

Republic of the Philippines  
Department of Public Works and Highways

Bureau : DPWH  
Region : IX  
District/City : Zamboanga City

**PROGRAM OF WORK**

(For all types of Project)

|                                                                                                                                                                                    |                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date : _____                                                                                                                                                                       |                                                                                                                                                                                                                                                                    |
| <b>NAME OF PROJECT :</b><br>Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road,<br>Zambowood - Mampang Section, Zamboanga City                            | Appropriation : P <b>140,000,000.00</b><br>Source of Funds : CY-2018 GAA<br>Issued Obligated Authority : _____<br>Released : _____<br>Cal. Days to Complete : 244 Calendar Days<br>Desirable Starting Date : upon approval<br>Mode of Implementation : by contract |
| <b>LOCATION:</b><br>Zamboanga City                                                                                                                                                 |                                                                                                                                                                                                                                                                    |
| <b>PROJECT CATEGORY :</b><br>NATIONAL ROAD                                                                                                                                         |                                                                                                                                                                                                                                                                    |
| <b>PROJECT DESCRIPTION :</b><br>Scope of Work : Road Opening<br>Road Width : 6.70 m.<br>Roadbed Width : 12.00 m.<br>Subbase Course : 0.30 m. thk.<br>Surface Course : 0.15 m. thk. | <b>Station Limits:</b><br>11+380.00 - 15+040.00 <b>Length</b> 3,660.00<br><br>Brgy. Road 305.07<br><br><b>Net Length:</b> 3,660.00 In.m. / 3.66 km.<br><b>Lane Kilometer:</b> 7.32 km.                                                                             |

| MINIMUM EQUIPMENT REQUIREMENT : |     |                   |     | TECHNICAL PERSONNEL REQUIRED : |     |
|---------------------------------|-----|-------------------|-----|--------------------------------|-----|
| Description                     | No. | Description       | No. | Description                    | No. |
| Dump Truck                      | 12  | Water Pump        | 1   | Project Engineer               | 1   |
| Transit Mixer                   | 4   | Concrete Screeder | 1   | Materials Engineer             | 1   |
| Bulldozer                       | 2   | Concrete Vibrator | 2   | Geometric Surveyor             | 1   |
| Backhoe                         | 3   | Concrete Cutter   | 2   | Foreman                        | 1   |
| Road Grader                     | 2   | Bar Cutter        | 1   | Materials Lab. Tech.           | 1   |
| Road Roller                     | 2   | Bar Bender        | 1   | Mason                          | 12  |
| Payloader                       | 4   | One Bagger Mixer  | 2   | Carpenter                      | 8   |
| Water Truck                     | 2   | Batching Plant    | 1   | Laborers (Skilled)             | 20  |
| Water Tank                      | 2   | Plate Compactor   | 1   | Laborers (Unskilled)           | 30  |
| Kneading Machine                | 1   | Cargo Truck       | 1   | Safety Practitioner            | 1   |
| Applicator Machine              | 1   |                   |     |                                |     |

**ESTIMATED COST OF PROPOSED WORK**

| ITEM NO.                                    | DESCRIPTION                                                                                            | % OF TOTAL | UNIT  | QUANTITY  | DIRECT COST   |            |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------|------------|-------|-----------|---------------|------------|
|                                             |                                                                                                        |            |       |           | TOTAL         | UNIT COST  |
| <b>PART A - FACILITIES FOR THE ENGINEER</b> |                                                                                                        |            |       |           |               |            |
| A.1.1(3)                                    | Construction of Field Office for the Engineer                                                          | 0.33       | L.S.  | 1.00      | 382,986.62    | 382,986.62 |
| A.1.1(11)                                   | Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer | 0.25       | L.S.  | 1.00      | 296,073.33    | 296,073.33 |
| A.1.2(5)                                    | Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer                         | 0.22       | month | 8.13      | 260,032.08    | 31,971.16  |
| <b>PART B - OTHER GENERAL REQUIREMENTS</b>  |                                                                                                        |            |       |           |               |            |
| B.4(1)                                      | Construction Survey & Staking                                                                          | 0.15       | km.   | 3.97      | 173,580.67    | 43,777.46  |
| B.5                                         | Project Billboard/Signboard                                                                            | 0.01       | each  | 2.00      | 10,809.20     | 5,404.60   |
| B.7                                         | Occupation Safety and Health Program                                                                   | 0.22       | month | 8.13      | 264,555.04    | 32,527.26  |
| B.9                                         | Mobilization & Demobilization                                                                          | 0.70       | L.S.  | 1.00      | 822,855.00    | 822,855.00 |
| <b>PART C - EARTHWORKS</b>                  |                                                                                                        |            |       |           |               |            |
| 101(3)b2                                    | Removal of Actual Structures/Obstruction                                                               | 0.20       | cu.m. | 1,824.00  | 240,734.39    | 131.98     |
| 102(1)                                      | Unsuitable Excavation                                                                                  | 3.16       | cu.m. | 15,497.00 | 3,716,728.68  | 239.84     |
| 103(3)                                      | Foundation Fill                                                                                        | 0.03       | cu.m. | 20.00     | 31,605.09     | 1,580.25   |
| 103(6)a                                     | Pipe Culverts and Drain Excavation                                                                     | 0.02       | cu.m. | 105.00    | 24,162.14     | 230.12     |
| 104(1)a                                     | Embankment from Roadway Excavation                                                                     | 0.88       | cu.m. | 4,513.00  | 1,040,536.37  | 230.56     |
| 104(2)a                                     | Embankment from Borrow                                                                                 | 7.17       | cu.m. | 14,501.00 | 8,433,267.54  | 581.56     |
| 104(5)                                      | Boulder Fill                                                                                           | 21.27      | cu.m. | 14,841.00 | 25,028,946.09 | 1,686.47   |
| 105(1)a                                     | Subgrade Preparation                                                                                   | 0.08       | sq.m. | 6,066.00  | 96,925.58     | 15.98      |

| ITEM NO.                                          | DESCRIPTION                                            | % OF<br>TOTAL | UNIT  | QUANTITY  | DIRECT COST      |           |
|---------------------------------------------------|--------------------------------------------------------|---------------|-------|-----------|------------------|-----------|
|                                                   |                                                        |               |       |           | TOTAL            | UNIT COST |
| PART D - SUBBASE AND BASE COURSE                  |                                                        |               |       |           |                  |           |
| 200(1)                                            | Aggregate Subbase Course                               | 14.47         | cu.m. | 15,677.00 | 17,026,452.64    | 1,086.08  |
| PART E - SURFACE COURSES                          |                                                        |               |       |           |                  |           |
| 300(1)                                            | Gravel Surface Course                                  | 1.94          | cu.m. | 1,983.00  | 2,279,118.42     | 1,149.33  |
| 311(1)d1                                          | Portland Cement Concrete Pavement                      | 1.98          | sq.m. | 1,854.00  | 2,327,621.91     | 1,255.46  |
| 311(1)e1                                          | Portland Cement Concrete Pavement                      | 34.96         | sq.m. | 27,000.00 | 41,147,524.57    | 1,523.98  |
| PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES |                                                        |               |       |           |                  |           |
| 500(1)b3                                          | Pipe Culverts                                          | 0.34          | ln.m. | 132.00    | 402,847.96       | 3,051.88  |
| 505(2)a                                           | Grouted Riprap, Class "A"                              | 0.11          | cu.m. | 40.00     | 128,276.64       | 3,206.92  |
| 506(1)                                            | Stone Masonry                                          | 0.30          | cu.m. | 91.00     | 354,254.82       | 3,892.91  |
| PART H - MISCELLANEOUS STRUCTURES                 |                                                        |               |       |           |                  |           |
| 612(1)                                            | Reflectorized Thermoplastic Pavement Markings (White)  | 0.58          | sq.m. | 916.00    | 677,038.25       | 739.12    |
| 612(2)                                            | Reflectorized Thermoplastic Pavement Markings (Yellow) | 0.03          | sq.m. | 37.00     | 30,132.19        | 814.38    |
| 715(1)                                            | Separation Geotextile                                  | 3.44          | sq.m. | 21,822.00 | 4,053,099.35     | 185.73    |
| TOTAL                                             |                                                        | 100.00        |       |           | P 117,683,432.10 |           |

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Republic of the Philippines  
Department of Public Works and Highways

Bureau : DPWH  
Region : IX  
District/City : Zamboanga City

**PROGRAM OF WORK**

(For all types of Project)

Date :

**NAME OF PROJECT :**

Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road,  
Zambowood - Mampang Section, Zamboanga City

**LOCATION:**

Zamboanga City

**PROJECT CATEGORY :**

NATIONAL ROAD

Appropriation : P 140,000,000.00  
Source of Funds : CY-2018 GAA  
Issued Obligated Authority :  
Released :  
Cal. Days to Complete : 244 Calendar Days  
Desirable Starting Date : upon approval  
Mode of Implementation : by contract

**PROJECT DESCRIPTION :**

Scope of Work : Road Opening  
Road Width : 6.70 m.  
Roadbed Width : 12.00 m.  
Subbase Course : 0.30 m. thk.  
Surface Course : 0.15 m. thk.

**Station Limits:**  
1 11+380.00 - 15+040.00 **Length** 3,660.00  
Brgy. Road 305.07  
**Net Length:** 3,660.00 In.m. / 3.66 km.  
**Lane Kilometer:** 7.32 km.

**MINIMUM EQUIPMENT REQUIREMENT :**

**TECHNICAL PERSONNEL REQUIRED :**

| Description        | No. | Description       | No. | Description          | No. |
|--------------------|-----|-------------------|-----|----------------------|-----|
| Dump Truck         | 12  | Water Pump        | 1   | Project Engineer     | 1   |
| Transti Mixer      | 4   | Concrete Screeder | 1   | Materials Engineer   | 1   |
| Bulldozer          | 2   | Concrete Vibrator | 2   | Geometric Surveyor   | 1   |
| Backhoe            | 3   | Concrete Cutter   | 2   | Foreman              | 1   |
| Road Grader        | 2   | Bar Cutter        | 1   | Materials Lab. Tech. | 1   |
| Road Roller        | 2   | Bar Bender        | 1   | Mason                | 12  |
| Payloader          | 4   | One Bagger Mixer  | 2   | Carpenter            | 8   |
| Water Truck        | 2   | Batching Plant    | 1   | Laborers (Skilled)   | 20  |
| Water Tank         | 2   | Plate Compactor   | 1   | Laborers (Unskilled) | 30  |
| Kneading Machine   | 1   | Cargo Truck       | 1   | Safety Practitioner  | 1   |
| Applicator Machine | 1   |                   |     |                      |     |

**ESTIMATED COST OF PROPOSED WORK**

| ITEM NO. | DESCRIPTION | % OF TOTAL | UNIT | QUANTITY | DIRECT COST |           |
|----------|-------------|------------|------|----------|-------------|-----------|
|          |             |            |      |          | TOTAL       | UNIT COST |

**PART A - FACILITIES FOR THE ENGINEER**

|            |                                                                                                        |      |       |      |            |            |
|------------|--------------------------------------------------------------------------------------------------------|------|-------|------|------------|------------|
| A.1.1 (3)  | Construction of Field Office for the Engineer                                                          | 0.33 | L.S.  | 1.00 | 382,986.62 | 382,986.62 |
| A.1.1 (11) | Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer | 0.25 | L.S.  | 1.00 | 296,073.33 | 296,073.33 |
| A.1.2 (5)  | Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer                         | 0.22 | month | 8.13 | 260,032.08 | 31,971.16  |

**PART B - OTHER GENERAL REQUIREMENTS**

|         |                                      |      |       |      |            |            |
|---------|--------------------------------------|------|-------|------|------------|------------|
| B.4 (1) | Construction Survey & Staking        | 0.15 | km.   | 3.97 | 173,580.67 | 43,777.46  |
| B.5     | Project Billboard/Signboard          | 0.01 | each  | 2.00 | 10,809.20  | 5,404.60   |
| B.7     | Occupation Safety and Health Program | 0.22 | month | 8.13 | 264,555.04 | 32,527.26  |
| B.9     | Mobilization & Demobilization        | 0.70 | L.S.  | 1.00 | 822,855.00 | 822,855.00 |

**PART C - EARTHWORKS**

|            |                                          |       |       |           |               |          |
|------------|------------------------------------------|-------|-------|-----------|---------------|----------|
| 101 (3) b2 | Removal of Actual Structures/Obstruction | 0.20  | cu.m. | 1,824.00  | 240,734.39    | 131.98   |
| 102 (1)    | Unsuitable Excavation                    | 3.16  | cu.m. | 15,497.00 | 3,716,728.68  | 239.84   |
| 103 (3)    | Foundation Fill                          | 0.03  | cu.m. | 20.00     | 31,605.09     | 1,580.25 |
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| 104 (1) a  | Embankment from Roadway Excavation       | 0.88  | cu.m. | 4,513.00  | 1,040,536.37  | 230.56   |
| 104 (2) a  | Embankment from Borrow                   | 7.17  | cu.m. | 14,501.00 | 8,433,267.54  | 581.56   |
| 104 (5)    | Boulder Fill                             | 21.27 | cu.m. | 14,841.00 | 25,028,946.09 | 1,686.47 |
| 105 (1) a  | Subgrade Preparation                     | 0.08  | sq.m. | 6,066.00  | 96,925.58     | 15.98    |

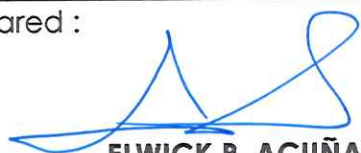
| ITEM NO.                                          | DESCRIPTION                                            | % OF<br>TOTAL | UNIT  | QUANTITY  | DIRECT COST      |           |
|---------------------------------------------------|--------------------------------------------------------|---------------|-------|-----------|------------------|-----------|
|                                                   |                                                        |               |       |           | TOTAL            | UNIT COST |
| PART D - SUBBASE AND BASE COURSE                  |                                                        |               |       |           |                  |           |
| 200(1)                                            | Aggregate Subbase Course                               | 14.47         | cu.m. | 15,677.00 | 17,026,452.64    | 1,086.08  |
| PART E - SURFACE COURSES                          |                                                        |               |       |           |                  |           |
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| PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES |                                                        |               |       |           |                  |           |
| 500(1)b3                                          | Pipe Culverts                                          | 0.34          | ln.m. | 132.00    | 402,847.96       | 3,051.88  |
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| PART H - MISCELLANEOUS STRUCTURES                 |                                                        |               |       |           |                  |           |
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| 612(2)                                            | Reflectorized Thermoplastic Pavement Markings (Yellow) | 0.03          | sq.m. | 37.00     | 30,132.19        | 814.38    |
| 715(1)                                            | Separation Geotextile                                  | 3.44          | sq.m. | 21,822.00 | 4,053,099.35     | 185.73    |
| TOTAL                                             |                                                        | 100.00        |       |           | P 117,683,432.10 |           |

**NAME OF PROJECT :** Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Zamboanga City

| BREAKDOWN OF ESTIMATED EXPENDITURES                       | % OF TOTAL    | AMOUNT                  |
|-----------------------------------------------------------|---------------|-------------------------|
| I. ESTIMATED COST                                         |               |                         |
| A. DIRECT COST                                            |               |                         |
| A.1. Labor                                                | 1.92          | 2,684,547.49            |
| A.2. Equipment Expenses                                   | 13.55         | 18,976,332.15           |
| A.3. Materials                                            | 62.56         | 87,589,284.92           |
| <b>SUB-TOTAL (DIRECT COST)</b>                            | <b>78.04</b>  | <b>P 109,250,164.56</b> |
| B. INDIRECT COST (Per D.O. # 197, s. 2016)                |               |                         |
| B.1. Overhead, Contingency & Misc.<br>(10 % Max. of D.C.) | 7.69          | 10,760,664.91           |
| B.2. Profit (8 % Max. of D.C.)                            | 6.18          | 8,653,382.20            |
| C. VAT (5% of D.C. and I.C. Per D.O. # 197, s. 2016)      | 4.60          | 6,433,210.58            |
| <b>SUBTOTAL (CONTRACT COST)</b>                           | <b>96.50</b>  | <b>P 135,097,422.25</b> |
| II. ESTIMATED GOVERNMENT EXPENDITURES                     |               |                         |
| 1. Engineering and Administrative Overhead (3.5%)         | 3.50          | 4,900,000.00            |
| 2. Detailed Engineering (1%)                              |               |                         |
| 3. Reserved for the Payment of RROW                       | 0.00          | 2,577.75                |
| 4. Physical Reserved                                      |               |                         |
| <b>TOTAL ESTIMATED PROJECT COST</b>                       | <b>100.00</b> | <b>P 140,000,000.00</b> |

Prepared :



**ELWICK P. ACUÑA**

Engineer II

Checked :



**JERALD R. BARRERA**

Engineer II

Submitted :



**LEONCIO B. SOLAMILLO**

Chief, Construction Division

Recommending Approval :



**CAYAMOMBAO D. DIA**

Assistant Regional Director

Approved :

**JORGE U. SEBASTIAN, JR., CESO III**

Regional Director

**NAME OF PROJECT :** Construction of By-Pass and Diversion Roads - Zaranga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Zamboanga City

| BREAKDOWN OF ESTIMATED EXPENDITURES                       | % OF TOTAL    | AMOUNT                  |
|-----------------------------------------------------------|---------------|-------------------------|
| I. ESTIMATED COST                                         |               |                         |
| A. DIRECT COST                                            |               |                         |
| A.1. Labor                                                | 1.92          | 2,684,547.49            |
| A.2. Equipment Expenses                                   | 13.55         | 18,976,332.15           |
| A.3. Materials                                            | 62.56         | 87,589,284.92           |
| <b>SUB-TOTAL (DIRECT COST)</b>                            | <b>78.04</b>  | <b>P 109,250,164.56</b> |
| B. INDIRECT COST (Per D.O. # 197, s. 2016)                |               |                         |
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| 2. Detailed Engineering (1%)                              |               |                         |
| 3. Reserved for the Payment of RROW                       | 0.00          | 2,577.75                |
| 4. Physical Reserved                                      |               |                         |
| <b>TOTAL ESTIMATED PROJECT COST</b>                       | <b>100.00</b> | <b>P 140,000,000.00</b> |

|                                                                                                                                                                    |                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prepared :<br><br><b>ELWICK P. ACUÑA</b><br>Engineer II                         | Checked :<br><br><b>JERALD R. BARRERA</b><br>Engineer II                              |
| Submitted :<br><br><b>LEONCIO B. SOLAMILLO</b><br>Chief, Construction Division  | Recommending Approval :<br><br><b>CAYAMOMBAO D. DIA</b><br>Assistant Regional Director |
| Approved :<br><br><b>JORGE U. SEBASTIAN, JR., CESO III</b><br>Regional Director |                                                                                                                                                                            |

# APPROVED PROJECT FOR THE CONTRACT

Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zamboowood - Mampang Section, Zamboanga City

Stations : 11,380.00 to 15,040.00  
0.00 to 0.00

Length : 3,660.00 In.m.

