# BIDDING DOCUMENTS

**FOR THE**

# LAND IMPROVEMENT AND SITE DEVELOPMENT OF MUNICIPAL LOT AT BARANGAY BASING, LINGAYEN, PANGASINAN

MUNICIPALITY OF LINGAYEN

**Sixth Edition**
**July 2020**

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# *Glossary of Terms, Abbreviations, and Acronyms*

**ABC** –Approved Budget for the Contract.

**ARCC** – Allowable Range of Contract Cost.

**BAC** – Bids and Awards Committee.

**Bid** – A signed offer or proposal to undertake a contract submitted by a bidder in response to and in consonance with the requirements of the bidding documents. Also referred to as *Proposal* and *Tender.* (2016 revised IRR, Section 5[c])

**Bidder** – Refers to a contractor, manufacturer, supplier, distributor and/or consultant who submits a bid in response to the requirements of the Bidding Documents. (2016 revised IRR, Section 5[d])

**Bidding Documents –** The documents issued by the Procuring Entity as the bases for bids, furnishing all information necessary for a prospective bidder to prepare a bid for the Goods, Infrastructure Projects, and/or Consulting Services required by the Procuring Entity. (2016 revised IRR, Section 5[e])

**BIR** – Bureau of Internal Revenue.

**BSP** – Bangko Sentral ng Pilipinas.

**CDA –** Cooperative Development Authority.

**Consulting Services** – Refer to services for Infrastructure Projects and other types of projects or activities of the GOP requiring adequate external technical and professional expertise that are beyond the capability and/or capacity of the GOP to undertake such as, but not limited to: (i) advisory and review services; (ii) pre-investment or feasibility studies; (iii) design; (iv) construction supervision; (v) management and related services; and (vi) other technical services or special studies. (2016 revised IRR, Section 5[i])

**Contract** – Refers to the agreement entered into between the Procuring Entity and the Supplier or Manufacturer or Distributor or Service Provider for procurement of Goods and Services; Contractor for Procurement of Infrastructure Projects; or Consultant or Consulting Firm for Procurement of Consulting Services; as the case may be, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

**Contractor –** is a natural or juridical entity whose proposal was accepted by the Procuring Entity and to whom the Contract to execute the Work was awarded. Contractor as used in these Bidding Documents may likewise refer to a supplier, distributor, manufacturer, or consultant.

**CPI –** Consumer Price Index.

**DOLE –** Department of Labor and Employment.

**DTI** – Department of Trade and Industry.

**Foreign-funded Procurement or Foreign-Assisted Project** –Refers to procurement whose funding source is from a foreign government, foreign or international financing institution as specified in the Treaty or International or Executive Agreement. (2016 revised IRR, Section 5[b]).

**GFI** – Government Financial Institution.

**GOCC** –Government-owned and/or –controlled corporation.

**Goods** – Refer to all items, supplies, materials and general support services, except Consulting Services and Infrastructure Projects, which may be needed in the transaction of public businesses or in the pursuit of any government undertaking, project or activity, whether in the nature of equipment, furniture, stationery, materials for construction, or personal property of any kind, including non-personal or contractual services such as the repair and maintenance of equipment and furniture, as well as trucking, hauling, janitorial, security, and related or analogous services, as well as procurement of materials and supplies provided by the Procuring Entity for such services. The term "related" or "analogous services" shall include, but is not limited to, lease or purchase of office space, media advertisements, health maintenance services, and other services essential to the operation of the Procuring Entity. (2016 revised IRR, Section 5[r])

**GOP** – Government of the Philippines.

**Infrastructure Projects** – Include the construction, improvement, rehabilitation, demolition, repair, restoration or maintenance of roads and bridges, railways, airports, seaports, communication facilities, civil works components of information technology projects, irrigation, flood control and drainage, water supply, sanitation, sewerage and solid waste management systems, shore protection, energy/power and electrification facilities, national buildings, school buildings, hospital buildings, and other related construction projects of the government. Also referred to as *civil works or works*. (2016 revised IRR, Section 5[u])

**LGUs –** Local Government Units.

**NFCC –** Net Financial Contracting Capacity.

**NGA –** National Government Agency.

**PCAB** – Philippine Contractors Accreditation Board.

**PhilGEPS -** Philippine Government Electronic Procurement System.

**Procurement Project** – refers to a specific or identified procurement covering goods, infrastructure project or consulting services. A Procurement Project shall be described, detailed, and scheduled in the Project Procurement Management Plan prepared by the agency which shall be consolidated in the procuring entity's Annual Procurement Plan. (GPPB Circular No. 06-2019 dated 17 July 2019)

**PSA –** Philippine Statistics Authority.

**SEC –** Securities and Exchange Commission.

**SLCC –** Single Largest Completed Contract.

**UN –** United Nations.

# *Section I. Invitation to Bid*

***Republic of the Philippines***
***Province of Pangasinan***
***Municipality of Lingayen***

## Invitation to Bid for *the* *LAND IMPROVEMENT AND SITE DEVELOPMENT OF MUNICIPAL LOT AT BARANGAY BASING, LINGAYEN, PANGASINAN*

The ***Local Government Unit (LGU) of Lingayen*** through the General Fund-Capital Outlay intends to apply the sum of ***Three Million Pesos (P3,000,000.00) only*** being the Approved Budget for the Contract (ABC) to payments under the contract for *the* ***LAND IMPROVEMENT AND SITE DEVELOPMENT OF MUNICIPAL LOT AT BARANGAY BASING, LINGAYEN, PANGASINAN with Purchase Request no. 100-22-06-169.*** Bids received in excess of the ABC shall be automatically rejected at bid opening.

The ***Local Government Unit (LGU) of Lingayen*** now invites bids for the above Procurement Project. Completion of the Works is required *NINETY (90) CALENDAR days*. Bidders should have completed a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).

Bidding will be conducted through open competitive bidding procedures using non-discretionary "*pass/fail*" criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.

Interested bidders may obtain further information from *BAC Office, Municipal Hall Building, Lingayen, Pangasinan* from *8:00 in the morning to 5:00 in the afternoon, Mondays to Fridays except holidays.*

A complete set of Bidding Documents may be acquired by interested bidders starting ***July 18, 2022 – August 16, 2022 from*** the BAC Office, Municipal Hall Building, Lingayen, Pangasinan *and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of* ***Five Thousand Pesos (P5,000.00) Only.*** The Bidder or authorize representative shall present its proof of payment for the fees personally to the BAC Office before Bidding Documents will be released.

The ***Local Government Unit of Lingayen*** will hold a Pre-Bid Conference on *August 3, 2022, 9:30 in the morning* at *Municipal Conference Room, Municipal Hall, Building, Lingayen, Pangasinan* which may be attended by prospective bidders.

Bids must be duly received by the BAC Secretariat through manual submission at the office of Bids and Awards Committee, Local Government Unit of Lingayen, Municipal Hall, Lingayen, Pangasinan 2401 on or before 9:30 in the morning August 16, 2022. Late bids shall not be accepted.

All bids must be accompanied by a Bid Security in any of the acceptable forms and in the amount stated in **ITB** Clause 15.

Bid opening shall be at the Municipal Conference Hall, 2nd Floor, Municipal Hall Building, Lingayen, Pangasinan on **August 16, 2022**, *after the closing time of the submission of bids*. Bids will be opened in the presence of the bidders' representatives and observers who choose to attend the activity.

The ***Local Government Unit of Lingayen*** reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Sections 35.6 and 41 of the 2016 revised Implementing Rules and Regulations (IRR) of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.

For further information, please refer to:

ARNULFO S. BERNARDO
Head BAC Secretariat
LGU Lingayen
Barangay Poblacion
Lingayen, Pangasinan

You may visit the following websites:

For downloading of Bidding Documents:*www.lingayen.gov.ph*

*July 18, 2022*
*Date of Issue*

**JOAN JUDE R. LOPEZ, LLB, MBM**
*BAC Chairperson*

# *Section II. Instructions to Bidders (ITB)*

## 1. Scope of Bid

The Procuring Entity, *the Local Government Unit of Lingayen* invites Bids for **the *Land Improvement and Site Development of Municipal Lot at Barangay Basing, Lingayen, Pangasinan with Purchase* Request No. 100-22-06-169.**

The Procurement Project (referred to herein as "Project") is for the *Land Improvement and Site Development of Municipal Lot*, as described in Section VI (Specifications).

## 2. Funding Information

2.1. The GOP through the source of funding as indicated below for *CY 2022* in the amount of *Three Million Pesos (P3,000,000.00) Only.*

2.2. The source of funding is: LGU's General Fund-Capital Outlay

## 3. Bidding Requirements

The Bidding for the Project shall be governed by all the provisions of RA No. 9184 and its 2016 revised IRR, including its Generic Procurement Manual and associated policies, rules and regulations as the primary source thereof, while the herein clauses shall serve as the secondary source thereof.

Any amendments made to the IRR and other GPPB issuances shall be applicable only to the ongoing posting, advertisement, or invitation to bid by the BAC through the issuance of a supplemental or bid bulletin.

The Bidder, by the act of submitting its Bid, shall be deemed to have inspected the site, determined the general characteristics of the contracted Works and the conditions for this Project, such as the location and the nature of the work; (b) climatic conditions; (c) transportation facilities; (c) nature and condition of the terrain, geological conditions at the site communication facilities, requirements, location and availability of construction aggregates and other materials, labor, water, electric power and access roads; and (d) other factors that may affect the cost, duration and execution or implementation of the contract, project, or work and examine all instructions, forms, terms, and project requirements in the Bidding Documents.

## 4. Corrupt, Fraudulent, Collusive, Coercive, and Obstructive Practices

The Procuring Entity, as well as the Bidders and Contractors, shall observe the highest standard of ethics during the procurement and execution of the contract. They or through

an agent shall not engage in corrupt, fraudulent, collusive, coercive, and obstructive practices defined under Annex "I" of the 2016 revised IRR of RA No. 9184 or other integrity violations in competing for the Project.

## 5. Eligible Bidders

5.1. Only Bids of Bidders found to be legally, technically, and financially capable will be evaluated.

5.2. The Bidder must have an experience of having completed a Single Largest Completed Contract (SLCC) that is similar to this Project, equivalent to at least fifty percent (50%) of the ABC adjusted, if necessary, by the Bidder to current prices using the PSA's CPI, except under conditions provided for in Section 23.4.2.4 of the 2016 revised IRR of RA No. 9184.

A contract is considered to be "similar" to the contract to be bid if it has the major categories of work stated in the **BDS**.

5.3. The Bidders shall comply with the eligibility criteria under Section 23.4.2 of the 2016 IRR of RA No. 9184.

## 6. Bidder's Responsibilities

6.1 The Bidder is responsible for the following:

(a) Having acknowledged all conditions, local or otherwise, affecting the implementation of the contract;

(b) Having complied with its responsibility to inquire or secure Supplemental/Bid Bulletin(s).

(c) Ensuring that it is not "blacklisted" or barred from bidding by the GOP or any of its agencies, offices, corporations, or LGUs, including foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the GPPB;

(d) Ensuring that each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;

(e) Ensuring that the signatory is the duly authorized representative of the Bidder, and granted full power and authority to do, execute and perform any and all acts necessary and/or to represent the Bidder in the bidding, with the duly notarized Secretary's Certificate attesting to such fact, if the Bidder is a corporation, partnership, cooperative, or joint venture;

(f) Complying with the disclosure provision under Section 47 of RA 9184 and its IRR in relation to other provisions of RA 3019;

6.2 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents.

6.3 The Procuring Entity shall not assume any responsibility regarding erroneous interpretations or conclusions by the prospective or eligible bidder out of the data furnished by the procuring entity.

6.4 Before submitting their bids, the Bidder is deemed to have become familiar with all existing laws, decrees, ordinances, acts and regulations of the Philippines which may affect this Project in any way.

6.5 The Bidder should note that the Procuring Entity will accept bids only from those that have paid the applicable fees for the Bidding Documents at the office indicated in the Invitation to Bid.

