

TERMS OF REFERENCE

CONSULTING SERVICES FOR THE DETAILED ENGINEERING DESIGN OF THE PROPOSED SOUTH LUNA RAMPS PROJECT AT BONIFACIO GLOBAL CITY, TAGUIG CITY

1. DESCRIPTION OF SERVICES

The Consulting Services required under this Terms of Reference shall be the detailed engineering design for the Proposed South Luna Ramp, hereinafter referred to as the “Project”, which consist of a two (2) lane on-ramp and a two (2) lane off-ramp connecting from the Circumferential Road-5 (C-5) and McKinley Parkway to serve as an ingress/egress to/from Bonifacio Global City through C-5 Road. The said Services shall consist of, but not limited to, structural ramps and pavements on grade, bored pile foundations, concrete columns, pre-stressed girders, deck slabs, sidewalks, railings, lightings, retaining walls, slope protections, drainage structures, ancillary works and miscellaneous items.

2. SCOPE OF SERVICES

2.1. Provide and guarantee the highest quality of detailed engineering consulting services required to do site development works; topographic, geo-technical and hydrographic surveys; detailed engineering design works; technical specifications, unit price analysis and cost estimates, construction drawings and bidding documents; environmental and social impact assessments.

2.2. Undertake the following activities, but not limited to:

- 2.2.1. Collection and Review of Existing Data and Documents
- 2.2.2. Relocation, Topographic and Parcellary Survey
- 2.2.3. Structural/Facilities/Utilities Survey
- 2.2.4. Route Survey
- 2.2.5. Geo-Technical Survey
- 2.2.6. Construction Materials Investigation/Survey
- 2.2.7. Detailed Engineering Design
 - 2.2.7.1. Highway Design
 - 2.2.7.2. Bridge Design
 - 2.2.7.3. Drainage Design
 - 2.2.7.4. Electrical Design
- 2.2.8. Environmental and Social Impact Assessment

2.3. As a result of the survey works in Item 2.2, the Design Consultant shall provide, but not limited to, the following information:

- 2.3.1. Contour plan in 1-meter intervals
 - 2.3.2. Monumenting of boundary corners
 - 2.3.3. Approved subdivision or parcellary plans by the DENR-NCR
 - 2.3.4. Vertical Control/Profile Leveling
 - 2.3.5. 20-meter interval cross sections
 - 2.3.6. Structural/Facilities/Utilities Plan
 - 2.3.7. Location of construction materials.
 - 2.3.8. Environmental and Social Impact Study
- 2.4. Provide the detailed plans and drawings which shall include, but not limited to, the following:
- 2.4.1. Cover Sheet
 - 2.4.2. Key Plan, Project and Vicinity Map
 - 2.4.3. Location Map
 - 2.4.4. Plan and Profile Sheets with all topographic information within survey corridor
 - 2.4.5. Soils and Materials Investigation Maps
 - 2.4.6. Typical Cross Sections
 - 2.4.7. Construction Details
 - 2.4.8. Bridge Structural Details, Cross Sectional and Elevation Views
 - 2.4.9. Retaining Wall Construction Details
 - 2.4.10. Drainage Plan and Profile and Cross-Section Details
 - 2.4.11. Materials Sources Location Maps
 - 2.4.12. Intersection Maps
 - 2.4.13. Minor Drainage Structure Drawings
 - 2.4.14. Major Structure Drawings
 - 2.4.15. Road Signs and Pavement Markings
 - 2.4.16. Power Supply and Street Lighting Details
 - 2.4.17. Utility Relocation Maps
 - 2.4.18. Ancillary Works / Miscellaneous Details
 - 2.4.19. Detailed Cross-Sections
 - 2.4.20. Right-of-Way Plans
 - 2.4.21. Traffic Management Plan
 - 2.4.22. Parcellary and Lot Plans
 - 2.4.23. Drawing Index
 - 2.4.24. Summary of Quantities
 - 2.4.25. Other necessary plans.
- 2.5. Provide quantity calculations, cost estimates and unit price analysis (UPA) of the Project. The final draft of the cost estimates and the unit price analysis shall not be linked to any other excel sheets aside from the sheet wherein it is encoded.
- 2.6. Provide Technical Specifications that shall comply with the latest DPWH Design Standards and has to include the descriptions of the work items, material requirements, construction requirements and methods, methods of

measurements, and basis of payments. The sampling, testing and inspection requirements; and production and delivery requirements shall be included in the specifications of applicable work items.

- 2.7. Provide Tender Documents based on the revised IRR of RA 9184.
- 2.8. Provide manpower and equipment utilization program, construction schedule and S-Curve.
- 2.9. Provide all other reports that may be required by BCDA.
- 2.10. Facilitate the approval of the plans from concerned utility providers, other private entities and/or government agencies.
- 2.11. Coordinate with the Bonifacio Estate Services Corporation (BESC) and the Fort Bonifacio Development Corporation (FBDC) in the integration of the South Luna Ramps with the roads and service utilities inside the Global City.
- 2.12. Coordinate with the Department of Public Works and Highways (DPWH), the Metro Manila Development Authority (MMDA) and other concerned government agencies or local government units in the integration of the South Luna Ramps with the C-5 Road.
- 2.13. Provide on-call services during the pre-construction and construction stages of the Project at no cost to BCDA. Provide technical assistance in the modification of the plans that may arise during the implementation of the Project.

