

PHILIPPINE BIDDING DOCUMENTS
(As Harmonized with Development Partners)

**Procurement of
INFRASTRUCTURE
PROJECTS**

Government of the Republic of the Philippines

**Construction of Damaged Slope Protection along Mallacopa
Creek, Aurora, Isabela**

**Sixth Edition
November 2021**

Preface

These Philippine Bidding Documents (PBDs) for the procurement of Infrastructure Projects (hereinafter referred to also as the “Works”) through Competitive Bidding have been prepared by the Government of the Philippines for use by all branches, agencies, departments, bureaus, offices, or instrumentalities of the government, including government-owned and/or -controlled corporations, government financial institutions, state universities and colleges, local government units, and autonomous regional government. The procedures and practices presented in this document have been developed through broad experience, and are for mandatory use in projects that are financed in whole or in part by the Government of the Philippines or any foreign government/foreign or international financing institution in accordance with the provisions of the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.

The PBDs are intended as a model for admeasurements (unit prices or unit rates in a bill of quantities) types of contract, which are the most common in Works contracting.

The Bidding Documents shall clearly and adequately define, among others: (i) the objectives, scope, and expected outputs and/or results of the proposed contract; (ii) the eligibility requirements of Bidders; (iii) the expected contract duration; and (iv) the obligations, duties, and/or functions of the winning Bidder.

Care should be taken to check the relevance of the provisions of the PBDs against the requirements of the specific Works to be procured. If duplication of a subject is inevitable in other sections of the document prepared by the Procuring Entity, care must be exercised to avoid contradictions between clauses dealing with the same matter.

Moreover, each section is prepared with notes intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They shall not be included in the final documents. The following general directions should be observed when using the documents:

- a. All the documents listed in the Table of Contents are normally required for the procurement of Infrastructure Projects. However, they should be adapted as necessary to the circumstances of the particular Project.
- b. Specific details, such as the “*name of the Procuring Entity*” and “*address for bid submission*,” should be furnished in the Instructions to Bidders, Bid Data Sheet, and Special Conditions of Contract. The final documents should contain neither blank spaces nor options.
- c. This Preface and the footnotes or notes in italics included in the Invitation to Bid, BDS, General Conditions of Contract, Special Conditions of Contract, Specifications, Drawings, and Bill of Quantities are not part of the text of the final document, although they contain instructions that the Procuring Entity should strictly follow.
- d. The cover should be modified as required to identify the Bidding Documents as to the names of the Project, Contract, and Procuring Entity, in addition to date of issue.

- e. Modifications for specific Procurement Project details should be provided in the Special Conditions of Contract as amendments to the Conditions of Contract. For easy completion, whenever reference has to be made to specific clauses in the Bid Data Sheet or Special Conditions of Contract, these terms shall be printed in bold typeface on Sections I (Instructions to Bidders) and III (General Conditions of Contract), respectively.
- f. For guidelines on the use of Bidding Forms and the procurement of Foreign-Assisted Projects, these will be covered by a separate issuance of the Government Procurement Policy Board.

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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

Notes on the Invitation to Bid

The Invitation to Bid (IB) provides information that enables potential Bidders to decide whether to participate in the procurement at hand. The IB shall be posted in accordance with Section 21.2 of the 2016 revised IRR of RA No. 9184.

Apart from the essential items listed in the Bidding Documents, the IB should also indicate the following:

- a. The date of availability of the Bidding Documents, which shall be from the time the IB is first advertised/posted until the deadline for the submission and receipt of bids;
- b. The place where the Bidding Documents may be acquired or the website where it may be downloaded;
- c. The deadline for the submission and receipt of bids; and
- d. Any important bid evaluation criteria.

The IB should be incorporated into the Bidding Documents. The information contained in the IB must conform to the Bidding Documents and in particular to the relevant information in the Bid Data Sheet.

