIMATOR :		CHECKED BY :		
SKETCH DRAWING		CALCULATION				REMARKS
		Tanggulangin Fly Over - Contract Package 3				
		Item No. 3.1(1) - Clearing and Grubbing				
	1+007.172	0.000	0.000	4.523	0.000	
	1+008.211	2.321	1.161	1.039	1.206	
	1+020.454	2.133	2.227	12.243	27.265	
	1+024.565	2.004	2.069	4.111	8.504	
	1+051.812	2.000	2.002	27.247	54.548	
	1+130.029	2.000	2.000	78.217	156.434	
	SUB TOTAL RIGHT AREA				2,313.355	
		SERVICE ROAD				
	STA	LEFT SIDE WIDTH	AVE. LEFT WIDTH	LENGTH	AREA	
	0+380.000	5.480	2.740	2.740	750.8	
	0+398.480	5.392	5.436	18.480	100.457	
	0+417.023	5.304	5.348	18.543	99.168	
	0+441.996	4.656	4.980	24.973	124.366	
	0+441.996	6.366	5.511	0.000	0.000	
	0+443.394	7.153	6.760	1.398	9.450	
	0+445.168	4.616	5.885	1.774	10.439	
	0+465.667	4.355	4.486	20.499	91.948	
	0+465.667	6.491	5.423	0.000	0.000	
	0+467.032	7.457	6.974	1.365	9.520	
	0+470.055	4.277	5.867	3.023	17.736	
	0+518.223	4.198	4.238	48.168	204.112	
	0+519.369	7.156	5.677	1.146	6.506	
	0+522.344	7.179	7.168	2.975	21.323	
	0+523.489	4.205	5.692	1.145	6.517	
	0+531.560	4.282	4.244	8.071	34.249	
	0+543.739	4.530	4.406	12.179	53.661	
	0+559.362	4.020	4.275	15.623	66.788	
	0+579.238	2.484	3.252	19.876	64.637	
	0+586.566	2.007	2.246	7.328	16.455	
	0+613.468	2.000	2.004	26.902	53.898	
	0+627.759	3.892	2.946	14.291	42.101	
	0+631.510	4.200	4.046	3.751	15.177	
	0+635.128	3.865	4.033	3.618	14.590	
	0+646.412	2.159	3.012	11.284	33.987	
	0+652.781	2.306	2.233	6.369	14.219	
	0+654.490	4.297	3.302	1.709	5.642	
	0+655.687	4.945	4.621	1.197	5.531	
	0+660.000	2.759	3.852	4.313	16.614	
	0+662.119	2.189	2.474	2.119	5.242	
	0+664.573	4.372	3.281	2.454	8.050	
	0+667.109	0.000	2.186	2.536	5.544	
	0+681.763	0.000	0.000	14.654	0.000	
	0+684.283	2.000	1.000	2.520	2.520	
	SUB TOTAL LEFT AREA				1,911.247	
	STA	RIGHT SIDE WIDTH	AVE. RIGHT WIDTH	LENGTH	AREA	
	0+380.000	2.000	3.250	71.000	748.6	
	0+451.242	2.000	2.000	71.242	142.484	
	0+451.242	2.216	2.108	0.000	0.000	
	0+460.572	2.233	2.225	9.330	20.755	
	0+529.632	2.866	2.550	69.060	176.068	
	0+568.139	3.524	3.195	38.507	123.030	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared 9/21/2006 16:36		Sheet : of		
PROJECT : TANGGULANGIN PROJECT NORTH JAVA CORRIDOR FLYOVER PROJECT						
KATAHIRA AND ENGINEERS INTERNATIONAL						
DRAWING NO : TRS-019, TRD-020, TRD-021, TRD-022, TRD-023, TRD024		ESTIMATOR :		CHECKED BY :		
SKETCH DRAWING		CALCULATION				REMARKS
		Tanggulangin Fly Over - Contract Package 3				
		Item No. 3.1(1) - Clearing and Grubbing				
	0+584.505	3.315	3.420	16.366	55.964	
	0+594.238	3.165	3.240	9.733	31.535	
	0+601.936	2.853	3.009	7.698	23.163	
	0+615.156	3.245	3.049	13.220	40.308	
	0+615.780	2.328	2.787	0.624	1.739	
	0+619.761	5.277	3.803	3.981	15.138	
	0+622.060	4.452	4.865	2.299	11.183	
	0+623.171	0.000	2.226	1.111	2.473	
	0+627.505	0.000	0.000	4.334	0.000	
	0+630.830	5.193	2.597	3.325	8.633	
	0+633.987	5.075	5.134	3.157	16.208	
	0+636.628	4.276	4.676	2.641	12.348	
	0+641.813	4.910	4.593	5.185	23.815	
	0+645.931	3.966	4.438	4.118	18.276	
	0+661.368	2.810	3.388	15.437	52.301	
	0+681.023	2.118	2.464	19.655	48.430	
	0+701.475	2.731	2.425	20.452	49.586	
	0+719.878	4.584	3.658	18.403	67.309	
	0+725.266	4.950	4.767	5.388	25.685	
	0+777.124	5.872	5.411	51.858	280.604	
	0+829.193	7.000	6.436	52.069	335.116	
	0+871.447	6.844	6.922	42.254	292.482	
	0+900.000	5.782	6.313	28.553	180.255	
	0+910.000	5.736	5.759	10.000	57.590	
	SUB TOTAL RIGHT AREA				2,861.036	
	Total Area	= 8,203.85 sqm.				

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared :		Sheet : 1 of 3	
PROJECT : TANGGULANGIN FLYOVER		BACK QUANTITY SELECTED TREE REMOVAL			
NORTH JAVA CORRIDOR FLYOVER PROJECT					
KATAHIRA AND ENGINEERS INTERNATIONAL					
DRAWING NO :		ESTIMATOR :	CHECKED BY		
SKETCH DRAWING		QUANTITY CALCULATION			REMARKS
		PROJECT : TANGGULANGIN FLYOVER			
		Selected Tree Removal Dia ≤ 300 mm			
		Sta	L/R	Quantity	Unit
		0 + 061	L	1.00	Each
		0 + 099	L	1.00	Each
		0 + 108	L	1.00	Each
		0 + 120	L	1.00	Each
		0 + 129	L	1.00	Each
		0 + 135	R	1.00	Each
		0 + 139	L	1.00	Each
		0 + 148	L	1.00	Each
		0 + 210	L	1.00	Each
		0 + 260	R	1.00	Each
		0 + 261	L	1.00	Each
		0 + 271	R	1.00	Each
		0 + 294	L	1.00	Each
		0 + 299	R	1.00	Each
		0 + 302	L	1.00	Each
		0 + 317	L	1.00	Each
		0 + 374	R	1.00	Each
		0 + 389	R	1.00	Each
		0 + 397	R	1.00	Each
		0 + 417	L	1.00	Each
		0 + 433	R	1.00	Each
		0 + 449	R	1.00	Each
		0 + 478	L	1.00	Each
		0 + 494	L	1.00	Each
		0 + 495	R	1.00	Each
		0 + 506	L	1.00	Each
		0 + 515	R	1.00	Each
		0 + 518	L	1.00	Each
		0 + 526	R	1.00	Each
		0 + 533	L	1.00	Each
		TOTAL		30.00	Each

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared :		Sheet : 2 of 3	
PROJECT : TANGGULANGIN FLYOVER			BACK QUANTITY SELECTED TREE REMOVAL		
NORTH JAVA CORRIDOR FLYOVER PROJECT			KATAHIRA AND ENGINEERS INTERNATIONAL		
DRAWING NO :		ESTIMATOR :		CHECKED BY	
SKETCH DRAWING		QUANTITY CALCULATION PROJECT : TANGGULANGIN FLYOVER			REMARKS
		Selected Tree Removal Dia ≤ 300 mm			
		Sta	L/R	Quantity	Unit
		0 + 535	R	1.00	Each
		0 + 541	L	1.00	Each
		0 + 550	L	1.00	Each
		0 + 556	R	1.00	Each
		0 + 559	L	1.00	Each
		0 + 568	R	1.00	Each
		0 + 569	L	1.00	Each
		0 + 578	L	1.00	Each
		0 + 579	R	1.00	Each
		0 + 582	R	1.00	Each
		0 + 586	R	1.00	Each
		0 + 588	L	1.00	Each
		0 + 596	R	1.00	Each
		0 + 602	L	1.00	Each
		0 + 610	L	1.00	Each
		0 + 623	L	1.00	Each
		0 + 673	R	1.00	Each
		0 + 690	R	1.00	Each
		0 + 724	R	1.00	Each
		0 + 734	R	1.00	Each
		0 + 850	R	1.00	Each
		0 + 928	R	1.00	Each
		0 + 953	L	1.00	Each
		0 + 962	R	1.00	Each
		0 + 963	L	1.00	Each
		0 + 975	L	1.00	Each
		1 + 000	L	1.00	Each
		1 + 012	R	1.00	Each
		1 + 092	R	1.00	Each
		1 + 099	R	1.00	Each
		1 + 107	R	1.00	Each
		1 + 116	R	1.00	Each
		TOTAL		32.00	Each

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared :		Sheet : 3 of 3
PROJECT : TANGGULANGIN FLYOVER		BACK QUANTITY SELECTED TREE REMOVAL		
NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO :		ESTIMATOR :	CHECKED BY	
SKETCH DRAWING		QUANTITY CALCULATION		REMARKS
		PROJECT : TANGGULANGIN FLYOVER		
		Selected Tree Removal Dia \geq 300 mm		
		Sta	L/R	Quantity Unit
		0 + 016	R	1.00 Each
		0+ 037	R	1.00 Each
		0+ 075	R	1.00 Each
		0+ 101	R	1.00 Each
		0+ 120	R	1.00 Each
		0+ 171	R	1.00 Each
		0+ 199	R	1.00 Each
		0+ 222	R	1.00 Each
		0 + 240	R	1.00 Each
		0+ 495	R	1.00 Each
		0+ 725	R	2.00 Each
		0+ 743	L	1.00 Each
		0+ 815	L	1.00 Each
		0+ 837	L	1.00 Each
		0+ 871	L	1.00 Each
		1 + 027	R	1.00 Each
		1 + 058	R	1.00 Each
		1 + 077	R	1.00 Each
		TOTAL		19.00 Each
		SUMMARY QUANTITY SELECTED TREE REMOVAL		
		Selected Tree Removal Dia \leq 300 mm	=	62.00 Each
		Selected Tree Removal Dia \geq 300 mm	=	19.00 Each

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared :	Sheet: 3 of 3	
PROJECT : TANGGULANGIN FLYOVER		BACK QUANTITY SELECTED TREE REMOVAL		
NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO :		ESTIMATOR :	CHECKED BY	
SKETCH DRAWING		QUANTITY CALCULATION PROJECT : TANGGULANGIN FLYOVER		REMARKS
		Selected Tree Removal Dia \geq 300 mm		3.1 (3)
		Sta	L/R	Quantity Unit
		0 + 016	R	1.00 Each
		0+ 037	R	1.00 Each
		0+ 075	R	1.00 Each
		0+ 101	R	1.00 Each
		0+ 120	R	1.00 Each
		0+ 171	R	1.00 Each
		0+ 199	R	1.00 Each
		0+ 222	R	1.00 Each
		0 + 240	R	1.00 Each
		0+ 495	R	1.00 Each
		0+ 725	R	2.00 Each
		0+ 743	L	1.00 Each
		0+ 815	L	1.00 Each
		0+ 837	L	1.00 Each
		0+ 871	L	1.00 Each
		1 + 027	R	1.00 Each
		1 + 058	R	1.00 Each
		1 + 077	R	1.00 Each
		TOTAL		19.00 Each
		SUMMARY QUANTITY SELECTED TREE REMOVAL		
		Selected Tree Removal Dia \leq 300 mm	=	62.00 Each ✓
		Selected Tree Removal Dia \geq 300 mm	=	19.00 Each ✓