Contract Duration : 244 CD

| ITEM NO.                                          | DESCRIPTION                                                                                            | QUANTITY  | UNIT   | ESTIMATED DIRECT COST | MARK-UPS IN % |        | TOTAL MARK-UPS |              | VAT          | TOTAL INDIRECT COST | TOTAL COST    | UNIT COST  |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------|--------|-----------------------|---------------|--------|----------------|--------------|--------------|---------------------|---------------|------------|
|                                                   |                                                                                                        |           |        |                       | OCM           | PROFIT | %              | VALUE        |              |                     |               |            |
|                                                   |                                                                                                        |           |        |                       |               |        |                |              |              |                     |               |            |
| (1)                                               | (2)                                                                                                    | (3)       | (4)    | (5)                   |               |        |                | (5) x (8)    | 58%(5) + (9) | (9) + (10)          | (5) + (11)    | (12) / (3) |
| PART A - FACILITIES FOR THE ENGINEER              |                                                                                                        |           |        |                       |               |        |                |              |              |                     |               |            |
| A.1.1(3)                                          | Construction of Field Office for the Engineer                                                          | 1.00      | L.S.   | 382,986.62            | 10.00         | 8.00   | 18.00          | 68,937.59    | 22,596.21    | 91,533.80           | 474,520.43    | 474,520.43 |
| A.1.1(11)                                         | Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer | 1.00      | L.S.   | 296,073.33            | -             | 8.00   | 8.00           | 23,685.87    | 15,987.96    | 39,673.83           | 335,747.16    | 335,747.16 |
| A.1.2(5)                                          | Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer                         | 8.13      | month  | 260,032.08            | -             | -      | -              | -            | 13,001.60    | 13,001.60           | 273,033.68    | 33,569.72  |
| TOTAL OF PART A                                   |                                                                                                        |           |        | 939,092.04            |               |        |                | 92,623.46    | 51,585.77    | 144,209.23          | 1,083,301.27  |            |
| PART B - OTHER GENERAL REQUIREMENTS               |                                                                                                        |           |        |                       |               |        |                |              |              |                     |               |            |
| B.4(1)                                            | Construction Survey & Staking                                                                          | 3.97      | km.    | 173,580.67            | 10.00         | 8.00   | 18.00          | 31,244.52    | 10,241.26    | 41,485.78           | 215,066.45    | 54,240.27  |
| B.5                                               | Project Billboard/Signboard                                                                            | 2.00      | each   | 10,809.20             | 10.00         | 8.00   | 18.00          | 1,945.66     | 637.74       | 2,583.40            | 13,392.60     | 6,696.30   |
| B.7                                               | Occupation Safety and Health Program                                                                   | 8.13      | month  | 264,555.04            | -             | 8.00   | 8.00           | 21,164.40    | 14,285.97    | 35,450.38           | 300,005.42    | 36,885.91  |
| B.9                                               | Mobilization & Demobilization                                                                          | 1.00      | L.S.   | 822,855.00            | -             | -      | -              | -            | 41,142.75    | 41,142.75           | 863,997.75    | 863,997.75 |
| TOTAL OF PART B                                   |                                                                                                        |           |        | 1,271,799.91          |               |        |                | 54,354.58    | 66,307.72    | 120,662.31          | 1,392,462.22  |            |
| PART C - EARTHWORKS                               |                                                                                                        |           |        |                       |               |        |                |              |              |                     |               |            |
| 101(3)b2                                          | Removal of Actual Structures/Obstruction                                                               | 1,824.00  | c.u.m. | 240,734.39            | 10.00         | 8.00   | 18.00          | 43,332.19    | 14,203.33    | 57,535.52           | 298,269.90    | 163.53     |
| 102(1)                                            | Unsuitable Excavation                                                                                  | 15,497.00 | c.u.m. | 3,716,728.68          | 10.00         | 8.00   | 18.00          | 669,011.16   | 219,286.99   | 888,298.15          | 4,605,026.83  | 297.16     |
| 103(3)                                            | Foundation Fill                                                                                        | 20.00     | c.u.m. | 31,605.09             | 10.00         | 8.00   | 18.00          | 5,688.92     | 1,864.70     | 7,553.62            | 39,158.70     | 1,957.94   |
| 103(6)a                                           | Pipe Culverts and Drain Excavation                                                                     | 105.00    | c.u.m. | 24,162.14             | 10.00         | 8.00   | 18.00          | 4,349.19     | 1,425.57     | 5,774.75            | 29,936.90     | 285.11     |
| 104(1)a                                           | Embankment from Roadway Excavation                                                                     | 4,513.00  | c.u.m. | 1,040,536.37          | 10.00         | 8.00   | 18.00          | 187,296.55   | 61,391.65    | 248,688.19          | 1,289,224.56  | 285.67     |
| 104(2)a                                           | Embankment from Borrow                                                                                 | 14,501.00 | c.u.m. | 8,433,267.54          | 10.00         | 8.00   | 18.00          | 1,517,988.16 | 497,562.78   | 2,015,550.94        | 10,448,818.48 | 720.56     |
| 104(5)                                            | Boulder Fill                                                                                           | 14,841.00 | c.u.m. | 25,028,946.09         | 10.00         | 8.00   | 18.00          | 4,505,210.30 | 1,476,707.82 | 5,981,918.12        | 31,010,864.21 | 2,089.54   |
| 105(1)a                                           | Subgrade Preparation                                                                                   | 6,066.00  | sq.m.  | 96,925.58             | 10.00         | 8.00   | 18.00          | 17,446.60    | 5,718.61     | 23,165.21           | 120,090.79    | 19.80      |
| TOTAL OF PART C                                   |                                                                                                        |           |        | 38,612,905.87         |               |        |                | 6,930,323.06 | 2,278,161.45 | 9,228,484.50        | 47,841,390.38 |            |
| PART D - SUBBASE AND BASE COURSE                  |                                                                                                        |           |        |                       |               |        |                |              |              |                     |               |            |
| 200(1)                                            | Aggregate Subbase Course                                                                               | 15,677.00 | c.u.m. | 17,026,452.64         | 10.00         | 8.00   | 18.00          | 3,064,761.48 | 1,004,560.71 | 4,069,322.18        | 21,095,774.83 | 1,345.65   |
| TOTAL OF PART D                                   |                                                                                                        |           |        | 17,026,452.64         |               |        |                | 3,064,761.48 | 1,004,560.71 | 4,069,322.18        | 21,095,774.83 |            |
| PART E - SURFACE COURSES                          |                                                                                                        |           |        |                       |               |        |                |              |              |                     |               |            |
| 300(1)                                            | Gravel Surface Course                                                                                  | 1,983.00  | c.u.m. | 2,279,118.42          | 10.00         | 8.00   | 18.00          | 410,241.31   | 134,467.99   | 544,709.30          | 2,823,827.72  | 1,424.02   |
| 311(1)d1                                          | Portland Cement Concrete Pavement                                                                      | 1,854.00  | sq.m.  | 2,327,621.91          | 10.00         | 8.00   | 18.00          | 418,971.94   | 137,329.69   | 556,301.64          | 2,883,923.54  | 1,555.51   |
| 311(1)e1                                          | Portland Cement Concrete Pavement                                                                      | 27,000.00 | sq.m.  | 41,147,524.57         | 10.00         | 8.00   | 18.00          | 7,406,554.42 | 2,427,703.95 | 9,834,258.37        | 50,981,782.94 | 1,888.21   |
| TOTAL OF PART E                                   |                                                                                                        |           |        | 45,754,264.89         |               |        |                | 8,235,767.68 | 2,699,501.63 | 10,935,269.31       | 56,689,534.20 |            |
| PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES |                                                                                                        |           |        |                       |               |        |                |              |              |                     |               |            |
| 500(1)b3                                          | Pipe Culverts                                                                                          | 132.00    | In.m.  | 402,847.96            | 10.00         | 8.00   | 18.00          | 72,512.63    | 23,768.03    | 96,280.66           | 499,128.62    | 3,781.28   |
| 505(2)a                                           | Grouled Riprap, Class "A"                                                                              | 40.00     | c.u.m. | 128,276.64            | 10.00         | 8.00   | 18.00          | 23,089.79    | 7,568.32     | 30,658.12           | 158,934.75    | 3,973.37   |
| 506(1)                                            | Stone Masonry                                                                                          | 91.00     | c.u.m. | 354,254.82            | 10.00         | 8.00   | 18.00          | 63,765.87    | 20,901.03    | 84,666.90           | 438,921.73    | 4,823.32   |
| TOTAL OF PART G                                   |                                                                                                        |           |        | 885,379.42            |               |        |                | 159,368.29   | 52,237.39    | 211,605.68          | 1,096,985.10  |            |

# APPROVED BUDGET FOR THE CONTRACT

Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zamboanga Section, Zamboanga City

Stations : 11,380.00 to 15,040.00  
0.00 to 0.00

Length : 3,660.00 In.m.

Contract Duration : 244 CD

| ITEM NO.                                                 | DESCRIPTION                                                                                            | QUANTITY  | UNIT  | ESTIMATED DIRECT COST | MARK-UPS IN % | PROFIT | %     | TOTAL MARK-UPS VALUE | VAT                 | TOTAL INDIRECT COST  | TOTAL COST           | UNIT COST  |
|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------|-------|-----------------------|---------------|--------|-------|----------------------|---------------------|----------------------|----------------------|------------|
| (1)                                                      | (2)                                                                                                    | (3)       | (4)   | (5)                   | (6)           | (7)    | (8)   | (9)                  | (10)                | (11)                 | (12)                 | (13)       |
|                                                          |                                                                                                        |           |       |                       |               |        |       | (5) x (8)            | 5%[(5) + (9)]       | (9) + (10)           | (5) + (11)           | (12) / (3) |
| <b>PART A - FACILITIES FOR THE ENGINEER</b>              |                                                                                                        |           |       |                       |               |        |       |                      |                     |                      |                      |            |
| A.1.1(3)                                                 | Construction of Field Office for the Engineer                                                          | 1.00      | L.S.  | 382,986.62            | 10.00         | 8.00   | 18.00 | 68,937.59            | 22,596.21           | 91,533.80            | 474,520.43           | 474,520.43 |
| A.1.1(11)                                                | Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer | 1.00      | L.S.  | 296,073.33            | -             | 8.00   | 8.00  | 23,685.87            | 15,987.96           | 39,673.83            | 335,747.16           | 335,747.16 |
| A.1.2(5)                                                 | Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer                         | 8.13      | month | 260,032.08            | -             | -      | -     | -                    | 13,001.60           | 13,001.60            | 273,033.68           | 33,569.72  |
| <b>TOTAL OF PART A</b>                                   |                                                                                                        |           |       | <b>939,092.04</b>     |               |        |       | <b>92,623.46</b>     | <b>51,585.77</b>    | <b>144,209.23</b>    | <b>1,083,301.27</b>  |            |
| <b>PART B - OTHER GENERAL REQUIREMENTS</b>               |                                                                                                        |           |       |                       |               |        |       |                      |                     |                      |                      |            |
| B.4(1)                                                   | Construction Survey & Staking                                                                          | 3.97      | km.   | 173,580.67            | 10.00         | 8.00   | 18.00 | 31,244.52            | 10,241.26           | 41,485.78            | 215,066.45           | 54,240.27  |
| B.5                                                      | Project Billboard/Signboard                                                                            | 2.00      | each  | 10,809.20             | 10.00         | 8.00   | 18.00 | 1,945.66             | 637.74              | 2,583.40             | 13,392.60            | 6,696.30   |
| B.7                                                      | Occupation Safety and Health Program                                                                   | 8.13      | month | 264,555.04            | -             | 8.00   | 8.00  | 21,164.40            | 14,285.97           | 35,450.38            | 300,005.42           | 36,885.91  |
| B.9                                                      | Mobilization & Demobilization                                                                          | 1.00      | L.S.  | 822,855.00            | -             | -      | -     | -                    | 41,142.75           | 41,142.75            | 863,997.75           | 863,997.75 |
| <b>TOTAL OF PART B</b>                                   |                                                                                                        |           |       | <b>1,271,799.91</b>   |               |        |       | <b>54,354.58</b>     | <b>66,307.72</b>    | <b>120,662.31</b>    | <b>1,392,462.22</b>  |            |
| <b>PART C - EARTHWORKS</b>                               |                                                                                                        |           |       |                       |               |        |       |                      |                     |                      |                      |            |
| 101(3)b2                                                 | Removal of Actual Structures/Obstruction                                                               | 1,824.00  | cu.m. | 240,734.39            | 10.00         | 8.00   | 18.00 | 43,332.19            | 14,203.33           | 57,535.52            | 298,269.90           | 163.53     |
| 102(1)                                                   | Unsuitable Excavation                                                                                  | 15,497.00 | cu.m. | 3,716,728.68          | 10.00         | 8.00   | 18.00 | 669,011.16           | 219,286.99          | 888,298.15           | 4,605,026.83         | 297.16     |
| 103(3)                                                   | Foundation Fill                                                                                        | 20.00     | cu.m. | 31,605.09             | 10.00         | 8.00   | 18.00 | 5,688.92             | 1,864.79            | 7,553.62             | 39,158.70            | 1,957.94   |
| 103(6)a                                                  | Pipe Culverts and Drain Excavation                                                                     | 105.00    | cu.m. | 24,162.14             | 10.00         | 8.00   | 18.00 | 4,349.19             | 1,425.57            | 5,774.75             | 29,936.90            | 285.11     |
| 104(1)a                                                  | Embankment from Roadway Excavation                                                                     | 4,513.00  | cu.m. | 1,040,536.37          | 10.00         | 8.00   | 18.00 | 187,296.55           | 61,391.65           | 248,688.19           | 1,289,224.56         | 285.67     |
| 104(2)a                                                  | Embankment from Borrow                                                                                 | 14,501.00 | cu.m. | 8,433,267.54          | 10.00         | 8.00   | 18.00 | 1,517,988.16         | 497,562.78          | 2,015,550.94         | 10,448,818.48        | 720.56     |
| 104(5)                                                   | Boulder Fill                                                                                           | 14,841.00 | cu.m. | 25,028,946.09         | 10.00         | 8.00   | 18.00 | 4,505,210.30         | 1,476,707.82        | 5,981,918.12         | 31,010,864.21        | 2,089.54   |
| 105(1)a                                                  | Subgrade Preparation                                                                                   | 6,066.00  | sq.m. | 96,925.58             | 10.00         | 8.00   | 18.00 | 17,446.60            | 5,718.61            | 23,165.21            | 120,090.79           | 19.80      |
| <b>TOTAL OF PART C</b>                                   |                                                                                                        |           |       | <b>38,612,905.87</b>  |               |        |       | <b>6,930,323.06</b>  | <b>2,278,161.45</b> | <b>9,228,484.50</b>  | <b>47,841,390.38</b> |            |
| <b>PART D - SUBBASE AND BASE COURSE</b>                  |                                                                                                        |           |       |                       |               |        |       |                      |                     |                      |                      |            |
| 200(1)                                                   | Aggregate Subbase Course                                                                               | 15,677.00 | cu.m. | 17,026,452.64         | 10.00         | 8.00   | 18.00 | 3,064,761.48         | 1,004,560.71        | 4,069,322.18         | 21,095,774.83        | 1,345.65   |
| <b>TOTAL OF PART D</b>                                   |                                                                                                        |           |       | <b>17,026,452.64</b>  |               |        |       | <b>3,064,761.48</b>  | <b>1,004,560.71</b> | <b>4,069,322.18</b>  | <b>21,095,774.83</b> |            |
| <b>PART E - SURFACE COURSES</b>                          |                                                                                                        |           |       |                       |               |        |       |                      |                     |                      |                      |            |
| 300(1)                                                   | Gravel Surface Course                                                                                  | 1,983.00  | cu.m. | 2,279,118.42          | 10.00         | 8.00   | 18.00 | 410,241.31           | 134,467.99          | 544,709.30           | 2,823,827.72         | 1,424.02   |
| 311(1)d1                                                 | Portland Cement Concrete Pavement                                                                      | 1,854.00  | sq.m. | 2,327,621.91          | 10.00         | 8.00   | 18.00 | 418,971.94           | 137,329.69          | 556,301.64           | 2,883,923.54         | 1,555.51   |
| 311(1)e1                                                 | Portland Cement Concrete Pavement                                                                      | 27,000.00 | sq.m. | 41,147,524.57         | 10.00         | 8.00   | 18.00 | 7,406,554.42         | 2,427,703.95        | 9,834,258.37         | 50,981,782.94        | 1,888.21   |
| <b>TOTAL OF PART E</b>                                   |                                                                                                        |           |       | <b>45,754,264.89</b>  |               |        |       | <b>8,235,767.68</b>  | <b>2,699,501.63</b> | <b>10,935,269.31</b> | <b>56,689,534.20</b> |            |
| <b>PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES</b> |                                                                                                        |           |       |                       |               |        |       |                      |                     |                      |                      |            |
| 500(1)b3                                                 | Pipe Culverts                                                                                          | 132.00    | In.m. | 402,847.96            | 10.00         | 8.00   | 18.00 | 72,512.63            | 23,768.03           | 96,280.66            | 499,128.62           | 3,781.28   |
| 505(2)a                                                  | Grouted Riprap, Class "A"                                                                              | 40.00     | cu.m. | 128,276.64            | 10.00         | 8.00   | 18.00 | 23,089.79            | 7,568.32            | 30,658.12            | 158,934.75           | 3,973.37   |
| 506(1)                                                   | Stone Masonry                                                                                          | 91.00     | cu.m. | 354,254.82            | 10.00         | 8.00   | 18.00 | 63,765.87            | 20,901.03           | 84,666.90            | 438,921.73           | 4,823.32   |
| <b>TOTAL OF PART G</b>                                   |                                                                                                        |           |       | <b>885,379.42</b>     |               |        |       | <b>159,368.29</b>    | <b>52,237.39</b>    | <b>211,605.68</b>    | <b>1,096,985.10</b>  |            |

| ITEM NO.                                 | DESCRIPTION                                            | QUANTITY  | UNIT  | ESTIMATED DIRL COST   | MARK-UPS IN % |        | TOTAL MARK-UPS |                      | VAT                 | TOTAL INDIRECT COST  | TOTAL COST            | UNIT COST  |
|------------------------------------------|--------------------------------------------------------|-----------|-------|-----------------------|---------------|--------|----------------|----------------------|---------------------|----------------------|-----------------------|------------|
|                                          |                                                        |           |       |                       | OCM           | PROFIT | %              | VALUE                |                     |                      |                       |            |
| (1)                                      | (2)                                                    | (3)       | (4)   | (5)                   | (6)           | (7)    | (8)            | (9)                  | (10)                | (11)                 | (12)                  | (13)       |
|                                          |                                                        |           |       |                       |               |        |                | (5) x (8)            | 5%[(5) + (9)]       | (9) + (10)           | (5) + (11)            | (12) / (3) |
| <b>PART H - MISCELLANEOUS STRUCTURES</b> |                                                        |           |       |                       |               |        |                |                      |                     |                      |                       |            |
| 612(1)                                   | ReflectORIZED Thermoplastic Pavement Markings (White)  | 916.00    | sq.m. | 677,088.25            | 10.00         | 8.00   | 18.00          | 121,866.89           | 39,945.26           | 161,812.14           | 838,850.40            | 915.78     |
| 612(2)                                   | ReflectORIZED Thermoplastic Pavement Markings (Yellow) | 37.00     | sq.m. | 30,132.19             | 10.00         | 8.00   | 18.00          | 5,423.79             | 1,777.80            | 7,201.59             | 37,333.78             | 1,009.02   |
| 715(1)                                   | Separation Geotextile                                  | 21,822.00 | sq.m. | 4,053,099.35          | 10.00         | 8.00   | 18.00          | 729,557.88           | 239,132.86          | 968,690.74           | 5,021,790.09          | 230.13     |
|                                          | <b>TOTAL OF PART H</b>                                 |           |       | <b>4,760,269.79</b>   |               |        |                | <b>856,848.56</b>    | <b>280,855.92</b>   | <b>1,137,704.48</b>  | <b>5,897,974.27</b>   |            |
|                                          | <b>TOTAL</b>                                           |           |       | <b>109,250,164.56</b> |               |        |                | <b>19,414,047.11</b> | <b>6,433,210.58</b> | <b>25,847,257.69</b> | <b>135,097,422.25</b> |            |