PROVINCIAL GOVERNMENT OF ISABELA

Invitation to Bid for the Construction of Damaged Slope Protection along Mallacopa Creek, Aurora, Isabela

1. The *Provincial Government of Isabela*, through the *20% Development Fund (Re-programming 2021)* intends to apply the sum of ***Four Million Nine Hundred Ninety Nine Thousand Nine Hundred Ninety Nine & 21/100 Pesos (Php 4,999,999.21)*** for the ***Construction of Damaged Slope Protection along Mallacopa Creek, Aurora, Isabela and Project Identification Number 021-14 Lot 10***, being the Approved Budget for the Contract (ABC) to payments under the contract for each lot. Bids received in excess of the ABC for each lot shall be automatically rejected at bid opening.
2. The *Provincial Government of Isabela* now invites bids for the above Procurement Project. Completion of the Works is required *within Eighty (80) 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).
3. 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.
4. Interested bidders may obtain further information from *Bids and Awards Committee (BAC)* and inspect the Bidding Documents at the address given below from 8:00 a.m. to 5:00 p.m.
5. A complete set of Bidding Documents may be acquired by interested bidders on *November 13, 2021* from given address and website/s below 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 (Php 5,000.00)*. The Procuring Entity shall allow the bidder to present its proof of payment for the fees to be presented in person.
6. The *Provincial Government of Isabela* will hold a Pre-Bid Conference¹ on *November 22, 2021 at 10:00 a.m.* at BAC office, PGSO Bldg., Alibagu, City of Ilagan, Isabela, if applicable, and/or through videoconferencing/webcasting *via Zoom*, which shall be open to prospective bidders.
7. Bids must be duly received by the BAC Secretariat through manual submission at the office address as indicated below, on or before *10:00 A.M., December 06, 2021*. Late bids shall not be accepted.

¹ May be deleted in case the ABC is less than One Million Pesos (PhP1,000,000) where the Procuring Entity may not hold a pre-bid conference.

8. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB** Clause 16.
9. Bid opening shall be on *10:30 A.M., December 06, 2021* at the given address below. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.
10. The *Provincial Government of Isabela* 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.
11. For further information, please refer to:

MARYANN T. BALLESTEROS
BAC Office, PGSO Bldg.,
Capitol City of Ilagan, Isabela
078-323-0570
pgso.isabelaprovince@yahoo.com.ph
12. You may visit the following websites:

For downloading of Bidding Documents: *PhilGEPS Bid Opportunities of the Province of Isabela.*

November 12, 2021

(Sgd.) RODRIGO T. SAWIT

BAC Chairman

Section II. Instructions to Bidders

Notes on the Instructions to Bidders

This Section on the Instruction to Bidders (ITB) provides the information necessary for bidders to prepare responsive bids, in accordance with the requirements of the Procuring Entity. It also provides information on bid submission, eligibility check, opening and evaluation of bids, post-qualification, and on the award of contract.

1. Scope of Bid

The Procuring Entity, *Provincial Government of Isabela* invites Bids for the *Construction of Damaged Slope Protection along Mallacopa Creek, Aurora, Isabela*, with Project Identification Number *021-14 Lot 10*.

The Procurement Project (referred to herein as “Project”) is for the construction of Works, as described in Section VI (Specifications).

2. Funding Information

2.1. The GOP through the source of funding as indicated below for *20% Development Fund (Re-programming 2021)* in the amount of *Four Million Nine Hundred Ninety Nine Thousand Nine Hundred Ninety Nine & 21/100 Pesos (Php 4,999,999.21)*.

2.2. The source of funding is:

- a. LGUs, 20% Development Fund (Re-programming 2021), as approved by the Sanggunian..

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. For Foreign-funded Procurement, the Procuring Entity and the foreign government/foreign or international financing institution may agree on another track record requirement, as specified in the Bidding Document prepared for this purpose.
- 5.4. The Bidders shall comply with the eligibility criteria under Section 23.4.2 of the 2016 IRR of RA No. 9184.

6. 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.

7. Subcontracts

- 7.1. The Bidder may subcontract portions of the Project to the extent allowed by the Procuring Entity as stated herein, but in no case more than fifty percent (50%) of the Project.

The Procuring Entity has prescribed that:

- a. Subcontracting is not allowed.

8. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time and either at its physical address at BAC office, PGSO Bldg., Alibagu, City of Ilagan, Isabela, if applicable, and/or through videoconferencing/webcasting} as indicated in paragraph 6 of the **IB**.

9. 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.

10. Documents Comprising the Bid: Eligibility and Technical Components

- 10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.
- 10.2. 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.
- 10.3. A 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**.
- 10.4. 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**.
- 10.5. A 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**.

11. Documents Comprising the Bid: Financial Component

- 11.1. The second bid envelope shall contain the financial documents for the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.
- 11.2. Any bid exceeding the ABC indicated in paragraph 1 of the **IB** shall not be accepted.

- 11.3. For Foreign-funded procurement, a ceiling may be applied to bid prices provided the conditions are met under Section 31.2 of the 2016 revised IRR of RA No. 9184.

12. 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.

13. 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.