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared 10/4/2006 17:44	Sheet : of		
PROJECT : TANGGULANGIN PROJECT NORTH JAVA CORRIDOR FLYOVER PROJECT					
KATAHIRA AND ENGINEERS INTERNATIONAL					
DRAWING NO : TRS-019, TRD-020, TRD-021, TRD-022, TRD-023, TRD024		ESTIMATOR :	CHECKED BY :		
SKETCH DRAWING		CALCULATION Tanggulangin Fly Over - Contract Package 3			REMARKS
Item No. 32 (1) - Common Excavation					
MAIN ROAD BEFORE FLYOVER					
STA	LEFT SIDE AREA	AVE. LEFT AREA	LENGTH	VOLUME	
0+188.453	2.013	1.007	0.000	0.000	
0+305.393	1.906	1.960	116.940	229.144	
0+380.000	2.064	1.985	74.607	148.095	
0+295.245	0.000	0.000	295.245	0.000	
0+333.965	2.587	1.294	38.720	50.084	
0+336.913	3.856	3.222	2.948	9.497	
0+338.291	6.756	3.378	0.000	0.000	
0+342.361	7.855	7.311	4.070	29.754	
0+343.590	4.450	6.158	1.229	7.568	
0+346.952	3.075	3.763	3.362	12.650	
0+380.000	3.480	3.278	33.048	108.315	
SUB TOTAL LEFT VOLUME				595.106	
STA	RIGHT SIDE AREA	AVE. RIGHT AREA	LENGTH	VOLUME	
0+000.000	0.000	0.000	0.000	0.000	
0+000.000	0.000	0.000	0.000	0.000	
SUB TOTAL RIGHT VOLUME				0.000	
MAIN ROAD AFTER FLYOVER					
STA	LEFT SIDE AREA	AVE. LEFT AREA	LENGTH	VOLUME	
0+910.000	0.000	0.000	0.000	0.000	
0+931.498	0.000	0.000	21.498	0.000	
0+960.000	0.668	0.334	28.502	9.520	
0+980.000	1.018	0.843	20.000	16.860	
0+995.943	0.893	0.956	15.943	15.234	
1+036.114	0.000	0.447	40.171	17.936	
0+000.000	0.000	0.000	0.000	0.000	
SUB TOTAL LEFT VOLUME				59.550	
STA	RIGHT SIDE AREA	AVE. RIGHT AREA	LENGTH	VOLUME	
0+910.000	3.735	1.868	0.000	0.000	
0+931.499	3.166	3.451	21.499	74.182	
0+955.384	2.361	2.764	23.885	66.006	
0+970.788	1.927	2.144	15.404	33.026	
0+996.684	0.894	1.411	25.896	36.526	
0+999.792	1.680	1.287	3.108	4.000	
1+001.962	3.524	2.602	2.170	5.646	
1+002.330	0.000	1.762	0.368	0.648	
1+007.377	0.000	0.000	5.047	0.000	
1+008.164	1.283	0.642	0.787	0.505	
1+011.194	0.243	0.763	3.030	2.312	
1+024.047	0.000	0.122	12.853	1.562	
SUB TOTAL RIGHT VOLUME				224.414	
SERVICE ROAD					
STA	LEFT SIDE AREA	AVE. LEFT AREA	LENGTH	VOLUME	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared 10/4/2006 17:44			Sheet : of		
PROJECT : TANGGULANGIN PROJECT NORTH JAVA CORRIDOR FLYOVER PROJECT							
KATAHIRA AND ENGINEERS INTERNATIONAL							
DRAWING NO : TRS-019, TRD-020,TRD-021,TRD-022,TRD-023,TRD024		ESTIMATOR :			CHECKED BY :		
SKETCH DRAWING		CALCULATION					REMARKS
		Tanggulangin Fly Over - Contract Package 3					
		Item No. 3.2 (1) - Common Excavation					
0+380.000	3.480	1.740	0.000	0.000			
0+440.000	2.685	3.083	60.000	184.950			
0+442.231	3.950	3.318	2.231	7.401			
0+442.231	3.950	3.950	0.000	0.000			
0+442.667	5.178	4.564	0.436	1.990			
0+442.667	6.507	5.843	0.000	0.000			
0+442.964	6.872	6.690	0.297	1.987			
0+445.048	3.889	5.381	2.084	11.213			
0+446.119	2.942	3.416	1.071	3.658			
0+447.500	2.590	2.766	1.381	3.820			
0+463.712	2.384	2.487	16.212	40.319			
0+465.995	4.741	3.563	2.283	8.133			
0+465.995	6.551	5.646	0.000	0.000			
0+466.654	7.115	6.833	0.659	4.503			
0+470.392	3.183	5.149	3.738	19.247			
0+471.377	2.488	2.836	0.985	2.793			
0+472.548	2.226	2.357	1.171	2.760			
0+514.851	2.211	2.219	42.303	93.849			
0+518.369	3.646	2.929	3.518	10.302			
0+519.850	7.152	5.399	1.481	7.996			
0+521.827	7.175	7.164	1.977	14.162			
0+523.299	3.659	5.417	1.472	7.974			
0+526.963	2.229	2.944	3.664	10.787			
0+543.798	2.528	2.379	16.835	40.042			
0+565.217	1.873	2.201	21.419	47.133			
0+579.272	0.492	1.183	14.055	16.620			
0+586.609	0.000	0.246	7.337	1.805			
0+910.000	0.000	0.000	323.391	0.000			
0+000.000	0.000	0.000	0.000	0.000			
SUB TOTAL LEFT VOLUME					543.444		
STA	RIGHT SIDE AREA	AVE. RIGHT AREA	LENGTH	VOLUME			
0+451.000	0.216	0.108	0.000	0.000			
0+513.259	0.681	0.449	62.259	27.923			
0+550.072	1.523	1.102	36.813	40.568			
0+568.162	1.519	1.521	18.090	27.515			
0+578.322	1.141	1.330	10.160	13.513			
0+584.535	1.309	1.225	6.213	7.611			
0+601.991	0.853	1.081	17.456	18.870			
0+605.866	2.374	1.614	3.875	6.252			
0+608.674	0.037	1.206	2.808	3.385			
0+609.937	0.061	0.049	1.263	0.062			
0+610.416	0.000	0.031	0.479	0.015			
0+612.489	0.000	0.000	2.073	0.000			
0+617.355	1.925	0.963	4.866	4.684			
0+619.837	3.691	2.808	2.482	6.969			
0+620.679	3.383	3.537	0.842	2.978			
0+623.130	0.000	1.692	2.451	4.146			
0+636.706	0.000	0.000	13.576	0.000			
0+641.890	2.075	1.038	5.184	5.378			
0+644.670	1.829	1.952	2.780	5.427			
0+661.437	0.808	1.319	16.767	22.107			
0+680.978	0.114	0.461	19.541	9.008			
0+701.501	0.730	0.422	20.523	8.661			

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared 10/4/2006 17:44		Sheet : of			
PROJECT : TANGGULANGIN PROJECT NORTH JAVA CORRIDOR FLYOVER PROJECT							
KATAHIRA AND ENGINEERS INTERNATIONAL							
DRAWING NO : TRS-019, TRD-020, TRD-021, TRD-022, TRD-023, TRD024		ESTIMATOR :		CHECKED BY :			
	SKETCH DRAWING	CALCULATION Tanggulangin Fly Over - Contract Package 3				REMARKS	
		Item No. 3.2 (1) - Common Excavation					
		0+722.218	2.837	1.784	20.717	36.949	
		0+740.000	3.014	2.926	17.782	52.021	
		0+777.120	3.872	3.443	37.120	127.804	
		0+829.193	5.000	4.436	52.073	230.996	
		0+880.000	4.527	4.764	50.807	242.019	
		0+909.821	3.729	4.128	29.621	123.101	
		0+910.000	3.735	3.732	0.179	0.668	
		SUB TOTAL RIGHT VOLUME				1,028.629	
		TOTAL	= 2,451.143 sqm.				

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared 10/4/2006 18:05	Sheet : of
PROJECT : TANGGULANGIN PROJECT NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO : TRS-019, TRD-020,TRD-021,TRD-022,TRD-023,TRD024		ESTIMATOR :	CHECKED BY :

SKETCH DRAWING	CALCULATION Tanggulangin Fly Over - Contract Package 3	REMARKS
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Item No. 3.1(3) - Excavation of Existing Pavement

**EXCAVATION OF EXISTING PAVEMENT
MAIN ROAD BEFORE FLYOVER**

STA	LEFT SIDE AREA	AVE. LEFT AREA	DISTANCE			VOL
			START	END	LENGTH	
0+300.000	0.180	0.180	0+295.000	0+300.000	5.000	0.900
0+320.000	0.180	0.180	0+300.000	0+320.000	20.000	3.600
0+340.000	0.180	0.180	0+320.000	0+340.000	20.000	3.600
0+360.000	0.180	0.180	0+340.000	0+360.000	20.000	3.600
0+380.000	0.180	0.180	0+360.000	0+380.000	20.000	3.600
SUB TOTAL LEFT VOLUME						15.300

RIGHT SIDE AREA	AVE. RIGHT AREA	DISTANCE			VOL
		START	END	LENGTH	
0.000	0.000	0+000.000	0+000.000	0.000	0.000
0.000	0.000	0+000.000	0+000.000	0.000	0.000
0.000	0.000	0+000.000	0+000.000	0.000	0.000
0.000	0.000	0+000.000	0+000.000	0.000	0.000
0.000	0.000	0+000.000	0+000.000	0.000	0.000
SUB TOTAL RIGHT VOLUME					0.000

MAIN ROAD AFTER FLYOVER

STA	LEFT SIDE AREA	AVE. LEFT AREA	DISTANCE			VOLUME
			START	END	LENGTH	
0+900.000	0.000	0.000	0+900.000	0+910.000	910.000	0.000
0+920.000	0.000	0.000	0+910.000	0+931.498	21.498	0.000
0+940.000	0.180	0.090	0+931.498	0+940.000	8.502	0.765
0+960.000	0.180	0.180	0+940.000	0+960.000	20.000	3.600
0+980.000	0.180	0.180	0+960.000	0+980.000	20.000	3.600
1+000.000	0.180	0.180	0+980.000	1+000.000	20.000	3.600
1+020.000	0.180	0.180	1+000.000	1+020.000	20.000	3.600
1+040.000	0.000	0.090	1+020.000	1+036.114	16.114	1.450
SUB TOTAL LEFT VOLUME						16.615

RIGHT SIDE AREA	AVE. RIGHT AREA	DISTANCE			VOLUME
		START	END	LENGTH	
0.000	0.000	0+900.000	0+910.000	10.000	0.000
0.180	0.180	0+910.000	0+920.000	10.000	1.800
0.180	0.180	0+920.000	0+940.000	20.000	3.600
0.180	0.180	0+796.233	0+960.000	163.767	29.478
0.180	0.180	0+796.233	0+980.000	183.767	33.078
0.180	0.180	0+796.233	1+002.330	206.097	37.097
0.180	0.180	1+007.377	1+024.047	16.670	3.001
0.000	0.000	0+000.000	0+000.000	0.000	0.000
SUB TOTAL RIGHT VOLUME					108.054

SERVICE ROAD

STA	LEFT SIDE AREA	AVE. LEFT AREA	DISTANCE			VOLUME
			START	END	LENGTH	
0+380.000	0.180	0.090	0+380.000	0+380.000	0.000	0.000
0+400.000	0.180	0.180	0+380.000	0+400.000	20.000	3.600
0+420.000	0.180	0.180	0+400.000	0+420.000	20.000	3.600
0+440.000	0.180	0.180	0+420.000	0+440.000	20.000	3.600
0+460.000	0.180	0.180	0+440.000	0+460.000	20.000	3.600

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared 10/4/2006 18:05		Sheet: of			
PROJECT : TANGGULANGIN PROJECT NORTH JAVA CORRIDOR FLYOVER PROJECT							
KATAHIRA AND ENGINEERS INTERNATIONAL							
DRAWING NO : TRS-019, TRD-020, TRD-021, TRD-022, TRD-023, TRD024		ESTIMATOR :		CHECKED BY :			
SKETCH DRAWING		CALCULATION Tanggulangin Fly Over - Contract Package 3				REMARKS	
		Item No. 3.1(3) - Excavation of Existing Pavement					
	0+480.000	0.180	0.180	0+460.000	0+480.000	20.000	3.600
	0+500.000	0.180	0.180	0+480.000	0+500.000	20.000	3.600
	0+520.000	0.180	0.180	0+500.000	0+520.000	20.000	3.600
	0+540.000	0.180	0.180	0+520.000	0+540.000	20.000	3.600
	0+560.000	0.180	0.180	0+540.000	0+560.000	20.000	3.600
	0+580.000	0.180	0.180	0+560.000	0+586.609	26.609	4.790
	0+600.000	0.000	0.090	0+000.000	0+000.000	0.000	0.000
	0+620.000	0.000	0.000	0+000.000	0+000.000	0.000	0.000
	0+640.000	0.000	0.000	0+000.000	0+000.000	0.000	0.000
	0+920.000	0.180	0.180	0+920.000	0+920.000	0.000	0.000
	0+940.000	0.180	0.180	0+920.000	0+940.000	20.000	3.600
	0+960.000	0.180	0.180	0+940.000	0+960.000	20.000	3.600
	0+980.000	0.180	0.180	0+960.000	0+980.000	20.000	3.600
	1+000.000	0.180	0.180	0+980.000	1+000.000	20.000	3.600
	1+020.000	0.180	0.180	0+616.985	1+036.114	419.129	75.443
SUB TOTAL LEFT VOLUME							127.033
	RIGHT SIDE AREA	AVE. RIGHT AREA	DISTANCE			VOLUME	
			START	END	LENGTH		
	0.000	0.000	0+000.000	0+000.000	0.000	0.000	
	0.000	0.000	0+000.000	0+000.000	0.000	0.000	
	0.000	0.000	0+000.000	0+000.000	0.000	0.000	
	0.000	0.000	0+000.000	0+000.000	0.000	0.000	
	0.180	0.180	0+451.224	0+460.000	8.776	1.580	
	0.180	0.180	0+460.000	0+480.000	20.000	3.600	
	0.180	0.180	0+460.000	0+500.000	40.000	7.200	
	0.180	0.180	0+500.000	0+520.000	20.000	3.600	
	0.180	0.180	0+520.000	0+540.000	20.000	3.600	
	0.180	0.180	0+540.000	0+560.000	20.000	3.600	
	0.180	0.180	0+560.000	0+580.000	20.000	3.600	
	0.180	0.180	0+580.000	0+610.416	30.416	5.475	
	0.180	0.180	0+612.481	0+623.130	10.649	1.917	
	0.000	0.090	0+623.130	0+636.706	13.576	1.222	
	0.180	0.180	0+910.000	0+920.000	10.000	1.800	
	0.180	0.180	0+920.000	0+940.000	20.000	3.600	
	0.180	0.180	0+940.000	0+960.000	20.000	3.600	
	0.180	0.180	0+960.000	0+980.000	20.000	3.600	
	0.180	0.180	0+980.000	1+000.000	20.000	3.600	
	0.180	0.180	0+616.843	1+024.047	407.204	73.297	
SUB TOTAL RIGHT VOLUME							124.890
	TOTAL	= 391.892 cum.					