Prepared by :

**BELEN A. SAPALLEDA**  
Head, BAC Technical Working Group

Submitted by :

**LEONCIO B. SOLAMILLO**  
Chief, Construction Division

Recommending Approval:

**CAYAMON BAO D. DIA**  
OIC - Assistant Regional Director

Approved by :

**JORGE U. SEASTIAN**  
Regional Director

| ITEM NO.                                 | DESCRIPTION                                            | QUANTITY  | UNIT  | ESTIMATED DIR. COST   | MARK-UPS IN % |        | TOTAL MARK-UPS |                      | VAT                 | TOTAL INDIRECT COST  | TOTAL COST            | UNIT COST  |
|------------------------------------------|--------------------------------------------------------|-----------|-------|-----------------------|---------------|--------|----------------|----------------------|---------------------|----------------------|-----------------------|------------|
|                                          |                                                        |           |       |                       | OCM           | PROFIT | %              | VALUE                |                     |                      |                       |            |
| (1)                                      | (2)                                                    | (3)       | (4)   | (5)                   | (6)           | (7)    | (8)            | (9)                  | (10)                | (11)                 | (12)                  | (13)       |
|                                          |                                                        |           |       |                       |               |        |                | (5) x (8)            | 5%[(5) + (9)]       | (9) + (10)           | (5) + (11)            | (12) / (3) |
| <b>PART H - MISCELLANEOUS STRUCTURES</b> |                                                        |           |       |                       |               |        |                |                      |                     |                      |                       |            |
| 612(1)                                   | ReflectORIZED Thermoplastic Pavement Markings (White)  | 916.00    | sq.m. | 677,038.25            | 10.00         | 8.00   | 18.00          | 121,866.89           | 39,945.26           | 161,812.14           | 838,850.40            | 915.78     |
| 612(2)                                   | ReflectORIZED Thermoplastic Pavement Markings (Yellow) | 37.00     | sq.m. | 30,132.19             | 10.00         | 8.00   | 18.00          | 5,423.79             | 1,777.80            | 7,201.59             | 37,333.78             | 1,009.02   |
| 715(1)                                   | Separation Geotextile                                  | 21,822.00 | sq.m. | 4,053,099.35          | 10.00         | 8.00   | 18.00          | 729,557.88           | 239,132.86          | 968,690.74           | 5,021,790.09          | 230.13     |
|                                          | <b>TOTAL OF PART H</b>                                 |           |       | <b>4,760,269.79</b>   |               |        |                | <b>856,848.56</b>    | <b>280,855.92</b>   | <b>1,137,704.48</b>  | <b>5,897,974.27</b>   |            |
|                                          | <b>TOTAL</b>                                           |           |       | <b>109,250,164.56</b> |               |        |                | <b>19,414,947.11</b> | <b>6,433,210.58</b> | <b>25,847,257.69</b> | <b>135,097,422.25</b> |            |

Prepared by :

**BELEN A. SAPALLEDA**  
Head, BAC Technical Working Group

Submitted by :

**TEODORO B. SOLAMILLO**  
Chief, Construction Division

Recommending Approval:

**CAYAMONBAO D. DIA**  
OIC - Assistant Regional Director

Approved by :

**JORGE FU. SEBASTIAN, JR.**  
Regional Director

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: A.1.1 (3) Construction of Field Office for the Engineer

Unit of Measurement: L.S.

Output per hour:

Quantity: 1.00

*7.00 m. x 9.00 m., 1 - Classroom, for  
Government Field Office, fully furnished as  
shown on plans*

| Designation                    |                                                                                | No. of Persons   | No. of Days               | Daily Rate | Amount       |
|--------------------------------|--------------------------------------------------------------------------------|------------------|---------------------------|------------|--------------|
| A.                             | Labor                                                                          |                  |                           |            |              |
|                                | a. Const. Foreman                                                              | 1                | 8.00                      | 611.92     | 4,895.36     |
|                                | b. Mason                                                                       | 3                | 8.00                      | 443.20     | 10,636.80    |
|                                | c. Carpenter                                                                   | 3                | 8.00                      | 443.20     | 10,636.80    |
|                                | d. Laborer                                                                     | 6                | 8.00                      | 342.24     | 16,427.52    |
| Sub-total for A                |                                                                                |                  |                           |            | P 42,596.48  |
| Name and Capacity              |                                                                                | No. of Equipment | No. of Days               | Daily Rate | Amount       |
| B.                             | Equipment, (2014 ACEL Rates)                                                   |                  |                           |            |              |
|                                | a. One Bagger Mixer                                                            | 1                | 6.00                      | 1,376.00   | 8,256.00     |
|                                | b. Water Truck                                                                 | 1                | 1.00                      | 19,600.00  | 19,600.00    |
|                                | Minor Tools 10% of Labor                                                       |                  |                           |            | 4,259.65     |
| Sub-total for B                |                                                                                |                  |                           |            | P 32,115.65  |
| C.                             | Total (A+B)                                                                    |                  |                           |            | 74,712.13    |
| D.                             | Output/day                                                                     | -                | L.S./day                  |            |              |
| Name and Specifications        |                                                                                | Quantity         | Unit                      | Unit Cost  | Amount       |
| E.                             | Materials                                                                      |                  |                           |            |              |
|                                | <b>I. Earthworks (Excavation, Embankment, Bedding)</b>                         |                  |                           |            |              |
|                                | a. Gravel Bedding                                                              | 3.50             | cu.m.                     | 1,082.05   | 3,787.18     |
|                                | b. Selected Fill                                                               | 10.00            | cu.m.                     | 388.35     | 3,883.50     |
|                                | c. Soil Poisoning                                                              | 2.50             | L                         | 1,900.00   | 4,750.00     |
|                                | <b>II. Concrete Works (Footing, Columns, Beams &amp; Slab on Grade)</b>        |                  |                           |            |              |
|                                | a. Portland Cement                                                             | 90.00            | bag                       | 284.00     | 25,560.00    |
|                                | b. Crushed Gravel                                                              | 21.00            | cu.m.                     | 1,082.05   | 22,723.05    |
|                                | c. Washed Sand                                                                 | 18.00            | cu.m.                     | 1,082.05   | 19,476.90    |
|                                | <b>III. Reinforcing Bars (Footing Columns, Beams, &amp; Slabs on Grade)</b>    |                  |                           |            |              |
|                                | a. Deformed Round Bar, Grade 40                                                | 435.00           | kg.                       | 38.00      | 16,530.00    |
|                                | b. No. 16 GI Tie Wire                                                          | 20.00            | kg.                       | 80.00      | 1,600.00     |
|                                | <b>IV. Formworks (Columns &amp; Beams)</b>                                     |                  |                           |            |              |
|                                | a. Coco Lumber                                                                 | 400.00           | bd.ft.                    | 24.50      | 9,800.00     |
|                                | b. Ordinary Plywood, 1/4"x4'x8'                                                | 18.00            | pc.                       | 385.00     | 6,930.00     |
|                                | c. CWN, Assorted                                                               | 5.00             | kg.                       | 65.00      | 325.00       |
|                                | <b>V. Masonry Works (masonry walls &amp; plastering)</b>                       |                  |                           |            |              |
|                                | a. CHB 6" thk                                                                  | 650.00           | pc.                       | 16.00      | 10,400.00    |
|                                | b. Portland Cement                                                             | 45.00            | bag                       | 284.00     | 12,780.00    |
|                                | c. Washed Sand                                                                 | 8.00             | cu.m.                     | 1,082.05   | 8,656.40     |
|                                | d. 10mm dia. X 6m RSB                                                          | 65.00            | kg.                       | 38.00      | 2,470.00     |
|                                | e. No. 16 GI Tie Wire                                                          | 2.50             | kg.                       | 80.00      | 200.00       |
|                                | <b>VI. Doors and Windows</b>                                                   |                  |                           |            |              |
|                                | a. D-1, Hollow Core Flush Type swing door, complete w/ accessories, 0.90mx2.1m | 2.00             | set                       | 1,765.26   | 3,530.52     |
|                                | b. W-1, Jalousie window, 1.4m x 1.2m                                           | 2.00             | set                       | 924.00     | 1,848.00     |
|                                | c. W-2, Jalousie window, 2.8m x 1.2m                                           | 2.00             | set                       | 1,848.00   | 3,696.00     |
| Sub-total for E                |                                                                                |                  |                           |            | P 158,946.55 |
| Sub-total for E (I + II + III) |                                                                                |                  |                           |            | P 308,274.50 |
| F.                             | Direct Cost (C + E)                                                            |                  |                           |            | 382,986.62   |
| G.                             | Overhead, Contingencies and Miscellaneous                                      |                  | 10% per D.O. 197, s. 2016 |            | 38,298.66    |
| H.                             | Contractor's Profit (CP)                                                       |                  | 8% per D.O. 197, s. 2016  |            | 30,638.93    |
| I.                             | Value Added Tax (VAT)                                                          |                  | 5% per D.O. 197, s. 2016  |            | 22,596.21    |
| J.                             | Total Unit Cost                                                                |                  |                           |            | 474,520.43   |

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: A.1.1(3) Bunkhouse, 7.00 m. x 9.00 m.

Unit of Measurement: L.S.

Output per hour:

Quantity: 1.00

For Government Field Office, fully  
furnished as shown on plans

| Designation             |                                           | No. of Persons   | No. of Days               | Daily Rate | Amount     |
|-------------------------|-------------------------------------------|------------------|---------------------------|------------|------------|
| A.                      | Labor                                     |                  |                           |            |            |
| Sub-total for A         |                                           |                  |                           | P          | -          |
| Name and Capacity       |                                           | No. of Equipment | No. of Days               | Daily Rate | Amount     |
| B.                      | Equipment, (2014 ACEL Rates)              |                  |                           |            | -          |
| Sub-total for B         |                                           |                  |                           | P          | -          |
| C.                      | Total (A+B)                               |                  |                           |            | -          |
| D.                      | Output/day                                | -                | L.S./day                  |            |            |
| Name and Specifications |                                           | Quantity         | Unit                      | Unit Cost  | Amount     |
| E.                      | Materials                                 |                  |                           |            |            |
|                         | <b>VII. Steel Works</b>                   |                  |                           |            |            |
| a.                      | 65 x 65 x 6mm. L                          | 350.00           | kg.                       | 48.00      | 16,800.00  |
| b.                      | 50 x 50 x 6mm. L                          | 250.00           | kg.                       | 48.00      | 12,000.00  |
| c.                      | 50 x 50 x 4mm. L                          | 100.00           | kg.                       | 48.00      | 4,800.00   |
| d.                      | Purlins C- 150 x 50 x 3mm.                | 18.00            | kg.                       | 48.00      | 864.00     |
| e.                      | 16mm dia. Cross bracing                   | 35.00            | kg.                       | 38.00      | 1,330.00   |
| f.                      | 16mm dia. Turn buckle                     | 20.00            | pc.                       | 118.00     | 2,360.00   |
| g.                      | 12mm thk base plate                       | 25.00            | kg.                       | 47.00      | 1,175.00   |
| h.                      | 10mm thk batten plate                     | 15.00            | kg.                       | 47.00      | 705.00     |
| i.                      | 10mm dia. Sag rod                         | 10.00            | kg.                       | 38.00      | 380.00     |
| j.                      | 20mm dia. X 350 mm anchor bolts           | 10.00            | pc.                       | 36.00      | 360.00     |
| k.                      | Welding Rod                               | 15.00            | kg.                       | 166.33     | 2,494.95   |
| l.                      | Primer, Zinc Chromate                     | 5.00             | gal.                      | 531.00     | 2,655.00   |
|                         | <b>VIII Roofing Works</b>                 |                  |                           |            |            |
| a.                      | Pre-painted GI Roofing Sheet long span    | 55.00            | sq.m.                     | 420.00     | 23,100.00  |
| b.                      | Pre-painted ridge roll ga 24, 0.60m width | 10.00            | ln.m.                     | 113.00     | 1,130.00   |
| c.                      | Pre-painted flashing, ga. 24              | 2.00             | ln.m.                     | 113.00     | 226.00     |
| d.                      | Teckscrew 1 1/2"                          | 1,000.00         | pc.                       | 1.25       | 1,250.00   |
| e.                      | Roof Sealant                              | 2.00             | L                         | 250.00     | 500.00     |
|                         | <b>IX. Carpentry Works</b>                |                  |                           |            |            |
| a.                      | Rough Lumber, sun dried tanguile          | 500.00           | bd.ft.                    | 37.00      | 18,500.00  |
| b.                      | Plywood, ordinary 1/4" x 4' x 8'          | 30.00            | pc.                       | 385.00     | 11,550.00  |
| c.                      | Finishing Nails                           | 5.00             | kg.                       | 100.00     | 500.00     |
| d.                      | Common Wire Nails                         | 10.00            | kg.                       | 65.00      | 650.00     |
| e.                      | Wood Preservative Brown                   | 5.00             | L                         | 400.00     | 2,000.00   |
| Sub-total for E         |                                           |                  |                           | P          | 105,329.95 |
| F.                      | Direct Cost (C + E)                       |                  |                           |            |            |
| G.                      | Overhead, Contingencies and Miscellaneous |                  | 10% per D.O. 197, s. 2016 |            |            |
| H.                      | Contractor's Profit (CP)                  |                  | 8% per D.O. 197, s. 2016  |            |            |
| I.                      | Value Added Tax (VAT)                     |                  | 5% per D.O. 197, s. 2016  |            |            |
| J.                      | Total Unit Cost                           |                  |                           |            |            |

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: A.1.1(3) Bunkhouse, 7.00 m. x 9.00 m.

Unit of Measurement: L.S.

Output per hour:

Quantity: 1.00

For Government Field Office, fully  
furnished as shown on plans

| Designation             |                                                  | No. of Persons   | No. of Days               | Daily Rate | Amount    |
|-------------------------|--------------------------------------------------|------------------|---------------------------|------------|-----------|
| A.                      | Labor                                            |                  |                           |            |           |
| Sub-total for A         |                                                  |                  |                           | P          | -         |
| Name and Capacity       |                                                  | No. of Equipment | No. of Days               | Daily Rate | Amount    |
| B.                      | Equipment, (2014 ACEL Rates)                     |                  |                           |            |           |
| Sub-total for B         |                                                  |                  |                           | P          | -         |
| C.                      | Total (A+B)                                      |                  |                           |            | -         |
| D.                      | Output/day                                       | -                | L.S./day                  |            |           |
| Name and Specifications |                                                  | Quantity         | Unit                      | Unit Cost  | Amount    |
| E.                      | Materials                                        |                  |                           |            |           |
|                         | <b>X. Electrical Works</b>                       |                  |                           |            |           |
|                         | a. 2 x 40w Flourescent lighting fixtures         | 5.00             | set                       | 1,030.00   | 5,150.00  |
|                         | b. Porcelain Ceiling Outlet w/ female socket     | 2.00             | pc                        | 50.00      | 100.00    |
|                         | c. Duplex Convenience outlet                     | 3.00             | pc                        | 170.00     | 510.00    |
|                         | d. two gang switch                               | 3.00             | pc                        | 170.00     | 510.00    |
|                         | e. 3.5mm2 thw                                    | 3.00             | roll                      | 3,600.00   | 10,800.00 |
|                         | f. 8.00mm2 thw                                   | 25.00            | m                         | 70.00      | 1,750.00  |
|                         | g. 15mm dia. PVC pipe                            | 20.00            | pc                        | 73.00      | 1,460.00  |
|                         | h. 15mm dia. PVC Coupling                        | 25.00            | pc                        | 5.00       | 125.00    |
|                         | i. 15mm dia. PVC Elbow                           | 25.00            | pc                        | 26.00      | 650.00    |
|                         | j. 15mm dia. PVC Clamp                           | 55.00            | pc                        | 8.00       | 440.00    |
|                         | k. 20mm dia. RSC Pipe                            | 4.00             | pc                        | 240.00     | 960.00    |
|                         | l. 20mm dia. RSC Coupling                        | 3.00             | pc                        | 9.00       | 27.00     |
|                         | m. 20mm dia. RSC elbow                           | 3.00             | pc                        | 30.00      | 90.00     |
|                         | n. 20mm dia. RSC Clamp                           | 10.00            | pc                        | 18.00      | 180.00    |
|                         | o. 20mm dia. Service entrance cap                | 2.00             | pc                        | 100.00     | 200.00    |
|                         | p. wire holder                                   | 2.00             | pc                        | 50.00      | 100.00    |
|                         | q. utility box                                   | 7.00             | pc                        | 32.00      | 224.00    |
|                         | r. octagonal box                                 | 8.00             | pc                        | 34.00      | 272.00    |
|                         | s. electrical tape (big)                         | 7.00             | pc                        | 31.00      | 217.00    |
|                         | t. panel board (side main w/ braches)            | 2.00             | set                       | 1,627.00   | 3,254.00  |
|                         | <b>XI. Plumbing Works</b>                        |                  |                           |            |           |
|                         | a. Water Closet (include. Fitting & Accessories) | 1.00             | set                       | 7,375.00   | 7,375.00  |
|                         | b. Lavatory (include fitting & Accessories)      | 1.00             | set                       | 6,615.00   | 6,615.00  |
|                         | c. 1/2" GI Pipe S-40                             | 2.00             | pc                        | 166.00     | 332.00    |
|                         | d. 1/2" Water Faucet                             | 2.00             | pc                        | 321.00     | 642.00    |
|                         | e. 1/2" Assorted Connector                       | 8.00             | pc                        | 20.00      | 160.00    |
|                         | f. 4" PVC series 1000                            | 1.00             | pc                        | 640.00     | 640.00    |
|                         | g. 2" PVC series 1000                            | 1.00             | pc                        | 305.00     | 305.00    |
|                         | h. 4" PVC assorted Connector                     | 6.00             | pc                        | 77.00      | 462.00    |
|                         | i. 2" PVC assorted Connector                     | 8.00             | pc                        | 56.00      | 448.00    |
| Sub-total for E         |                                                  |                  |                           | P          | 43,998.00 |
| F.                      | Direct Cost (C + E)                              |                  |                           |            |           |
| G.                      | Overhead, Contingencies and Miscellaneous        |                  | 10% per D.O. 197, s. 2016 |            |           |
| H.                      | Contractor's Profit (CP)                         |                  | 8% per D.O. 197, s. 2016  |            |           |
| I.                      | Value Added Tax (VAT)                            |                  | 5% per D.O. 197, s. 2016  |            |           |
| J.                      | Total Unit Cost                                  |                  |                           |            |           |

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: A.1.1(11) Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer

Unit of Measurement: L.S.