14. Bid and Payment Currencies

14.1. Bid 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.

14.2. *Payment of the contract price shall be made in:*

- a. Philippine Pesos.

15. Bid Security

15.1. The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.

15.2. The Bid and bid security shall be valid until **April 04, 2022**. Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

16. Sealing and Marking of Bids

Each Bidder shall submit one copy of the first and second components of its Bid.

The Procuring Entity may request additional hard copies and/or electronic copies of the Bid. However, failure of the Bidders to comply with the said request shall not be a ground for disqualification.

If the Procuring Entity allows the submission of bids through online submission to the given website or any other electronic means, the Bidder shall submit an electronic copy of its Bid, which must be digitally signed. An electronic copy that cannot be opened or is corrupted shall be considered non-responsive and, thus, automatically disqualified.

17. Deadline for Submission of Bids

The Bidders shall submit on the specified date and time and either at its physical address or through online submission as indicated in paragraph 7 of the **IB**.

18. Opening and Preliminary Examination of Bids

18.1. The BAC shall open the Bids in public at the time, on the date, and at the place specified in paragraph 9 of the **IB**. The Bidders' representatives who are present shall sign a register evidencing their attendance. In case videoconferencing, webcasting or other similar technologies will be used, attendance of participants shall likewise be recorded by the BAC Secretariat.

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.

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

19. Detailed Evaluation and Comparison of Bids

19.1. 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.

19.2. 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.

19.3. 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.

20. 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**.

21. 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

Notes on the Bid Data Sheet (BDS)

The Bid Data Sheet (BDS) consists of provisions that supplement, amend, or specify in detail, information, or requirements included in the ITB found in Section II, which are specific to each procurement.

This Section is intended to assist the Procuring Entity in providing the specific information in relation to corresponding clauses in the ITB and has to be prepared for each specific procurement.

The Procuring Entity should specify in the BDS information and requirements specific to the circumstances of the Procuring Entity, the processing of the procurement, and the bid evaluation criteria that will apply to the Bids. In preparing the BDS, the following aspects should be checked:

- a. Information that specifies and complements provisions of the ITB must be incorporated.
- b. Amendments and/or supplements, if any, to provisions of the ITB as necessitated by the circumstances of the specific procurement, must also be incorporated.

Bid Data Sheet

ITB Clause			
5.2	For this purpose, contracts similar to the Project refer to contracts which have the same major categories of work, which shall be: <i>Item 103(1)a – Structure Excavation (Common Soil)</i> <i>Item 511(1) – Gabions</i> <i>Item 511(2) – Mattresses</i> <i>Item 511(3) – Filter Cloth</i> <i>Item 611 – Tree Planting (With Tree Guard)</i>		
7.1	<i>Subcontracting is not allowed.</i>		
10.3	<i>No Further Instructions</i>		
10.4	The key personnel must meet the required minimum years of experience set below:		
	<u>Key Personnel</u>	<u>General Experience</u>	<u>Relevant Experience</u>
	1. Project Engineer (PE)	Minimum of five (5) years' experience as Licensed Civil	With a minimum of One (1) Road Construction/Improvement/Slope Protection project handled as Project Engineer
	2. Materials Engineer (ME)	Licensed Civil Engineer	Materials Engineer duly accredited by DPWH
10.5	The minimum major equipment requirements are the following:		
	Minimum Required Equipment	Owned	Leased
	1. Cargo/Delivery Truck	1	0
	2. Backhoe	1	0
	TOTAL	2	0
12	<i>No Further Instructions</i>		
15.1	The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts:		
	a. The amount of not less than <i>One Hundred Thousand Pesos (100,000.00)</i> , if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit;		
	b. The amount of not less than <i>Two Hundred Fifty Thousand Pesos (Php 250,000.00)</i> if bid security is in Surety Bond.		
19.2	Partial bids are allowed, as follows: <i>[Partial bids not allowed]</i>		
20	<i>Latest income and business tax returns filed and paid through the BIR Electronic Filing and Payment System (eFPS)</i>		
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.
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Section IV. General Conditions of Contract

Notes on the General Conditions of Contract

The General Conditions of Contract (GCC) in this Section, read in conjunction with the Special Conditions of Contract in Section V and other documents listed therein, should be a complete document expressing all the rights and obligations of the parties.

Matters governing performance of the Contractor, payments under the contract, or matters affecting the risks, rights, and obligations of the parties under the contract are included in the GCC and Special Conditions of Contract.

Any complementary information, which may be needed, shall be introduced only through the Special 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

4.1. 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.