3. DELIVERABLES

- 3.1. Detailed engineering plans and drawings on one original A-1 size Mylar Sheet and ten (10) other copies in white print. The drawings shall be prepared using AutoCAD format not lower than its 2010 version.
- 3.2. One (1) original and ten (10) other copies of the detailed cost estimates, unit price analysis, technical specifications and tender documents in A-4 size quality paper and prepared using MS Office not lower than its 2007 version.
- 3.3. Draft drawings for submission to BCDA for review or in support of progress payments shall be submitted in three (3) sets of A-3 size quality paper. All other documents for submission to BCDA for review or in support of progress payments shall be submitted in three (3) sets of A-4 size quality paper.
- 3.4. Monthly Progress Reports indicating, but not limited to, the updates and accomplishments of the activities the Design Consultant undertook for a particular month. The monthly reports will also include the problems

encountered by the Design Consultant in conducting its activities, its recommendations and solutions provided; coordination meetings attended and their outcomes; and a log of correspondences.

3.5. All reports for the activities enumerated in Item 2.2 and all other reports that may be required for this consulting service and as may be required by BCDA.

3.6. All plans and documents related to this detailed engineering design services shall become the property of BCDA.

4. MANNING REQUIREMENT

The Design Consultant shall employ and provide the following qualified and experienced personnel:

4.1 Key Staff

- 4.1.1 Project Manager
- 4.1.2 Sr. Geotechnical/Foundation Engineer
- 4.1.3 Sr. Materials Engineer
- 4.1.4 Sr. Structural Engineer
- 4.1.5 Sr. Civil Works/Drainage Engineer
- 4.1.6 Sr. Highway Engineer
- 4.1.7 Sr. Traffic Engineer
- 4.1.8 Sr. Environmentalist
- 4.1.9 Sr. Electrical Engineer
- 4.1.10 Sr. Quantity/Cost/Specifications Engineer
- 4.1.11 Sr. Geodetic Engineer

4.2 Support Staff

- 4.2.1 Jr. Structural Engineer
- 4.2.2 Jr. Civil Engineer
- 4.2.3 CAD Operator 1
- 4.2.4 CAD Operator 2
- 4.2.5 CAD Operator 3
- 4.2.6 Administrative Officer
- 4.2.7 Secretary/Encoder
- 4.2.8 Messenger/Utility Personnel
- 4.2.9 Driver

5. DURATION OF SERVICES

Except for the on-call services stipulated under Item 2.14 that has to be rendered on a later date, the consulting services required for the detailed engineering design must be completed within one hundred eighty (180) calendar days.

6. APPROVED BUDGET FOR THE CONTRACT

The detailed engineering design for the South Luna Ramps Project has an Approved Budget for the Contract (ABC) of **Seven Million, Nine Hundred Eighty-Seven Thousand Eight Hundred Pesos (₱7,987,800.00)**, inclusive of VAT and all other applicable government taxes.

7. MODE OF PAYMENT

In consideration of the services required under this TOR, payment to the Design Consultant shall be made in the following manner:

- 7.1 Fifteen percent (15%) of the Contract Price for mobilization expense upon written request of the Consultant and the submission to and acceptance by BCDA of an irrevocable standby letter of credit of equivalent value from a commercial bank and confirmed by BCDA.

- 7.2 Forty percent (40%) of the Contract Price upon submission of the draft drawings, technical specifications, cost estimates, unit price analysis, tender documents, technical reports indicated in Item 2.3, manpower and equipment utilization program, construction schedule and S-Curve, and all other reports that may be required by BCDA.

- 7.3 Thirty five percent (35%) of the Contract Price upon submission of the complete set of approved plans, technical specifications, cost estimates, unit price analysis, tender documents and all other reports that may be required by BCDA.

- 7.4 The remaining ten percent (10%) of the Contract Price shall be released under the following conditions:
 - 7.4.1 Issuance of Certificate of Completion by BCDA.
 - 7.4.2 Submission of the Final Report by the Design Consultant.
 - 7.4.3 Submission of the Design Consultant of a Sworn Statement that it shall provide on-call services during the bidding and construction of the Project subject to the conditions under this TOR and at no cost to BCDA.

8. EVALUATION CRITERIA

The mode of procurement shall be Quality-Cost Based Evaluation Procedure.

8.1. Criteria and rating system for short listing:

- 8.1.1. Experience of the consulting firm in detailed engineering design of roads and bridges: (40%).

8.1.2. Educational attainment and work experience of key personnel on the detailed engineering design of roads and bridges: (60%)

8.2. Criteria and rating system for the evaluation of bidding documents:

8.2.1. Technical Proposal: (70%)

8.2.2. Financial Proposal: (30%)

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