## 7. Origin of Associated Goods

There is no restriction on the origin of Goods other than those prohibited by a decision of the UN Security Council taken under Chapter VII of the Charter of the UN.

## 8. Subcontracts

The Procuring Entity has prescribed that:

a. Subcontracting is not allowed.

## 9. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference is on ***August 3, 2022, 9:30*** in the morning at Municipal Conference Room, Municipal Hall Building, Lingayen, Pangasinan**.**

## 10. Clarification and Amendment of Bidding Documents

Prospective bidders may request for clarification on and/or interpretation of any part of the Bidding Documents. Such requests must be in writing and received by the Procuring Entity, either at its given address or through electronic mail indicated in the **IB**, at least ten (10) calendar days before the deadline set for the submission and receipt of Bids.

## 11. Documents Comprising the Bid: Eligibility and Technical Components

11.1 The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.

11.2 If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must be accompanied by a translation in English, which shall be authenticated by the appropriate Philippine foreign service establishment, post, or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. For Contracting Parties to the Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.

11.3A valid PCAB License is required, and in case of joint ventures, a valid special PCAB License, and registration for the type and cost of the contract for this Project. Any additional type of Contractor license or permit shall be indicated in the **BDS**.

11.4.A List of Contractor's key personnel (e.g., Project Manager, Project Engineers, Materials Engineers, and Foremen) assigned to the contract to be bid, with their complete qualification and experience data shall be provided. These key personnel must meet the required minimum years of experience set in the **BDS**.

11.5A List of Contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership, certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be, must meet the minimum requirements for the contract set in the **BDS**.

## 12. Documents Comprising the Bid: Financial Component

12.1The second bid envelope shall contain the financial documents for the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.

12.2Any bid exceeding the ABC indicated in paragraph 1 of the **IB** shall not be accepted.

## 13. Alternative Bids

Bidders shall submit offers that comply with the requirements of the Bidding Documents, including the basic technical design as indicated in the drawings and specifications. Unless there is a value engineering clause in the **BDS**, alternative Bids shall not be accepted.

## 14. Bid Prices

All bid prices for the given scope of work in the Project as awarded shall be considered as fixed prices, and therefore not subject to price escalation during contract implementation, except under extraordinary circumstances as determined by the NEDA and approved by the GPPB pursuant to the revised Guidelines for Contract Price Escalation guidelines.

## 15. Bid and Payment Currencies

15.1Bid prices may be quoted in the local currency or tradeable currency accepted by the BSP at the discretion of the Bidder. However, for purposes of bid evaluation, Bids denominated in foreign currencies shall be converted to Philippine currency based on the exchange rate as published in the BSP reference rate bulletin on the day of the bid opening.

*15.2Payment of the contract price shall be made in:*

a. Philippine Pesos.

## 16. Bid Security

16.1 The Bidder shall submit any of the following form of Bid Security in the amount indicated in the **Bid Data Sheet (BDS)**, which shall be not less than the percentage of the ABC in accordance with the following schedule.

| Form of Bid Security | Amount of Bid Security<br><br>(Not Less than the Percentage of the ABC) |
|---|---|
| a. Cash or cashier's/manager's check issued by a Universal or Commercial Bank.<br><br>*For biddings conducted by LGUs, the Cashier's/Manager's Check may be issued by other banks certified by the BSP as authorized to issue such financial instrument.* | Two percent (2%) |
| b. Bank draft/guarantee or irrevocable letter of credit issued by a Universal or Commercial Bank: Provided, however, that it shall be confirmed or authenticated by a Universal or Commercial Bank, if issued by a foreign bank.<br><br>*For biddings conducted by LGUs, Bank Draft/Guarantee, or Irrevocable Letter of Credit may be issued by other banks certified by the BSP as authorized to issue such financial instrument.* | |
| c. Surety bond callable upon demand issued by a surety or insurance company duly certified by the Insurance Commission as authorized to issue such security. | Five percent (5%) |

16.2 The Bid and bid security shall be valid until ***one hundred twenty days upon the date of opening of bids.*** Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

## 17. Sealing and Marking of Bids

Each Bidder shall submit one original copy and additional copy of the technical and financial components of its bid.

Bidders shall enclose the original copy of their technical documents in one long brown envelope marked "ORIGINAL – TECHNICAL DOCUMENTS", and shall do the same to the original copy of the financial components of their bid; marked "ORIGINAL – FINANCIAL DOCUMENTS" on a long brown envelope as well. These two brown envelopes shall be sealed in a long brown envelope marked "**ORIGINAL BID**".

The other copy of the Technical and Financial Documents shall be similarly sealed on a long brown envelope duly marked as "COPY – TECHNICAL DOCUMENT" and "COPY – FINANCIAL DOCUMENT" enclosed in a long brown envelope marked "**COPY BID**".

The checklist of Technical and Financial Documents shall be attached on the back side (under the seal flap) of each long brown envelope.

All of the documents (original copy and the other copy) shall bear the signature or initials of the authorized representative on every page as proof of its authenticity.

These two long brown envelopes (ORIGINAL BID and COPY BID) shall now be enclosed in one final expanding envelope sealed with two-inch packaging tape with the signature of the bidder affixed atop the packaging tape as cognizance of its seal.

All envelopes (long brown and expanding) shall:

a.) contain the name of the contract to be bid in capital letters;

b.) bear the name and address of the bidder in capital letters;

c.) be addressed to the Procuring Entity's BAC as follows;

**BIDS AND AWARDS COMMITTEE**
**LOCAL GOVERNMENT UNIT OF LINGAYEN**
**MUNICIPAL HALL, LINGAYEN, PANGASINAN 2401**

d.) bear a warning "DO NOT OPEN BEFORE…" the date and time of the Opening of Bids written at the front side of each envelope.

## 18. Deadline for Submission of Bids

The deadline of submission of Bids is on August 16, 2022 at exactly 9:30 in the morning. Only manual submission of Bids is allowed.

## 19. Opening and Preliminary Examination of Bids

19.1 The BAC shall open the Bids in public on ***August 16, 2022, after the closing time of the submission of bids at Municipal Conference Hall, 2nd Floor, Municipal Hall Building, Lingayen, Pangasinan***. The Bidders' authorize representatives who are present must present their Special Power of Attorney (SPA) and shall sign a register evidencing their attendance.

In case the Bids cannot be opened as scheduled due to justifiable reasons, the rescheduling requirements under Section 29 of the 2016 revised IRR of RA No. 9184 shall prevail.

19.2 The preliminary examination of Bids shall be governed by Section 30 of the 2016 revised IRR of RA No. 9184.

## 20. Detailed Evaluation and Comparison of Bids

20.1 The Procuring Entity's BAC shall immediately conduct a detailed evaluation of all Bids rated "*passed*" using non-discretionary pass/fail criteria. The BAC shall consider the conditions in the evaluation of Bids under Section 32.2 of 2016 revised IRR of RA No. 9184.

20.2 If the Project allows partial bids, all Bids and combinations of Bids as indicated in the **BDS** shall be received by the same deadline and opened and evaluated simultaneously so as to determine the Bid or combination of Bids offering the lowest calculated cost to the Procuring Entity. Bid Security as required by **ITB** Clause 16 shall be submitted for each contract (lot) separately.

20.3 In all cases, the NFCC computation pursuant to Section 23.4.2.6 of the 2016 revised IRR of RA No. 9184 must be sufficient for the total of the ABCs for all the lots participated in by the prospective Bidder.

## 21. Post Qualification

Within a non-extendible period of five (5) calendar days from receipt by the Bidder of the notice from the BAC that it submitted the Lowest Calculated Bid, the Bidder shall submit its latest income and business tax returns filed and paid through the BIR Electronic Filing and Payment System (eFPS), and other appropriate licenses and permits required by law and stated in the **BDS**.

## 22. Signing of the Contract

The documents required in Section 37.2 of the 2016 revised IRR of RA No. 9184 shall form part of the Contract. Additional Contract documents are indicated in the **BDS**.

# *Section III. Bid Data Sheet (BDS)*

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# Bid Data Sheet

<table>
<tr><th>ITB Clause</th><th></th></tr>
<tr><td>5.2</td><td>For this purpose, contracts similar to the Project refer to contracts which have the same major categories of work, which shall be consist of:<br><br>OTHER GENERAL REQUIREMENTS<br>I. Project Billboards<br>II. Construction Health and Safety<br>FINISHING OTHER CIVIL WORKS<br>III. Clearing and Grubbing (with Stripping)<br>IV. Excavation<br>V. Gravel Fill<br>VI. Concrete Works<br>VII. Reinforcing Steel and Wire Rope<br>VIII. Forms and Falseworks<br>IX. Masonry Works<br>X. Plastering Works<br>XI. Embankment</td></tr>
<tr><td>&</td><td>Sub-contracting is not allowed</td></tr>
<tr><td>10.3</td><td>PCAB, DTI, Mayor’s Permit</td></tr>
<tr><td>10.4</td><td>The contractor shall employ the following Key Personnel<br>Key Personnel — General Experience — Relevant Experience<br>Project Engineer — 5 years — Horizontal Project/ Construction<br>Construction Foreman — 5 years — Horizontal Project/ Construction]<br>Skilled Laborer<br>Unskilled Laborer<br>Partime Safety Practitioner — 3 years — Horizontal Project/ Construction<br>First Aider — 3 years — Horizontal Project/ Construction</td></tr>
<tr><td>10.5</td><td>The minimum major equipment requirements are the following:
<table>
<tr><th>Equipment</th><th>Capacity</th><th>No. of units</th></tr>
<tr><td>Dump Truck</td><td>(10 cu.m.)</td><td>one (1)</td></tr>
<tr><td>Payloader</td><td>(1.50 cu.m.)</td><td>one (1)</td></tr>
<tr><td>Bulldozer</td><td>(155 Hp), D65A-8</td><td>one (1)</td></tr>
<tr><td>Backhoe</td><td>(0.80 cu.m.)</td><td>one (1)</td></tr>
<tr><td>Plate Compactor</td><td>(5Hp)</td><td>one (1)</td></tr>
<tr><td>Water Truck</td><td>(1000 gal.)</td><td>one (1)</td></tr>
<tr><td>One Bagger Mixer</td><td>N/A</td><td>one (1)</td></tr>
<tr><td>Concrete Vibrator</td><td>N/A</td><td>one (1)</td></tr>
<tr><td>Rebar Cutter</td><td>N/A</td><td>one (1)</td></tr>
<tr><td>Rebar Bender</td><td>N /A</td><td>one (1)</td></tr>
</table></td></tr>
</table>

| | |
|---|---|
| 12 | *Value Engineering clause not included. Alternative bids shall not be included.* |
| 15.1 | The bid security shall be in the form of any of the following forms and amounts:<br>a. The amount of not less than ***Sixty Thousand Pesos (P60,000.00) Only*** *two percent (2%) of ABC],* if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit;<br><br>b. The amount of not less than ***One Hundred Fifty Thousand Pesos (P 150,000.00) Only*** *five percent (5%) of ABC]* if bid security is in Surety Bond. |
| 19.2 | Partial bids is not allowed . |
| 20 | *Pertinent documents to be submitted by the winning supplier to the BAC Office before the issuance of Notice of Award*<br><br>*1. Philgeps Certificate*<br><br>*2. Mayor's Permit*<br><br>*3. Latest Income and Business Tax Return*<br><br>*4. Tax Clearance* |
| 21 | Additional contract documents relevant to the Project that may be required by existing laws and/or the Procuring Entity, such as construction schedule and S-curve, manpower schedule, construction methods, equipment utilization schedule, construction safety and health program approved by the DOLE, and other acceptable tools of project scheduling. |

# *Section IV. General Conditions of Contract*

## 1. Scope of Contract

This Contract shall include all such items, although not specifically mentioned, that can be reasonably inferred as being required for its completion as if such items were expressly mentioned herein. All the provisions of RA No. 9184 and its 2016 revised IRR, including the Generic Procurement Manual, and associated issuances, constitute the primary source for the terms and conditions of the Contract, and thus, applicable in contract implementation. Herein clauses shall serve as the secondary source for the terms and conditions of the Contract.