Output per hour:

Quantity: 1.00

| Designation             |                                                                        | No. of Persons   | No. of Days              | Daily Rate | Amount     |
|-------------------------|------------------------------------------------------------------------|------------------|--------------------------|------------|------------|
| A.                      | Labor                                                                  |                  |                          |            |            |
| Sub-total for A         |                                                                        |                  |                          | P          | -          |
| Name and Capacity       |                                                                        | No. of Equipment | No. of Days              | Daily Rate | Amount     |
| B.                      | Equipment, (2014 ACEL Rates)                                           |                  |                          |            |            |
| Sub-total for B         |                                                                        |                  |                          | P          | -          |
| C.                      | Total (A+B)                                                            |                  |                          |            | -          |
| D.                      | Output/day                                                             | -                | L.S./day                 |            |            |
| Name and Specifications |                                                                        | Quantity         | Unit                     | Unit Cost  | Amount     |
| E.                      | Materials                                                              |                  |                          |            |            |
|                         | <b>Office Equipment/Facilities &amp; Supplies</b>                      |                  |                          |            |            |
|                         | Electric Desk Fan                                                      | 2.00             | unit                     | 1,370.00   | 2,740.00   |
|                         | Folding Beds, Good Quality                                             | 2.00             | each                     | 2,700.00   | 5,400.00   |
|                         | pillows w/ pillow cases, fitted sheets and blanket                     | 2.00             | each                     | 5,000.00   | 10,000.00  |
|                         | Double burner gas stove (Gasul)                                        | 1.00             | unit                     | 3,700.00   | 3,700.00   |
|                         | 10 cups Rice Cooker                                                    | 1.00             | unit                     | 2,500.00   | 2,500.00   |
|                         | Various Office Supply                                                  | 1.00             | L.S.                     | 45,000.00  | 45,000.00  |
|                         | (Folders, Bond Paper, Yellow Pads, Ball Pens, Pencil, Envelopes, etc.) |                  |                          |            |            |
|                         | Kitchenware                                                            | 1.00             | L.S.                     | 30,000.00  | 30,000.00  |
|                         | (Plates, Spoons & Forks, Glasses, etc.)                                |                  |                          |            |            |
|                         | Dining Table                                                           | 1.00             | set                      | 8,000.00   | 8,000.00   |
|                         | Digital Camera                                                         | 2.00             | set                      | 12,000.00  | 24,000.00  |
|                         | Cellphone                                                              | 4.00             | set                      | 15,000.00  | 60,000.00  |
|                         | Desktop Computer                                                       | 1.00             | set                      | 60,000.00  | 60,000.00  |
|                         | <b>Lighting/Water Fixtures</b>                                         |                  |                          |            |            |
|                         | a. Electrical Bill                                                     | 8.13             | mos.                     | 3,000.00   | 24,400.00  |
|                         | b. Water Bill                                                          | 8.13             | mos.                     | 1,500.00   | 12,200.00  |
|                         | c. LPG (11 kg)                                                         | 8.13             | mos.                     | 1,000.00   | 8,133.33   |
| Sub-total for E         |                                                                        |                  |                          | P          | 296,073.33 |
| F.                      | Direct Cost (C + E)                                                    |                  |                          |            | 296,073.33 |
| G.                      | Overhead, Contingencies and Miscellaneous                              |                  | per D.O. 197, s. 2016    |            | -          |
| H.                      | Contractor's Profit (CP)                                               |                  | 8% per D.O. 197, s. 2016 |            | 23,685.87  |
| I.                      | Value Added Tax (VAT)                                                  |                  | 5% per D.O. 197, s. 2016 |            | 15,987.96  |
| J.                      | Total Unit Cost                                                        |                  |                          |            | 335,747.16 |

*W*

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: A.1.2(5) Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer  
Unit of Measurement: month

Output per hour:

Quantity: 8.13

| Designation             |                                           | No. of Persons   | No. of Days              | Daily Rate   | Amount     |
|-------------------------|-------------------------------------------|------------------|--------------------------|--------------|------------|
| A.                      | Labor                                     |                  |                          |              |            |
|                         | a. Driver                                 | 1                | 244                      | 422.32       | 103,046.08 |
| Sub-total for A         |                                           |                  |                          | P            | 103,046.08 |
| Name and Capacity       |                                           | No. of Equipment | No. of Months            | Monthly Rate | Amount     |
| B.                      | Equipment, (2014 ACEL Rates)              |                  |                          |              |            |
| Sub-total for B         |                                           |                  |                          | P            | -          |
| C.                      | Total (A+B)                               |                  |                          |              | 103,046.08 |
| D.                      | Output/day                                | -                | L.S./day                 |              |            |
| Name and Specifications |                                           | Quantity         | Unit                     | Unit Cost    | Amount     |
| E.                      | Materials                                 |                  |                          |              |            |
|                         | a. Diesel                                 | 2,440.00         | L                        | 31.00        | 75,640.00  |
|                         | b. Spare Parts                            | 1.00             | L.S.                     | 40,000.00    | 40,000.00  |
|                         | c. Engine Oil & Lubricants                | 1.00             | L.S.                     | 11,346.00    | 11,346.00  |
|                         | d. Miscellaneous                          | 1.00             | L.S.                     | 30,000.00    | 30,000.00  |
| Sub-total for E         |                                           |                  |                          | P            | 156,986.00 |
| F.                      | Direct Cost (C + E)                       |                  |                          |              | 260,032.08 |
| G.                      | Overhead, Contingencies and Miscellaneous |                  | per D.O. 197, s. 2016    |              | -          |
| H.                      | Contractor's Profit (CP)                  |                  | per D.O. 197, s. 2016    |              | -          |
| I.                      | Value Added Tax (VAT)                     |                  | 5% per D.O. 197, s. 2016 |              | 13,001.60  |
| J.                      | Total Unit Cost                           |                  |                          |              | 33,569.72  |

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: B.4(1) Construction Survey & Staking  
 Unit of Measurement: km.  
 Output per hour: 0.04  
 Quantity: 3.965

| Designation             |                                           | No. of Persons   | No. of Days               | Daily Rate | Amount     |
|-------------------------|-------------------------------------------|------------------|---------------------------|------------|------------|
| A.                      | Labor                                     |                  |                           |            |            |
|                         | For Field Works                           |                  |                           |            |            |
|                         | a. Geodetic Engineer                      | 1                | 12.39                     | 833.31     | 10,325.41  |
|                         | b. Skilled Laborer                        | 3                | 12.39                     | 443.20     | 16,474.87  |
|                         | c. Laborer                                | 3                | 12.39                     | 342.24     | 12,721.93  |
|                         | For Office Works                          |                  |                           |            |            |
|                         | a. Geodetic Engineer                      | 1                | 37.17                     | 833.31     | 30,976.24  |
|                         | b. Skilled Laborer                        | 2                | 37.17                     | 443.20     | 32,949.73  |
| Sub-total for A         |                                           |                  |                           | P          | 103,448.18 |
| Name and Capacity       |                                           | No. of Equipment | No. of Days               | Daily Rate | Amount     |
| B.                      | Equipment, (2014 ACEL Rates)              |                  |                           |            |            |
|                         | a. Total Station w/ complete accessories  | 1                | 12.39                     | 800.00     | 9,912.68   |
|                         | Minor Tools 10% of Labor                  |                  |                           |            | 10,344.82  |
| Sub-total for B         |                                           |                  |                           | P          | 20,257.49  |
| C.                      | Total (A+B)                               |                  |                           |            | 123,705.67 |
| D.                      | Output/day                                | 0.32             | km./day                   |            |            |
| Name and Specifications |                                           | Quantity         | Unit                      | Unit Cost  | Amount     |
| E.                      | Materials                                 |                  |                           |            |            |
|                         | a. Standard Stake Plan (800 mm x 910 mm)  | 100.00           | pc                        | 400.00     | 40,000.00  |
|                         | b. Blue Printing                          | 500.00           | pc                        | 15.00      | 7,500.00   |
|                         | Miscellaneous 5% of Materials Cost        |                  |                           |            | 2,375.00   |
| Sub-total for E         |                                           |                  |                           | P          | 49,875.00  |
| F.                      | Direct Cost (C + E)                       |                  |                           |            | 173,580.67 |
| G.                      | Overhead, Contingencies and Miscellaneous |                  | 10% per D.O. 197, s. 2016 |            | 17,358.07  |
| H.                      | Contractor's Profit (CP)                  |                  | 8% per D.O. 197, s. 2016  |            | 13,886.45  |
| I.                      | Value Added Tax (VAT)                     |                  | 5% per D.O. 197, s. 2016  |            | 10,241.26  |
| J.                      | Total Unit Cost                           |                  |                           |            | 54,240.27  |

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: B.5 Project Billboard/Signboard

Unit of Measurement: each

Output per hour:

Quantity: 2.00

Per D.O. 141, s. 2016

| Designation             |                                           | No. of Persons   | No. of Days               | Daily Rate | Amount     |
|-------------------------|-------------------------------------------|------------------|---------------------------|------------|------------|
| A.                      | Labor                                     |                  |                           |            |            |
|                         | a. Const. Foreman                         | 1                | 2.00                      | 611.92     | 1,223.84   |
|                         | b. Skilled Labor                          | 1                | 2.00                      | 443.20     | 886.40     |
|                         | c. Unskilled Labor                        | 2                | 2.00                      | 342.24     | 1,368.96   |
| Sub-total for A         |                                           |                  |                           |            | P 3,479.20 |
| Name and Capacity       |                                           | No. of Equipment | No. of Days               | Daily Rate | Amount     |
| B.                      | Equipment, (2014 ACEL Rates)              |                  |                           |            |            |
| Sub-total for B         |                                           |                  |                           |            | P -        |
| C.                      | Total (A+B)                               |                  |                           |            | 3,479.20   |
| D.                      | Output/day                                | -                | each/day                  |            |            |
| Name and Specifications |                                           | Quantity         | Unit                      | Unit Cost  | Amount     |
| E.                      | Materials                                 |                  |                           |            |            |
|                         | a. Ordinary Plywood 1/2" thk. x 4' x 8'   | 2.00             | pc.                       | 750.00     | 1,500.00   |
|                         | b. Tarpaulin (4' x 8')                    | 2.00             | pc.                       | 1,000.00   | 2,000.00   |
|                         | c. Assorted Lumber                        | 100.00           | bd.ft.                    | 37.00      | 3,700.00   |
|                         | d. Assorted CW Nails                      | 2.00             | kg.                       | 65.00      | 130.00     |
| Sub-total for E         |                                           |                  |                           |            | P 7,330.00 |
| F.                      | Direct Cost (C + E)                       |                  |                           |            | 10,809.20  |
| G.                      | Overhead, Contingencies and Miscellaneous |                  | 10% per D.O. 197, s. 2016 |            | 1,080.92   |
| H.                      | Contractor's Profit (CP)                  |                  | 8% per D.O. 197, s. 2016  |            | 864.74     |
| I.                      | Value Added Tax (VAT)                     |                  | 5% per D.O. 197, s. 2016  |            | 637.74     |
| J.                      | Total Unit Cost                           |                  |                           |            | 6,696.30   |

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: B.7 Occupation Safety and Health Program

Unit of Measurement: month

Output per hour:

Quantity: 8.13

| Designation             |                                            | No. of Persons   | No. of Days              | Daily Rate | Amount       |
|-------------------------|--------------------------------------------|------------------|--------------------------|------------|--------------|
| A.                      | Labor                                      |                  |                          |            |              |
|                         | a. Safety Practioner                       | 1                | 122.00                   | 611.92     | 74,654.24    |
|                         | b. First Aider                             | 1                | 244.00                   | 443.20     | 108,140.80   |
| Sub-total for A         |                                            |                  |                          |            | P 182,795.04 |
| Name and Capacity       |                                            | No. of Equipment | No. of Days              | Daily Rate | Amount       |
| B.                      | Equipment, (2014 ACEL Rates)               |                  |                          |            |              |
|                         | a. Warning Signs and Barricades            |                  |                          |            | 55,000.00    |
| Sub-total for B         |                                            |                  |                          |            | P 55,000.00  |
| C.                      | Total (A+B)                                |                  |                          |            | 237,795.04   |
| D.                      | Output/day                                 | -                | L.S./day                 |            |              |
| Name and Specifications |                                            | Quantity         | Unit                     | Unit Cost  | Amount       |
| E.                      | Materials                                  |                  |                          |            |              |
|                         | a. Rubber Boots (Long w/ steel toe, Black) | 24.00            | pair                     | 400.00     | 9,600.00     |
|                         | b. Working Gloves (Maong Material)         | 24.00            | pair                     | 15.00      | 360.00       |
|                         | c. Rain Coats (Reinforced, Hip Length)     | 24.00            | pc.                      | 100.00     | 2,400.00     |
|                         | d. Safety Hats                             | 24.00            | pc,                      | 600.00     | 14,400.00    |
| Sub-total for E         |                                            |                  |                          |            | P 26,760.00  |
| F.                      | Direct Cost (C + E)                        |                  |                          |            | 264,555.04   |
| G.                      | Overhead, Contingencies and Miscellaneous  |                  | per D.O. 197, s. 2016    |            | -            |
| H.                      | Contractor's Profit (CP)                   |                  | 8% per D.O. 197, s. 2016 |            | 21,164.40    |
| I.                      | Value Added Tax (VAT)                      |                  | 5% per D.O. 197, s. 2016 |            | 14,285.97    |
| J.                      | Total Unit Cost                            |                  |                          |            | 36,885.91    |

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: B.9 Mobilization & Demobilization

Unit of Measurement: L.S.

Output per hour:

Quantity: 1.00

| Designation             |                                           | No. of Persons   | No. of Days              | Daily Rate | Amount     |
|-------------------------|-------------------------------------------|------------------|--------------------------|------------|------------|
| A.                      | Labor                                     |                  |                          |            |            |
| Sub-total for A         |                                           |                  |                          | P          | -          |
| Name and Capacity       |                                           | No. of Equipment | No. of Days              | Daily Rate | Amount     |
| B.                      | Equipment, (2014 ACEL Rates)              |                  |                          |            |            |
| a.                      | Low Bed Trailer                           | 1                | 5.00                     | 34,043.00  | 170,215.00 |
| b.                      | Water Truck                               | 1                | 5.00                     | 19,600.00  | 98,000.00  |
| c.                      | Backhoe                                   | 2                | 5.00                     | 12,296.00  | 122,960.00 |
| d.                      | Bulldozer                                 | 1                | 5.00                     | 27,032.00  | 135,160.00 |
| e.                      | Dumptruck                                 | 4                | 5.00                     | 11,360.00  | 227,200.00 |
| f.                      | Payloader                                 | 1                | 5.00                     | 13,864.00  | 69,320.00  |
| Sub-total for B         |                                           |                  |                          | P          | 822,855.00 |
| C.                      | Total (A+B)                               |                  |                          |            | 822,855.00 |
| D.                      | Output/day                                | -                | L.S./day                 |            |            |
| Name and Specifications |                                           | Quantity         | Unit                     | Unit Cost  | Amount     |
| E.                      | Materials                                 |                  |                          |            |            |
| Sub-total for E         |                                           |                  |                          | P          | -          |
| F.                      | Direct Cost (C + E)                       |                  |                          |            | 822,855.00 |
| G.                      | Overhead, Contingencies and Miscellaneous |                  | per D.O. 197, s. 2016    |            | -          |
| H.                      | Contractor's Profit (CP)                  |                  | per D.O. 197, s. 2016    |            | -          |
| I.                      | Value Added Tax (VAT)                     |                  | 5% per D.O. 197, s. 2016 |            | 41,142.75  |
| J.                      | Total Unit Cost                           |                  |                          |            | 863,997.75 |

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: 101(3)b2 Removal of Actual Structures/Obstruction

Unit of Measurement: cu.m.