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared : 21 - 09 - 2006	Sheet : 2 of 2	
PROJECT : TANGGULANGIN FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO :		QUANTITY :	CHECKED BY :	
NO	DESCRIPTION	CALCULATION	QTY (Cu M)	REMARKS
3.2 (3)	Structure Excavation to a depth not exceeding 2 m	A1		Stub Wall
		W = 1.50 m		
		L = 34.90 m		
		H = 1.60 m		
		W = 1.00 m		
		L = 34.90 m		
		H = 0.70 m		
		Quantity		
		= 1.50 x 1.60 x 34.90 x 2	167.52	
		= 1.00 x 0.70 x 34.90 x 2	48.86	
		sub total	216.38	
		A2		Stub Wall
		W = 1.50 m		
		L = 33.90 m		
		H = 1.80 m		
		W = 1.00 m		
		L = 33.90 m		
		H = 0.50 m		
		Quantity		
		= 1.50 x 1.80 x 33.90 x 2	183.06	
		= 1.00 x 0.50 x 33.90 x 2	33.90	
		sub total	216.96	
		SUMMARY	570.62	

CONSTRUCTION COST ESTIMATE WORKSHEET

PROJECT : FLYOVER
 NORTH JAVA CORRIDOR FLYOVER PROJECT
 KATAHIRA AND ENGINEERS INTERNATIONAL

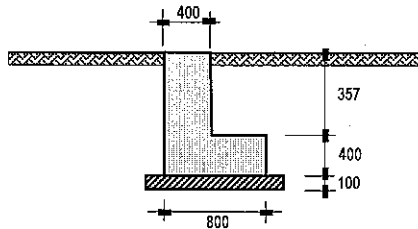
TANGGULANGIN FLYOVER

Item No.	Description	Unit	Main Road / Flyover	Right Service Road	Left Service Road	Total
	Division 3 - EARTHWORKS					
3.2(1)	Borrow Materials	cum.	1,081.57			1,081.57
3.1(19)	Structural Backfill	cum.	280.45			280.45
3.1(22)	Subgrade Preparation in Earth Cut	sqm.	2,147.97	2,072.10	1,651.99	5,872.06
3.1(23)	Subgrade Preparation on Embankment	sqm.	4,029.30			4,029.30
SS 3.4(1)	Machanical Stabilized Earthwall and Accessories	sqm.				-

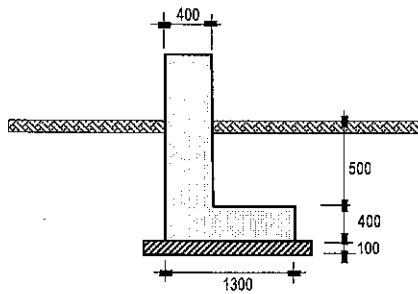
CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared	Sheet : of	
PROJECT : FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO :	ESTIMATOR :	CHECKED BY :		
SKETCH DRAWING	CALCULATION			REMARKS
	Tanggulangin Flyover - Contract Package 3			
	3.1(13) - Embankment with Materials from Borrow Excavation			
	I. At Abutment A1			
	A. Along Stub Wall			
	Input Data:			
	H1cb = 1.245 m.	Ht. Borrow Materials at the start of Stub Wall		
	H2cb = 0.000 m.	Ht. Borrow Materials at the end of Stub Wall		
	W = 12.000 m.	Width of Borrow Materials		
	Ls = 69.800 m.	Total length of Stub Wall		
	$\text{Volume(s)} = \left(\frac{H2cb + H1cb}{2} \times W \times Lm \right) =$		521.41 cum.	
	Total Volume of Borrow Materials along Approach A			
	Vta =		521.41 cum.	

CONSTRUCTION COST ESTIMATE WORKSHEET			Date Prepared	Sheet : of	
PROJECT : FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT					
KATAHIRA AND ENGINEERS INTERNATIONAL					
DRAWING NO :	ESTIMATOR :	CHECKED BY :			
SKETCH DRAWING	CALCULATION			REMARKS	
	Tanggulangin Flyover - Contract Package 3				
	3.1(13) - Embankment with Materials from Borrow Excavation				
	I. At Abutment A2				
	A. Along Stub Wall				
	Input Data:				
	H1cb =	1.377 m.	Ht. Borrow Materials at the start of Stub Wall		
	H2cb =	0.000 m.	Ht. Borrow Materials at the end of Stub Wall		
	W =	12.000 m.	Width of Borrow Materials		
	Ls =	67.800 m.	Total length of MSE Wall		
	Volume(s) = $\left(\frac{H2cb + H3cb}{2} \times W \times Lm \right) =$			560.16	cum.
	Total Volume of Borrow Materials along Approach B				
	Vtb =	560.16	cum.		
	Total =	1,081.57	cum.		

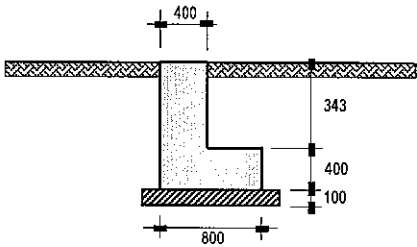
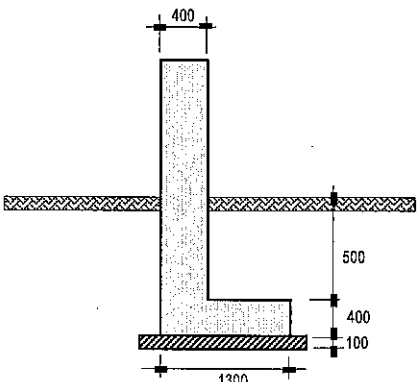
CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared	Sheet : of
PROJECT : TANGGULANGIN. FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :	ESTIMATOR :	CHECKED BY :	
SKETCH DRAWING	CALCULATION		REMARKS
	Tanggulangin Flyover - Contract Package 3		
	Item No. 3.2(2) - Structural Backfill		
	Input Data: At Approach A Side of Flyover		
	for excavation (Section 1)		
	Lwf1 =	34.900 m	
	Wwf1 =	0.800 m	
	twf1 =	0.400 m	
	Tlc1 =	0.100 m	
	h1 =	0.357 m	
	for excavation (Section 2)		
	Lwf2 =	34.900 m	
	Wwf2 =	1.300 m	
	twf 2=	0.400 m	
	Tlc2 =	0.100 m	
	h2 =	0.500 m	
	Volume of Backfill = (Volume of Excavation - Volume of Concrete & Lean Conc.)		
	1.0 Excavation for section 1		
	Vol. of Exc.=	$(34.900 + 0.450) \times (0.100 + 0.400 + 0.357)$	
		$\times (0.800 + 0.900)$	= 51.501 cum.
	2.0 Excavation for section 2		
	Vol. of Exc.=	$(34.900 + 0.450) \times (0.100 + 0.400 + 0.500)$	
		$\times (1.300 + 0.900)$	= 77.770 cum.
	3.0 Volume of Concrete for section 1		
	Vol of Conc.=	$(0.800 \times 0.400) + (0.400 \times 0.357)$	
		$+ (0.100 \times 1.000)$	$\times 34.900 = 19.642$ cum.
	4.0 Volume of Concrete for section 2		
	Vol of Conc.=	$(1.300 \times 0.400) + (0.400 \times 0.500)$	
		$+ (0.100 \times 1.500)$	$\times 34.900 = 30.363$ cum.
	Volume of Backfill =	79.266 x 2 side	
	Volume of Backfill =	158.532 cum.	



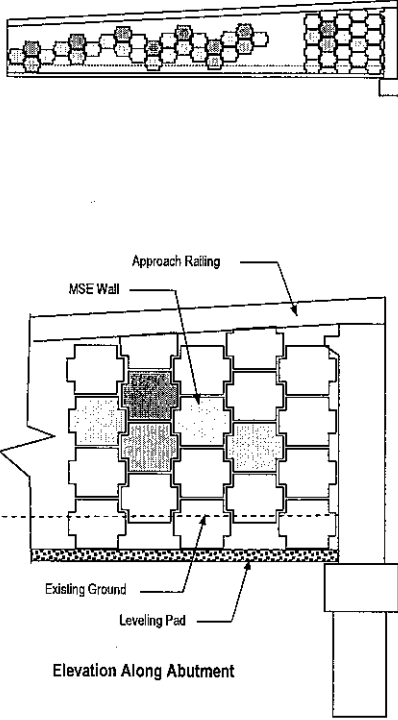
Section 1 at End of Stubwall



Section 2 at Beg. of Stub Wall

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared	Sheet : of	
PROJECT : TANGGULANGIN FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO :		ESTIMATOR :	CHECKED BY :	
SKETCH DRAWING		CALCULATION		REMARKS
		Tanggulangin Flyover - Contract Package 3		
 <p>Section 1 at End of Stubwall</p>		<p>Item No. 3.2(2) - Structural Backfill</p> <p>Input Data: At Approach B Side of Flyover</p> <p>for excavation (Section 1)</p> <p>Lwf1 = 33.900 m</p> <p>Wwf1 = 0.800 m</p> <p>twf1 = 0.400 m</p> <p>Ttc1 = 0.100 m</p> <p>h1 = 0.343 m</p> <p>for excavation (Section 2)</p> <p>Lwf2 = 33.900 m</p> <p>Wwf2 = 1.300 m</p> <p>twf2 = 0.400 m</p> <p>Ttc2 = 0.100 m</p> <p>h2 = 0.500 m</p> <p>Volume of Backfill = (Volume of Excavation - Volume of Concrete & Lean Conc.)</p> <p>1.0 Excavation for section 1</p> <p>Vol. of Exc. = $(33.900 + 0.450) \times (0.100 + 0.400 + 0.343) \times (0.800 + 0.900) = 49.227 \text{ cum.}$</p> <p>2.0 Excavation for section 2</p> <p>Vol. of Exc. = $(33.900 + 0.450) \times (0.100 + 0.400 + 0.500) \times (1.300 + 0.450) = 60.113 \text{ cum.}$</p> <p>3.0 Volume of Concrete for section 1</p> <p>Vol of Conc. = $\left[(0.800 \times 0.400) + (0.400 \times 0.343) + (0.100 \times 1.000) \right] \times 33.900 = 18.889 \text{ cum.}$</p> <p>4.0 Volume of Concrete for section 2</p> <p>Vol of Conc. = $\left[(1.300 \times 0.400) + (0.400 \times 0.500) + (0.100 \times 1.500) \right] \times 33.900 = 29.493 \text{ cum.}$</p> <p>Volume of Backfill = 60.958 x 2 side</p> <p>Volume of Backfill = 121.916 cum.</p> <p>Total = 280.808 cum.</p>		
 <p>Section 2 at Beg. of Stub Wall</p>				

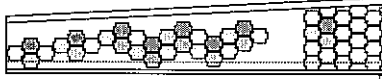
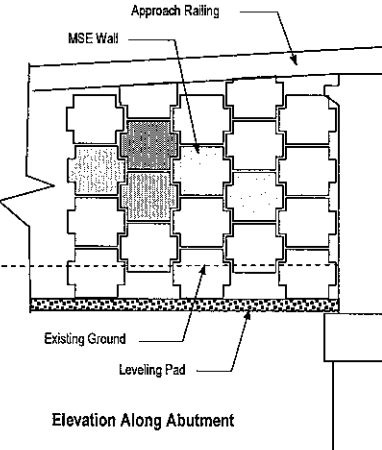
CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared 10/4/2006 18:12	Sheet : of			
PROJECT : TANGGULANGIN PROJECT NORTH JAVA CORRIDOR FLYOVER PROJECT						
KATAHIRA AND ENGINEERS INTERNATIONAL						
DRAWING NO : TRS-019, TRD-020, TRD-021, TRD-022, TRD-023, TRD024		ESTIMATOR :	CHECKED BY :			
SKETCH DRAWING		CALCULATION Tanggulangin Fly Over - Contract Package 3			REMARKS	
Item No. 3.2 (3) - Permeable backfill						
MAIN ROAD						
STA	LEFT SIDE AREA	AVE. LEFT AREA	DISTANCE			VOLUME
			START	END	LENGTH	
0+000.000	0.000	0.000	0+000.000	0+000.000	0.000	0.000
0+000.000	0.000	0.000	0+000.000	0+000.000	0.000	0.000
SUB TOTAL LEFT VOLUME						0.000
RIGHT SIDE AREA	AVE. RIGHT AREA	DISTANCE			VOLUME	
		START	END	LENGTH		
0.000	0.000	0+000.000	0+000.000	0.000	0.000	
0.000	0.000	0+000.000	0+000.000	0.000	0.000	
SUB TOTAL RIGHT VOLUME						0.000
SERVICE ROAD						
STA	LEFT SIDE AREA	AVE. LEFT AREA	DISTANCE			VOLUME
			START	END	LENGTH	
0+000.000	0.000	0.000	0+000.000	0+000.000	0.000	0.000
0+000.000	0.000	0.000	0+000.000	0+000.000	0.000	0.000
SUB TOTAL LEFT VOLUME						0.000
RIGHT SIDE AREA	AVE. RIGHT AREA	DISTANCE			VOLUME	
		START	END	LENGTH		
0.000	0.000	0+000.000	0+000.000	0.000	0.000	
0.000	0.000	0+000.000	0+000.000	0.000	0.000	
SUB TOTAL RIGHT VOLUME						0.000
TOTAL	= 0.000 cum.					