This is without prejudice to Sections 74.1 and 74.2 of the 2016 revised IRR of RA No. 9184 allowing the GPPB to amend the IRR, which shall be applied to all procurement activities, the advertisement, posting, or invitation of which were issued after the effectivity of the said amendment.

## 2. Sectional Completion of Works

If sectional completion is specified in the **Special Conditions of Contract (SCC)**, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date shall apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).

## 3. Possession of Site

3.1 The Procuring Entity shall give possession of all or parts of the Site to the Contractor based on the schedule of delivery indicated in the **SCC,** which corresponds to the execution of the Works. If the Contractor suffers delay or incurs cost from failure on the part of the Procuring Entity to give possession in accordance with the terms of this clause, the Procuring Entity's Representative shall give the Contractor a Contract Time Extension and certify such sum as fair to cover the cost incurred, which sum shall be paid by Procuring Entity.

3.2 If possession of a portion is not given by the above date, the Procuring Entity will be deemed to have delayed the start of the relevant activities. The resulting adjustments in contract time to address such delay may be addressed through contract extension provided under Annex "E" of the 2016 revised IRR of RA No. 9184.

## 4. The Contractor's Obligations

The Contractor shall employ the key personnel named in the Schedule of Key Personnel indicating their designation, in accordance with **ITB** Clause 10.3 and specified in the **BDS**, to carry out the supervision of the Works.

The Procuring Entity will approve any proposed replacement of key personnel only if their relevant qualifications and abilities are equal to or better than those of the personnel listed in the Schedule.

## 5. Performance Security

5.1. Within ten (10) calendar days from receipt of the Notice of Award from the Procuring Entity but in no case later than the signing of the contract by both parties, the successful Bidder shall furnish the performance security in any of the forms prescribed in Section 39 of the 2016 revised IRR.

5.2. The Contractor, by entering into the Contract with the Procuring Entity, acknowledges the right of the Procuring Entity to institute action pursuant to RA No. 3688 against any subcontractor be they an individual, firm, partnership, corporation, or association supplying the Contractor with labor, materials and/or equipment for the performance of this Contract.

## 6. Site Investigation Reports

The Contractor, in preparing the Bid, shall rely on any Site Investigation Reports referred to in the **SCC** supplemented by any information obtained by the Contractor.

## 7. Warranty

7.1. In case the Contractor fails to undertake the repair works under Section 62.2.2 of the 2016 revised IRR, the Procuring Entity shall forfeit its performance security, subject its property(ies) to attachment or garnishment proceedings, and perpetually disqualify it from participating in any public bidding. All payables of the GOP in his favor shall be offset to recover the costs.

7.2. The warranty against Structural Defects/Failures, except that occasioned-on force majeure, shall cover the period from the date of issuance of the Certificate of Final Acceptance by the Procuring Entity. Specific duration of the warranty is found in the **SCC**.

7.3. Retention Money: Progress payments are subject to retention of ten percent (10%) referred to as the retention money. Such retention shall be based on the total amount due to the contractor prior to any deduction and shall be retained from every progress payment. The total retention money shall be due for release upon final acceptance of the works

## 8. Liability of the Contractor

Subject to additional provisions, if any, set forth in the **SCC**, the Contractor's liability under this Contract shall be as provided by the laws of the Republic of the Philippines.

If the Contractor is a joint venture, all partners to the joint venture shall be jointly and severally liable to the Procuring Entity.

## 9. Termination for Other Causes

Contract termination shall be initiated in case it is determined *prima facie* by the Procuring Entity that the Contractor has engaged, before, or during the implementation of the contract, in unlawful deeds and behaviors relative to contract acquisition and implementation, such as, but not limited to corrupt, fraudulent, collusive, coercive, and obstructive practices as stated in **ITB** Clause 4.

## 10. Dayworks

Subject to the guidelines on Variation Order in Annex "E" of the 2016 revised IRR of RA No. 9184, and if applicable as indicated in the **SCC**, the Dayworks rates in the Contractor's Bid shall be used for small additional amounts of work only when the Procuring Entity's Representative has given written instructions in advance for additional work to be paid for in that way.

## 11. Program of Work

11.1. The Contractor shall submit to the Procuring Entity's Representative for approval the said Program of Work showing the general methods, arrangements, order, and timing for all the activities in the Works. The submissions of the Program of Work are indicated in the **SCC.**

11.2. The Contractor shall submit to the Procuring Entity's Representative for approval an updated Program of Work at intervals no longer than the period stated in the **SCC.** If the Contractor does not submit an updated Program of Work within this period, the Procuring Entity's Representative may withhold the amount stated in the **SCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program of Work has been submitted.

## 12. Instructions, Inspections and Audits

The Contractor shall permit the GOP or the Procuring Entity to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors of the GOP or the Procuring Entity, as may be required.

## 13. Advance Payment

The Procuring Entity shall, upon a written request of the Contractor which shall be submitted as a Contract document, make an advance payment to the Contractor in an amount not exceeding fifteen percent (15%) of the total contract price, to be made in

lump sum, or at the most two installments according to a schedule specified in the **SCC**, subject to the requirements in Annex "E" of the 2016 revised IRR of RA No. 9184.

## 14. Progress Payments

The Contractor may submit a request for payment for Work accomplished. Such requests for payment shall be verified and certified by the Procuring Entity's Representative/Project Engineer. Except as otherwise stipulated in the **SCC**, materials and equipment delivered on the site but not completely put in place shall not be included for payment.

## 15. Operating and Maintenance Manuals

15.1. If required, the Contractor will provide "as built" Drawings and/or operating and maintenance manuals as specified in the **SCC.**

15.2. If the Contractor does not provide the Drawings and/or manuals by the dates stated above, or they do not receive the Procuring Entity's Representative's approval, the Procuring Entity's Representative may withhold the amount stated in the **SCC** from payments due to the Contractor.

# *Section V. Special Conditions of Contract*

# Special Conditions of Contract

| GCC Clause | |
|---|---|
| 2 | *The Intended Completion Date is **ninety (90)** calendar days* |
| 4.1 | *The Local Government Unit of Lingayen shall give possession of all parts of the site to the contractor upon signing of the Contract.* |
| 6 | The site investigation reports are: *None* |
| 7.2 | *In case of semi-permanent structures, such as buildings of types 1, 2, and 3 as classified under the National Building Code of the Philippines, concrete/asphalt roads, concrete river control, drainage, irrigation lined canals, river landing, deep wells, rock causeway, pedestrian overpass, and other similar semi-permanent structures:] Five (5) years.* |
| 10 | Dayworks are applicable at the rate shown in the Contractor's original Bid. |
| 11.1 | The Contractor shall submit the Program of Work to the Procuring Entity's Representative within ***ten (10) calendar*** days of delivery of the Notice of Award. |
| 11.2 | The amount to be withheld for late submission of an updated Program of Work is ***ten percent (10%) of the contract amount***.. |
| 13 | The amount of the advance payment is ***fifteen (15%) percent of the contract amount*** |
| 14 | *Materials and equipment delivered on the site but not completely put in place shall be included for payment* ***Not Applicable*** |
| 15.1 | The date by which "as built" drawings are required is *before final payment* |
| 15.2 | The amount to be withheld for failing to produce "as built" drawings and/or operating and maintenance manuals by the date required is *one (1) percent(1%) of the contract amount*. |

# *Section VI. Specifications*

**Project : Land Improvement and Site Development of Municipal Lot**

**Location: Barangay Basing , Lingayen, Pangasinan**

## APPROVED TECHNICAL SPECIFICATION

## CLEARING AND GRUBBING

### 100.1 Description

This item shall consist of clearing, grubbing, removing and disposing all vegetation and debris as designated in the Contract, except those objects that are designated to remain in place or are to be removed in consonance with other provisions of this Specification. The work shall also include the preservation from injury or defacement of all objects designated to remain.

### 100.2 Construction Requirements

#### 100.2.1 General

The Engineer will establish the limits of work and designate all trees, shrubs, plants and other things to remain. The Contractor shall preserve all objects designated to remain. Paint required for cut or scarred surface of trees or shrubs selected for retention shall be an approved asphaltum base paint prepared especially for tree surgery.

Clearing shall extend one (1) meter beyond the toe of the fill slopes or beyond rounding of cut slopes as the case maybe for the entire length of the project unless otherwise shown on the plans or as directed by the Engineer and provided it is within the right of way limits of the project, with the exception of trees under the jurisdiction of the Forest Management Bureau (FMB).

#### 100.2.2 Clearing and Grubbing

All surface objects and all trees, stumps, roots and other protruding obstructions, not designated to remain, shall be cleared and/or grubbed, including mowed as required, except as provided below:

(1) Removal of undisturbed stumps and roots and nonperishable solid objects with a minimum depth of one (1) meter below subgrade or slope of embankment will not be required.

(2) In areas outside of the grading limits of cut and embankment areas, stumps and nonperishable solid objects shall be cut off not more than 150 mm (6 inches) above the ground line or low water level.

(3) In areas to be rounded at the top of cut slopes, stumps shall be cut off flush with or below the surface of the final slope line.

(4) Grubbing of pits, channel changes and ditches will be required only to the depth necessitated by the proposed excavation within such areas.

(5) In areas covered by cogon/talahib, wild grass and other vegetations, top soil shall be cut to a maximum depth of 150 mm below the original ground surface or as designated by the Engineer, and disposed outside the clearing and grubbing limits as indicated in the typical roadway section.

### 100.2.3 Individual Removal of Trees or Stumps

Individual trees or stumps designated by the Engineer for removal and located in areas other than those established for clearing, grubbing and roadside cleanup shall be removed and disposed off as specified under Subsection 100.2.2 except trees removed shall be cut as nearly flush with the ground as practicable without removing stumps.

## 100.3 Method of Measurement

Measurement will be by one or more of the following alternate methods:

1. Area Basis. The work to be paid for shall be the number of hectares and fractions there of acceptably cleared and grubbed within the limits indicated on the Plans or as may be adjusted in field staking by the Engineer. Areas not within the clearing and grubbing limits

   shown on the Plans or not staked for clearing and grubbing will not be measured for payment.

2. Lump-Sum Basis. When the Bill of Quantities contains a Clearing and Grubbing lump-sum item, no measurement of area will be made for such item.

3. Individual Unit Basis (Selective Clearing). The diameter of trees will be measured at a height of 1.4 m above the ground. Trees less than 150 mm in diameter will not be measured for payment.

When Bill of Quantities indicates measurement of trees by individual unit basis, the units will be designated and measured in accordance with the following schedule of sizes:

| Diameter at height of 1.4 m | Pay Item Designation |
|---|---|
| Over 150 mm to 900 mm | Small |
| Over 900 mm | Large |

**During stripping of formwork, following points must be remembered:**

Formwork should not be removed until the concrete has developed sufficiently strength to support all loads placed upon it. The time required before formwork removal depends on the

structural function of the member and the rate of strength gain of the concrete. The grade of concrete, type of cement, water/cement ratio, temperature during curing etc. influence the rate of strength gain of concrete.

The formwork parts and connections should be arranged in a way that makes formwork removal easy and simple, prevents damage to concrete and formwork panels so that it can be reused without extensive repair.

The formwork removal procedure should be supervised by the engineer to ensure that quality of hardened concrete in structural member, i.e. it should be free from or has minimum casting defects such as honeycombing, size and shape defects etc. These defects in concrete influence the strength and stability of structure. Thus immediate repair works can be done or the members can be rejected.

The separation of forms should not be done by forcing crowbars against the concrete. It may damage the hardened concrete. This should be achieved by using wooden wedges.

Beam and joist bottoms should remain in place until final removal of all shoring under them are done.

Joist forms should be designed and removed so that the shores may be removed temporarily to permit removal of joist forms but must be replaced at once. The shores and joists will be dismantled beginning from the middle of the member's span, continuing symmetrically up the supports.