4.2. 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**.

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

Notes on the Special Conditions of Contract

Similar to the BDS, the clauses in this Section are intended to assist the Procuring Entity in providing contract-specific information in relation to corresponding clauses in the GCC found in Section IV.

The Special Conditions of Contract (SCC) complement the GCC, specifying contractual requirements linked to the special circumstances of the Procuring Entity, the Procuring Entity's country, the sector, and the Works procured. In preparing this Section, the following aspects should be checked:

- a. Information that complements provisions of the GCC must be incorporated.
- b. Amendments and/or supplements to provisions of the GCC as necessitated by the circumstances of the specific purchase, must also be incorporated.

However, no special condition which defeats or negates the general intent and purpose of the provisions of the GCC should be incorporated herein.

Special Conditions of Contract

GCC Clause	
2	<i>Intended Completion date is Eighty Calendar Days (80) starting seven (7) calendar days upon receipt of Notice to Proceed.</i>
4.1	<i>Upon receipt of Notice to Proceed.</i>
6	The site investigation reports are: <i>The site is cleared of any obstruction and right of way issues.</i>
7.2	<i>[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.</i>
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 <i>Thirty (30)</i> 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 <i>[1/10 of 1% of Contract Amount]</i> .
13	The amount of the advance payment is <i>[15% of the total contract price and schedule of payment]</i> .
14	Materials and equipment delivered on the site but not completely put in place shall not be included for payment.
15.1	The date by which operating and maintenance manuals are required is <i>[One year after completion date]</i> . The date by which "as built" drawings are required is <i>[within thirty days upon completion]</i> .
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 <i>[1/10 of 1% of Contract Amount]</i> .

Section VI. Specifications

TABLE OF CONTENT

ITEM NO.	DESCRIPTION
A.1.1(8)	Provision of Field Office for the Engineer
A.1.2(2) Rental)	Provision of 4x4 Pick-up Type Service Vehicle for the Engineer (Bare
B.5	Project Billboards/Signboards
B.7	Occupational safety and Health
B.9	Mobilization/Demobilization
103(1)a	Structure Excavation (Common Soil)
511(1)	Gabions
511(2)	Mattresses
511(3)	Filter Cloth
SPL(3)a	Tree Planting – With Tree Guard

ITEM A.1.1 – TEMPORARY FACILITIES FOR THE ENGINEER

A.1 Requirements

A.1.1 Field Office [and Laboratory Building] for the Engineer

- (1) The Contractor shall, for the entire period during which the construction work is being undertaken, provide an equipped and furnished Field Office for the Engineer of at least 30.00 square meters of useable floor area, and which shall be complete with sanitary facilities. The minimum roofing is of galvanized iron sheets and plywood ceiling and walling. A list of the equipment, furniture, instruments, apparatus, fixtures, fittings and other items to be provided by the Contractor for the Field Office is shown in 'Attachment A' to these Technical Specifications.
- (2) The Contractor shall also, for the entire period during which testing of materials and workmanship is required, provide an equipped and furnished Laboratory Field Office of at least 20.00 square meters of useable floor area, and which shall

be complete with its own sanitary facilities if not attached to the Field Office. The minimum roofing is of galvanized iron sheets and plywood ceiling and walling. A list of the equipment, furniture, instruments, apparatus, fixtures, fittings and other items to be provided by the Contractor for the Laboratory Field Office is shown in 'Attachment B' to these Technical Specifications.

- (3) The Field Office and Laboratory Field Office shall be located within close proximity to the Site and usually within the batching plant compound. In a location approved of by the Engineer and shall be made available for the Engineer's occupation before any construction work commences. Such facilities may, entirely at the discretion of the Contractor, be in rented accommodation or be purpose built, provided always that the facility is of a standard acceptable to the Engineer. Shaded areas shall be provided at all such facilities for the Engineer's car parking, with a suitable self-draining gravel base. When the Engineer decides that temporary facilities built on the Site or Government-provided land are no longer required, the Contractor shall remove all evidence of the temporary work and reinstate the ground to its original state, unless the Engineer directs otherwise.
- (4) It is the Contractor's responsibility to make all necessary arrangements to provide the Field Office and Laboratory Field Office and to provide all necessary equipment, furniture, utilities and security staff to attend thereto, including payment thereof at his own cost. The Employer and the Engineer shall be free from any liability in connection with the use of such facilities.
- (5) The Contractor shall provide an adequate supply of all necessary stationery, printing papers, laboratory materials, testing materials and any other consumable items for the Engineer's Field Office and Laboratory Field Office as required by and to the satisfaction of the Engineer.
- (6) All equipment, furniture, instruments, apparatus, fixtures, fittings and other items to be provided for the use of the Engineer shall be new and shall conform to the specifications as to kinds, grades, types and sizes, all to the satisfaction of the Engineer. When the Engineer decides that such items are no longer required they shall be handed back to the Contractor, who shall then remove them from the Site.
- (7) Electrical power for the Field Office and Laboratory Field Office shall be continuously available and adequate for all the equipment, apparatus and lighting needs. Similarly, a continuous water supply and other provisions necessary for the efficient operation of all the facilities shall be made available, including the provision of potable water where the facilities are manned on a regular or continuous basis.
- (8) The Contractor shall provide an adequate complement of qualified and competent laboratory staff or technicians to carry out all the materials quality control and all the tests required by the Engineer. The persons so appointed