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared 9/26/2006 17:54	Sheet : of				
PROJECT : TANGGULANGIN FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT						
KATAHIRA AND ENGINEERS INTERNATIONAL						
DRAWING NO : 007	ESTIMATOR :	CHECKED BY :				
SKETCH DRAWING	CALCULATION Tanggulangin Flyover - Contract Package 3		REMARKS			
	3.5 (4) - Lightweight Embankment					
	Abutmn	Length	Height	Width	Volume	Remarks
	A1	110.658 m	6.000 m	12.500 m	4,149.675 cu.m.	
	A2	110.658 m	6.000 m	12.500 m	4,149.675 cu.m.	
					8,299.350 cu.m.	

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared 9/26/2006 20:11	Sheet: of
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PROJECT : TANGGULANGIN FLYOVER
NORTH JAVA CORRIDOR FLYOVER PROJECT
KATAHIRA AND ENGINEERS INTERNATIONAL

DRAWING NO :	ESTIMATOR :	CHECKED BY :
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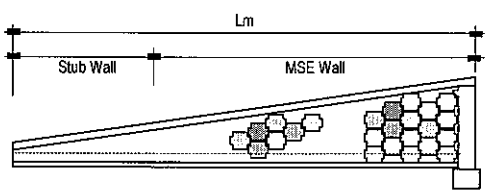
SKETCH DRAWING	CALCULATION							REMARKS
	Tanggulangin Flyover - Contract Package 3							
	3.3 (6) Intermediate Concrete Plate							
								
	Abutmn	Length 1	Length 2	Length 3	Length 4	Width	Volume	
	A1	110.658 m	50.050 m	10.000 m	112.000 m	12.500 m	3,533.850 cu.m.	
	A2	110.658 m	50.050 m	10.000 m	112.000 m	12.500 m	3,533.850 cu.m.	
						7,067.700 cu.m.		
 <p data-bbox="335 1232 526 1265">Elevation Along Abutment</p>								

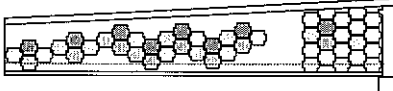
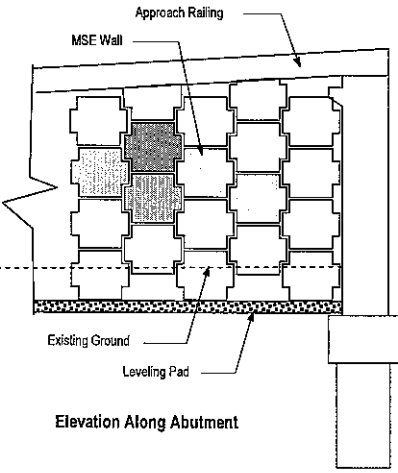
CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared	Sheet : of	
PROJECT : TANGGULANGIN FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT				
KATAHIRA AND ENGINEERS INTERNATIONAL				
DRAWING NO :	ESTIMATOR :	CHECKED BY :		
SKETCH DRAWING	CALCULATION			REMARKS
	Tanggulangin Flyover - Contract Package 3			
	Item No. 3.1(22) - Subgrade Preparation in Earthcut			
	Subgrade Preparation for Widening :			
	From AutoCad Area :			
	A. For Right Service Road			
	Area 1 =	168.94		
	Area 2 =	927.75		
	Area 3 =	975.41		
	Sub-Total=	2,072.10	sqm.	
	B. For Left Service Road			
	Area 1 =	748.79		
	Area 2 =	45.13		
	Area 3 =	858.07		
	Sub-Total=	1,651.99	sqm.	
	C. For Main Road			
	At Approach A			
	Area 1 =	437.13		
	Area 2 =	211.60		
	Area 3 =	566.86		Additional Area
	Sub-Total=	1,215.59	sqm.	
	At Approach B			
	Area 1 =	182.14		
	Area 2 =	54.97		
	Area 3 =	68.45		
	Area 4 =	626.82		Additional Area
	Sub-Total=	932.38	sqm.	
	Total Area=	5872.060	sqm.	

PROJECT : TANGGULANGIN FLYOVER
 NORTH JAVA CORRIDOR FLYOVER PROJECT

KATAHIRA AND ENGINEERS INTERNATIONAL

DRAWING NO : ESTIMATOR : CHECKED BY :

SKETCH DRAWING	CALCULATION	REMARKS	
Tanggulangin Flyover - Contract Package 3			
	Item No. 3.1(23) - Subgrade Preparation on Embankment		
	A. Along Approach A		
	Input Data:		
	W = 12.210 m.	Ave .Width of Borrow Materials	
	Ln = 162.000 m.	Total length of Approach	
	Area 1 = 12.210	x	162.000
	Area 1 = 1,978.02	sqm.	
	B. Along Approach B		
	Input Data:		
	W = 12.210 m.	Ave .Width of Borrow Materials	
	Ln = 168.000 m.	Total length of Approach	
	Area 2 = 12.210	x	168.000
	Area 2 = 2,051.28	sqm.	
	Total Area = 4,029.30	sqm.	
	Total = 9,901.36	sqm.	

CONSTRUCTION COST ESTIMATE WORKSHEET			Date Prepared	Sheet : of		
PROJECT : TANGGULANGIN FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT			9/26/2006 17:46			
KATAHIRA AND ENGINEERS INTERNATIONAL			ESTIMATOR :		CHECKED BY :	
DRAWING NO : 101-010						
SKETCH DRAWING	CALCULATION					REMARKS
	Tanggulangin Flyover - Contract Package 3					
	SS-3.5 (2) - Retaining Wall for Lightweight Embankment					
  <p style="text-align: center;">Elevation Along Abutment</p>	Abutmn	Length	Height	Area	Volume	Remarks
	A1	110.658 m	6.000 m	331.97 sqm.	663.948 cu.m.	
	A2	110.658 m	6.000 m	331.97 sqm.	663.948 cu.m.	
					1,327.896 cu.m.	

**DIVISION 4.
Pavement Widening
and Shoulders**

**DIVISION 5.
Granular Pavement**

**DIVISION 6.
Asphalt Pavement**

CONSTRUCTION COST ESTIMATE WORKSHEET

PROJECT : FLYOVER
NORTH JAVA CORRIDOR FLYOVER PROJECT
KATAHIRA AND ENGINEERS INTERNATIONAL

TANGGULANGIN FLYOVER

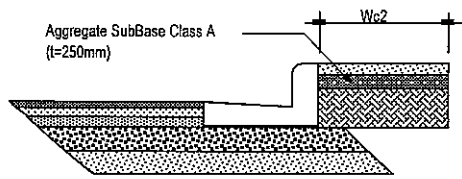
Item No.	Description	Unit	Main Road / Flyover	Right Service Road	Left Service Road	Total
Division 4 - PAVEMENT WIDENING AND SHOULDERS						
4.2	Aggregate SubBase Class A	cum.		13.64	13.18	26.82
4.2.1	Aggregate SubBase Class B	cum.	25.79	33.33	30.33	89.45
Division 5 - GRANULAR PAVEMENT						
5.1.1	Aggregate SubBase Class A	cum.	1,520.78	556.26	379.32	2,456.36
5.1.2	Aggregate SubBase Class B	cum.	2,012.87	707.87	417.18	3,137.92
Division 6 - ASPHALT PAVEMENT						
6.1.1	Prime Coat	Lit.	5,792.07	1,577.53	1,033.27	8,402.87
6.1.2	Tact Coat	Lit.	11,640.11	2,516.61	2,149.08	16,305.80
6.3.5	Asphalt Concrete Wearing Course (AC-WC)	tonne	1,527.04	360.49	350.34	2,237.87
6.3.6	Asphalt Concrete Binder Course (AC-BC)	tonne	993.13	214.17	137.10	1,344.40
6.3.7	Asphalt Concrete Base (AC-Base)	tonne	1,293.01	350.01	219.36	1,862.38

CONSTRUCTION COST ESTIMATE WORKSHEET Date Prepared Sheet : of

PROJECT : FLYOVER
NORTH JAVA CORRIDOR FLYOVER PROJECT
KATAHIRA AND ENGINEERS INTERNATIONAL

DRAWING NO : ESTIMATOR : CHECKED BY :

SKETCH DRAWING CALCULATION REMARKS
Tanggulangin Flyover - Contract Package 3



Section of PCC Sidewalk

Item No. 4.2.1 - Aggregate SubBase Class B Location : At Shoulder

Note: See Detailed Construction Layout Plan
Dwg. # TRD-021 - TRD-027 for reference.

Data :
Thickness 0.250 m

From AutoCad Area :
A. At Right Service Road
Area Right = 54.54 sqm.
Volume = 13.64 cum

B. At Left Service Road
Area Left = 52.70 sqm.
Volume = 13.18 cum

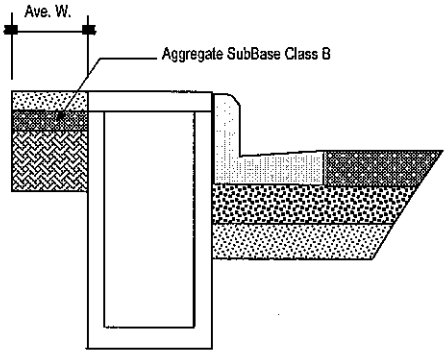
Total Volume = 26.82 cum

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of	
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PROJECT : FLYOVER
NORTH JAVA CORRIDOR FLYOVER PROJECT
KATAHIRA AND ENGINEERS INTERNATIONAL

DRAWING NO :	ESTIMATOR :	CHECKED BY :
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SKETCH DRAWING	CALCULATION	REMARKS
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Section of Aggregate Subbase Class B Left

Tanggulangin Flyover - Contract Package 3

Item No. 4.2.1 - Aggregate SubBase Class B

Location : At Shoulder

Note: See Detailed Construction Layout Plan
Dwg. # TRD-021 - TRD-027 for reference.

At Left Service Road			
Length	Ave. Width	Thickness	Volume
(m)	(m)	(m)	(m ³)
61.980	0.401	0.100	2.485
20.500	0.899	0.100	1.843
48.170	0.401	0.100	1.932
92.650	1.629	0.100	15.093
222.100	0.404	0.100	8.973
Total Volume =			30.33 cum

CONSTRUCTION COST ESTIMATE WORKSHEET Date Prepared Sheet : of

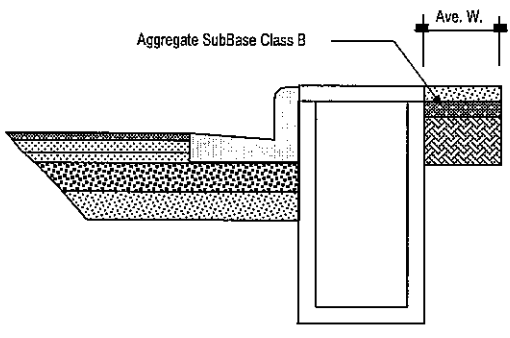
PROJECT : FLYOVER
NORTH JAVA CORRIDOR FLYOVER PROJECT
KATAHIRA AND ENGINEERS INTERNATIONAL

DRAWING NO : ESTIMATOR : CHECKED BY :

SKETCH DRAWING

CALCULATION
 Tanggulangin Flyover - Contract Package 3

REMARKS



Section of Aggregate Subbase Class B Right

Item No. 4.2.1 - Aggregate SubBase Class B Location : At Shoulder

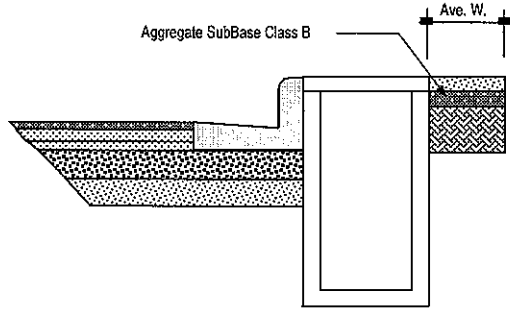
Note: See Detailed Construction Layout Plan
 Dwg. # TRD-021 - TRD-027 for reference.