The approval from the engineer should be obtained for the sequence and pattern of formwork removal.

# EXCAVATION

### 102.1 Description

This Item shall consist of roadway drainage and borrow excavation, and the disposal of material in accordance with this Specification and in conformity with the lines, grades and dimensions shown on the Plans or established by the Engineer.

### 102.1.1 Roadway Excavation

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

(1) Unclassified Excavation. Unclassified excavation shall consist of the excavation and disposal of all materials regardless of its nature, not classified and included in the Bill of Quantities under other pay items.

(2) Rock Excavation. Rock excavation shall consist of excavation of igneous, sedimentary and metamorphic rocks which cannot be excavated without blasting or the use of rippers, and all boulders or other detached stones each having a volume of 1 cubic meter or more as determined by physical measurements or visually by the Engineer.
(3) Common Excavation. Common excavations shall consist of all excavation not included in the Bill of Quantities under "rock excavation" or other pay items
(4) Common Excavation. Common excavations shall consist of all excavation not included in the Bill of Quantities under "rock excavation" or other pay items.
(5) Muck Excavation. Muck excavation shall consist of the removal and disposal of deposits of saturated or unsaturated mixtures of soils and organic matter not suitable for foundation materials regardless of moisture content.

### 102.1.2 Borrow Excavation

Borrow excavation shall consist of the excavation and utilization of approved materials required for the construction of embankments or for other portions of the work, and shall be obtained from approved sources, in accordance with Clause 61, Standard Specifications for Public Works and Highways, Volume I and the following:

(1) Borrow, Case 1

Borrow Case 1 will consist of material obtained from sources designated on the Plans or in the Special Provisions.

(2) Borrow, Case 2

Borrow Case 2 will consist of material obtained from sources provided by the Contractor.

The material shall meet the quality requirements determined by the Engineer unless otherwise provided in the Contract.

## 102.2 Construction Requirements

### 102.2.1 General

When there is evidence of discrepancies on the actual elevations and that shown on the Plans, a pre-construction survey referred to the datum plane used in the approved Plan shall be undertaken by the Contractor under the control of the Engineer to serve as basis for the computation of the actual volume of the excavated materials.

All excavations shall be finished to reasonably smooth and uniform surfaces. No materials shall be wasted without authority of the Engineer. Excavation operations shall be conducted so that material outside of the limits of slopes will not be disturbed. Prior to

excavation, all necessary clearing and grubbing in that area shall have been performed in accordance with Item 100, Clearing and Grubbing.

### 102.2.2 Conservation of Topsoil

Where provided for on the Plans or in the Special Provisions, suitable topsoil encountered in excavation and on areas where embankment is to be placed shall be removed to such extent and to such depth as the Engineer may direct. The removed topsoil shall be transported and deposited in storage piles at locations approved by the Engineer. The topsoil shall be completely removed to the required depth from any designated area prior to the beginning of regular excavation or embankment work in the area and shall be kept separate from other excavated materials for later use.

### 102.2.3 Utilization of Excavated Materials

All suitable materials removed from the excavation shall be used in the formation of the embankment, subgrade, shoulders, slopes, bedding, and backfill for structures, and for other purposes shown on the Plans or as directed.

The Engineer will designate as unsuitable those soils that cannot be properly compacted in embankments. All unsuitable materials shall be disposed off as shown on the Plans or as directed without delay to the Contractor. Only approved materials shall be used in the construction of embankments and backfills.

All excess materials, including rock and boulders that cannot be used in embankments shall be disposed off as directed.

Materials encountered in the excavation and determined by the Engineer as suitable for topping, road finishing, slope protection, or other purposes shall be conserved and utilized as directed by the Engineer.

Borrow materials shall not be placed until after the readily accessible materials from roadway excavation has been placed in the fill, unless otherwise permitted or directed by the Engineer. If the Contractor places moré borrow than is required and thereby causes a waste of excavation, the amount of such waste will be deducted from the borrow volume .

### 102.2.4 Prewatering

Excavation areas and borrow pits may be prewatered before excavating the material. When prewatering is used, the areas to be excavated shall be moistened to the full depth, from the surface to the bottom of the excavation. The water shall be controlled so that the excavated material will contain the proper moisture to permit compaction to the specified density with the use of standard compacting equipment. Prewatering shall be supplemented where necessary, by truck watering units, to ensure that the embankment material contains the proper moisture at the time of compaction.

The Contractor shall provide drilling equipment capable of suitably checking the moisture penetration to the full depth of the excavation.

### 102.2.5 Presplitting

Unless otherwise provided in the Contract, rock excavation which requires drilling and shooting shall be presplit .

Presplitting to obtain faces in the rock and shale formations shall be performed by: (1) drilling holes at uniform intervals along the slope lines, (2) loading and stemming the holes with appropriate explosives and stemming material, and (3) detonating the holes simultaneously.

Prior to starting drilling operations for presplitting, the Contractor shall furnish the Engineer a plan outlining the position of all drill holes, depth of drilling, type of explosives to be used, loading pattern and sequence of firing. The drilling and blasting plan is for record purposes only and will not absolve the Contractor of his responsibility for using proper drilling and blasting procedures. Controlled blasting shall begin with a short test section of a length approved by the Engineer. The test section shall be presplit, production drilled and blasted and sufficient material excavated whereby the Engineer can determine if the Contractor's methods are satisfactory. The Engineer may order discontinuance of the presplitting when he determines that the materials encountered have become unsuitable for being presplit.

### 102.2.6 Excavation of Ditches, Gutters, etc.

All materials excavated from side ditches and gutters, channel changes, irrigation ditches, inlet and outlet ditches, toe ditches, furrow ditches, and such other ditches as may be designated on the Plans or staked by the Engineer, shall be utilized as provided in Subsection 102.2.3.

Ditches shall conform to the slope, grade, and shape of the required crosssection, with no projections of roots, stumps, rock, or similar matter. The Contractor shall maintain and keep open and free from leaves, sticks, and other debris all ditches dug by him until final acceptance of the work.

Furrow ditches shall be formed by plowing a continuous furrow along the line staked by the Engineer. Methods other than plowing may be used if acceptable to the Engineer. The ditches shall be cleaned out by hand shovel work, by ditcher, or by some other suitable method, throwing all loose materials on the downhill side so that the bottom of the finished ditch shall be approximately 450 mm below the crest of the loose material piled on the downhill side. Hand finish will not be required, but the flow lines shall be in satisfactory shape to provide drainage without overflow.

### 102.2.7 Excavation of Roadbed Level

Rock shall be excavated to a depth of 150 mm below subgrade within the limits of the roadbed, and the excavation backfilled with material designated on the Plans or approved by the Engineer and compacted to the required density.

When excavation methods employed by the Contractor leave undrained

pockets in the rock surface, the Contractor shall at his own expense, properly drain such depressions or when permitted by the Engineer fill the depressions with approved impermeable material.

Material below subgrade, other than solid rock shall be thoroughly scarified to a depth of 150 mm and the moisture content increased or reduced, as necessary, to bring the material throughout this 150 mm layer to the moisture content suitable for maximum compaction. This layer shall then be compacted in accordance with Subsection 104.3.3.

### 102.2.8 Borrow Areas

The Contractor shall notify the Engineer sufficiently in advance of opening any borrow areas so that cross-section elevations and measurements of the ground surface after stripping may be taken, and the borrow material can be tested before being used. Sufficient time for testing the borrow material shall be allowed.

All borrow areas shall be bladed and left in such shape as to permit accurate measurements after excavation has been completed. The Contractor shall not excavate beyond the dimensions and elevations established, and no material shall be removed prior to the staking out and cross-sectioning of the site. The finished borrow areas shall be approximately true to line and grade established and specified and shall be finished, as prescribed in Clause 61, Standard Specifications for Public Works and Highways, Volume 1. When necessary to remove fencing, the fencing shall be replaced in at least as good condition as it was originally. The Contractor shall be responsible for the confinement of livestock when a portion of the fence is removed.

### 102.2.9 Removal of Unsuitable Material

Where the Plans show the top portion of the roadbed to be selected topping, all unsuitable materials shall be excavated to the depth necessary for replacement of the selected topping to the required compacted thickness.

Where excavation to the finished graded section results in a subgrade or slopes of unsuitable soil, the Engineer may require the Contractor to remove the unsuitable material and backfill to the finished graded section with approved material. The Contractor shall conduct his operations in such a way that the Engineer can take the necessary cross-sectional measurements before the backfill is placed.

## GRAVEL FILL

### 200.1 Description

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

### 200.2 Material Requirements

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

The subbase material shall conform to Table 200.1, Grading Requirements

**Table 200.1 – Grading Requirements**

| Sieve Designation | | Mass Percent Passing |
|---|---|---|
| Standard, mm | Alternate US Standard | |
| 50 | 2" | 100 |
| 25 | 1" | 55 – 85 |
| 9.5 | 3/8" | 40 – 75 |
| 0.075 | No. 200 | 0 - 12 |

The fraction passing the 0.075 mm (No. 200) sieve shall not be greater than 0.66 (two thirds) of the fraction passing the 0.425 mm (No. 40) sieve.

The fraction passing the 0.425 mm (No. 40) sieve shall have a liquid limit not greater than 35 and plasticity index not greater than 12 as determined by AASHTO T 89 and T 90, respectively.

The coarse portion, retained on a 2.00 mm (No. 10) sieve, shall have a mass percent of wear not exceeding 50 by the Los Angeles Abrasion Tests as determined by AASHTO T 96.

The material shall have a soaked CBR value of not less than 30% as determined by AASHTO T 193. The CBR value shall be obtained at the maximum dry density and determined by AASHTO T 180, Method D.

## 200.3 Construction Requirements

### 200.3.1 Preparation of Existing Surface

The existing surface shall be graded and finished as provided under Item 105, Subgrade Preparation, before placing the subbase material.

### 200.3.2 Placing

The aggregate subbase material shall be placed at a uniform mixture on a prepared subgrade in a quantity which will provide the required compacted thickness. When more than one layer is required, each layer shall be shaped and compacted before the succeeding layer is placed.

The placing of material shall begin at the point designated by the Engineer. Placing shall be from vehicles especially equipped to distribute the material in a continuous uniform layer or windrow. The layer or windrow shall be of such size that when spread and compacted, the finished layer shall be in reasonably close conformity to the nominal thickness shown on the Plans.

### 0200.3.3 Spreading and Compacting

When uniformly mixed, the mixture shall be spread to the plan thickness, for compaction.Where the required thickness is 150 mm or less, the material may be spread and compacted in one layer. Where the required thickness is more than 150 mm, the aggregate subbase shall be spread and compacted in two or more layers of approximately equal thickness, and the maximum compacted thickness of any layer shall not exceed 150 mm. All subsequent layers shall be spread and compacted in a similar manner.

### 200.3.4 Trial Sections

Before subbase construction is started, the Contractor shall spread and compact trial sections as directed by the Engineer. The purpose of the trial sections is to check the suitability of the materials, the efficiency of the equipment and the construction method which is proposed to be used by the Contractor. Therefore, the Contractor must use the same material, equipment and procedures that he proposes to use for the main work. One trial section of about 500 m2 shall be made for every type of material and/or construction equipment/procedure proposed for use.

### 200.3.5 Tolerances

Aggregate subbase shall be spread with equipment that will provide a uniform layer which when compacted will conform to the designed level and transverse slopes as shown on the Plans. The allowable tolerances shall be as specified hereunder:

| | |
|---|---|
| Permitted variation from design THICKNESS OF LAYER | ± 20 mm |
| Permitted variation from design LEVEL OF SURFACE | +10 mm<br>-20 mm |
| Permitted SURFACE IRREGULARITY Measured by 3-m straight-edge | 20 mm |
| Permitted variation from design CROSSFALL OR CAMBER | ±0.3% |
| Permitted variation from design LONGITUDINAL GRADE over 25 m in length | ±0.1% |

# CONCRETE WORKS

### 405.1 Description

### 405.1.1 Scope

This Item shall consist of furnishing, placing and finishing concrete in all structures except pavements in accordance with this Specification and conforming to the lines, grades, and dimensions shown on the Plans. Concrete shall consist of a mixture of Portland Cement, fine aggregate, coarse aggregate, admixture when specified, and water mixed in the proportions specified or approved by the Engineer.