Output per hour: 35.00

Quantity: 1,824.00

0.20 m. thick, PCCP (Unreinforced)

| Designation             |                                             | No. of Persons   | No. of Days               | Daily Rate | Amount     |
|-------------------------|---------------------------------------------|------------------|---------------------------|------------|------------|
| A.                      | Labor                                       |                  |                           |            |            |
|                         | a. Const. Foreman                           | 1                | 6.51                      | 611.92     | 3,986.22   |
|                         | b. Unskilled Labor                          | 2                | 6.51                      | 342.24     | 4,458.90   |
| Sub-total for A         |                                             |                  |                           | P          | 8,445.12   |
| Name and Capacity       |                                             | No. of Equipment | No. of Days               | Daily Rate | Amount     |
| B.                      | Equipment, (2014 ACEL Rates)                |                  |                           |            |            |
|                         | a. Backhoe w/ Pavement Breaker (0.80 cu.m.) | 1                | 6.51                      | 15,984.80  | 104,129.55 |
|                         | b. Payloader (1.50 cu.m.), LX80-2C          | 1                | 6.51                      | 13,864.00  | 90,314.06  |
|                         | c. Dump Truck (12 cu.yd.)                   | 1                | 3.26                      | 11,360.00  | 37,001.14  |
|                         | Minor Tools 10% of Labor Cost               |                  |                           |            | 844.51     |
| Sub-total for B         |                                             |                  |                           | P          | 232,289.27 |
| C.                      | Total (A+B)                                 |                  |                           |            | 240,734.39 |
| D.                      | Output/day                                  | 280.00           | cu.m./day                 |            |            |
| Name and Specifications |                                             | Quantity         | Unit                      | Unit Cost  | Amount     |
| E.                      | Materials                                   |                  |                           |            |            |
| Sub-total for E         |                                             |                  |                           | P          | -          |
| F.                      | Direct Cost (C + E)                         |                  |                           |            | 240,734.39 |
| G.                      | Overhead, Contingencies and Miscellaneous   |                  | 10% per D.O. 197, s. 2016 |            | 24,073.44  |
| H.                      | Contractor's Profit (CP)                    |                  | 8% per D.O. 197, s. 2016  |            | 19,258.75  |
| I.                      | Value Added Tax (VAT)                       |                  | 5% per D.O. 197, s. 2016  |            | 14,203.33  |
| J.                      | Total Unit Cost                             |                  |                           |            | 163.53     |

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: 102(1) Unsuitable Excavation

Unit of Measurement: cu.m.

Output per hour: 60.00

Quantity: 15,497.00

For Disposal

| Designation             |                                           | No. of Persons   | No. of Days               | Daily Rate | Amount         |
|-------------------------|-------------------------------------------|------------------|---------------------------|------------|----------------|
| A.                      | Labor                                     |                  |                           |            |                |
|                         | a. Const. Foreman                         | 1                | 32.29                     | 611.92     | 19,756.09      |
|                         | b. Leadman                                | 3                | 32.29                     | 561.36     | 54,371.22      |
|                         | c. Unskilled Labor                        | 9                | 32.29                     | 342.24     | 99,444.25      |
|                         | used triple gang of labor and equipment   |                  |                           |            |                |
| Sub-total for A         |                                           |                  |                           |            | P 173,571.57   |
| Name and Capacity       |                                           | No. of Equipment | No. of Days               | Daily Rate | Amount         |
| B.                      | Equipment, (2014 ACEL Rates)              |                  |                           |            |                |
|                         | a. Dump Truck (12 cu.yd.)                 | 6                | 32.29                     | 11,360.00  | 2,200,574.00   |
|                         | b. Backhoe (0.80 cu.m.)                   | 3                | 32.29                     | 12,296.00  | 1,190,944.45   |
|                         | c. Payloader (1.50 cu.m.) - disposal site | 3                | 3.23                      | 13,864.00  | 134,281.51     |
|                         | Minor Tools 10% of Labor Cost             |                  |                           |            | 17,357.16      |
| Sub-total for B         |                                           |                  |                           |            | P 3,543,157.11 |
| C.                      | Total (A+B)                               |                  |                           |            | 3,716,728.68   |
| D.                      | Output/day                                | 480.00           | cu.m./day                 |            |                |
| Name and Specifications |                                           | Quantity         | Unit                      | Unit Cost  | Amount         |
| E.                      | Materials                                 |                  |                           |            |                |
| Sub-total for E         |                                           |                  |                           |            | P -            |
| F.                      | Direct Cost (C + E)                       |                  |                           |            | 3,716,728.68   |
| G.                      | Overhead, Contingencies and Miscellaneous |                  | 10% per D.O. 197, s. 2016 |            | 371,672.87     |
| H.                      | Contractor's Profit (CP)                  |                  | 8% per D.O. 197, s. 2016  |            | 297,338.29     |
| I.                      | Value Added Tax (VAT)                     |                  | 5% per D.O. 197, s. 2016  |            | 219,286.99     |
| J.                      | Total Unit Cost                           |                  |                           |            | 297.16         |

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## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: 103(3) Foundation Fill  
 Unit of Measurement: cu.m.  
 Output per hour: 1.25  
 Quantity: 20.00

| Designation             |                                           | No. of Persons   | No. of Days               | Daily Rate | Amount    |
|-------------------------|-------------------------------------------|------------------|---------------------------|------------|-----------|
| A.                      | Labor                                     |                  |                           |            |           |
|                         | a. Const. Foreman                         | 1                | 2.00                      | 611.92     | 1,223.84  |
|                         | b. Unskilled Labor                        | 4                | 2.00                      | 342.24     | 2,737.92  |
| Sub-total for A         |                                           |                  |                           | P          | 3,961.76  |
| Name and Capacity       |                                           | No. of Equipment | No. of Days               | Daily Rate | Amount    |
| B.                      | Equipment, (2014 ACEL Rates)              |                  |                           |            |           |
|                         | a. Plate Compactor (5 hp)                 | 1                | 2.00                      | 984.00     | 1,968.00  |
|                         | b. Water Truck/Pump (16000 L)             | 1                | 0.02                      | 19,600.00  | 392.00    |
|                         | Minor Tools 10% of Labor Cost             |                  |                           |            | 396.18    |
| Sub-total for B         |                                           |                  |                           | P          | 2,756.18  |
| C.                      | Total (A+B)                               |                  |                           |            | 6,717.94  |
| D.                      | Output/day                                | 10.00            | cu.m./day                 |            |           |
| Name and Specifications |                                           | Quantity         | Unit                      | Unit Cost  | Amount    |
| E.                      | Materials                                 |                  |                           |            |           |
|                         | a. Filling Materials (well-graded sand)   | 23.00            | cu.m.                     | 1,082.05   | 24,887.15 |
| Sub-total for E         |                                           |                  |                           | P          | 24,887.15 |
| F.                      | Direct Cost (C + E)                       |                  |                           |            | 31,605.09 |
| G.                      | Overhead, Contingencies and Miscellaneous |                  | 10% per D.O. 197, s. 2016 |            | 3,160.51  |
| H.                      | Contractor's Profit (CP)                  |                  | 8% per D.O. 197, s. 2016  |            | 2,528.41  |
| I.                      | Value Added Tax (VAT)                     |                  | 5% per D.O. 197, s. 2016  |            | 1,864.70  |
| J.                      | Total Unit Cost                           |                  |                           |            | 1,957.94  |

### DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: 103(6)a Pipe Culverts and Drain Excavation  
 Unit of Measurement: cu.m.  
 Output per hour: 20.00  
 Quantity: 105.00

| Designation             |                                           | No. of Persons   | No. of Days               | Daily Rate | Amount    |
|-------------------------|-------------------------------------------|------------------|---------------------------|------------|-----------|
| A.                      | Labor                                     |                  |                           |            |           |
|                         | a. Const. Foreman                         | 1                | 0.66                      | 611.92     | 401.57    |
|                         | b. Unskilled Labor                        | 3                | 0.66                      | 342.24     | 673.79    |
| Sub-total for A         |                                           |                  |                           | P          | 1,075.36  |
| Name and Capacity       |                                           | No. of Equipment | No. of Days               | Daily Rate | Amount    |
| B.                      | Equipment, (2014 ACEL Rates)              |                  |                           |            |           |
|                         | a. Dump Truck (12 cu.yd.)                 | 2                | 0.66                      | 11,360.00  | 14,910.00 |
|                         | b. Backhoe (0.80 cu.m.)                   | 1                | 0.66                      | 12,296.00  | 8,069.25  |
|                         | Minor Tools 10% of Labor Cost             |                  |                           |            | 107.54    |
| Sub-total for B         |                                           |                  |                           | P          | 23,086.79 |
| C.                      | Total (A+B)                               |                  |                           |            | 24,162.14 |
| D.                      | Output/day                                | 160.00           | cu.m./day                 |            |           |
| Name and Specifications |                                           | Quantity         | Unit                      | Unit Cost  | Amount    |
| E.                      | Materials                                 |                  |                           |            |           |
| Sub-total for E         |                                           |                  |                           | P          | -         |
| F.                      | Direct Cost (C + E)                       |                  |                           |            | 24,162.14 |
| G.                      | Overhead, Contingencies and Miscellaneous |                  | 10% per D.O. 197, s. 2016 |            | 2,416.21  |
| H.                      | Contractor's Profit (CP)                  |                  | 8% per D.O. 197, s. 2016  |            | 1,932.97  |
| I.                      | Value Added Tax (VAT)                     |                  | 5% per D.O. 197, s. 2016  |            | 1,425.57  |
| J.                      | Total Unit Cost                           |                  |                           |            | 285.11    |

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: 104(1)a Embankment from Roadway Excavation

Unit of Measurement: cu.m.

Output per hour: 50.00

Quantity: 4,513.00

*Compacted Volume*

| Designation             |                                           | No. of Persons   | No. of Days               | Daily Rate | Amount       |
|-------------------------|-------------------------------------------|------------------|---------------------------|------------|--------------|
| A.                      | Labor                                     |                  |                           |            |              |
|                         | For Excavation Work                       |                  |                           |            |              |
|                         | a. Const. Foreman                         | 1                | 9.36                      | 611.92     | 5,730.31     |
|                         | c. Unskilled Laborer                      | 2                | 9.36                      | 342.24     | 6,409.80     |
|                         | Spreading and Compaction                  |                  |                           |            |              |
|                         | a. Const. Foreman                         | 1                | 11.28                     | 611.92     | 6,903.99     |
|                         | c. Unskilled Laborer                      | 2                | 11.28                     | 342.24     | 7,722.65     |
| Sub-total for A         |                                           |                  |                           | P          | 26,766.74    |
| Name and Capacity       |                                           | No. of Equipment | No. of Days               | Daily Rate | Amount       |
| B.                      | Equipment, (2014 ACEL Rates)              |                  |                           |            |              |
|                         | For Excavation Work                       |                  |                           |            |              |
|                         | a. Bulldozer, D6H Series II PSDS/DD       | 1                | 9.36                      | 27,032.00  | 253,140.49   |
|                         | b. Payloader (1.50 cu.m.)                 | 1                | 9.36                      | 13,864.00  | 129,829.08   |
|                         | c. Dump Truck (12 cu.yd.)                 | 2                | 9.36                      | 11,360.00  | 212,760.87   |
|                         | Spreading and Compaction                  |                  |                           |            |              |
|                         | a. Motorized Road Grader (140 hp), G170A  | 1                | 11.28                     | 17,384.00  | 196,134.98   |
|                         | b. Vibratory Roller (10 mt), SD100C       | 1                | 11.28                     | 14,768.00  | 166,619.96   |
|                         | c. Water Truck/Pump (16000 L)             | 1                | 2.82                      | 19,600.00  | 55,284.25    |
| Sub-total for B         |                                           |                  |                           | P          | 1,013,769.63 |
| C.                      | Total (A+B)                               |                  |                           |            | 1,040,536.37 |
| D.                      | Output/day                                | 400.00           | cu.m./day                 |            |              |
| Name and Specifications |                                           | Quantity         | Unit                      | Unit Cost  | Amount       |
| E.                      | Materials                                 |                  |                           |            |              |
|                         |                                           |                  |                           |            |              |
| Sub-total for E         |                                           |                  |                           | P          | -            |
| F.                      | Direct Cost (C + E)                       |                  |                           |            | 1,040,536.37 |
| G.                      | Overhead, Contingencies and Miscellaneous |                  | 10% per D.O. 197, s. 2016 |            | 104,053.64   |
| H.                      | Contractor's Profit (CP)                  |                  | 8% per D.O. 197, s. 2016  |            | 83,242.91    |
| I.                      | Value Added Tax (VAT)                     |                  | 5% per D.O. 197, s. 2016  |            | 61,391.65    |
| J.                      | Total Unit Cost                           |                  |                           |            | 285.67       |

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: 104(2)a Embankment from Borrow  
Unit of Measurement: cu.m.

Output per hour: 200.00

Quantity: 14,501.00

Compacted Volume

| Designation             |                                                 | No. of Persons   | No. of Days               | Daily Rate | Amount       |
|-------------------------|-------------------------------------------------|------------------|---------------------------|------------|--------------|
| A.                      | Labor                                           |                  |                           |            |              |
|                         | a. Const. Foreman                               | 1                | 9.06                      | 611.92     | 5,545.91     |
|                         | b. Leadman                                      | 4                | 9.06                      | 561.36     | 20,350.70    |
|                         | c. Unskilled Laborer                            | 8                | 9.06                      | 342.24     | 24,814.11    |
|                         | used quadruple gang of labor and equipment      |                  |                           |            |              |
| Sub-total for A         |                                                 |                  |                           | P          | 50,710.72    |
| Name and Capacity       |                                                 | No. of Equipment | No. of Days               | Daily Rate | Amount       |
| B.                      | Equipment, (2014 ACEL Rates)                    |                  |                           |            |              |
|                         | a. Motorized Road Grader (140 hp), G170A        | 4                | 9.06                      | 17,384.00  | 630,213.46   |
|                         | b. Vibratory Roller (10 mt), SD100C             | 4                | 9.06                      | 14,768.00  | 535,376.92   |
|                         | c. Water Truck/Pump (16000 L)                   | 4                | 2.27                      | 19,600.00  | 177,637.25   |
| Sub-total for B         |                                                 |                  |                           | P          | 1,343,227.63 |
| C.                      | Total (A+B)                                     |                  |                           |            | 1,393,938.35 |
| D.                      | Output/day                                      | 1,600.00         | cu.m./day                 |            |              |
| Name and Specifications |                                                 | Quantity         | Unit                      | Unit Cost  | Amount       |
| E.                      | Materials                                       |                  |                           |            |              |
|                         | a. Common Borrow<br>(with 25% Shrinkage Factor) | 18,126.25        | cu.m.                     | 388.35     | 7,039,329.19 |
| Sub-total for E         |                                                 |                  |                           | P          | 7,039,329.19 |
| F.                      | Direct Cost (C + E)                             |                  |                           |            | 8,433,267.54 |
| G.                      | Overhead, Contingencies and Miscellaneous       |                  | 10% per D.O. 197, s. 2016 |            | 843,326.75   |
| H.                      | Contractor's Profit (CP)                        |                  | 8% per D.O. 197, s. 2016  |            | 674,661.40   |
| I.                      | Value Added Tax (VAT)                           |                  | 5% per D.O. 197, s. 2016  |            | 497,562.78   |
| J.                      | Total Unit Cost                                 |                  |                           |            | 720.56       |

### DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: 104(5) Boulder Fill  
 Unit of Measurement: cu.m.  
 Output per hour: 25.00  
 Quantity: 14,841.00

| Designation             |                                           | No. of Persons   | No. of Days               | Daily Rate | Amount        |
|-------------------------|-------------------------------------------|------------------|---------------------------|------------|---------------|
| A.                      | Labor                                     |                  |                           |            |               |
|                         | a. Const. Foreman                         | 1                | 74.21                     | 611.92     | 45,407.52     |
|                         | b. Leadman                                | 4                | 74.21                     | 561.36     | 166,622.88    |
|                         | b. Skilled Laborer                        | 8                | 74.21                     | 443.20     | 263,101.25    |
|                         | c. Unskilled Laborer                      | 32               | 74.21                     | 342.24     | 812,669.41    |
|                         | use quadruple gang of labor and equipment |                  |                           |            |               |
| Sub-total for A         |                                           |                  |                           | P          | 1,287,801.06  |
| Name and Capacity       |                                           | No. of Equipment | No. of Days               | Daily Rate | Amount        |
| B.                      | Equipment, (2014 ACEL Rates)              |                  |                           |            |               |
|                         | a. Backhoe (0.80 cu.m.)                   | 4                | 74.21                     | 12,296.00  | 3,649,698.72  |
|                         | Minor Tools 10% of Labor                  |                  |                           |            | 128,780.11    |
| Sub-total for B         |                                           |                  |                           | P          | 3,778,478.83  |
| C.                      | Total (A+B)                               |                  |                           |            | 5,066,279.89  |
| D.                      | Output/day                                | 200.00           | cu.m./day                 |            |               |
| Name and Specifications |                                           | Quantity         | Unit                      | Unit Cost  | Amount        |
| E.                      | Materials                                 |                  |                           |            |               |
|                         | a. Boulders (with 5% wastage factor)      | 15,583.05        | cu.m.                     | 1,281.05   | 19,962,666.20 |
| Sub-total for E         |                                           |                  |                           | P          | 19,962,666.20 |
| F.                      | Direct Cost (C + E)                       |                  |                           |            | 25,028,946.09 |
| G.                      | Overhead, Contingencies and Miscellaneous |                  | 10% per D.O. 197, s. 2016 |            | 2,502,894.61  |
| H.                      | Contractor's Profit (CP)                  |                  | 8% per D.O. 197, s. 2016  |            | 2,002,315.69  |
| I.                      | Value Added Tax (VAT)                     |                  | 5% per D.O. 197, s. 2016  |            | 1,476,707.82  |
| J.                      | Total Unit Cost                           |                  |                           |            | 2,089.54      |

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: 105(1)a Subgrade Preparation  
Unit of Measurement: sq.m.

Output per hour: 300.00

Quantity: 6,066.00

Variable Width

| Designation             |                                           | No. of Persons   | No. of Days               | Daily Rate | Amount      |
|-------------------------|-------------------------------------------|------------------|---------------------------|------------|-------------|
| A.                      | Labor                                     |                  |                           |            |             |
|                         | a. Const. Foreman                         | 1                | 2.53                      | 611.92     | 1,546.63    |
|                         | b. Unskilled Laborer                      | 2                | 2.53                      | 342.24     | 1,730.02    |
| Sub-total for A         |                                           |                  |                           |            | P 3,276.65  |
| Name and Capacity       |                                           | No. of Equipment | No. of Days               | Daily Rate | Amount      |
| B.                      | Equipment, (2014 ACEL Rates)              |                  |                           |            |             |
|                         | a. Motorized Road Grader (140 hp), G710A  | 1                | 2.53                      | 17,384.00  | 43,938.06   |
|                         | b. Vibratory Roller (10 mt), SD100DC      | 1                | 2.53                      | 14,768.00  | 37,326.12   |
|                         | c. Water Truck/Pump (16000 L)             | 1                | 0.63                      | 19,600.00  | 12,384.75   |
| Sub-total for B         |                                           |                  |                           |            | P 93,648.93 |
| C.                      | Total (A+B)                               |                  |                           |            | 96,925.58   |
| D.                      | Output/day                                | 2,400.00         | sq.m./day                 |            |             |
| Name and Specifications |                                           | Quantity         | Unit                      | Unit Cost  | Amount      |
| E.                      | Materials                                 |                  |                           |            |             |
| Sub-total for E         |                                           |                  |                           |            | P -         |
| F.                      | Direct Cost (C + E)                       |                  |                           |            | 96,925.58   |
| G.                      | Overhead, Contingencies and Miscellaneous |                  | 10% per D.O. 197, s. 2016 |            | 9,692.56    |
| H.                      | Contractor's Profit (CP)                  |                  | 8% per D.O. 197, s. 2016  |            | 7,754.05    |
| I.                      | Value Added Tax (VAT)                     |                  | 5% per D.O. 197, s. 2016  |            | 5,718.61    |
| J.                      | Total Unit Cost                           |                  |                           |            | 19.80       |

H

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: 200(1) Aggregate Subbase Course

Unit of Measurement: cu.m.