A. Approach A			
At Right Side			
Length	Ave. Width	Thickness	Volume
(m)	(m)	(m)	(m ³)
196.590	0.401	0.100	7.883
248.000	1.026	0.100	25.445
Total Volume =			33.33 cum

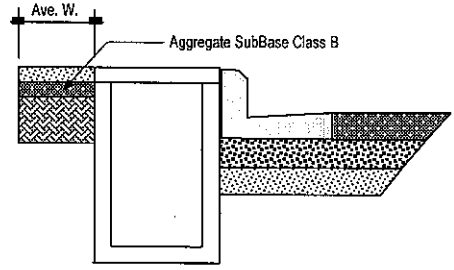
PROJECT : FLYOVER	
NORTH JAVA CORRIDOR FLYOVER PROJECT	
KATAHIRA AND ENGINEERS INTERNATIONAL	

DRAWING NO :	ESTIMATOR :	CHECKED BY :
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SKETCH DRAWING



Section of Aggregate Subbase Class B Right



Section of Aggregate Subbase Class B Left

CALCULATION

Tanggulagin Flyover - Contract Package 3

Item No. 4.2.1 - Aggregate SubBase Class B

Location : At Shoulder

Note: See Detailed Construction Layout Plan
Dwg. # TRD-021 - TRD-027 for reference.

A. Approach A			
At Right Side			
Length	Ave. Width	Thickness	Volume
(m)	(m)	(m)	(m ³)
112.750	0.401	0.100	4.521
Sub-Total =			4.521 cum

At Left Side			
Length	Ave. Width	Thickness	Volume
(m)	(m)	(m)	(m ³)
68.480	0.401	0.100	2.746
36.210	0.401	0.100	1.452
Sub-Total =			4.198 cum

A. Approach B			
At Right Side			
Length	Ave. Width	Thickness	Volume
(m)	(m)	(m)	(m ³)
82.680	0.401	0.100	3.315
121.250	0.395	0.100	4.789
Sub-Total =			8.104 cum

At Left Side			
Length	Ave. Width	Thickness	Volume
(m)	(m)	(m)	(m ³)
188.000	0.418	0.100	7.858
27.720	0.401	0.100	1.112
Sub-Total =			8.970 cum

Total Volume =	25.793	cum.	
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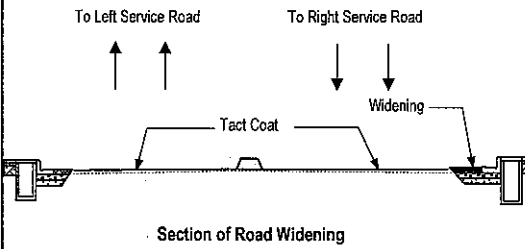
CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of	
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PROJECT : FLYOVER
NORTH JAVA CORRIDOR FLYOVER PROJECT

KATAHIRA AND ENGINEERS INTERNATIONAL

DRAWING NO :	ESTIMATOR :	CHECKED BY :	
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SKETCH DRAWING	CALCULATION	REMARKS
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Tanggulangin Flyover - Contract Package 3

Item No. 6.1.2 - Tact Coat	Pavement Overlay
	Left Service Road

Note: See Detailed Construction Layout Plan

Dwg. # TRD-021 - TRD-027 for reference.

Input Data :

Area from AutoCad
 Area = 2,688.36 sqm.

Area to be deducted from Auto Cad Area :

Ave. Width = 0.870 m

Total Length = 525.00 m

Area = 456.75 sqm.

Total Area = 2,231.61 sqm.

$$\text{Volume} = \left(2,231.61 \text{ sqm.} \times 0.5 \right) = 1,115.81 \text{ lit.}$$

CONSTRUCTION COST ESTIMATE WORKSHEET Date Prepared Sheet: of

PROJECT : FLYOVER
 NORTH JAVA CORRIDOR FLYOVER PROJECT

KATAHIRA AND ENGINEERS INTERNATIONAL

DRAWING NO :

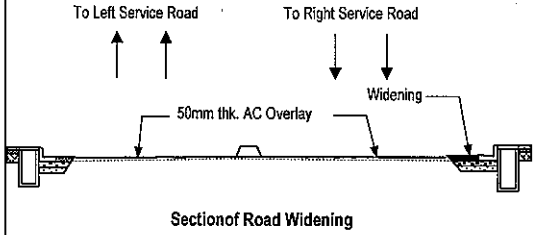
ESTIMATOR :

CHECKED BY :

SKETCH DRAWING

CALCULATION

REMARKS



Tanggulangin Flyover - Contract Package 3

Item No. 6.3.5 - Asphalt Concrete Wearing Course (AC - WC)

Pavement Overlay

Left Service Road

Note: See Detailed Construction Layout Plan

Dwg. # TRD-021 - TRD-027 for reference.

At Left Service Road

Input Data :

Area from AutoCad

Area = 2,688.36 sqm.

Area to be deducted from Auto Cad Area :

Ave. Width = 0.870 m

Total Length = 525.00 m

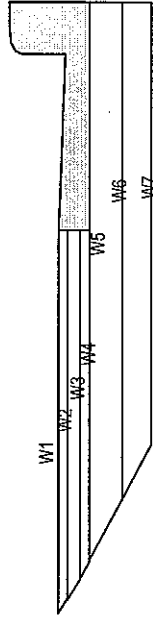
Area = 456.75 sqm.

Total Area = 2,231.61 sqm.

thickness = 0.05 m

Wt = $(2,231.61 \times 0.050 \times 2.30) = 256.64 \text{ Ton}$

PROJECT : FLYOVER
 NORTH JAVA CORRIDOR FLYOVER PROJECT
 KATAHIRA AND ENGINEERS INTERNATIONAL



Note:
 AC - WC = Asphalt Concrete Wearing Course
 AC - BC = Asphalt Concrete Binder Course
 AC - Base = Asphalt Concrete Base
 SBC - Type A = Sub-Base Course (Agg. Class A)
 SBC - Type B = Sub-Base Course (Agg. Class B)

Thickness
 AC - WC 0.040
 AC - BC 0.060
 AC - Base 0.100
 SBC (Type A) 0.300
 SBC (Type B) 0.400

Tanggulangin Flyover (At Left Service Road)

STATION	DISTANCE	AC - WC			AC - BC			AC - Base			SBC (Type A)			SBC (Type B)			Tonnes AC-Base	Volume			PAVEMENT			AC - WC Tonnes
		width			width			width			width			width				SBC (Type A)	SBC (Type B)	Prime Coat Liters	Tack Coat Liters	AC - BC Tonnes		
		W1	W2	W3	W2	W3	W3	W3	W4	W4	W5	W6	W6	w6	w7	w7							SBC (Type A)	
00 + 380.00		4.400	4.363	4.298	4.363	4.298	4.196	4.896	4.590	4.590	4.182				28.17	34.70	87.04	87.04	11.82			7.97		
00 + 400.00	20.00	4.304	4.267	4.202	4.267	4.202	4.100	4.800	4.494	4.494	4.086				27.35	33.60	84.30	84.30	11.44			7.72		
00 + 420.00	20.00	4.126	4.084	4.025	4.084	4.025	3.922	4.621	4.315	4.315	3.907				25.11	30.62	77.30	77.30	10.47			7.07		
00 + 440.00	20.00	3.604	3.562	3.500	3.562	3.500	3.400	4.100	3.704	3.704	3.385				23.79	30.37	69.93	69.93	9.42			6.38		
00 + 460.00	20.00	3.389	3.323	3.261	3.323	3.261	3.156	4.006	4.048	4.048	4.050				22.49	28.65	65.16	65.16	8.76			5.95		
00 + 480.00	20.00	3.127	3.085	3.025	3.085	3.025	2.919	3.623	3.317	3.317	2.908				20.67	24.90	62.03	62.03	8.36			5.67		
00 + 500.00	20.00	3.076	3.035	2.972	3.035	2.972	2.868	3.572	3.266	3.266	2.959				24.26	29.32	69.41	69.41	9.38			6.35		
00 + 520.00	20.00	3.865	3.828	3.765	3.828	3.765	3.661	5.120	4.215	4.215	4.220				25.07	30.20	72.12	72.12	9.76			6.60		
00 + 540.00	20.00	3.347	3.305	3.243	3.305	3.243	3.143	3.842	3.537	3.537	3.128				20.90	25.01	62.82	62.82	8.47			5.74		
00 + 560.00	20.00	2.935	2.898	2.835	2.898	2.835	2.731	3.431	3.125	3.125	2.717				15.00	17.14	42.85	42.85	5.76			3.92		
00 + 580.00	20.00	1.350	1.342	1.277	1.342	1.277	1.175	1.875	1.569	1.569	1.161				8.91	9.08	22.36	22.36	2.94			2.04		
00 + 600.00	20.00	0.886	0.848	0.790	0.848	0.790	0.693	1.396	1.101	1.101	0.707				7.51	7.23	17.91	17.91	2.28			1.61		
00 + 620.00	20.00	0.905	0.864	0.804	0.864	0.804	0.703	1.411	1.101	1.101	0.707				6.17	7.39	18.24	18.24	2.32			1.64		
00 + 640.00	20.00	0.919	0.877	0.815	0.877	0.815	0.710	0.455	1.146	1.146	0.740				26.46	33.05	88.99	88.99	11.99			8.13		
00 + 660.00	20.00	7.980	7.902	7.761	7.902	7.761	7.615	8.322	7.718	7.718	6.920													
00 + 700.00			0.877	0.814	0.877	0.814	0.710	1.414	1.108	1.108	0.700													
00 + 720.00	20.00	0.919	0.789	0.819	0.789	0.819	0.710	1.414	1.108	1.108	0.700				7.57	7.23	18.38	18.38	2.28			1.61		
00 + 740.00	20.00	0.910	0.867	0.810	0.867	0.810	0.705	1.408	1.108	1.108	0.700				7.56	7.23	18.29	18.29	2.27			1.60		
00 + 760.00	20.00	0.919	0.877	0.814	0.877	0.814	0.710	1.414	1.108	1.108	0.700				7.56	7.23	18.29	18.29	2.32			1.64		
00 + 780.00	20.00	0.919	0.877	0.814	0.877	0.814	0.710	1.414	1.108	1.108	0.700				7.57	7.23	18.38	18.38	2.33			1.65		
00 + 800.00	20.00	0.919	0.878	0.816	0.878	0.816	0.714	1.414	1.108	1.108	0.700				12.07	7.23	18.38	18.38	2.34			1.65		
00 + 820.00	20.00	0.919	0.877	0.814	0.877	0.814	0.710	1.414	1.108	1.108	0.700				12.07	7.23	18.38	18.38	2.34			1.65		
00 + 840.00	20.00	0.919	0.789	0.819	0.789	0.819	0.710	1.414	1.108	1.108	0.700				7.57	7.23	18.38	18.38	2.28			1.61		
00 + 860.00	20.00	0.919	0.789	0.819	0.789	0.819	0.710	1.414	1.108	1.108	0.700				7.57	7.23	18.38	18.38	2.22			1.57		
00 + 880.00	20.00	0.919	0.789	0.819	0.789	0.819	0.710	1.414	1.108	1.108	0.700				12.07	7.23	18.38	18.38	2.22			1.57		
00 + 900.00	20.00	0.919	0.789	0.819	0.789	0.819	0.710	1.414	1.108	1.108	0.700				12.07	7.23	18.38	18.38	2.22			1.57		

Tanggulangin Flyover (At Left Service Road)

STATION	AC - WC		AC - BC		AC - Base			SBC (Type A)			SBC (Type B)			Tonne	Volume		PAVEMENT				
	width		width		width			width			width				AC - Base	SBC (Type A)	SBC (Type B)	Prime Coat Liters	Tack Coat Liters	AC - BC Tonne	AC - WC Tonne
	W1	W2	W2	W3	W3	W4	W4	W5	W6	W6	W7	W7	AC - Base								
00 + 910.00	0.919	0.789	0.789	0.819	0.819	0.710	1.414	1.108	1.108	1.108	0.700	0.700	1.76	3.78	3.62	9.19	9.19	1.11	0.79		
TOTAL													219.36	379.32	417.18	1,033.27	1,033.27	137.10	93.70		

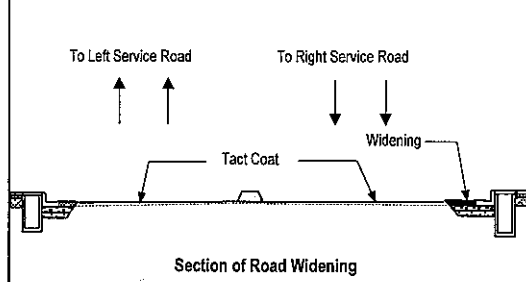
CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of	
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PROJECT : FLYOVER
 NORTH JAVA CORRIDOR FLYOVER PROJECT

KATAHIRA AND ENGINEERS INTERNATIONAL

DRAWING NO :	ESTIMATOR :	CHECKED BY :	
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SKETCH DRAWING	CALCULATION	REMARKS
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Tanggulangin Flyover - Contract Package 3

Item No. 6.1.2 - Tact Coat

Pavement Overlay
 Right Service Road

Note: See Detailed Construction Layout Plan
 Dwg. # TRD-021 - TRD-027 for reference.