### 405.1.2 Classes and Uses of Concrete

Five classes of concrete are provided for in this Item, namely: A, B, C, P and Seal. Each class shall be used in that part of the structure as called for on the Plans.

The classes of concrete will generally be used as follows:

Class A – All superstructures and heavily reinforced substructures. The important parts of the structure included are slabs, beams, girders, columns, arch ribs, box culverts, reinforced abutments, retaining walls, and reinforced footings.

Class B – Footings, pedestals, massive pier shafts, pipe bedding, and gravity walls, unreinforced or with only a small amount of reinforcement.

Class C – Thin reinforced sections, railings, precast R.C. piles and cribbing and for filler in steel grid floors.

Class P – Prestressed concrete structures and members.

Seal – Concrete deposited in water.

## 405.2 Material Requirements

### 405.2.1 Portland Cement

It shall conform to all the requirements of Subsection 311.2.1.

### 405.2.2 Fine Aggregate

It shall conform to all the requirements of Subsection 311.2.2.

### 405.2.3 Coarse Aggregate

It shall conform all the requirements of Subsection 311.2.3 except that gradation shall conform to Table 405.1.

Table 405.1 – Grading Requirements for Coarse Aggregate

| Sieve Designation | | Mass Percent Passing | | | | |
|---|---|---|---|---|---|---|
| Standard Mm | Alternate US Standard | Class A | Class B | Class C | Class P | Class Seal |
| 63 | 2-1/2" | | | | | |
| 50 | 2" | 100 | 100 | | | |
| 37.5 | 1-1/2" | 95 – 100 | - | | | 100 |
| 25 | 1" | - | 35 – 70 | | 100 | 95 – 100 |
| 19.0 | ¾" | 35 – 70 | - | 100 | - | - |
| 12.5 | ½" | - | 10 – 30 | 90 – 100 | - | 25 – 60 |
| 9.5 | 3/8" | 10 – 30 | - | 40 – 70 | 20 – 55 | - |
| 4.75 | No.4 | 0 – 5 | 0 - 5 | 0 – 15* | 0 – 10* | 0 – 10* |

* The measured cement content shall be within plus (+) or minus (-) 2 mass percent of the design cement content.

**405.2.4 Water**

It shall conform to the requirements of Subsection 311.2.4.

**405.2.5 Reinforcing Steel**

It shall conform to the requirements of Item 710, Reinforcing Steel and Wire Rope.

**405.2.6 Admixtures**

Admixtures shall conform to the requirements of Subsection 311.2.7

**405.2.7 Curing Materials**

Curing materials shall conform to the requirements of Subsection 311.2.8.

**405.2.8 Expansion Joint Materials**

Expansion joint materials shall be:

1. Preformed Sponge Rubber and Cork, conforming to AASHTO M 153.

2. Hot-Poured Elastic Type, conforming to AASHTO M 173.

3. Preformed Fillers, conforming to AASHTO M 213.

**405.2.9 Elastomeric Compression Joint Seals**

These shall conform to AASHTO M 220.

**405.2.10 Elastomeric Bearing Pads**

These shall conform to AASHTO M 251 or Item 412 – Elastomeric Bearing Pads.

**405.3 Sampling and Testing of Structural Concrete**

As work progresses, at least one (1) sample consisting of three (3) concrete cylinder test specimens, 150 x 300 mm, shall be taken from each seventy five (75) cubic meters of each class of concrete or fraction thereof placed each day.Compliance with the requirements of this Section shall be determined in accordance with the following standard methods of AASHTO:

| | |
|---|---|
| Sampling of fresh concrete | T 141 |
| Weight per cubic metre and air content (gravi-metric) of concrete | T 121 |
| Sieve analysis of fine and coarse aggregates | T 27 |
| Slump of Portland Cement Concrete | T 119 |
| Specific gravity and absorption of fine aggregate | T 84 |

Tests for strength shall be made in accordance with the following:

| | |
|---|---|
| Making and curing concrete compressive and flexural tests specimens in the field | T 23 |
| Compressive strength of molded concrete Cylinders | T 22 |

### 405.4 Production Requirements

### 405.4.1 Proportioning and Strength of Structural Concrete

The concrete materials shall be proportioned in accordance with the requirements for each class of concrete as specified in Table 405.2, using the absolute volume method as outlined in the American Concrete Institute (ACI) Standard 211.1. "Recommended Practice for Selecting Proportions for Normal and Heavyweight Concrete". Other methods of proportioning may be employed in the mix design with prior approval of the Engineer. The mix shall either be designed or approved by the Engineer. A change in the source of materials during the progress of work may necessitate a new mix design.

Table 405.2 - Composition and Strength of Concrete for Use in Structures

| Class of Concrete | Minimum Cement Content Per $m^3$ 40kg/ (bag**) | Maximum Water/ Cement Ratio kg/kg | Consistency Range in Slump mm | Designated Size of Coarse Aggregate Square Opening Std. mm | Minimum Compressive Strength of 150x300 mm Concrete Cylinder Specimen at 28 days, $MN/m^2$ |
|---|---|---|---|---|---|
| A | 364 (9.1 bags) | 0.53 | 50 – 100 | 37.5 – 4.75 (1-1/2" – No. 4) | 20.7 |
| B | 320 (8 bags) | 0.58 | 50 – 100 | 50 – 4.75 (2" – No. 4) | 16.5 |
| C | 380 (9.5 bags) | 0.55 | 50 – 100 | 12.5 – 4.75 (1/2" – No. 4) | 20.7 |
| P | 440 (11 bags) | 0.49 | 100 max. | 19.0 – 4.75 (3/4" – No. 4) | 37.7 |
| Seal | 380 (9.5 bags) | 0.58 | 100 – 200 | 25 – 4.75 (1" – No. 4) | 20.7 |

* The measured cement content shall be within plus or minus 2 mass percent of the design cement content.
** Based on 40 kg/bag

### 405.4.2 Consistency

Concrete shall have a consistency such that it will be workable in the required position. It shall be of such a consistency that it will flow around reinforcing steel but individual particles of the coarse aggregate when isolated shall show a coating of mortar containing its proportionate amount of sand. The consistency of concrete shall be gauged by the ability of the equipment to properly place it and not by the difficulty in mixing and transporting. The quantity of mixing water shall be determined by the Engineer and shall not be varied without his consent. Concrete as dry as it is practical to place with the equipment specified shall be used.

### 405.4.3 Batching

Measuring and batching of materials shall be done at a batching plant.

1. Portland Cement

   Either sacked or bulk cement may be used. No fraction of a sack of cement shall be used in a batch of concrete unless the cement is weighed. All bulk cement shall be weighed on an approved weighing device. The bulk cement weighing hopper shall be properly sealed and vented to preclude dusting operation. The discharge chute shall not be suspended from the weighing hopper and shall be so arranged that cement will neither be lodged in it nor leak from it.

   Accuracy of batching shall be within plus (+) or minus (-) 1 mass percent.

2. Water

   Water may be measured either by volume or by weight. The accuracy of measuring the water shall be within a range of error of not more than 1 percent.

3. Aggregates

   Stockpiling of aggregates shall be in accordance with Subsection 311.2.10. All aggregates whether produced or handled by hydraulic methods or washed, shall be stockpiled or binned for draining for at least 12 hours prior to batching. Rail shipment requiring more than 12 hours will be accepted as adequate binning only if the car bodies permit free drainage. If the aggregates contain high or non-uniform moisture content, storage or stockpile period in excess of 12 hours may be required by the Engineer.Batching shall be conducted as to result in a two (2) mass percent maximum tolerance for the required materials.

4. Bins and Scales

   The batching plant shall include separate bins for bulk cement, fine aggregate and for each size of coarse aggregate, a weighing hopper, and scales capable of determining accurately the mass of each component of the batch.

   Scales shall be accurate to one-half (0.5) percent throughout the range used.

5. Batching

   When batches are hauled to the mixer, bulk cement shall be transported either in waterproof compartments or between the fine and coarse aggregate. When cement is placed in contact with moist aggregates, batches will be rejected unless mixed within 1-1/2 hours of such contact. Sacked cement may be transported on top of the aggregates.

   Batches shall be delivered to the mixer separate and intact. Each batch shall be dumped cleanly into the mixer without loss, and, when more than one batch is carried on the truck, without spilling of material from one batch compartment into another.

6. Admixtures

The Contractor shall follow an approved procedure for adding the specified amount of admixture to each batch and will be responsible for its uniform operation during the progress of the work. He shall provide separate scales for the admixtures which are to be proportioned by weight, and accurate measures for those to be proportioned by volume. Admixtures shall be measured into the mixer with an accuracy of plus or minus three (3) percent.

The use of Calcium Chloride as an admixture will not be permitted.

**405.4.4 Mixing and Delivery**

Concrete may be mixed at the site of construction, at a central point or by a combination of central point and truck mixing or by a combination of central point mixing and truck agitating. Mixing and delivery of concrete shall be in accordance with the appropriate requirements of AASHTO M 157 except as modified in the following paragraphs of this section, for truck mixing or a combination of central point and truck mixing or truck agitating. Delivery of concrete shall be regulated so that placing is at a continuous rate unless delayed by the placing operations. The intervals between delivery of batches shall not be so great as to allow the concrete inplace to harden partially, and in no case shall such an interval exceed 30 minutes.

Concrete mixing, by chute is allowed provided that a weighing scales for determining the batch weight will be used.

1. Mixing Concrete:

General Concrete shall be thoroughly mixed in a mixer of an approved size and type that will insure a uniform distribution of the materials throughout the mass.All concrete shall be mixed in mechanically operated mixers. Mixing plant and equipment for transporting and placing concrete shall be arranged with an ample auxiliary installation to provide a minimum supply of concrete in case of breakdown of machinery or in case the normal supply of concrete is disrupted. The auxiliary supply of concrete shall be sufficient to complete the casting of a section up to a construction joint that will meet the approval of the Engineer.

2. Mixing Concrete at Site

Concrete mixers may be of the revolving drum or the revolving blade type and the mixing drum or blades shall be operated uniformly at the mixing speed recommended by the manufacturer. The pick-up and throw-over blades of mixers shall be restored or replaced when any part or section is worn 20 mm or more below the original height of the manufacturer’s design. Mixers and agitators which have an accumulation of hard concrete or mortar shall not be used.

3. Mixing Concrete at Central Plant

Mixing at central plant shall conform to the requirements for mixing at the site.

4. Mixing Concrete in Truck

Truck mixers, unless otherwise authorized by the Engineer, shall be of the revolving drum type, water-tight, and so constructed that the concrete can be mixed to insure a uniform distribution of materials throughout the mass. All solid materials for the concrete shall be accurately measured and charged into the drum at the proportioning plant. Except as subsequently provided, the truck mixer shall be equipped with a device by which the quantity of water added can be readily verified. The mixing water may be added directly to the batch, in which case a tank is not required. Truck mixers may be required to be provided with a means of which the mixing time can be readily verified by the Engineer.

5. Transporting Mixed Concrete

Mixed concrete may only be transported to the delivery point in truck agitators or truck mixers operating at the speed designated by the manufacturers of the equipment as agitating speed, or in non-agitating hauling equipment, provided the consistency and workability of the mixed concrete upon discharge at the delivery point is suitable point for adequate placement and consolidation in place.

Truck agitators shall be loaded not to exceed the manufacturer's guaranteed capacity. They shall maintain the mixed concrete in a thoroughly mixed and uniform mass during hauling.

No additional mixing water shall be incorporated into the concrete during hauling or after arrival at the delivery point.