Output per hour: 50.00

Quantity: 15,677.00

0.30 m. thk. (min.), Compacted Volume

| Designation             |                                                       | No. of Persons   | No. of Days               | Daily Rate | Amount          |
|-------------------------|-------------------------------------------------------|------------------|---------------------------|------------|-----------------|
| A.                      | Labor                                                 |                  |                           |            |                 |
|                         | a. Const. Foreman                                     | 1                | 39.19                     | 611.92     | 23,982.67       |
|                         | b. Unskilled Labor                                    | 2                | 39.19                     | 342.24     | 26,826.48       |
| Sub-total for A         |                                                       |                  |                           |            | P 50,809.16     |
| Name and Capacity       |                                                       | No. of Equipment | No. of Days               | Daily Rate | Amount          |
| B.                      | Equipment, (2014 ACEL Rates)                          |                  |                           |            |                 |
|                         | a. Motorized Road Grader (140 hp), G710A              | 1                | 39.19                     | 17,384.00  | 681,322.42      |
|                         | b. Vibratory Roller (10 mt), SD100DC                  | 1                | 39.19                     | 14,768.00  | 578,794.84      |
|                         | c. Water Truck/Pump (16000 L)                         | 1                | 9.80                      | 19,600.00  | 192,043.25      |
| Sub-total for B         |                                                       |                  |                           |            | P 1,452,160.51  |
| C.                      | Total (A+B)                                           |                  |                           |            | 1,502,969.67    |
| D.                      | Output/day                                            | 400.00           | cu.m./day                 |            |                 |
| Name and Specifications |                                                       | Quantity         | Unit                      | Unit Cost  | Amount          |
| E.                      | Materials                                             |                  |                           |            |                 |
|                         | a. Aggregate Subbase Course (w/ 15% Shrinkage Factor) | 18,028.55        | cu.m.                     | 861.05     | 15,523,482.98   |
| Sub-total for E         |                                                       |                  |                           |            | P 15,523,482.98 |
| F.                      | Direct Cost (C + E)                                   |                  |                           |            | 17,026,452.64   |
| G.                      | Overhead, Contingencies and Miscellaneous             |                  | 10% per D.O. 197, s. 2016 |            | 1,702,645.26    |
| H.                      | Contractor's Profit (CP)                              |                  | 8% per D.O. 197, s. 2016  |            | 1,362,116.21    |
| I.                      | Value Added Tax (VAT)                                 |                  | 5% per D.O. 197, s. 2016  |            | 1,004,560.71    |
| J.                      | Total Unit Cost                                       |                  |                           |            | 1,345.65        |

### DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: 300(1) Gravel Surface Course  
Unit of Measurement: cu.m.

Output per hour: 50.00

Quantity: 1,983.00

0.15 m. thk. For shouldering. Compacted Volume

| Designation             |                                                                 | No. of Persons   | No. of Days               | Daily Rate | Amount       |
|-------------------------|-----------------------------------------------------------------|------------------|---------------------------|------------|--------------|
| A.                      | Labor                                                           |                  |                           |            |              |
|                         | a. Const. Foreman                                               | 1                | 4.96                      | 611.92     | 3,033.59     |
|                         | b. Unskilled Labor                                              | 2                | 4.96                      | 342.24     | 3,393.31     |
| Sub-total for A         |                                                                 |                  |                           | P          | 6,426.90     |
| Name and Capacity       |                                                                 | No. of Equipment | No. of Days               | Daily Rate | Amount       |
| B.                      | Equipment, (2014 ACEL Rates)                                    |                  |                           |            |              |
|                         | a. Motorized Road Grader (140 hp), G710A                        | 1                | 4.96                      | 17,384.00  | 86,181.18    |
|                         | b. Vibratory Roller (10 mt), SD100DC                            | 1                | 4.96                      | 14,768.00  | 73,212.36    |
|                         | c. Water Truck/Pump (16000 L)                                   | 1                | 1.24                      | 19,600.00  | 24,291.75    |
| Sub-total for B         |                                                                 |                  |                           | P          | 183,685.29   |
| C.                      | Total (A+B)                                                     |                  |                           |            | 190,112.19   |
| D.                      | Output/day                                                      | 400.00           | cu.m./day                 |            |              |
| Name and Specifications |                                                                 | Quantity         | Unit                      | Unit Cost  | Amount       |
| E.                      | Materials                                                       |                  |                           |            |              |
|                         | a. Uncrushed Aggregate Surface Course (w/ 15% Shrinkage Factor) | 2,280.45         | cu.m.                     | 916.05     | 2,089,006.22 |
| Sub-total for E         |                                                                 |                  |                           | P          | 2,089,006.22 |
| F.                      | Direct Cost (C + E)                                             |                  |                           |            | 2,279,118.42 |
| G.                      | Overhead, Contingencies and Miscellaneous                       |                  | 10% per D.O. 197, s. 2016 |            | 227,911.84   |
| H.                      | Contractor's Profit (CP)                                        |                  | 8% per D.O. 197, s. 2016  |            | 182,329.47   |
| I.                      | Value Added Tax (VAT)                                           |                  | 5% per D.O. 197, s. 2016  |            | 134,467.99   |
| J.                      | Total Unit Cost                                                 |                  |                           |            | 1,424.02     |

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: 311(1)d1 Portland Cement Concrete Pavement

Unit of Measurement: sq.m.

Output per hour: 70.00

Quantity: 1,854.00

0.23 m. thick, includes widening (width = 6.10 m.)

| Designation             |                                           | No. of Persons   | No. of Days               | Daily Rate | Amount         |
|-------------------------|-------------------------------------------|------------------|---------------------------|------------|----------------|
| A.                      | Labor                                     |                  |                           |            |                |
|                         | a. Const. Foreman                         | 1                | 3.31                      | 611.92     | 2,025.89       |
|                         | b. Skilled Labor                          | 4                | 3.31                      | 443.20     | 5,869.23       |
|                         | c. Unskilled Labor                        | 12               | 3.31                      | 342.24     | 13,596.71      |
| Sub-total for A         |                                           |                  |                           |            | P 21,491.83    |
| Name and Capacity       |                                           | No. of Equipment | No. of Days               | Daily Rate | Amount         |
| B.                      | Equipment, (2014 ACEL Rates)              |                  |                           |            |                |
|                         | a. Transit Mixer (5 cu.m.)                | 4                | 3.31                      | 10,544.00  | 139,632.69     |
|                         | b. Concrete Vibrator                      | 2                | 3.31                      | 730.00     | 4,833.64       |
|                         | c. Concrete Batch Plant (30 cu.m.)        | 1                | 3.31                      | 14,076.00  | 46,601.61      |
|                         | d. Payloader (1.50 cu.m.), LX80-2C        | 1                | 3.31                      | 13,864.00  | 45,899.74      |
|                         | e. Concrete Screeder (5.5 hp)             | 1                | 3.31                      | 4,360.00   | 14,434.71      |
|                         | f. Water truck/Pump (16000 L)             | 1                | 3.31                      | 19,600.00  | 64,890.00      |
|                         | g. Concrete Saw (7.5 hp), 14" Blade Ø     | 1                | 3.31                      | 261.04     | 864.23         |
|                         | h. Bar Cutter, Single Phase               | 1                | 0.33                      | 1,758.00   | 582.02         |
|                         | Minor Tools 5% of Labor                   |                  |                           |            | 1,074.59       |
| Sub-total for B         |                                           |                  |                           |            | P 318,813.24   |
| C.                      | Total (A+B)                               |                  |                           |            | 340,305.08     |
| D.                      | Output/day                                | 560.00           | sq.m./day                 |            |                |
| Name and Specifications |                                           | Quantity         | Unit                      | Unit Cost  | Amount         |
| E.                      | Materials                                 |                  |                           |            |                |
|                         | a. Reinforcing Steel Bar                  | 797.22           | kg.                       | 38.00      | 30,294.36      |
|                         | b. Curing Compound                        | 537.66           | L                         | 35.00      | 18,818.10      |
|                         | c. Asphalt Sealant                        | 222.48           | L                         | 100.00     | 22,248.00      |
|                         | d. Steel Forms (Rental)                   | 852.84           | m                         | 52.00      | 44,347.68      |
|                         | e. Sand                                   | 234.53           | cu.m.                     | 1,082.05   | 253,774.27     |
|                         | f. Gravel                                 | 426.42           | cu.m.                     | 1,082.05   | 461,407.76     |
|                         | g. Cement                                 | 4,060.26         | bag                       | 284.00     | 1,153,113.84   |
|                         | h. Concrete Saw (Diamond Blade 14" Ø)     | 0.28             | pc.                       | 2,500.00   | 695.25         |
|                         | i. Pipe Sleeve, 2" Ø                      | 13.16            | m.                        | 61.00      | 802.97         |
|                         | j. Grease/Tar                             | 16.13            | L                         | 112.50     | 1,814.60       |
| Sub-total for E         |                                           |                  |                           |            | P 1,987,316.83 |
| F.                      | Direct Cost (C + E)                       |                  |                           |            | 2,327,621.91   |
| G.                      | Overhead, Contingencies and Miscellaneous |                  | 10% per D.O. 197, s. 2016 |            | 232,762.19     |
| H.                      | Contractor's Profit (CP)                  |                  | 8% per D.O. 197, s. 2016  |            | 186,209.75     |
| I.                      | Value Added Tax (VAT)                     |                  | 5% per D.O. 197, s. 2016  |            | 137,329.69     |
| J.                      | Total Unit Cost                           |                  |                           |            | 1,555.51       |

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: 311(1)e1 Portland Cement Concrete Pavement  
Unit of Measurement: sq.m.

Output per hour: 57.50  
Quantity: 27,000.00

0.28 m. thick, includes widening (width = 6.70 m.)

| Designation             |                                           | No. of Persons   | No. of Days               | Daily Rate | Amount          |
|-------------------------|-------------------------------------------|------------------|---------------------------|------------|-----------------|
| A.                      | Labor                                     |                  |                           |            |                 |
|                         | a. Const. Foreman                         | 1                | 58.70                     | 611.92     | 35,917.04       |
|                         | b. Skilled Labor                          | 4                | 58.70                     | 443.20     | 104,055.65      |
|                         | c. Unskilled Labor                        | 12               | 58.70                     | 342.24     | 241,056.00      |
| Sub-total for A         |                                           |                  |                           |            | P 381,028.70    |
| Name and Capacity       |                                           | No. of Equipment | No. of Days               | Daily Rate | Amount          |
| B.                      | Equipment, (2014 ACEL Rates)              |                  |                           |            |                 |
|                         | a. Transit Mixer (5 cu.m.)                | 4                | 58.70                     | 10,544.00  | 2,475,547.83    |
|                         | b. Concrete Vibrator                      | 2                | 58.70                     | 730.00     | 85,695.65       |
|                         | c. Concrete Batch Plant (30 cu.m.)        | 1                | 58.70                     | 14,076.00  | 826,200.00      |
|                         | d. Payloader (1.50 cu.m.), LX80-2C        | 1                | 58.70                     | 13,864.00  | 813,756.52      |
|                         | e. Concrete Screeder (5.5 hp)             | 1                | 58.70                     | 4,360.00   | 255,913.04      |
|                         | f. Water truck/Pump (16000 L)             | 1                | 58.70                     | 19,600.00  | 1,150,434.78    |
|                         | g. Concrete Saw (7.5 hp), 14" Blade Ø     | 1                | 58.70                     | 261.04     | 15,321.91       |
|                         | h. Bar Cutter, Single Phase               | 1                | 5.87                      | 1,758.00   | 10,318.70       |
|                         | Minor Tools 5% of Labor                   |                  |                           |            | 19,051.43       |
| Sub-total for B         |                                           |                  |                           |            | P 5,652,239.87  |
| C.                      | Total (A+B)                               |                  |                           |            | 6,033,268.57    |
| D.                      | Output/day                                | 460.00           | sq.m./day                 |            |                 |
| Name and Specifications |                                           | Quantity         | Unit                      | Unit Cost  | Amount          |
| E.                      | Materials                                 |                  |                           |            |                 |
|                         | a. Reinforcing Steel Bar                  | 13,500.00        | kg.                       | 38.00      | 513,000.00      |
|                         | b. Curing Compound                        | 7,830.00         | L                         | 35.00      | 274,050.00      |
|                         | c. Asphalt Sealant                        | 4,590.00         | L                         | 100.00     | 459,000.00      |
|                         | d. Steel Forms (Rental)                   | 12,420.00        | m                         | 60.00      | 745,200.00      |
|                         | e. Sand                                   | 4,158.00         | cu.m.                     | 1,082.05   | 4,499,163.90    |
|                         | f. Gravel                                 | 7,560.00         | cu.m.                     | 1,082.05   | 8,180,298.00    |
|                         | g. Cement                                 | 71,820.00        | bag                       | 284.00     | 20,396,880.00   |
|                         | h. Concrete Saw (Diamond Blade 14" Ø)     | 4.05             | pc.                       | 2,500.00   | 10,125.00       |
|                         | i. Pipe Sleeve, 2" Ø                      | 210.60           | m.                        | 61.00      | 12,846.60       |
|                         | j. Grease/Tar                             | 210.60           | L                         | 112.50     | 23,692.50       |
| Sub-total for E         |                                           |                  |                           |            | P 35,114,256.00 |
| F.                      | Direct Cost (C + E)                       |                  |                           |            | 41,147,524.57   |
| G.                      | Overhead, Contingencies and Miscellaneous |                  | 10% per D.O. 197, s. 2016 |            | 4,114,752.46    |
| H.                      | Contractor's Profit (CP)                  |                  | 8% per D.O. 197, s. 2016  |            | 3,291,801.97    |
| I.                      | Value Added Tax (VAT)                     |                  | 5% per D.O. 197, s. 2016  |            | 2,427,703.95    |
| J.                      | Total Unit Cost                           |                  |                           |            | 1,888.21        |

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: 500(1)bc Pipe Culverts

Unit of Measurement: In.m.

Output per hour: 1.00

Quantity: 132.00

910 mm. dia., Class IV

| Designation             |                                           | No. of Persons   | No. of Days               | Daily Rate | Amount       |
|-------------------------|-------------------------------------------|------------------|---------------------------|------------|--------------|
| A.                      | Labor                                     |                  |                           |            |              |
|                         | a. Const. Foreman                         | 1                | 16.50                     | 611.92     | 10,096.68    |
|                         | b. Skilled Labor                          | 2                | 16.50                     | 443.20     | 14,625.60    |
|                         | c. Unskilled Labor                        | 4                | 16.50                     | 342.24     | 22,587.84    |
| Sub-total for A         |                                           |                  |                           |            | P 47,310.12  |
| Name and Capacity       |                                           | No. of Equipment | No. of Days               | Daily Rate | Amount       |
| B.                      | Equipment, (2014 ACEL Rates)              |                  |                           |            |              |
|                         | a. Backhoe (0.80 cu.m.)                   | 1                | 4.79                      | 12,296.00  | 58,836.36    |
|                         | b. Plate Compactor (5 hp)                 | 1                | 4.79                      | 984.00     | 4,708.44     |
|                         | Minor Tools 10% of Labor                  |                  |                           |            | 4,731.01     |
| Sub-total for B         |                                           |                  |                           |            | P 68,275.81  |
| C.                      | Total (A+B)                               |                  |                           |            | 115,585.93   |
| D.                      | Output/day                                | 8.00             | In.m./day                 |            |              |
| Name and Specifications |                                           | Quantity         | Unit                      | Unit Cost  | Amount       |
| E.                      | Materials                                 |                  |                           |            |              |
|                         | a. Cement                                 | 142.56           | bag                       | 284.00     | 40,487.04    |
|                         | b. Sand                                   | 8.05             | cu.m.                     | 1,082.05   | 8,712.67     |
|                         | c. RC Pipes (910 mm. dia.)                | 132.00           | cu.m.                     | 1,665.00   | 219,780.00   |
|                         | d. Sand Bedding/Selected Sandy Soil       | 16.90            | m.                        | 1,082.05   | 18,282.32    |
| Sub-total for E         |                                           |                  |                           |            | P 287,262.02 |
| F.                      | Direct Cost (C + E)                       |                  |                           |            | 402,847.96   |
| G.                      | Overhead, Contingencies and Miscellaneous |                  | 10% per D.O. 197, s. 2016 |            | 40,284.80    |
| H.                      | Contractor's Profit (CP)                  |                  | 8% per D.O. 197, s. 2016  |            | 32,227.84    |
| I.                      | Value Added Tax (VAT)                     |                  | 5% per D.O. 197, s. 2016  |            | 23,768.03    |
| J.                      | Total Unit Cost                           |                  |                           |            | 3,781.28     |

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## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: 505(2)a Grouted Riprap, Class "A"  
Unit of Measurement: cu.m.