At Righth Service Road

Input Data :			
Area from AutoCad			
Area =	2,226.15	sqm.	
Area to be deducted from Auto Cad Area :			
Ave. Width =	0.870	m	
Total Length =	400.00	m	
Area =	348.00	sqm.	
Total Area =	1,878.15	sqm.	

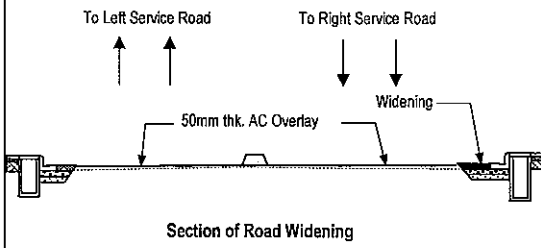
$$\text{Volume} = \left(\frac{1,878.15}{\text{sqm.}} \times 0.5 \right) = 939.08 \text{ lit.}$$

lit/sqm.

PROJECT : FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT KATAHIRA AND ENGINEERS INTERNATIONAL	
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DRAWING NO :	ESTIMATOR :	CHECKED BY :
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SKETCH DRAWING	CALCULATION	REMARKS
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Tanggulangin Flyover - Contract Package 3

Item No: 6.3.5 - Asphalt Concrete Wearing Course (AC - WC)	Pavement Overlay
	Right Service Road

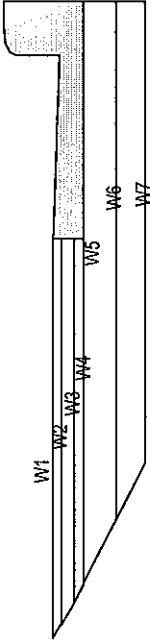
Note: See Detailed Construction Layout Plan
 Dwg. # TRD-021 - TRD-027 for reference.

At Righth Service Road

Input Data :			
Area from AutoCad			
Area =	2,226.15	sqm.	
Area to be deducted from Auto Cad Area :			
Ave. Width =	0.870	m	
Total Length =	400.00	m	
Area =	348.00	sqm.	
Total Area =	1,878.15	sqm.	
thickness =	0.05	m	

$$Wt = \left(1,878.15 \times 0.050 \times 2.30 \right) = 215.99 \text{ Ton}$$

PROJECT :FLYOVER
NORTH JAVA CORRIDOR FLYOVER PROJECT
KATAHIRA AND ENGINEERS INTERNATIONAL



Note:

- AC - WC = Asphalt Concrete Wearing Course
- AC - BC = Asphalt Concrete Binder Course
- AC - Base = Asphalt Concrete Base
- SBC - Type A = Sub-Base Course (Agg. Class A)
- SBC - Type B = Sub-Base Course (Agg. Class B)

Thickness

- AC - WC 0.040
- AC - BC 0.060
- AC - Base 0.100
- SBC (Type-A) 0.300
- SBC (Type-B) 0.400

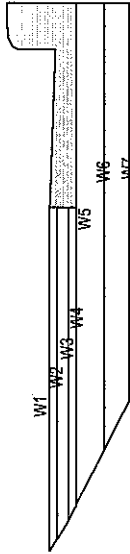
Tangulangin Flyover (At Right Service Road)

STATION	DISTANCE		AC - WC				AC - BC				AC - Base				SBC (Type A)				SBC (Type B)				Tonne AC-Base	Tonne SBC (Type A)	Tonne SBC (Type B)	PAVEMENT			
	width		width		width		width		width		width		width		width		Prime Coat Liters	Tack Coat Liters	AC - BC Tonne	AC - WC Tonne									
	W1	W2	W2	W3	W3	W4	W4	W5	W5	W6	W6	W6	W7	W7															
00 + 380.00	0.910	0.870	0.870	0.805	0.805	0.705	1.405	1.108	1.108	1.108	0.700	0.700	7.54	7.23	18.20	18.20	2.31	1.64											
00 + 400.00	0.910	0.869	0.869	0.807	0.807	0.706	1.408	1.108	1.108	1.108	0.700	0.700	7.55	7.23	18.19	18.19	2.31	1.64											
00 + 420.00	0.909	0.868	0.868	0.807	0.807	0.705	1.407	1.108	1.108	1.108	0.700	0.700	7.56	7.23	18.24	18.24	2.32	1.64											
00 + 440.00	0.915	0.876	0.876	0.814	0.814	0.714	1.414	1.108	1.108	1.108	0.700	0.700	8.27	8.16	20.71	20.71	2.66	1.87											
00 + 460.00	1.156	1.113	1.113	1.049	1.049	0.947	1.647	1.341	1.341	1.341	0.932	0.932	5.10	9.62	25.28	25.28	3.28	2.29											
00 + 480.00	1.372	1.330	1.330	1.268	1.268	1.168	1.897	1.561	1.561	1.561	1.153	1.153	5.98	10.78	29.08	29.08	3.81	2.64											
00 + 500.00	1.536	1.494	1.494	1.432	1.432	1.328	2.032	1.726	1.726	1.726	1.317	1.317	6.53	11.50	31.41	31.41	4.15	2.86											
00 + 520.00	1.605	1.574	1.574	1.511	1.511	1.407	2.107	1.801	1.801	1.801	1.393	1.393	7.79	13.14	36.88	36.88	4.91	3.36											
00 + 540.00	2.083	2.046	2.046	1.981	1.981	1.879	2.579	2.273	2.273	2.273	1.866	1.866	9.69	15.62	45.21	45.21	6.05	4.13											
00 + 560.00	2.438	2.401	2.401	2.336	2.336	2.234	2.934	2.628	2.628	2.628	2.220	2.220	14.70	20.66	65.39	65.39	8.93	6.00											
00 + 580.00	4.101	4.105	4.105	4.105	4.105	4.105	4.105	4.105	4.105	4.105	4.105	4.105	18.27	23.84	79.41	79.41	10.96	7.31											
00 + 600.00	3.840	3.840	3.840	3.840	3.840	3.840	3.840	3.840	3.840	3.840	3.840	3.840	20.04	26.15	87.06	87.06	12.03	8.01											
00 + 620.00	4.866	4.875	4.875	4.875	4.875	4.875	4.875	4.875	4.875	4.875	4.875	4.875	16.05	23.13	71.02	71.02	9.75	6.53											
00 + 640.00	2.236	2.219	2.219	2.157	2.157	2.053	2.753	2.513	2.513	2.513	2.492	2.492	8.81	16.06	41.08	41.08	5.51	3.75											
00 + 660.00	1.872	1.833	1.833	1.774	1.774	1.675	2.524	2.299	2.299	2.299	2.217	2.217	6.05	12.66	29.28	29.28	3.85	2.66											
00 + 680.00	1.056	1.017	1.017	0.958	0.958	0.858	1.708	1.698	1.698	1.698	1.698	1.698	5.37	11.78	26.33	26.33	3.44	2.39											
00 + 700.00	1.577	1.538	1.538	1.478	1.478	1.379	2.229	2.217	2.217	2.217	2.217	2.217	11.08	18.98	51.20	51.20	6.87	4.67											
00 + 720.00	3.543	3.501	3.501	3.439	3.439	3.339	4.039	4.168	4.168	4.168	4.202	4.202	15.59	24.62	70.86	70.86	9.58	6.48											
00 + 740.00	3.543	3.501	3.501	3.439	3.439	3.339	4.039	4.168	4.168	4.168	4.168	4.168	17.54	26.52	79.35	79.35	10.75	7.26											
00 + 760.00	4.392	4.352	4.352	4.290	4.290	4.188	4.888	4.587	4.587	4.587	4.587	4.587	20.55	29.81	92.39	92.39	12.55	8.46											
00 + 780.00	4.847	4.807	4.807	4.744	4.744	4.650	5.353	5.047	5.047	5.047	5.047	5.047	22.30	34.10	98.47	98.47	13.49	9.04											
00 + 800.00	5.000	5.000	5.000	5.000	5.000	5.000	6.047	6.286	6.286	6.286	6.140	6.140	23.00	37.00	100.00	100.00	13.80	9.20											
00 + 820.00	5.000	5.000	5.000	5.000	5.000	5.000	6.047	6.286	6.286	6.286	6.140	6.140	23.00	37.00	100.00	100.00	13.80	9.20											
00 + 840.00	5.000	5.000	5.000	5.000	5.000	5.000	6.047	6.286	6.286	6.286	6.140	6.140	23.00	37.00	100.00	100.00	13.80	9.20											
00 + 860.00	5.000	5.000	5.000	5.000	5.000	5.000	6.047	6.286	6.286	6.286	6.298	6.298	23.00	37.02	100.00	100.00	13.80	9.20											

Tanggulangin Flyover (At Right Service Road)

STATION	AC - WC			AC - BC			AC - Base			SBC (Type A)			SBC (Type B)			Tonne	Volume		PAVEMENT				
	width			width			width			width			width				AC - Base	SBC (Type A)	SBC (Type B)	Prime Coat Liters	Tack Coat Liters	AC - BC Tonne	AC - WC Tonne
	W1	W2	W3	W2	W3	W4	W3	W4	W5	W6	W6	W7	AC - Base	SBC (Type A)	SBC (Type B)								
00 + 880.00	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	6.047	6.298	6.298	6.252	6.252	23.00	37.04	50.20	100.00	100.00	100.00	13.80	9.20		
00 + 900.00	4.700	4.658	4.595	4.595	4.495	4.495	4.595	5.195	4.889	4.889	4.481	4.481	21.95	33.64	43.84	97.00	97.00	97.00	13.28	8.90			
00 + 910.00	4.397	4.356	4.295	4.295	4.189	4.189	4.295	4.893	4.587	4.587	4.179	4.179	10.11	14.67	18.14	45.49	45.49	45.49	6.18	4.17			
TOTAL																350.01	556.26	707.87	1,577.53	1,577.53	1,577.53	214.17	144.50

PROJECT :FLYOVER
NORTH JAVA CORRIDOR FLYOVER PROJECT
KATAHIRA AND ENGINEERS INTERNATIONAL



Note:

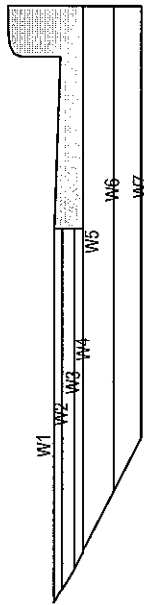
- AC - WC = Asphalt Concrete Wearing Course
- AC - BC = Asphalt Concrete Binder Course
- AC - Base = Asphalt Concrete Base
- SBC - Type A = Sub-Base Course (Agg. Class A)
- SBC - Type B = Sub-Base Course (Agg. Class B)

- Thickness
- AC - WC 0.040
- AC - BC 0.060
- AC - Base 0.100
- SBC (Type -A) 0.300
- SBC (Type -B) 0.400

Tanggungin Flyover Left Side (Main Road)