The rate of discharge of mixed concrete from truck mixers or agitators shall be controlled by the speed of rotation of the drum in the discharge direction with the discharge gate fully open.

When a truck mixer or agitator is used for transporting concrete to the delivery point, discharge shall be completed within one hour, or before 250 revolutions of the drum or blades, whichever comes first, after the introduction of the cement to the aggregates. Under conditions contributing to quick stiffening of the concrete or when the temperature of the concrete is 30oC, or above, a time less than one hour will be required.

6. Delivery of Mixed Concrete

The Contractor shall have sufficient plant capacity and transportation apparatus to insure continuous delivery at the rate required. The rate of delivery of concrete during concreting operations shall be such as to provide for the proper handling, placing and finishing of the concrete. The rate shall be such that the interval between batches shall not exceed 20 minutes. The methods of delivering and handling the concrete shall be such as will facilitate placing of the minimum handling.

# REINFORCING STEEL & WIREROPE

## 404.1 Description

This Item shall consist of furnishing, bending, fabricating and placing of steel reinforcement of the type, size, shape and grade required in accordance with this Specification and in conformity with the requirements shown on the Plans or as directed by the Engineer.

## 404.2 Material Requirements

Reinforcing steel shall meet the requirements of Item 710, Reinforcing Steel and Wire Rope.

## 404.3 Construction Requirements

### 404.3.1 Order Lists

Before materials are ordered, all order lists and bending diagrams shall be furnished by the Contractor, for approval of the Engineer. The approval of order lists and bending diagrams by the Engineer shall in no way relieve the Contractor of responsibility for the correctness of such lists and diagrams. Any expense incident to the revisions of materials furnished in accordance with such lists and diagrams to make them comply with the Plans shall be borne by the Contractor.

### 404.3.3 Bending

All reinforcing bars requiring bending shall be cold-bent to the shapes shown on the Plans or as required by the Engineer. Bars shall be bent around a circular pin having the following diameters (D) in relation to the nominal diameter of the bar (d):

| Nominal diameter, d, mm | Pin diameter (D) |
|---|---|
| 10 to 20 | 6d |
| 25 to 28 | 8d |
| 32 and greater | 10d |

### 404.3.4 Placing and Fastening

All steel reinforcement shall be accurately placed in the position shown on the Plans or as required by the Engineer and firmly held there during the placing and setting of the concrete. Bars shall be tied at all intersections except where spacing is less than 300 mm in each directions, in which case, alternate intersections shall be tied. Ties shall be fastened on the inside.

### 404.3.5 Splicing

All reinforcement shall be furnished in the full lengths indicated on the Plans. Splicing of bars, except where shown on the Plans, will not be permitted without the written approval of the Engineer. Splices shall be staggered as far as possible and with a minimum separation of not less than 40 bar diameters. Not more than one-third of the bars may be spliced in the same cross-section, except where shown on the Plans.

Unless otherwise shown on the Plans, bars shall be lapped a minimum distance of:

| Splice Type | Grade 280 (40) | Grade 420 (60) | But not less than |
|---|---|---|---|
| Tension | 24 bar dia | 36 bar dia | 300 mm |
| Compression | 20 bar dia | 24 bar dia | 300 mm |

# Forms and Falseworks

## 414.1 Description

This Item shall consist of designing, constructing and removing forms and falsework to temporarily support concrete, girders and other structural elements until the structure is completed to the point it can support itself.

## 414.2 Material Requirements

### 414.2.1 Formwork

The materials used for smooth form finish shall be plywood, tempered concrete-form-grade hardboard, metal, plastic, paper or other acceptable materials capable of producing the desired finish for form-facing materials. Form facing materials shall produce a smooth, uniform texture on the concrete. Form facing materials with raised grain, torn surfaces, worn edges, patches, dents, or other defects that will impair the texture of concrete surfaces shall not be permitted. No form-facing material shall be specified for rough form finish.

#### 414.2.1.1 Formwork Accessories

Formwork accessories that are partially or wholly embedded in concrete, including ties and hangers shall be commercially manufactured. The use of non fabricated wire form ties shall not be permitted. Where indicated in the Contract, use form ties with integral water barrier plates in walls.

#### 414.2.1.2 Formwork Release Agents

Commercially manufactured formwork release agents shall be used to prevent formwork absorption of moisture, prevent bond with concrete, and not stain the concrete surfaces.

### 414.2.2 Falsework

The materials to be used in the falsework construction shall be of the quantity and quality necessary to withstand the stresses imposed; it may be timber or steel or a combination of both. The workmanship shall be of such quality that the falsework will support the loads imposed on it without excessive settlement or take-up beyond as shown on the falsework drawings.

## 414.3. Construction Requirements

### 414.3.1 Design

Falsework and Formworks design and drawings shall be in accordance, with Item 407, Concrete Structures, Subsection 407.3.9 and 407.3.12, respectively.

### 414.3.1.1 Formwork and Falsework Drawings

When complete details for forms and falseworks are not shown, prepare and submit drawings to the Engineer showing the following:

1. Details for constructing safe and adequate forms and falsework that provide the necessary rigidity, support the loads imposed, and produce in the finished structure the required lines and grades. See subsection 414.3.1.2 for design loads. See Subsection 414.3.1.3 for design stresses, loadings and deflections. See Subsection 414.3.2 for manufactured assemblies.

2. The maximum applied structural load on the foundation material. Include a drainage plan or description of how foundations will be protected from saturation, erosion, and/or scour see Subsection 414.3.3.1.

3. The description of all proposed material. Describe the material that is not describable by standard nomenclature (such as AASHTO or ASTM specified) based on manufacturer's test and recommended working loads. Provide evaluation data for falsework material showing that the physical properties and conditions of the material can support the loads assumed in the design.

## MASONRY WORKS

### 704.1 Clay or Shale Brick

Brick shall conform to the requirements of one of the following specifications:

Sewer Brick - AASHTO M 91, Grade SM

Sewer Brick - ASTM C 32, Grade SM

Building Brick - AASHTO M 114, Grade SW,

or ASTM C 62, Grade SW

The grade will be shown on the Plans or in the Special Provisions.

### 704.2 Concrete Brick

Concrete brick shall conform to the requirements of ASTM C 55, Grade A.

### 704.3 Concrete Masonry Blocks

Concrete masonry blocks may be rectangular or segmented and, when specified, shall have ends shaped to provide interlock at vertical joints.

Solid blocks shall conform with the requirements of ASTM C 139 or ASTM C 145, grade as specified. Hollow blocks shall conform to the requirements of ASTM C 90, grade as specified.

Dimensions and tolerances shall be as individually specified on the Plans.

## PLASTERING WORKS

Plastering is done with cement and sand mortar. It consists of different thickness as per requirement of the site. Plastering is done by applying cement mortar with required ratio i. e. 1:3, 1:4, 1:6 on the walls and the plaster should be in straight line, level and plumb and the joint must be in right angle.

The general specification for cement plastering are:

1. Single coat cement plastering - 12 or 15 or 20mm
2. Cement plaster with a floating coat of neat cement - 12 or 15 or 20mm
3. Cement plaster 2 coats work - 18mm
4. Cement ceiling plaster - 6mm
5. Cement plaster for slab bearing - 6mm

## EMBANKMENT

### 104.1 Description

This Item shall consist of the construction of embankment in accordance with this Specification and in conformity with the lines, grades and dimensions shown on the Plans or established by the Engineer.

### 104.2 Material Requirements

Embankments shall be constructed of suitable materials, in consonance with the following definitions:

1. Suitable Material – Material which is acceptable in accordance with the Contract and which can be compacted in the manner specified in this Item. It can be common material or rock.

2. Unsuitable Material – Material other than suitable materials such as:

(a) Materials containing detrimental quantities of organic materials, such as grass, roots and sewerage.

(b) Organic soils such as peat and muck.

(c) Soils with liquid limit exceeding 80 and/or plasticity index exceeding 55.

(d) Soils with a natural water content exceeding 100%.

(e) Soils with very low natural density, 800 kg/m3 or lower.

(f) Soils that cannot be properly compacted as determined by the Engineer.

### 104.3 Construction Requirements

#### 104.3.1 General

Prior to construction of embankment, all necessary clearing and grubbing in that area shall have been performed in conformity with Item 100, Clearing and Grubbing.

Embankment construction shall consist of constructing roadway embankments, including preparation of the areas upon which they are to be placed; the construction of dikes within or adjacent to the roadway; the placing and compacting of approved material within roadway areas where unsuitable material has been removed; and the placing and compacting of embankment material in holes, pits, and other depressions within the roadway area.

Embankments and backfills shall contain no muck, peat, sod, roots or other deleterious matter. Rocks, broken concrete or other solid, bulky materials shall not be placed in embankment areas where piling is to be placed or driven.

Where shown on the Plans or directed by the Engineer, the surface of the existing ground shall be compacted to a depth of 150 mm and to the specified requirements of this Item.

Where provided on the Plans and Bill of Quantities the top portions of the roadbed in both cuts and embankments, as indicated, shall consist of selected borrow for topping from excavations.

#### 104.3.2 Methods of Construction

Where there is evidence of discrepancies on the actual elevations and that shown on the Plans, a preconstruction survey referred to the datum plane used in the approved Plan shall be undertaken by the Contractor under the control of the Engineer to serve as basis for the computation of the actual volume of the embankment materials.

When embankment is to be placed and compacted on hillsides, or when new embankment is to be compacted against existing embankments, or when embankment is built one-half width at a time, the existing slopes that are steeper than 3:1 when measured at right angles to the roadway shall be continuously benched over those areas as the work is brought up in layers. Benching will be subject to the Engineer’s approval and shall be of sufficient width to permit operation of placement and compaction equipment. Each horizontal cut shall begin at the intersection of the original ground and the vertical sides of the previous cuts. Material thus excavated shall be placed and compacted along with the embankment material in accordance with the procedure described in this Section.

Unless shown otherwise on the Plans or special Provisions, where an embankment of less than 1.2 m below subgrade is to be made, all sod and vegetable matter shall be removed

from the surface upon which the embankment is to be placed, and the cleared surfaced shall be completely broken up by plowing, scarifying, or steeping to a minimum depth of 150 mm except as provided in Subsection 102.2.2. This area shall then be compacted as provided in Subsection 104.3.3. Sod not required to be removed shall be thoroughly disc harrowed or scarified before construction of embankment. Wherever a compacted road surface containing granular materials lies within 900 mm of the subgrade, such old road surface shall be scarified to a depth of at least 150 mm whenever directed by the Engineer. This scarified materials shall then be compacted as provided in Subsection 104.3.3.

When shoulder excavation is specified, the roadway shoulders shall be excavated to the depth and width shown on the Plans. The shoulder material shall be removed without disturbing the adjacent existing base course material, and all excess excavated materials shall be disposed off as provided in Subsection 102.2.3. If necessary, the areas shall be compacted before being backfilled.

### 104.3.3 Compaction

#### Compaction Trials

Before commencing the formation of embankments, the Contractor shall submit in writing to the Engineer for approval his proposals for the compaction of each type of fill material to be used in the works. The proposals shall include the relationship between the types of compaction equipment, the number of passes required and the method of adjusting moisture content. The Contractor shall carry out full scale compaction trials on areas not less than 10 m wide and 50 m long as required by the Engineer and using his proposed procedures or such amendments thereto as may be found necessary to satisfy the Engineer that all the specified requirements regarding compaction can be consistently achieved. Compaction trials with the main types of fill material to be used in the works shall be completed before work with the corresponding materials will be allowed to commence.

#### Earth

The Contractor shall compact the material placed in all embankment layers and the material scarified to the designated depth below subgrade in cut sections, until a uniform density of not less than 95 mass percent of the maximum dry density determined by AASHTO T 99 Method C, is attained, at a moisture content determined by Engineer to be suitable for such density. Acceptance of compaction may be based on adherence to an approved roller pattern developed as set forth in Item 106, Compaction Equipment and Density Control Strips.