Output per hour: 1.25  
Quantity: 40.00

For Slope Protection

| Designation             |                                           | No. of Persons   | No. of Days               | Daily Rate | Amount       |
|-------------------------|-------------------------------------------|------------------|---------------------------|------------|--------------|
| A.                      | Labor                                     |                  |                           |            |              |
|                         | a. Const. Foreman                         | 1                | 4.00                      | 611.92     | 2,447.68     |
|                         | b. Skilled Labor                          | 2                | 4.00                      | 443.20     | 3,545.60     |
|                         | c. Unskilled Labor                        | 8                | 4.00                      | 342.24     | 10,951.68    |
| Sub-total for A         |                                           |                  |                           |            | P 16,944.96  |
| Name and Capacity       |                                           | No. of Equipment | No. of Days               | Daily Rate | Amount       |
| B.                      | Equipment, (2014 ACEL Rates)              |                  |                           |            |              |
|                         | a. One Bagger Mixer                       | 1                | 4.00                      | 1,376.00   | 5,504.00     |
|                         | b. Water Truck/Pump (16000 L)             | 1                | 0.20                      | 19,600.00  | 3,920.00     |
|                         | Minor Tools 5% of Labor                   |                  |                           |            | 847.25       |
| Sub-total for B         |                                           |                  |                           |            | P 10,271.25  |
| C.                      | Total (A+B)                               |                  |                           |            | 27,216.21    |
| D.                      | Output/day 10.00                          | cu.m./day        |                           |            |              |
| Name and Specifications |                                           | Quantity         | Unit                      | Unit Cost  | Amount       |
| E.                      | Materials                                 |                  |                           |            |              |
|                         | a. Cement                                 | 120.00           | bag                       | 284.00     | 34,080.00    |
|                         | b. Sand                                   | 10.00            | cu.m.                     | 1,082.05   | 10,820.50    |
|                         | c. Gravel                                 | 0.60             | cu.m.                     | 1,082.05   | 649.23       |
|                         | d. Weep Holes (PVC)                       | 12.00            | m.                        | 50.83      | 610.00       |
|                         | e. Filter Cloth                           | 0.60             | sq.m.                     | 160.00     | 96.00        |
|                         | f. Boulders (15 - 25 kg.)                 | 42.00            | cu.m.                     | 1,281.05   | 53,804.10    |
|                         | Miscellaneous 1% of Materials Cost        |                  |                           |            | 1,000.60     |
| Sub-total for E         |                                           |                  |                           |            | P 101,060.43 |
| F.                      | Direct Cost (C + E)                       |                  |                           |            | 128,276.64   |
| G.                      | Overhead, Contingencies and Miscellaneous |                  | 10% per D.O. 197, s. 2016 |            | 12,827.66    |
| H.                      | Contractor's Profit (CP)                  |                  | 8% per D.O. 197, s. 2016  |            | 10,262.13    |
| I.                      | Value Added Tax (VAT)                     |                  | 5% per D.O. 197, s. 2016  |            | 7,568.32     |
| J.                      | Total Unit Cost                           |                  |                           |            | 3,973.37     |

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: 506(1) Stone Masonry

Unit of Measurement: cu.m.

Output per hour: 1.60

Quantity: 91.00

For Slope Protection

| Designation             |                                           | No. of Persons   | No. of Days               | Daily Rate | Amount       |
|-------------------------|-------------------------------------------|------------------|---------------------------|------------|--------------|
| A.                      | Labor                                     |                  |                           |            |              |
|                         | a. Const. Foreman                         | 1                | 7.11                      | 611.92     | 4,350.37     |
|                         | b. Skilled Labor                          | 2                | 7.11                      | 443.20     | 6,301.75     |
|                         | c. Unskilled Labor                        | 8                | 7.11                      | 342.24     | 19,464.90    |
| Sub-total for A         |                                           |                  |                           |            | P 30,117.02  |
| Name and Capacity       |                                           | No. of Equipment | No. of Days               | Daily Rate | Amount       |
| B.                      | Equipment, (2014 ACEL Rates)              |                  |                           |            |              |
|                         | a. One Bagger Mixer                       | 1                | 7.11                      | 1,376.00   | 9,782.50     |
|                         | b. Water Truck/Pump (16000 L)             | 1                | 0.36                      | 19,600.00  | 6,967.19     |
|                         | c. Backhoe (Wheel Type 0.28 cu.m.)        | 1                | 0.71                      | 7,376.00   | 5,243.88     |
|                         | Minor Tools 5% of Labor                   |                  |                           |            | 1,505.85     |
| Sub-total for B         |                                           |                  |                           |            | P 23,499.41  |
| C.                      | Total (A+B)                               |                  |                           |            | 53,616.43    |
| D.                      | Output/day                                | 12.80            | cu.m./day                 |            |              |
| Name and Specifications |                                           | Quantity         | Unit                      | Unit Cost  | Amount       |
| E.                      | Materials                                 |                  |                           |            |              |
|                         | a. Cement                                 | 500.50           | bag                       | 284.00     | 142,142.00   |
|                         | b. Sand                                   | 27.30            | cu.m.                     | 1,082.05   | 29,539.97    |
|                         | c. Gravel                                 | 1.82             | cu.m.                     | 1,082.05   | 1,969.33     |
|                         | d. Weep Holes (PVC)                       | 27.30            | m.                        | 50.83      | 1,387.75     |
|                         | e. Filter Cloth                           | 1.37             | sq.m.                     | 160.00     | 218.40       |
|                         | f. Boulders                               | 95.55            | cu.m.                     | 1,281.05   | 122,404.33   |
|                         | Miscellaneous 1% of Materials Cost        |                  |                           |            | 2,976.62     |
| Sub-total for E         |                                           |                  |                           |            | P 300,638.39 |
| F.                      | Direct Cost (C + E)                       |                  |                           |            | 354,254.82   |
| G.                      | Overhead, Contingencies and Miscellaneous |                  | 10% per D.O. 197, s. 2016 |            | 35,425.48    |
| H.                      | Contractor's Profit (CP)                  |                  | 8% per D.O. 197, s. 2016  |            | 28,340.39    |
| I.                      | Value Added Tax (VAT)                     |                  | 5% per D.O. 197, s. 2016  |            | 20,901.03    |
| J.                      | Total Unit Cost                           |                  |                           |            | 4,823.32     |

## DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: 612(1) Reflectorized Thermoplastic Pavement Markings (White)

Unit of Measurement: sq.m.

Output per hour: 25.00

Quantity: 916.00

| Designation             |                                           | No. of Persons   | No. of Days               | Daily Rate | Amount       |
|-------------------------|-------------------------------------------|------------------|---------------------------|------------|--------------|
| A.                      | Labor                                     |                  |                           |            |              |
|                         | a. Const. Foreman                         | 1                | 4.58                      | 611.92     | 2,802.59     |
|                         | b. Skilled Labor                          | 2                | 4.58                      | 443.20     | 4,059.71     |
|                         | c. Unskilled Labor                        | 6                | 4.58                      | 342.24     | 9,404.76     |
| Sub-total for A         |                                           |                  |                           |            | P 16,267.06  |
| Name and Capacity       |                                           | No. of Equipment | No. of Days               | Daily Rate | Amount       |
| B.                      | Equipment, (2014 ACEL Rates)              |                  |                           |            |              |
|                         | a. Cargo Truck/Delivery Truck (2-5 mt)    | 1                | 4.58                      | 6,264.00   | 28,689.12    |
|                         | b. Applicator Machine                     | 1                | 4.58                      | 750.00     | 3,435.00     |
|                         | c. Kneading Machine                       | 1                | 4.58                      | 1,500.00   | 6,870.00     |
|                         | Minor Tools 10% of Labor                  |                  |                           |            | 1,626.71     |
| Sub-total for B         |                                           |                  |                           |            | P 40,620.83  |
| C.                      | Total (A+B)                               |                  |                           |            | 56,887.89    |
| D.                      | Output/day 200.00                         | sq.m./day        |                           |            |              |
| Name and Specifications |                                           | Quantity         | Unit                      | Unit Cost  | Amount       |
| E.                      | Materials                                 |                  |                           |            |              |
|                         | a. Thermoplastic Paint (White)            | 297.70           | bag                       | 1,585.00   | 471,854.50   |
|                         | b. Glass Beads                            | 30.23            | bag                       | 2,500.00   | 75,570.00    |
|                         | c. Primer                                 | 109.92           | L                         | 160.00     | 17,587.20    |
|                         | d. LPG (50 kg)                            | 3.66             | cyl.                      | 3,450.00   | 12,640.80    |
|                         | e. LPG (12 kg)                            | 1.83             | cyl.                      | 828.00     | 1,516.90     |
|                         | f. Calsumine                              | 114.50           | kg.                       | 100.00     | 11,450.00    |
|                         | Miscellaneous 5% of Materials Cost        |                  |                           |            | 29,530.97    |
| Sub-total for E         |                                           |                  |                           |            | P 620,150.37 |
| F.                      | Direct Cost (C + E)                       |                  |                           |            | 677,038.25   |
| G.                      | Overhead, Contingencies and Miscellaneous |                  | 10% per D.O. 197, s. 2016 |            | 67,703.83    |
| H.                      | Contractor's Profit (CP)                  |                  | 8% per D.O. 197, s. 2016  |            | 54,163.06    |
| I.                      | Value Added Tax (VAT)                     |                  | 5% per D.O. 197, s. 2016  |            | 39,945.26    |
| J.                      | Total Unit Cost                           |                  |                           |            | 915.78       |

### DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: 612(2) Reflectorized Thermoplastic Pavement Markings (Yellow)  
 Unit of Measurement: sq.m.  
 Output per hour: 25.00  
 Quantity: 37.00

| Designation             |                                           | No. of Persons   | No. of Days               | Daily Rate | Amount    |
|-------------------------|-------------------------------------------|------------------|---------------------------|------------|-----------|
| A.                      | Labor                                     |                  |                           |            |           |
|                         | a. Const. Foreman                         | 1                | 0.19                      | 611.92     | 113.21    |
|                         | b. Skilled Labor                          | 2                | 0.19                      | 443.20     | 163.98    |
|                         | c. Unskilled Labor                        | 6                | 0.19                      | 342.24     | 379.89    |
| Sub-total for A         |                                           |                  |                           | P          | 657.08    |
| Name and Capacity       |                                           | No. of Equipment | No. of Days               | Daily Rate | Amount    |
| B.                      | Equipment, (2014 ACEL Rates)              |                  |                           |            |           |
|                         | a. Cargo Truck/Delivery Truck (2-5 mt)    | 1                | 0.19                      | 6,264.00   | 1,158.84  |
|                         | b. Applicator Machine                     | 1                | 0.19                      | 750.00     | 138.75    |
|                         | c. Kneading Machine                       | 1                | 0.19                      | 1,500.00   | 277.50    |
|                         | Minor Tools 10% of Labor                  |                  |                           |            | 65.71     |
| Sub-total for B         |                                           |                  |                           | P          | 1,640.80  |
| C.                      | Total (A+B)                               |                  |                           |            | 2,297.87  |
| D.                      | Output/day                                | 200.00           | sq.m./day                 |            |           |
| Name and Specifications |                                           | Quantity         | Unit                      | Unit Cost  | Amount    |
| E.                      | Materials                                 |                  |                           |            |           |
|                         | a. Thermoplastic Paint (Yellow)           | 12.03            | bag                       | 1,800.00   | 21,645.00 |
|                         | b. Glass Beads                            | 1.22             | bag                       | 2,500.00   | 3,052.50  |
|                         | c. Primer                                 | 4.44             | L                         | 175.00     | 777.00    |
|                         | d. LPG (50 kg)                            | 0.15             | cyl.                      | 3,450.00   | 510.60    |
|                         | e. LPG (12 kg)                            | 0.07             | cyl.                      | 828.00     | 61.27     |
|                         | f. Calsumine                              | 4.63             | kg.                       | 100.00     | 462.50    |
|                         | Miscellaneous 5% of Materials Cost        |                  |                           |            | 1,325.44  |
| Sub-total for E         |                                           |                  |                           | P          | 27,834.32 |
| F.                      | Direct Cost (C + E)                       |                  |                           |            | 30,132.19 |
| G.                      | Overhead, Contingencies and Miscellaneous |                  | 10% per D.O. 197, s. 2016 |            | 3,013.22  |
| H.                      | Contractor's Profit (CP)                  |                  | 8% per D.O. 197, s. 2016  |            | 2,410.58  |
| I.                      | Value Added Tax (VAT)                     |                  | 5% per D.O. 197, s. 2016  |            | 1,777.80  |
| J.                      | Total Unit Cost                           |                  |                           |            | 1,009.02  |

### DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City

Item No./Description: 715(1) Separation Geotextile  
 Unit of Measurement: sq.m.  
 Output per hour: 200.00  
 Quantity: 21,822.00

| Designation             |                                                                     | No. of Persons   | No. of Days | Daily Rate | Amount         |
|-------------------------|---------------------------------------------------------------------|------------------|-------------|------------|----------------|
| A.                      | Labor                                                               |                  |             |            |                |
|                         | a. Const. Foreman                                                   | 1                | 13.64       | 611.92     | 8,345.82       |
|                         | b. Leadman                                                          | 2                | 13.64       | 561.36     | 15,312.50      |
|                         | c. Skilled Labor                                                    | 4                | 13.64       | 443.20     | 24,178.78      |
|                         | d. Unskilled Labor                                                  | 16               | 13.64       | 342.24     | 74,683.61      |
| Sub-total for A         |                                                                     |                  |             |            | P 122,520.71   |
| Name and Capacity       |                                                                     | No. of Equipment | No. of Days | Daily Rate | Amount         |
| B.                      | Equipment, (2014 ACEL Rates)                                        |                  |             |            |                |
|                         | a. Cargo Truck/Delivery Truck (9-10 mt)                             | 2                | 13.64       | 9,696.00   | 264,482.64     |
| Sub-total for B         |                                                                     |                  |             |            | P 264,482.64   |
| C.                      | Total (A+B)                                                         |                  |             |            | 387,003.35     |
| D.                      | Output/day 1,600.00                                                 | sq.m./day        |             |            |                |
| Name and Specifications |                                                                     | Quantity         | Unit        | Unit Cost  | Amount         |
| E.                      | Materials                                                           |                  |             |            |                |
|                         | a. Filter Cloth                                                     | 22,913.10        | sq.m.       | 160.00     | 3,666,096.00   |
| Sub-total for E         |                                                                     |                  |             |            | P 3,666,096.00 |
| F.                      | Direct Cost (C + E)                                                 |                  |             |            | 4,053,099.35   |
| G.                      | Overhead, Contingencies and Miscellaneous 10% per D.O. 197, s. 2016 |                  |             |            | 405,309.94     |
| H.                      | Contractor's Profit(CP) 8% per D.O. 197, s. 2016                    |                  |             |            | 324,247.95     |
| I.                      | Value Added Tax (VAT) 5% per D.O. 197, s. 2016                      |                  |             |            | 239,132.86     |
| J.                      | Total Unit Cost                                                     |                  |             |            | 230.13         |

PROJECT : Construction of By-Pass and Diversion Roads - Zamboanga City Diversion Road, Zambowood - Mampang Section, Zamboanga City  
LOCATION : Zamboanga City  
LIMITS : 11+380.00 - 15+040.00  
          0+000.00 - 0+000.00

net length : 3,660.00 In.m.