STATION	DISTANCE			AC - WC			AC - BC			AC - Base			SBC (Type A)			SBC (Type B)			Tonne AC - Base	Volume		PAVEMENT			AC - WC Tonne	
	W1	W2	W3	W1	W2	W3	W3	W4	W4	W5	W5	W6	W6	W7	W7	SBC (Type A)	SBC (Type B)	Prime Coat Liters		Tack Coat Liters	AC - BC Tonne	SBC (Type A)	SBC (Type B)	AC - BC Tonne		
																										width
00 + 200.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
00 + 220.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
00 + 240.00	1.661	1.621	1.621	1.621	1.621	1.561	1.561	1.461	1.461	4.161	1.161	1.161	1.161	0.761	0.761	3.48	7.98	16.61	16.61	16.61	2.20	3.84	3.84	2.20	1.51	
00 + 260.00	1.656	1.616	1.616	1.616	1.616	1.555	1.555	1.455	1.455	1.455	1.155	1.155	1.155	0.756	0.756	6.94	11.90	33.17	33.17	33.17	4.38	7.67	7.67	4.38	3.01	
00 + 280.00	0.935	0.894	0.894	0.894	0.831	0.831	0.727	0.727	1.427	1.108	1.108	1.108	0.700	0.700	5.25	7.72	25.91	25.91	25.91	3.38	7.44	7.44	3.38	2.35		
00 + 300.00	1.146	1.105	1.105	1.105	1.046	1.046	0.941	0.941	1.640	1.330	1.330	1.330	0.922	0.922	4.08	8.26	20.81	20.81	20.81	2.67	8.12	8.12	2.67	1.88		
00 + 320.00	2.523	2.471	2.471	2.471	2.408	2.408	2.309	2.309	3.009	2.703	2.703	2.703	2.294	2.294	7.71	13.02	36.69	36.69	36.69	4.85	14.50	14.50	4.85	3.33		
00 + 340.00	4.277	4.221	4.221	4.221	4.159	4.159	4.055	4.055	5.754	3.749	3.749	3.749	5.754	5.754	14.87	22.82	68.00	68.00	68.00	9.15	29.00	29.00	9.15	6.21		
00 + 360.00	4.340	4.289	4.289	4.289	4.225	4.225	4.123	4.123	4.823	4.517	4.517	4.517	4.108	4.108	19.05	28.26	86.17	86.17	86.17	11.66	36.26	36.26	11.66	7.88		
00 + 380.00	4.400	4.363	4.363	4.363	4.298	4.298	4.196	4.196	4.896	4.590	4.590	4.590	4.182	4.182	19.37	28.24	87.40	87.40	87.40	11.85	34.79	34.79	11.85	8.00		
00 + 910.00	4.552	4.433	4.433	4.433	4.255	4.255	3.958	3.958	4.862	3.777	3.777	3.777	2.598	2.598												
00 + 920.00	4.552	4.433	4.433	4.433	4.255	4.255	3.958	3.958	4.862	3.777	3.777	3.777	2.598	2.598	9.44	12.66	45.52	45.52	45.52	5.99	12.75	12.75	5.99	4.13		
00 + 940.00	4.340	4.239	4.239	4.239	4.058	4.058	3.757	3.757	4.665	3.553	3.553	3.553	2.360	2.360	18.43	24.69	88.92	88.92	88.92	11.72	24.58	24.58	11.72	8.08		
00 + 960.00	4.944	4.820	4.820	4.820	4.642	4.642	4.387	4.387	5.098	4.191	4.191	4.191	2.979	2.979	19.37	25.96	92.84	92.84	92.84	12.25	26.17	26.17	12.25	8.44		
00 + 980.00	3.578	3.496	3.496	3.496	3.377	3.377	3.201	3.201	3.908	3.302	3.302	3.302	2.894	2.894	17.95	24.75	85.22	85.22	85.22	11.27	28.73	28.73	11.27	7.75		
01 + 006.00	3.081	2.999	2.999	2.999	2.875	2.875	2.711	2.711	3.418	2.801	2.801	2.801	1.980	1.980	13.99	20.14	66.59	66.59	66.59	8.80	21.95	21.95	8.80	6.05		
01 + 020.00	0.913	0.872	0.872	0.872	0.810	0.810	0.707	0.707	1.417	1.113	1.113	1.113	0.707	0.707	8.17	13.12	39.94	39.94	39.94	5.21	13.20	13.20	5.21	3.62		
01 + 040.00	0.915	0.874	0.874	0.874	0.812	0.812	0.708	0.708	1.419	1.113	1.113	1.113	0.707	0.707	3.49	7.59	18.28	18.28	18.28	2.32	7.28	7.28	2.32	1.64		
01 + 060.00	0.918	0.877	0.877	0.877	0.814	0.814	0.710	0.710	1.421	1.113	1.113	1.113	0.707	0.707	3.50	7.60	18.33	18.33	18.33	2.33	7.28	7.28	2.33	1.65		
01 + 080.00	0.919	0.877	0.877	0.877	0.815	0.815	0.710	0.710	1.421	1.113	1.113	1.113	0.707	0.707	3.51	7.60	18.37	18.37	18.37	2.33	7.28	7.28	2.33	1.65		
01 + 098.00	0.919	0.877	0.877	0.877	0.815	0.815	0.710	0.710	1.421	1.113	1.113	1.113	0.707	0.707	3.16	6.84	16.54	16.54	16.54	2.10	6.55	6.55	2.10	1.49		
01 + 102.00	0.922	0.880	0.880	0.880	0.817	0.817	0.712	0.712	1.424	1.100	1.100	1.100	0.707	0.707												
01 + 120.00	0.922	0.880	0.880	0.880	0.817	0.817	0.712	0.712	1.424	1.100	1.100	1.100	0.707	0.707	3.17	6.81	16.60	16.60	16.60	2.11	6.51	6.51	2.11	1.49		
01 + 130.02	0.922	0.880	0.880	0.880	0.817	0.817	0.712	0.712	1.424	1.100	1.100	1.100	0.707	0.707	1.76	3.79	9.24	9.24	9.24	1.17	3.62	3.62	1.17	0.83		
TOTAL																186.69	289.75	891.15	891.15	117.74	305.52	891.15	891.15	117.74	80.99	

PROJECT :FLYOVER
NORTH JAVA CORRIDOR FLYOVER PROJECT
KATAHIRA AND ENGINEERS INTERNATIONAL



Note:
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 AC - BC = Asphalt Concrete Binder Course
 AC - Base = Asphalt Concrete Base
 SBC - Type A = Sub-Base Course (Agg. Class A)
 SBC - Type B = Sub-Base Course (Agg. Class B)

Thickness
 AC - WC 0.040
 AC - BC 0.060
 AC - Base 0.100
 SBC (Type-A) 0.300
 SBC (Type-B) 0.400

Tangulangin Flyover Right Side (Main Road)

STATION	DISTANCE	AC - WC			AC - BC			AC - Base			SBC (Type A)			SBC (Type B)			Tonne AC - Base	Volume		PAVEMENT			AC - WC Tonne			
		width			width			width			width			width				SBC (Type A)	SBC (Type B)	Prime Coat Liters	Tack Coat Liters	AC - BC Tonne				
		W1	W2	W3	W2	W3	W4	W3	W4	W5	W6	W6	W7	W7	W7	W7										
00 + 200.00		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
00 + 220.00	20.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
00 + 240.00	20.00	1.661	1.621	1.621	1.561	1.461	1.461	1.461	1.461	1.161	1.161	0.761	0.761	0.761	3.84	3.84	16.61	16.61	16.61	2.20	2.20	1.51	1.51	1.51		
00 + 260.00	20.00	1.656	1.616	1.616	1.556	1.456	1.456	1.456	1.456	1.156	1.156	0.756	0.756	0.756	6.94	6.94	33.17	33.17	33.17	4.38	4.38	3.01	3.01	3.01		
00 + 280.00	20.00	4.224	4.135	4.135	3.963	3.648	3.648	3.648	3.648	3.452	3.452	2.244	2.244	2.244	12.21	12.21	58.80	58.80	58.80	7.78	7.78	5.35	5.35	5.35		
00 + 300.00	20.00	4.168	4.087	4.087	3.905	3.605	3.605	3.605	3.605	3.398	3.398	2.190	2.190	2.190	17.39	17.39	83.92	83.92	83.92	11.10	11.10	7.64	7.64	7.64		
00 + 320.00	20.00	4.192	4.038	4.038	3.856	3.595	3.595	3.595	3.595	3.400	3.400	2.188	2.188	2.188	17.21	17.21	83.60	83.60	83.60	10.96	10.96	7.58	7.58	7.58		
00 + 340.00	20.00	4.187	4.067	4.067	3.885	3.583	3.583	3.583	3.583	3.366	3.366	2.178	2.178	2.178	17.16	17.16	83.79	83.79	83.79	10.93	10.93	7.56	7.56	7.56		
00 + 360.00	20.00	4.130	4.048	4.048	3.866	3.565	3.565	3.565	3.565	3.368	3.368	2.159	2.159	2.159	17.13	17.13	83.17	83.17	83.17	10.95	10.95	7.52	7.52	7.52		
00 + 380.00	20.00	4.130	4.048	4.048	3.866	3.565	3.565	3.565	3.565	3.368	3.368	2.159	2.159	2.159	17.09	17.09	82.60	82.60	82.60	10.92	10.92	7.52	7.52	7.52		
00 + 910.00		4.397	4.356	4.356	4.295	4.189	4.189	4.189	4.189	4.893	4.893	4.179	4.179	4.179												
00 + 920.00	10.00	4.397	4.356	4.356	4.295	4.189	4.189	4.189	4.189	4.893	4.893	4.179	4.179	4.179	9.76	9.76	43.97	43.97	43.97	5.97	5.97	4.03	4.03	4.03		
00 + 940.00	20.00	3.756	3.726	3.726	3.663	3.559	3.559	3.559	3.559	3.957	3.957	3.549	3.549	3.549	18.06	18.06	81.53	81.53	81.53	11.07	11.07	7.47	7.47	7.47		
00 + 960.00	20.00	3.128	3.093	3.093	3.051	2.936	2.936	2.936	2.936	3.324	3.324	2.916	2.916	2.916	15.19	15.19	68.84	68.84	68.84	9.34	9.34	6.30	6.30	6.30		
00 + 980.00	20.00	4.202	4.118	4.118	3.996	3.814	3.814	3.814	3.814	3.407	3.407	3.097	3.097	3.097	15.87	15.87	73.30	73.30	73.30	9.84	9.84	6.69	6.69	6.69		
01 + 000.00	20.00	4.110	4.030	4.030	3.910	3.702	3.702	3.702	3.702	4.518	4.518	3.994	3.994	3.994	17.74	17.74	83.12	83.12	83.12	11.08	11.08	7.57	7.57	7.57		
01 + 020.00	20.00	2.493	2.402	2.402	2.279	2.075	2.075	2.075	2.075	2.788	2.788	2.188	2.188	2.188	14.34	14.34	66.03	66.03	66.03	9.05	9.05	6.00	6.00	6.00		
01 + 040.00	20.00	0.946	0.905	0.905	0.842	0.738	0.738	0.738	0.738	1.445	1.445	1.122	1.122	1.122	7.40	7.40	34.39	34.39	34.39	4.78	4.78	3.10	3.10	3.10		
01 + 060.00	20.00	0.936	0.893	0.893	0.828	0.728	0.728	0.728	0.728	1.435	1.435	1.122	1.122	1.122	3.61	3.61	18.82	18.82	18.82	2.39	2.39	1.69	1.69	1.69		
01 + 080.00	20.00	0.917	0.876	0.876	0.814	0.710	0.710	0.710	0.710	1.420	1.420	1.122	1.122	1.122	3.54	3.54	18.53	18.53	18.53	2.35	2.35	1.67	1.67	1.67		
01 + 100.00	20.00	0.916	0.875	0.875	0.815	0.709	0.709	0.709	0.709	1.420	1.420	1.122	1.122	1.122	3.51	3.51	18.33	18.33	18.33	2.33	2.33	1.65	1.65	1.65		
01 + 120.00	20.00	0.912	0.871	0.871	0.810	0.707	0.707	0.707	0.707	1.410	1.410	1.108	1.108	1.108	3.50	3.50	18.28	18.28	18.28	2.33	2.33	1.64	1.64	1.64		
01 + 130.02	10.02	0.912	0.871	0.871	0.810	0.707	0.707	0.707	0.707	1.410	1.410	1.108	1.108	1.108	1.75	1.75	9.14	9.14	9.14	1.16	1.16	0.82	0.82	0.82		
TOTAL																222.88	320.25	338.60	1,059.94	1,059.94	140.91	1,059.94	96.38	96.38		

CONSTRUCTION COST ESTIMATE WORKSHEET Date Prepared _____ Sheet: ____ of _____

PROJECT : FLYOVER
NORTH JAVA CORRIDOR FLYOVER PROJECT

KATAHIRA AND ENGINEERS INTERNATIONAL

DRAWING NO :

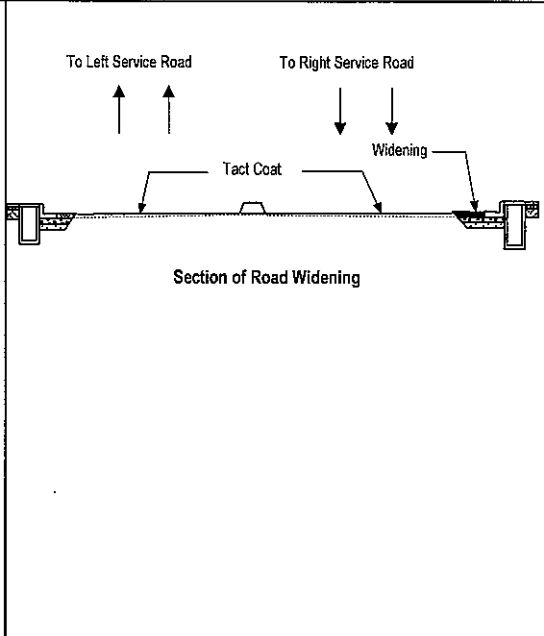
ESTIMATOR :

CHECKED BY :

SKETCH DRAWING

CALCULATION

REMARKS



Tanggulangin Flyover - Contract Package 3

Item No. 6.1.2 - Tact Coat **Pavement Overlay**
Main Road

Note: See Detailed Construction Layout Plan
Dwg. # TRD-021 - TRD-027 for reference.

At Approach A
Input Data :

Area from AutoCad			
Area =	3,698.52	sqm.	
Area to be deducted from Auto Cad Area : Right Service Road			
Ave. Width =	0.870	m	
Total Length =	240.00	m	
Area =	208.80	sqm.	
Area to be deducted from Auto Cad Area : Left Service Road			
Ave. Width =	0.870	m	
Total Length =	240.00	m	
Area =	208.80	sqm.	
Total Area =	3,280.92	sqm.	
thickness =	0.05	m	
Volume =	$(3,280.92 \text{ sqm.} \times 0.50 \text{ lit./sqm.})$	= 1,640.46 lit.	