The Engineer shall during progress of the Work, make density tests of compacted material in accordance with AASHTO T 191, T 205, or other approved field density tests, including the use of properly calibrated nuclear testing devices. A correction for coarse particles may be made in accordance with AASHTO T 224. If, by such tests, the Engineer determines that the specified density and moisture conditions have not been attained, the Contractor shall perform additional work as may be necessary to attain the specified conditions.

At least one group of three in-situ density tests shall be carried out for each 500 m2 of each layer of compacted fill.

#### Rock

Density requirements will not apply to portions of embankments constructed of materials which cannot be tested in accordance with approved methods.

Embankment materials classified as rock shall be deposited, spread and leveled the full width of the fill with sufficient earth or other fine material so deposited to fill the interstices to produce a dense compact embankment. In addition, one of the rollers, vibrators, or compactors meeting the requirements set forth in Subsection 106.2.1, Compaction Equipment, shall compact the embankment full width with a minimum of three complete passes for each layer of embankment.

### 104.3.4 Protection of Roadbed During Construction

During the construction of the roadway, the roadbed shall be maintained in such condition that it will be well drained at all times. Side ditches or gutters emptying from cuts to embankments or otherwise shall be so constructed as to avoid damage to embankments by erosion.

### 104.3.5 Protection of Structure

If embankment can be deposited on one side only of abutments, wing walls, piers or culvert headwalls, care shall be taken that the area immediately adjacent to the structure is not compacted to the extent that it will cause overturning of, or excessive pressure against the structure. When noted on the Plans, the fill adjacent to the end bent of a bridge shall not be placed higher than the bottom of the backfill of the bent until the superstructure is in place. When embankment is to be placed on both sides of a concrete wall or box type structure, operations shall be so conducted that the embankment is always at approximately the same elevation on both sides of the structure.

### 104.3.6 Rounding and Warping Slopes

Rounding-Except in solid rock, the tops and bottoms of all slopes, including the slopes of drainage ditches, shall be rounded as indicated on the Plans. A layer of earth overlaying rock shall be rounded above the rock as done in earth slopes.

Warping-adjustments in slopes shall be made to avoid injury in standing trees or marring of weathered rock, or to harmonize with existing landscape features, and the transition to such adjusted slopes shall be gradual. At intersections of cuts and fills, slopes shall be adjusted and warped to flow into each other or into the natural ground surfaces without noticeable break.

### 104.3.7 Finishing Roadbed and Slopes

After the roadbed has been substantially completed, the full width shall be conditioned by removing any soft or other unstable material that will not compact properly or serve the intended purpose. The resulting areas and all other low sections, holes or depressions shall be brought to grade with suitable selected material. Scarifying, blading, dragging, rolling, or other methods of work shall be performed or used as necessary to provide a thoroughly compacted roadbed shaped to the grades and cross-sections shown on the Plans or as staked by the Engineer.

All earth slopes shall be left with roughened surfaces but shall be reasonably uniform, without any noticeable break, and in reasonably close conformity with the Plans or other surfaces indicated on the Plans or as staked by the Engineer, with no variations therefrom readily discernible as viewed from the road.

### 104.3.8 Serrated Slopes

Cut slopes in rippable material (soft rock) having slope ratios between 0.75:1 and 2:1 shall be constructed so that the final slope line shall consist of a series of small horizontal steps. The step rise and tread dimensions shall be shown on the Plans. No scaling shall be performed on the stepped slopes except for removal of large rocks which will obviously be a safety hazard if they fall into the ditchline or roadway.

## PROJECT BILLBOARD

2.2.3 For infrastructure projects, a tarpaulin signboard must be suitably framed for outdoor display at the project location, and shall be posted as soon as the award has been made. The design and format of the tarpaulin, as shown in Annex "A," shall have the following specifications:

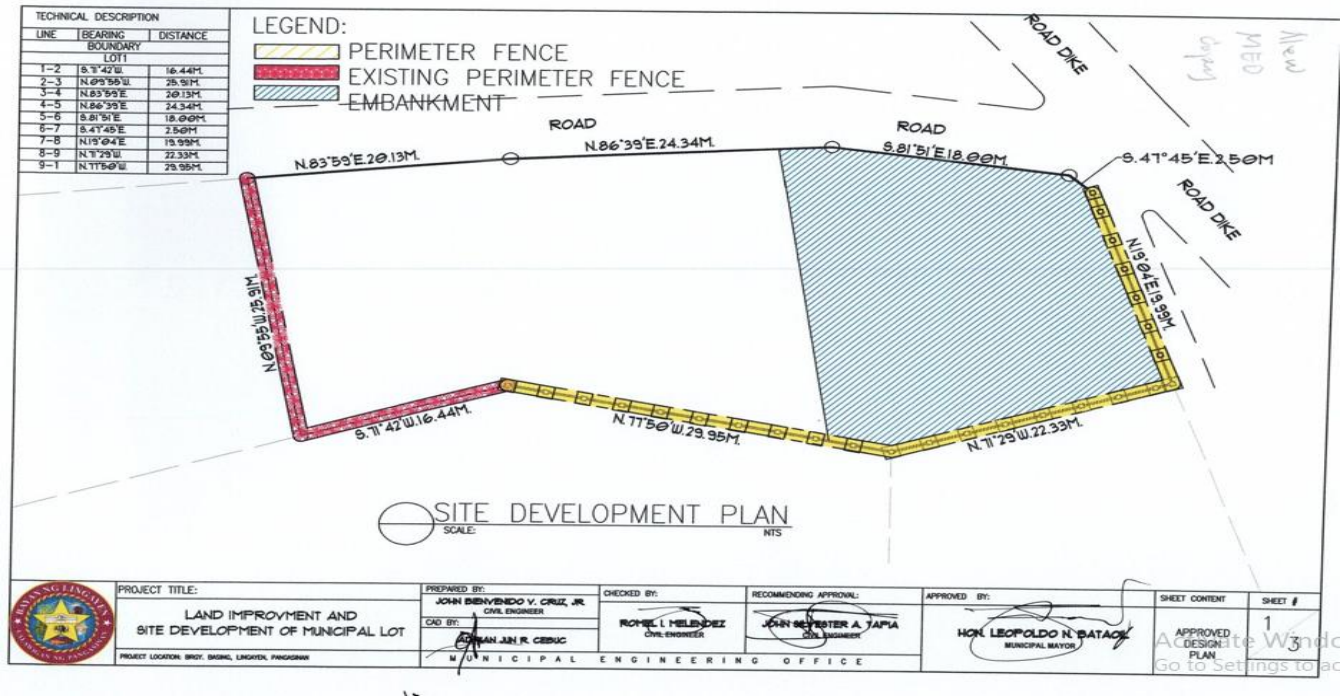
| | |
|---|---|
| Tarpaulin, white, 8 ft x 8 ft<br>Resolution: 70 dpi<br>Font : Helvetica<br>Font Size: Main Information – 3"<br>Sub-Information -1"<br>Font Color: Black | Tarpaulin, white, **4** ft x 8 ft<br>Resolution: 70 dpi<br>Font : Helvetica<br>Font Size: Main Information – 3"<br>Sub-Information -1"<br>Font Color: Black |

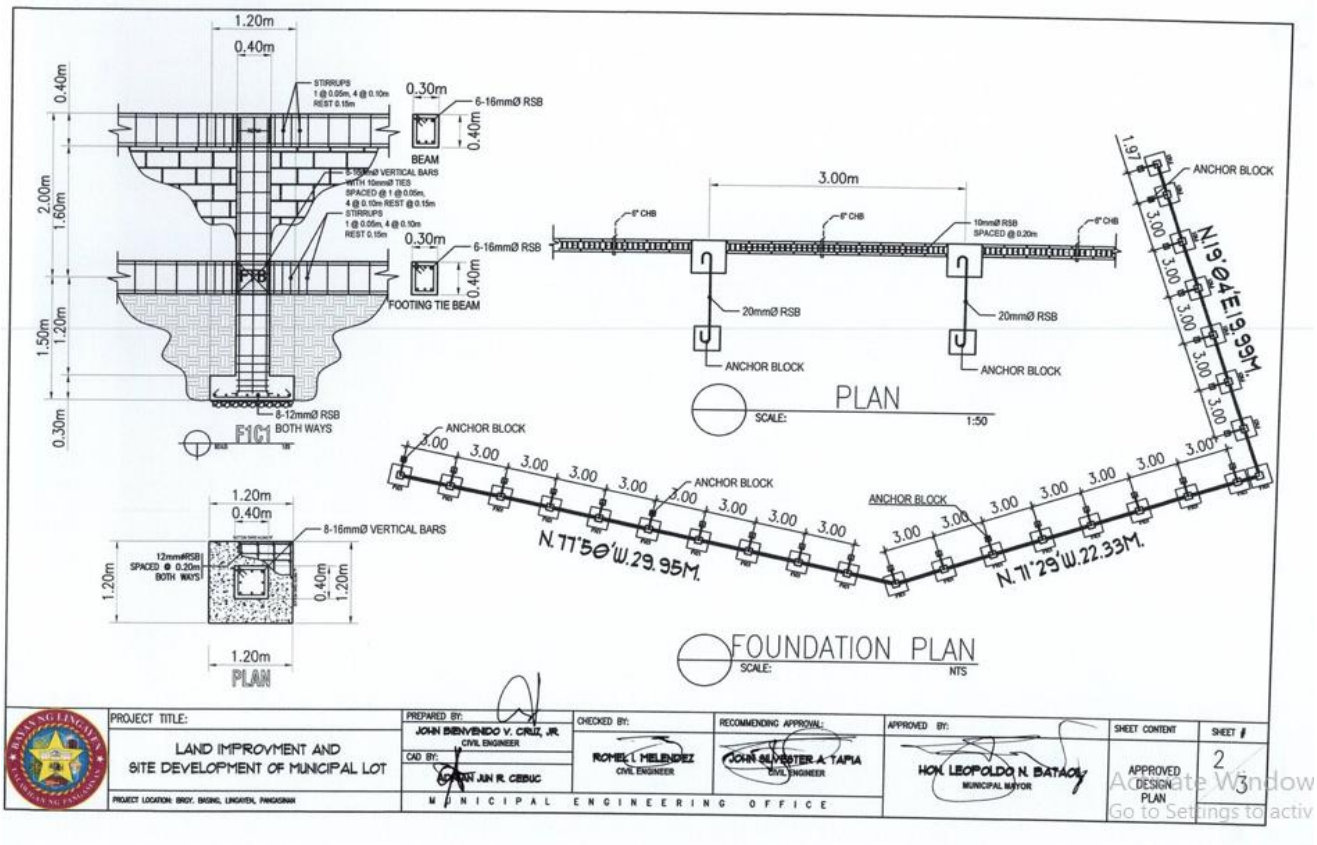
## CONSTRUCTION HEALTH AND SAFETY PROGRAM

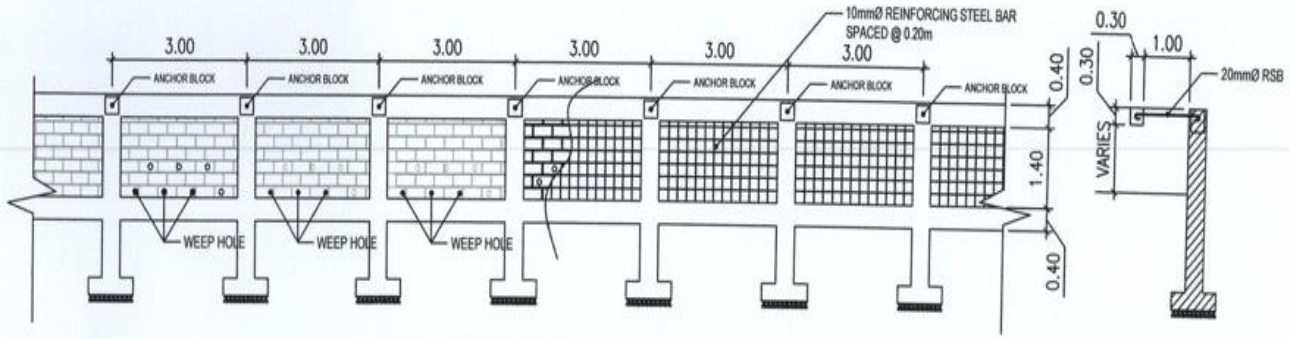
### B.2 MEDICAL ROOM AND FIRST AID FACILITIES

1. The Contractor shall provide and maintain throughout the duration of the Contract a medical room together with all necessary supplies to be sited in the Contractor's main area. The medical room shall be waterproof; it could be a building or room designated and used exclusively for the purpose. It shall have a floor area of at least 15 square meters and a glazed window area of at least 2 square meters.
2. The Contractor shall employ permanently on the site a fully trained Medical Aide, who shall be engaged solely on medical duties.
3. The location of the medical room and any other arrangements shall be made known to all employees by posting on prominent locations suitable notices in the Site.
4. The Contractor's arrangement to comply with this Section shall be subject to the approval of the Engineer and also to the approval of any qualified Medical Officer designated by the Government to supervise medical arrangements on the Site.