SUMMARY OF DETAILED ESTIMATES

| ITEM NO.                                                 | DESCRIPTION                                                                                            | QTY.      | UNIT  | LABOR        | EQUIPMENT     | MATERIALS     | OCM           | PROFIT       | VAI          | TOTAL          |
|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------|-------|--------------|---------------|---------------|---------------|--------------|--------------|----------------|
| <b>PART A - FACILITIES FOR THE ENGINEER</b>              |                                                                                                        |           |       |              |               |               |               |              |              |                |
| A.1.1(3)                                                 | Construction of Field Office for the Engineer                                                          | 1.00      | L.S.  | 42,596.48    | 32,115.65     | 308,274.50    | 38,298.66     | 30,638.93    | 22,596.21    | 474,520.43     |
| A.1.1(11)                                                | Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer | 1.00      | L.S.  | -            | -             | 296,073.33    | -             | 23,685.87    | 15,987.96    | 335,747.16     |
| A.1.2(5)                                                 | Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer                         | 8.13      | month | 103,046.08   | -             | 156,986.00    | -             | -            | 13,001.60    | 273,033.68     |
|                                                          |                                                                                                        |           |       | 145,642.56   | 32,115.65     | 761,333.83    | 38,298.66     | 54,324.80    | 51,585.77    | 1,063,301.27   |
| <b>TOTAL OF PART A</b>                                   |                                                                                                        |           |       |              |               |               |               |              |              |                |
| <b>PART B - OTHER GENERAL REQUIREMENTS</b>               |                                                                                                        |           |       |              |               |               |               |              |              |                |
| B.4(1)                                                   | Construction Survey & Staking                                                                          | 3.97      | km.   | 103,448.18   | 20,257.49     | 49,875.00     | 17,358.07     | 13,886.45    | 10,241.26    | 215,066.45     |
| B.5                                                      | Project Billboard/Signboard                                                                            | 2.00      | each  | 3,479.20     | -             | 7,330.00      | 1,080.92      | 864.74       | 637.74       | 13,392.60      |
| B.7                                                      | Occupation Safety and Health Program                                                                   | 8.13      | month | 182,795.04   | 55,000.00     | 26,760.00     | -             | 21,164.40    | 14,285.97    | 300,005.42     |
| B.9                                                      | Mobilization & Demobilization                                                                          | 1.00      | L.S.  | -            | 822,855.00    | -             | -             | -            | 41,142.75    | 863,997.75     |
|                                                          |                                                                                                        |           |       | 289,722.42   | 898,112.49    | 83,965.00     | 18,438.99     | 35,915.59    | 66,307.72    | 1,392,462.22   |
| <b>TOTAL OF PART B</b>                                   |                                                                                                        |           |       |              |               |               |               |              |              |                |
| <b>PART C - EARTHWORKS</b>                               |                                                                                                        |           |       |              |               |               |               |              |              |                |
| 101(3)b2                                                 | Removal of Actual Structures/Obstruction                                                               | 1,824.00  | cu.m. | 8,445.12     | 232,289.27    | -             | 24,073.44     | 19,258.75    | 14,203.33    | 298,269.90     |
| 102(1)                                                   | Unsuitable Excavation                                                                                  | 15,497.00 | cu.m. | 173,571.57   | 3,543,157.11  | -             | 371,672.87    | 297,338.29   | 219,286.99   | 4,605,026.83   |
| 103(3)                                                   | Foundation Fill                                                                                        | 20.00     | cu.m. | 3,961.76     | 2,756.18      | 24,887.15     | 3,160.51      | 2,528.41     | 1,864.70     | 39,158.70      |
| 103(6)a                                                  | Pipe Culverts and Drain Excavation                                                                     | 105.00    | cu.m. | 1,075.36     | 23,086.79     | -             | 2,416.21      | 1,932.97     | 1,425.57     | 29,936.90      |
| 104(1)a                                                  | Embankment from Roadway Excavation                                                                     | 4,513.00  | cu.m. | 26,766.74    | 1,013,769.63  | -             | 104,053.64    | 83,242.91    | 61,391.65    | 1,289,224.56   |
| 104(2)a                                                  | Embankment from Borrow                                                                                 | 14,501.00 | cu.m. | 50,710.72    | 1,343,227.63  | 7,039,329.19  | 843,326.75    | 674,661.40   | 497,562.78   | 10,448,818.48  |
| 104(5)                                                   | Boulder Fill                                                                                           | 14,841.00 | cu.m. | 1,287,801.06 | 3,778,478.83  | 19,962,666.20 | 2,502,894.61  | 2,002,315.69 | 1,476,707.82 | 31,010,864.21  |
| 105(1)a                                                  | Subgrade Preparation                                                                                   | 6,066.00  | sq.m. | 3,276.65     | 93,648.93     | -             | 9,692.56      | 7,754.05     | 5,718.61     | 120,090.79     |
|                                                          |                                                                                                        |           |       | 1,555,608.98 | 10,030,414.36 | 27,026,882.54 | 3,861,290.59  | 3,089,032.47 | 2,278,161.45 | 47,841,390.38  |
| <b>TOTAL OF PART C</b>                                   |                                                                                                        |           |       |              |               |               |               |              |              |                |
| <b>PART D - SUBBASE AND BASE COURSE</b>                  |                                                                                                        |           |       |              |               |               |               |              |              |                |
| 200(1)                                                   | Aggregate Subbase Course                                                                               | 15,677.00 | cu.m. | 50,809.16    | 1,452,160.51  | 15,523,482.98 | 1,702,645.26  | 1,362,116.21 | 1,004,560.71 | 21,095,774.83  |
|                                                          |                                                                                                        |           |       | 50,809.16    | 1,452,160.51  | 15,523,482.98 | 1,702,645.26  | 1,362,116.21 | 1,004,560.71 | 21,095,774.83  |
| <b>TOTAL OF PART D</b>                                   |                                                                                                        |           |       |              |               |               |               |              |              |                |
| <b>PART E - SURFACE COURSES</b>                          |                                                                                                        |           |       |              |               |               |               |              |              |                |
| 300(1)                                                   | Gravel Surface Course                                                                                  | 1,983.00  | cu.m. | 6,426.90     | 183,685.29    | 2,089,006.22  | 227,911.84    | 182,329.47   | 134,467.99   | 2,823,827.72   |
| 311(1)d1                                                 | Portland Cement Concrete Pavement                                                                      | 1,854.00  | sq.m. | 21,491.83    | 318,813.24    | 1,987,316.83  | 232,762.19    | 186,209.75   | 137,329.69   | 2,883,923.54   |
| 311(1)e1                                                 | Portland Cement Concrete Pavement                                                                      | 27,000.00 | sq.m. | 381,028.70   | 5,652,239.87  | 35,114,256.00 | 4,114,752.46  | 3,291,801.97 | 2,427,703.95 | 50,981,782.94  |
|                                                          |                                                                                                        |           |       | 408,947.43   | 6,154,738.40  | 39,190,579.05 | 4,575,426.49  | 3,660,341.19 | 2,699,501.63 | 56,689,534.20  |
| <b>TOTAL OF PART E</b>                                   |                                                                                                        |           |       |              |               |               |               |              |              |                |
| <b>PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES</b> |                                                                                                        |           |       |              |               |               |               |              |              |                |
| 500(1)b3                                                 | Pipe Culverts                                                                                          | 132.00    | In.m. | 47,310.12    | 68,275.81     | 287,262.02    | 40,284.80     | 32,227.84    | 23,768.03    | 499,128.62     |
| 505(2)a                                                  | Grouted Riprap, Class "A"                                                                              | 40.00     | cu.m. | 16,944.96    | 10,271.25     | 101,060.43    | 12,827.66     | 10,262.13    | 7,568.32     | 158,934.75     |
| 506(1)                                                   | Stone Masonry                                                                                          | 91.00     | cu.m. | 30,117.02    | 23,499.41     | 300,638.39    | 35,425.48     | 28,340.39    | 20,901.03    | 438,921.73     |
|                                                          |                                                                                                        |           |       | 94,372.10    | 102,046.47    | 688,960.84    | 88,537.94     | 70,830.35    | 52,237.39    | 1,096,985.10   |
| <b>TOTAL OF PART G</b>                                   |                                                                                                        |           |       |              |               |               |               |              |              |                |
| <b>PART H - MISCELLANEOUS STRUCTURES</b>                 |                                                                                                        |           |       |              |               |               |               |              |              |                |
| 612(1)                                                   | Reflectolized Thermoplastic Pavement Markings (White)                                                  | 916.00    | sq.m. | 16,267.06    | 40,620.83     | 620,150.37    | 67,703.83     | 54,163.06    | 39,945.26    | 838,850.40     |
| 612(2)                                                   | Reflectolized Thermoplastic Pavement Markings (Yellow)                                                 | 37.00     | sq.m. | 657.08       | 1,640.80      | 27,834.32     | 3,013.22      | 2,410.58     | 1,777.80     | 37,333.78      |
| 715(1)                                                   | Separation Geotextile                                                                                  | 21,822.00 | sq.m. | 122,520.71   | 264,482.64    | 3,666,096.00  | 405,309.94    | 324,247.95   | 239,132.86   | 5,021,790.09   |
|                                                          |                                                                                                        |           |       | 139,444.85   | 306,744.26    | 4,314,080.68  | 476,026.98    | 380,821.58   | 280,855.92   | 5,897,974.27   |
| <b>TOTAL OF PART H</b>                                   |                                                                                                        |           |       |              |               |               |               |              |              |                |
| <b>T O T A L</b>                                         |                                                                                                        |           |       |              |               |               |               |              |              |                |
|                                                          |                                                                                                        |           |       | 2,684,547.49 | 18,976,332.15 | 87,589,284.92 | 10,760,664.91 | 8,653,382.20 | 6,433,210.58 | 135,097,422.25 |

|                 |   |                        |           |
|-----------------|---|------------------------|-----------|
| Name of Project | : | Construction of By-Pas | 1 Div     |
| Station Limits  | : | 11+380.00 -            | 15+040.00 |
|                 |   | 0+000.00 -             | 0+000.00  |

Net Length : 3,660.00 In.m.

| Item No.                                                 | Description                                                                          | Quantity  | Unit  | DURATION<br># OF DAYS |
|----------------------------------------------------------|--------------------------------------------------------------------------------------|-----------|-------|-----------------------|
| <b>PART A - FACILITIES FOR THE ENGINEER</b>              |                                                                                      |           |       |                       |
| A.1.1(3)                                                 | Construction of Field Office for the Engineer                                        | 1.00      | L.S.  | 8.00                  |
| A.1.1(11)                                                | Provision of Furnitures/Fixtures, Equipment and Appliances for the Engineer's Office | 1.00      | L.S.  | 244                   |
| A.1.2(5)                                                 | Operation and Maintenance of 4x4 Pick Up Type Service Vehicle                        | 8.13      | month | 244                   |
| <b>PART B - OTHER GENERAL REQUIREMENTS</b>               |                                                                                      |           |       |                       |
| B.4(1)                                                   | Construction Survey & Staking                                                        | 3.97      | km.   | 37.17                 |
| B.5                                                      | Project Billboard/Signboard                                                          | 2.00      | each  | 2.00                  |
| B.7                                                      | Occupation Safety and Health Program                                                 | 8.13      | month | 244                   |
| B.9                                                      | Mobilization & Demobilization                                                        | 1.00      | L.S.  | 5.00                  |
| <b>PART C - EARTHWORKS</b>                               |                                                                                      |           |       |                       |
| 101(3)b2                                                 | Removal of Actual Structures/Obstruction                                             | 1,824.00  | cu.m. | 6.51                  |
| 102(1)                                                   | Unsuitable Excavation                                                                | 15,497.00 | cu.m. | 32.29                 |
| 103(3)                                                   | Foundation Fill                                                                      | 20.00     | cu.m. | 2.00                  |
| 103(6)a                                                  | Pipe Culverts and Drain Excavation                                                   | 105.00    | cu.m. | 0.66                  |
| 104(1)a                                                  | Embankment from Roadway Excavation                                                   | 4,513.00  | cu.m. | 11.28                 |
| 104(2)a                                                  | Embankment from Borrow                                                               | 14,501.00 | cu.m. | 9.06                  |
| 104(5)                                                   | Boulder Fill                                                                         | 14,841.00 | cu.m. | 74.21                 |
| 105(1)a                                                  | Subgrade Preparation                                                                 | 6,066.00  | sq.m. | 2.53                  |
| <b>PART D - SUBBASE AND BASE COURSE</b>                  |                                                                                      |           |       |                       |
| 200(1)                                                   | Aggregate Subbase Course                                                             | 15,677.00 | cu.m. | 39.19                 |
| <b>PART E - SURFACE COURSES</b>                          |                                                                                      |           |       |                       |
| 300(1)                                                   | Gravel Surface Course                                                                | 1,983.00  | cu.m. | 4.96                  |
| 311(1)d1                                                 | Portland Cement Concrete Pavement                                                    | 1,854.00  | sq.m. | 3.31                  |
| 311(1)e1                                                 | Portland Cement Concrete Pavement                                                    | 27,000.00 | sq.m. | 58.70                 |
| <b>PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES</b> |                                                                                      |           |       |                       |
| 500(1)b3                                                 | Pipe Culverts                                                                        | 132.00    | ln.m. | 16.50                 |
| 505(2)a                                                  | Grouted Riprap, Class "A"                                                            | 40.00     | cu.m. | 4.00                  |
| 506(1)                                                   | Stone Masonry                                                                        | 91.00     | cu.m. | 7.11                  |
| <b>PART H - MISCELLANEOUS STRUCTURES</b>                 |                                                                                      |           |       |                       |
| 612(1)                                                   | ReflectORIZED Thermoplastic Pavement Markings (White)                                | 916.00    | sq.m. | 4.58                  |
| 612(2)                                                   | ReflectORIZED Thermoplastic Pavement Markings (Yellow)                               | 37.00     | sq.m. | 0.19                  |
| 715(1)                                                   | Separation Geotextile                                                                | 21,822.00 | sq.m. | 13.64                 |

Prepared by:

Submitted by:

ELWICK P. ACUÑA

Engineer II

LEONCIO B. SOLAMILLO

Chief, Construction Division

  
Jorge V. Silva, Ph.D., Class III  
Regional Director

## UNIT COST ANALYSIS FOR HAULING COST FOR PORTLAND CEMENT

### TOTAL QUANTITY REQUIREMENTS FOR PORTLAND CEMENT

| DESCRIPTION                                   | QUANTITY<br>(Bags) |
|-----------------------------------------------|--------------------|
| Portland Cement Concrete Pavement             | 4,060.26           |
| Portland Cement Concrete Pavement             | 71,820.00          |
| Pipe Culverts                                 | 142.56             |
| Grouted Riprap, Class "A"                     | 120.00             |
| Stone Masonry                                 | 500.50             |
| Construction of Field Office for the Engineer | 90.00              |
| <b>T O T A L</b>                              | <b>76,733.32</b>   |

Quantity = **76,733.32** Bags

Delivery Charge = P 0.120 / bag / km.

| S I T E            | HAULING DISTANCE |
|--------------------|------------------|
| Zamboanga City DEO | 20.00            |
| Batching plant     |                  |

\*Average hauling distance from Source to assumed Stockpiling area :  
say 20.00 km.

Delivery Charge = P 0.120 x 20.00  
= P **2.40** / bag

\*Delivery Truck : 76,733.32 bags., (hauling works)  
20,000.00 kgs., (capacity per haul)  
or 500.00 bags, (capacity per haul)

\*Capacity of Laborers unloading bags of Cement from Delivery Truck :  
Assume ( 10 ) laborers can unload 500.00 bags of Cement.

\*Dumptruck (10 Wheeler) days computation : **TIME-MOTION ANALYSIS**

|                                    |   |                                   |       |                    |
|------------------------------------|---|-----------------------------------|-------|--------------------|
| Speed when loaded                  | : | 30.00                             | kph   |                    |
| Speed when unloaded                | : | 40.00                             | kph   |                    |
| Loaded running                     | = | $\frac{20.00 \times 60}{30.00}$   | =     | 40.00 mins.        |
| Unloaded running                   | = | $\frac{20.00 \times 60}{40.00}$   | =     | 30.00 mins.        |
| Loading and Unloading              | : | 45.00                             | mins. |                    |
| allowance for delay/traffic        | : | 3.00                              | mins. |                    |
| Capacity of Dumptruck              | : | 8.00                              | cu.m. |                    |
|                                    | : | 500.00                            | bags  |                    |
| Total Cycle time                   | : | 118.00                            | mins. |                    |
| No. of trips for Dumptruck per day | = | $\frac{8.0 \times 60.00}{118.00}$ | =     | 4.07 say 4.07 trip |
| Dumptruck daily output             | = | 500 x 4.07                        | =     | 2,033.90 cu.m.     |
| Using ( 3 ) Dumptrucks             | = | 3 x 2033.90                       | =     | 6,101.69 cu.m.     |

*h*

1. No. of days for Delivery Truck =  $\frac{76,733.32}{6,101.69} = 12.58$  say 12.58 days
2. No. of days for Labor, for unloading = complimentary to D. Truck days = 12.58 days

**DELIVERY COST :**

|                                   |     |      |       |          |                   |
|-----------------------------------|-----|------|-------|----------|-------------------|
| 76,733.32 - Bags, Portland Cement | @ P | 2.40 | / bag | = P      | 184,159.97        |
| <b>Sub - Total</b>                |     |      |       | <b>P</b> | <b>184,159.97</b> |

**LABOR :**

|    |                       |     |             |   |                    |                  |
|----|-----------------------|-----|-------------|---|--------------------|------------------|
| 1  | - Foreman             | @ P | 611.92 /day | x | 12.58 days = P     | 7,695.35         |
| 10 | - Laborers, unloading | @ P | 342.24 /day | x | 12.58 days = P     | 43,039.21        |
|    |                       |     |             |   | <b>Sub - Total</b> | <b>P</b>         |
|    |                       |     |             |   |                    | <b>50,734.55</b> |

**MATERIALS :**

|                                                      |     |        |       |          |                      |
|------------------------------------------------------|-----|--------|-------|----------|----------------------|
| 76,733.32 - Bags, Portland Cement<br>(Pick-Up Price) | @ P | 280.00 | / bag | = P      | 21,485,329.60        |
| <b>Sub - Total</b>                                   |     |        |       | <b>P</b> | <b>21,485,329.60</b> |

|                    |   |                |     |   |              |
|--------------------|---|----------------|-----|---|--------------|
| Estimated Quantity |   | 76,733.32 Bags |     |   |              |
| Unit Cost          | P | 283.06 / Bag,  | say | P | 284.00 / Bag |
| Grand Total        | P | 21,720,224.12  |     |   |              |
| Delivery Cost      | P | 184,159.97     |     |   |              |
| Labor              | P | 50,734.55      |     |   |              |
| Materials          | P | 21,485,329.60  |     |   |              |

## UNIT COST ANALYSIS FOR HAULING COST FOR ALL AGGREGATES

### Hauling Cost from the Quarry to Batching plant

Item No. : ALL AGGREGATES      Terrain : Flat to Rolling  
 Quantity : 1,000.00      Unit : cu.m.  
 Hauling Distance : 5.00 km.  
 Effective Working Hours : 8.00 hrs.

#### Hauling: Using 10.00 cu.m.capacity Dumptruck

Weight of Dumptruck (cap. 10.00 cu.m.) : 16,000.00 kgs.  
 Unit weight of Fine Aggregates : 1,640.00 kg/m<sup>3</sup>  
 Unit weight of Coarse Aggregates : 1,534.00 kg/m<sup>3</sup>  
 Maximum Volume to be Carried per DT : 11.57 cu.m.

#### \*Dumptruck (10 Wheeler) days computation : TIME-MOTION ANALYSIS

|                                    |   |                                |       |                       |
|------------------------------------|---|--------------------------------|-------|-----------------------|
| Speed when loaded                  | : | 30.00                          | kph   |                       |
| Speed when unloaded                | : | 40.00                          | kph   |                       |
| Loaded running                     | = | $\frac{5.00 \times 60}{30.00}$ | =     | 10.00 mins.           |
| Unloaded running                   | = | $\frac{5.00 \times 60}{40.00}$ | =     | 7.50 mins.            |
| Loading and Unloading              | : | 5.00                           | mins. |                       |
| allowance for delay/traffic        | : | 3.00                           | mins. |                       |
| Capacity of Dumptruck              | : | 10.00                          | cu.m. |                       |
| Total Cycle time                   | : | 25.50                          | mins. |                       |
| No. of trips for Dumptruck per day | = | $\frac{8 \times 60.00}{25.50}$ | =     | 18.82 say 18.82 trips |
| Dumptruck daily output             | = | 10 x 18.82                     | =     | 188.24 cu.m.          |
| Using ( 5 ) Dumptrucks             | = | 5 x 188.24                     | =     | 941.18 cu.m.          |
| 1. No. of days for Dumptrucks      | = | $\frac{1,000.00}{941.18}$      | =     | 1.06 say 1.06 days    |

#### EQUIPMENT USED : (2009 ACEL RATES)

|   |                  |     |                |   |             |     |           |
|---|------------------|-----|----------------|---|-------------|-----|-----------|
| 5 | - Unit Dumptruck | @ P | 11,360.00 /day | x | 1.06 days   | = P | 60,350.00 |
|   |                  |     |                |   | Sub - Total | P   | 60,350.00 |

|                    |   |                                                          |
|--------------------|---|----------------------------------------------------------|
| Estimated Quantity |   | 1,000.00 cu.m.                                           |
| Unit Cost          | P | 12.07 /cu. m./km. (Unit Cost, Hauling per cu.m.per km. ) |
| Grand Total        | P | 60,350.00                                                |
| Equipment          | P | 60,350.00                                                |
| Labor              | P |                                                          |
| Materials          | P |                                                          |

|                                    | Hauling Distance |   | Unit Cost per cu.m./km. |   | Hauling Cost per cu.m. |   | Unit Price |   | Unit Cost per cu.m. |
|------------------------------------|------------------|---|-------------------------|---|------------------------|---|------------|---|---------------------|
| Cost of Fine Aggregates:           | 15.00            | x | 12.07                   | = | 181.05                 | + | 901.00     | = | 1,082.05            |
| Cost of Coarse Aggregates:         | 15.00            | x | 12.07                   | = | 181.05                 | + | 901.00     | = | 1,082.05            |
| Cost of Item 200 Materials:        | 15.00            | x | 12.07                   | = | 181.05                 | + | 680.00     | = | 861.05              |
| Cost of Item 300 Materials:        | 15.00            | x | 12.07                   | = | 181.05                 | + | 735.00     | = | 916.05              |
| Cost of Boulders:                  | 15.00            | x | 12.07                   | = | 181.05                 | + | 1,100.00   | = | 1,281.05            |
| Cost of Embankment, Common Borrow: | 5.00             | x | 12.07                   | = | 60.35                  | + | 328.00     | = | 388.35              |