At Approach B
Input Data :

Area from AutoCad			
Area 2 =	4,241.64	sqm.	
Area to be deducted from Auto Cad Area : Right Service Road			
Ave. Width =	0.870	m	
Total Length =	280.02	m	
Area =	243.62	sqm.	
Area to be deducted from Auto Cad Area : Left Service Road			
Ave. Width =	0.870	m	
Total Length =	306.02	m	
Area =	266.24	sqm.	
Total Area =	3,731.78	sqm.	
thickness =	0.05	m	
Wt =	$(3,731.78 \text{ sqm.} \times 0.50 \text{ lit./sqm.})$	= 1,865.89 lit.	

CONSTRUCTION COST ESTIMATE WORKSHEET		Date Prepared	Sheet : of
PROJECT : FLYOVER NORTH JAVA CORRIDOR FLYOVER PROJECT			
KATAHIRA AND ENGINEERS INTERNATIONAL			
DRAWING NO :	ESTIMATOR :	CHECKED BY :	
SKETCH DRAWING	CALCULATION		REMARKS
<p style="text-align: center;">Section of Road Widening</p>	Tanggulangin Flyover - Contract Package 3		
	Item No. 6.3.5 - Asphalt Concrete Wearing Course (AC - WC)		Pavement Overlay
	Note: See Detailed Construction Layout Plan		Main Raod
	Dwg. # TRD-021 - TRD-027 for reference.		
	At Approach A		
	Input Data :		
	Area from AutoCad		
	Area =	3,698.52 sqm.	
	Area to be deducted from Auto Cad Area : Right Service Road		
	Ave. Width =	0.870 m	
	Total Length =	240.00 m	
	Area =	208.80 sqm.	
	Area to be deducted from Auto Cad Area : Left Service Road		
	Ave. Width =	0.870 m	
	Total Length =	240.00 m	
	Area =	208.80 sqm.	
	Total Area =	3,280.92 sqm.	
	thickness =	0.05 m	
	$Wt = (3,280.92 \times 0.050 \times 2.30) = 377.31 \text{ Ton}$		
	At Approach B		
Input Data :			
Area from AutoCad			
Area 2 =	4,241.64 sqm.		
Area to be deducted from Auto Cad Area : Right Service Road			
Ave. Width =	0.870 m		
Total Length =	280.02 m		
Area =	243.62 sqm.		
Area to be deducted from Auto Cad Area : Left Service Road			
Ave. Width =	0.870 m		
Total Length =	306.02 m		
Area =	266.24 sqm.		
Total Area =	3,731.78 sqm.		
thickness =	0.05 m		
$Wt = (3,731.78 \times 0.050 \times 2.30) = 429.15 \text{ Ton}$			

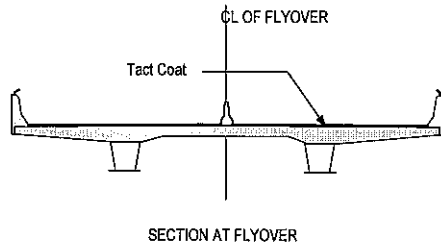
CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of	
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PROJECT : FLYOVER
 NORTH JAVA CORRIDOR FLYOVER PROJECT
 KATAHIRA AND ENGINEERS INTERNATIONAL

DRAWING NO :	ESTIMATOR :	CHECKED BY :
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SKETCH DRAWING	CALCULATION	REMARKS
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Tanggulangin Flyover - Contract Package 3



Item No. 6.1.2 - Tact Coat Location : At Viaduct

Note: See Detailed Construction Layout Plan
 Dwg. # TRD-021 - TRD-027 for reference.

At Viaduct :

Station	Distance (m)	Width (m)	Area (m ²)	Slope is considered
00 + 542.00				
00 + 560.00	18.00	2.015	36.27	
00 + 580.00	20.00	12.015	240.30	
00 + 600.00	20.00	12.008	240.16	
00 + 620.00	20.00	12.000	240.00	
00 + 640.00	20.00	12.000	240.00	
00 + 660.00	20.00	12.005	240.10	
00 + 680.00	20.00	12.005	240.10	
00 + 700.00	20.00	12.014	240.28	
00 + 720.00	20.00	12.015	240.30	
00 + 740.00	20.00	12.008	240.16	
00 + 742.00	2.00	12.000	24.00	
		Total Area =	2,221.67 sqm.	

Total Volume = (Total Area x 0.50 lit/sqm x 2 face) = 2,221.67 lit.

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of	
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PROJECT : FLYOVER		
NORTH JAVA CORRIDOR FLYOVER PROJECT		
KATAHIRA AND ENGINEERS INTERNATIONAL		

DRAWING NO :	ESTIMATOR :	CHECKED BY :	
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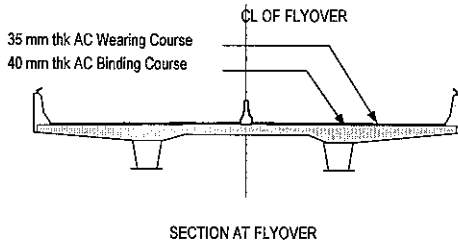
SKETCH DRAWING	CALCULATION	REMARKS
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Tanggulangin Flyover - Contract Package 3

Item No. 6.3.6 - Asphalt Concrete Wearing Course (AC - BC)	Location : At Viaduct
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Note: See Detailed Construction Layout Plan
Dwg. # TRD-021 - TRD-027 for reference.

At Viaduct :				Slope is considered
Station	Distance (m)	Ave. Width (m)	Area (m ²)	
00 + 542.00				
00 + 560.00	18.00	2.015	36.27	
00 + 580.00	20.00	12.015	240.30	
00 + 600.00	20.00	12.008	240.16	
00 + 620.00	20.00	12.000	240.00	
00 + 640.00	20.00	12.000	240.00	
00 + 660.00	20.00	12.005	240.10	
00 + 680.00	20.00	12.005	240.10	
00 + 700.00	20.00	12.014	240.28	
00 + 720.00	20.00	12.015	240.30	
00 + 740.00	20.00	12.008	240.16	
00 + 742.00	2.00	12.000	24.00	
Total Area =			2,221.67 sqm.	



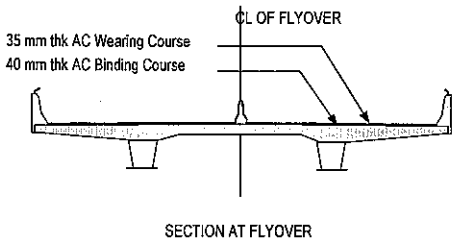
Input Data :	
thickness = 0.040 m	
Total Wt = (Total Area x Thickness) x 2.30 =	204.39 Ton

CONSTRUCTION COST ESTIMATE WORKSHEET	Date Prepared	Sheet : of	
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PROJECT : FLYOVER		
NORTH JAVA CORRIDOR FLYOVER PROJECT		
KATAHIRA AND ENGINEERS INTERNATIONAL		

DRAWING NO :	ESTIMATOR :	CHECKED BY :
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SKETCH DRAWING	CALCULATION	REMARKS
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Tanggulangin Flyover - Contract Package 3

Item No. 6.3.5 - Asphalt Concrete Wearing Course (AC - WC)	Location : At Viaduct
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Note: See Detailed Construction Layout Plan
Dwg. # TRD-021 - TRD-027 for reference.

At Viaduct :				Slope is considered
Station	Distance	Ave. Width	Area	
	(m)	(m)	(m ²)	
00 + 542.00				
00 + 560.00	18.00	2.015	36.27	
00 + 580.00	20.00	12.015	240.30	
00 + 600.00	20.00	12.008	240.16	
00 + 620.00	20.00	12.000	240.00	
00 + 640.00	20.00	12.000	240.00	
00 + 660.00	20.00	12.005	240.10	
00 + 680.00	20.00	12.005	240.10	
00 + 700.00	20.00	12.014	240.28	
00 + 720.00	20.00	12.015	240.30	
00 + 740.00	20.00	12.008	240.16	
00 + 742.00	2.00	12.000	24.00	
		Total Area =	2,221.67 sqm.	

Input Data :
thickness = 0.035 m

Total Wt = (Total Area x Thickness) x 2.30 =	178.84 Ton
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PROJECT :FLYOVER
NORTH JAVA CORRIDOR FLYOVER PROJECT
KATAHIRA AND ENGINEERS INTERNATIONAL

Note:

- AC - WC = Asphalt Concrete Wearing Course
- AC - BC = Asphalt Concrete Binder Course
- AC - Base = Asphalt Concrete Base
- SBC - Type A = Sub-Base Course (Agg. Class A)
- SBC - Type B = Sub-Base Course (Agg. Class B)

- Thickness
- AC - WC 0.040
- AC - BC 0.060
- AC - Base 0.100
- SBC (Type-A) 0.300
- SBC (Type-B) 0.350

Tanggulangin Flyover (At Approach)

STATION	DISTANCE	AC - WC			AC - BC			AC - Base			SBC (Type A)		SBC (Type B)		Tonnes	Volume		PAVEMENT				AC - WC Tonnes	
		width	W1	12.002	width	W2	12.002	width	W3	12.002	width	W4	width	W5		AC - Base	SBC (Type A)	SBC (Type B)	Prime Coat Liters	Tack Coat Liters	AC - BC Tonnes		
																							w4
00 + 380.00																							
00 + 400.00	20.00	12.002		12.002		12.002		12.002		12.002		12.002		12.002	55.21	72.01	84.01	240.04	240.04	33.13	240.04	22.08	
00 + 420.00	20.00	12.002		12.002		12.002		12.002		12.002		12.002		12.002	55.21	72.01	84.01	240.04	240.04	33.13	240.04	22.08	
00 + 440.00	20.00	12.002		12.002		12.002		12.002		12.002	8.502	12.305		12.305	55.21	51.01	86.14	240.04	240.04	33.13	240.04	22.08	
00 + 449.80	9.80	12.002		12.002		12.002		12.002		12.002	8.502	12.305		12.305	27.05	25.00	42.21	117.62	117.62	16.23	117.62	10.82	
00 + 449.80																							
00 + 460.00	10.20	12.002		12.002		12.002		12.002		12.002	8.502	12.305		12.305	28.16	26.02	43.93	122.42	122.42	16.99	122.42	11.26	
00 + 480.00	20.00	12.002		12.002		12.002		12.002		12.002	8.502	12.305		12.305	55.21	51.01	86.14	240.04	240.04	33.13	240.04	22.08	
00 + 500.00	20.00	12.002		12.002		12.002		12.002		12.002	8.502	12.305		12.305	55.21	51.01	86.14	240.04	240.04	33.13	240.04	22.08	
00 + 520.00	20.00	12.002		12.002		12.002		12.002		12.002	8.502	12.305		12.305	55.21	51.01	86.14	240.04	240.04	33.13	240.04	22.08	
00 + 537.00	17.00	12.007		12.007		12.007		12.007		12.007	8.508	12.308		12.308	46.95	43.39	73.23	204.12	204.12	28.17	204.12	18.78	
00 + 747.00																							
00 + 760.00	13.00	12.002		12.002		12.002		12.002		12.002	8.502	12.305		12.305	35.99	33.16	55.99	156.03	156.03	21.53	156.03	14.35	
00 + 780.00	20.00	12.002		12.002		12.002		12.002		12.002	8.502	12.305		12.305	55.21	51.01	86.14	240.04	240.04	33.13	240.04	22.08	
00 + 800.00	20.00	12.002		12.002		12.002		12.002		12.002	8.502	12.305		12.305	55.21	51.01	86.14	240.04	240.04	33.13	240.04	22.08	
00 + 820.00	20.00	12.002		12.002		12.002		12.002		12.002	8.502	12.305		12.305	55.21	51.01	86.14	240.04	240.04	33.13	240.04	22.08	
00 + 840.00	20.00	12.002		12.002		12.002		12.002		12.002	8.502	12.305		12.305	55.21	51.01	86.14	240.04	240.04	33.13	240.04	22.08	
00 + 842.00	2.00	12.002		12.002		12.002		12.002		12.002	8.502	12.305		12.305	5.52	5.10	8.61	24.00	24.00	3.31	24.00	2.21	
00 + 842.00																							
00 + 860.00	18.00	12.002		12.002		12.002		12.002		12.002	8.502	12.305		12.305	49.69	45.91	77.52	216.04	216.04	29.81	216.04	19.88	
00 + 880.00	20.00	12.007		12.007		12.007		12.007		12.007	12.007	12.007		12.007	55.23	72.04	84.05	240.14	240.14	33.14	240.14	22.09	
00 + 900.00	20.00	12.007		12.007		12.007		12.007		12.007	12.007	12.007		12.007	55.23	72.04	84.05	240.14	240.14	33.14	240.14	22.09	
00 + 910.00	10.00	12.007		12.007		12.007		12.007		12.007	12.007	12.007		12.007	27.62	36.02	42.02	120.07	120.07	16.57	120.07	11.05	
00 + 537.00																							
00 + 542.00	5.00	12.002		12.002																	60.01		5.52
00 + 742.00																							
00 + 747.00	5.00	12.002		12.002																	60.01		5.52
TOTAL														883.44	910.78	1368.75	3,840.98	3,961.00	530.09	364.37			