# *Section VII. Drawings*






FRONT ELEVATION
SCALE: NTS

SECTION
SCALE: 1:100

| | | | | | | |
|---|---|---|---|---|---|---|
| PROJECT TITLE: LAND IMPROVMENT AND SITE DEVELOPMENT OF MUNICIPAL LOT | PREPARED BY: JOHN BIENVENIDO V. CRUZ, JR. CIVIL ENGINEER | CHECKED BY: ROMEL I. MELENDEZ CIVIL ENGINEER | RECOMMENDING APPROVAL: JOHN SILVESTER A. TAMIA CIVIL ENGINEER | APPROVED BY: HON. LEOPOLDO N. BATACAN MUNICIPAL MAYOR | SHEET CONTENT: APPROVED DESIGN PLAN | SHEET # 3 / 3 |
| PROJECT LOCATION: BRGY. BIGING, LINGAYEN, PANGASINAN | CAD BY: JOHN JUN R. CEBUC | MUNICIPAL ENGINEERING OFFICE | | | | |

# *Section VIII. Bill of Quantities*

Republic of the Philippines
Province of Pangasinan
Municipality of Lingayen

## *Bill of Quantities*

| **LAND IMPROVEMENT AND SITE DEVELOPMENT OF MUNICIPAL LOT AT BARANGAY BASING, LINGAYEN, PANGASINAN** | | | | | |
|---|---|---|---|---|---|
| Item No. | Description | Qty. | Unit | Unit Price (Pesos) | Amount (Pesos) |
| | **OTHER GENERAL REQUIREMENTS** | | | | |
| I. | Project Billboards | 1.00 | l.s. | In words:Pesos | In words:Pesos |
| II. | Construction Health and Safety | 1.00 | l.s. | In words:Pesos | In words:Pesos |
| | **FINISHING AND OTHER CIVIL WORKS** | | | | |
| III. | Clearing & Grubbing (with Stripping) | 1.00 | lot | In words:Pesos | In words:Pesos |
| IV. | Excavation | 64.80 | cu.m. | In words:Pesos | In words:Pesos |
| V. | Gravel Fill | 3.74 | cu.m. | In words:Pesos | In words:Pesos |
| VI. | Concrete Works | 55.01 | cu.m. | In words:Pesos | In words:Pesos |
| VII. | Reinforcing Steel & Wire Rope | 7,554.05 | kg | In words:Pesos | In words:Pesos |
| VIII. | Forms & Falseworks | 335.68 | sq.m. | In words:Pesos | In words:Pesos |
| IX. | Masonry Works | 150.18 | sq.m. | In words:Pesos | In words:Pesos |
| X. | Plastering Works | 207.72 | sq.m. | In words:Pesos | In words:Pesos |

| | | | | | |
|---|---|---|---|---|---|
| XI. | Embankment | 1,235.49 | cu.m. | In words:Pesos | In words:Pesos |
| **TOTAL AMOUNT IN WORDS:** | | | | | |

Submitted by:

_____ Date: _____

Contractor

# *Section IX. Checklist of Technical and Financial Documents*

# Checklist of Technical and Financial Documents

## I. TECHNICAL COMPONENT ENVELOPE

***Class "A" Documents***

*Legal Documents*

☐ (a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages);

**Or**

☐ (b) Registration certificate from Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives or its equivalent document;

**and**

☐ (c) Mayor's or Business permit issued by the city or municipality where the principal place of business of the prospective bidder is located, or the equivalent document for Exclusive Economic Zones or Areas;

**and**

☐ (e) Tax clearance per E.O. No. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR).

*Technical Documents*

☐ (f) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid; **and**

☐ (g) Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules; **and**

☐ (h) Philippine Contractors Accreditation Board (PCAB) License;

**or**

Special PCAB License in case of Joint Ventures;

**and** registration for the type and cost of the contract to be bid; **and**

☐ (i) Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission;

(j) Project Requirements, which shall include the following:

☐ a. Organizational chart for the contract to be bid;

☐ b. List of contractor's key personnel (*e.g.*, Project Manager, Project Engineers, Materials Engineers, and Foremen), to be assigned to the contract to be bid, with their complete qualification and experience data;

☐ c. List of contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership or certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be; **and**

☐ (k) Original duly signed Omnibus Sworn Statement (OSS);
**and** if applicable, Original Notarized Secretary's Certificate in case of a corporation, partnership, or cooperative; or Original Special Power of Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder.

*Financial Documents*

☐ (l) The prospective bidder's audited financial statements, showing, among others, the prospective bidder's total and current assets and liabilities, stamped "received" by the BIR or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission; **and**

☐ (m) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC).

***Class "B" Documents***

☐ (n) If applicable, duly signed joint venture agreement (JVA) in accordance with RA No. 4566 and its IRR in case the joint venture is already in existence;
**or**
duly notarized statements from all the potential joint venture partners stating that they will enter into and abide by the provisions of the JVA in the instance that the bid is successful.

**II. FINANCIAL COMPONENT ENVELOPE**

☐ (o) Original of duly signed and accomplished Financial Bid Form; **and**

*Other documentary requirements under RA No. 9184*

☐ (p) Original of duly signed Bid Prices in the Bill of Quantities; **and**

☐ (q) Duly accomplished Detailed Estimates Form, including a summary sheet indicating the unit prices of construction materials, labor rates, and equipment rentals used in coming up with the Bid; **and**

☐ (r) Cash Flow by Quarter.

# *Section XI. Bid Forms*

## *Bid Form for the Procurement of Infrastructure Projects*

***[shall be submitted with the Bid]***

---

## BID FORM

Date : _____

*To: Bids and Awards Committee*
*Local Government Unit of Lingayen*
*Municipal; Hall Building, Lingayen, Pangasinan*

Having examined the Philippine Bidding Documents (PBDs) including the Supplemental or Bid Bulletin Numbers *[insert numbers],* the receipt of which is hereby duly acknowledged, we, the undersigned, declare that:

a. We have no reservation to the PBDs, including the Supplemental or Bid Bulletins, for the Procurement Project: *[insert name of contract];*

b. We offer to execute the Works for this Contract in accordance with the PBDs;

c. The total price of our Bid in words and figures, excluding any discounts offered below is: *[insert information]*;

d. The discounts offered and the methodology for their application are: *[insert information]*;

e. The total bid price includes the cost of all taxes, such as, but not limited to: *[specify the applicable taxes, e.g. (i) value added tax (VAT), (ii) income tax, (iii) local taxes, and (iv) other fiscal levies and duties],* which are itemized herein and reflected in the detailed estimates,

f. Our Bid shall be valid within the a period stated in the PBDs, and it shall remain binding upon us at any time before the expiration of that period;

g. If our Bid is accepted, we commit to obtain a Performance Security in the amount of *[insert percentage amount]* percent of the Contract Price for the due performance of the Contract, or a Performance Securing Declaration in lieu of the the allowable forms of Performance Security, subject to the terms and conditions of issued GPPB guidelines[12] for this purpose;

h. We are not participating, as Bidders, in more than one Bid in this bidding process, other than alternative offers in accordance with the Bidding Documents;

i. We understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed; and

j. We understand that you are not bound to accept the Lowest Calculated Bid or any other Bid that you may receive.

k. We likewise certify/confirm that the undersigned, is the duly authorized representative of the bidder, and granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for the [Name of Project] of the [Name of the Procuring Entity*].*

l. We acknowledge that failure to sign each and every page of this Bid Form, including the Bill of Quantities, shall be a ground for the rejection of our bid.

Name:

_____

_____

Legal Capacity:

_____

_____

Signature:

_____

_____

Duly authorized to sign the Bid for and behalf of: _____

Date: _____

# *Omnibus Sworn Statement (Revised)*

***[shall be submitted with the Bid]***

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REPUBLIC OF THE PHILIPPINES )
CITY/MUNICIPALITY OF_____)
S.S.

## AFFIDAVIT

I, [Name of Affiant], of legal age, [Civil Status], [Nationality], and residing at [Address of Affiant], after having been duly sworn in accordance with law, do hereby depose and state that:

1. *[Select one, delete the other:]*

   *[If a sole proprietorship:]* I am the sole proprietor or authorized representative of [Name of Bidder] with office address at [address of Bidder];

   *[If a partnership, corporation, cooperative, or joint venture:]* I am the duly authorized and designated representative of [Name of Bidder] with office address at [address of Bidder];

2. *[Select one, delete the other:]*

   *[If a sole proprietorship:]* As the owner and sole proprietor, or authorized representative of [Name of Bidder], I have full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached duly notarized Special Power of Attorney;

   *[If a partnership, corporation, cooperative, or joint venture:]* I am granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached [state title of attached document showing proof of authorization (e.g., duly notarized Secretary's Certificate, Board/Partnership Resolution, or Special Power of Attorney, whichever is applicable;)];

3. [Name of Bidder] is not "blacklisted" or barred from bidding by the Government of the Philippines or any of its agencies, offices, corporations, or Local Government Units, foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the Government Procurement Policy Board, **by itself or by relation, membership, association, affiliation, or controlling interest with another blacklisted person or entity as defined and provided for in the Uniform Guidelines on Blacklisting;**

4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;

5. [Name of Bidder] is authorizing the Head of the Procuring Entity or its duly authorized representative(s) to verify all the documents submitted;

6. *[Select one, delete the rest:]*

   *[If a sole proprietorship:]* The owner or sole proprietor is not related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

   *[If a partnership or cooperative:]* None of the officers and members of *[Name of Bidder]* is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

   *[If a corporation or joint venture:]* None of the officers, directors, and controlling stockholders of *[Name of Bidder]* is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

7. *[Name of Bidder]* complies with existing labor laws and standards; and

8. *[Name of Bidder]* is aware of and has undertaken the responsibilities as a

Bidder in compliance with the Philippine Bidding Documents, which includes:

a. Carefully examining all of the Bidding Documents;
b. Acknowledging all conditions, local or otherwise, affecting the implementation of the Contract;
c. Making an estimate of the facilities available and needed for the contract to be bid, if any; and
d. Inquiring or securing Supplemental/Bid Bulletin(s) issued for the *[Name of the Project]*.

9. *[Name of Bidder]* did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.

10. **In case advance payment was made or given, failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability for Swindling (Estafa) or the commission of fraud with unfaithfulness or abuse of confidence through misappropriating or converting any payment received by a person or entity under an obligation involving the duty to deliver certain goods or services, to the prejudice of the public and the government of the Philippines pursuant to Article 315 of Act No. 3815 s. 1930, as amended, or the Revised Penal Code.**

**IN WITNESS WHEREOF**, I have hereunto set my hand this_____day of, 20_____at

_____, Philippines.

*[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]*

*[Insert signatory's legal capacity]*

Affiant

## [Jurat]

*[Format shall be based on the latest Rules on Notarial Practice]*