shall work full time and shall be responsible to the Engineer for all the laboratory work required to be carried out.

- (9) The Contractor shall make available, for the exclusive use of the Engineer and staff, a single direct telephone line service and a two-way radio communication service for the entire period during which construction activities take place. If the Laboratory Field Office is adjacent to the Field Office, then an extension telephone line between the Laboratory Field Office and the Field Office shall be provided, but otherwise an additional telephone service to the Laboratory Field Office shall be provided or a cellphone.”

A.1.2 Transportation for the Engineer

The Contractor shall provide, not later than ten (10) calendar days after the issuance of the notice to proceed, one (1) 4 x 4 Crew cab Diesel Pick-up, such vehicle shall be mechanically and electrically sound, with no visible defects in the bodywork, and shall be in good running condition for the exclusive use of the Engineers.

The Contractor shall provide substitute transportation acceptable to the Engineer if there is a delay in providing the transportation specified in the Contract and during any period when the specified transportation is taken out for service, maintenance, repair or any other reason.

A.1.3 Assistance to the Engineer

The Contractor shall provide such equipment, instruments and apparatus as determined by the Engineer from time to time, based on the specific activities to be undertaken.”

A.2 Measurement and Payment

A.2.1 Measurement

- (1) The provision of the Field Office and the Laboratory Field Office (which shall be deemed to be inclusive of all necessary equipment, furniture, appliances and survey equipment for the Engineer) shall be stated in an item and measured in months.

The payment for the Field Office and Laboratory Field Office shall be deemed to include all rental fees or supply, erection and subsequent removal of temporary buildings (as appropriate), and for the provision of all utilities, including electricity, telephone and water bills, and all equipment, furniture, instruments, apparatus, fixtures, fittings and other items to be provided for the use of the Engineer. Maintenance of the Engineer’s Field Office and the Laboratory Building (including all furniture, equipment, etc.) shall also be considered incidental to and covered within the pay item for the provision of the facilities. No separate payment shall be made in respect of consumables.

- (2) The provision of transportation for the Engineer’s use shall be measured in

months.

The payment for transportation shall be deemed to include remuneration for a qualified and competent driver, supply of all appropriate fuel and lubricants, and all necessary maintenance, spare parts and servicing to keep the respective vehicle(s) in first class condition at all times.”

A.2.2 Payment

Payment for the Engineer’s Field Office and Laboratory Field Office shall be due and payable for the entire period for which the Engineer occupies the facilities.

Payment for the provision of transportation for the Engineer’s use shall be due and payable for the entire period for which the Engineer makes use of such provision.

Payment for part of a month shall be made on a proportional basis, calculated by dividing the monthly rate by 30 days and multiplying by the number of calendar days for which use of the transportation was provided.

Payment will be made under:

Pay Item Number	Description	Unit of Measurement
A.1.1 (8)	Provision of Field Office (Rental Basis : Inclusive of Maintenance & provision of office furniture, supplies and equipment)	L.S.
A.1.2(2)	Provision of 4x4 Pick Up Type Service Vehicle for the Engineer (Bare Rental Basis)	L.S.

B.5 PROJECT BILLBOARD

Description

This Item shall consist of furnishing and installing project billboard in accordance with this Specification and details shown on the Plans, or as required by the Engineer.

The project billboard shall comply in all respects with the “COA Circular No. 2013-004” dated January 30, 2013. The information and publicity on projects of Government Agencies including Foreign Funded Projects are being guided by this Circular.

The project billboard will be erected as soon as the award has been made. It will be located at the beginning and at the end of the subproject throughout the project duration.

The size, materials and design to be used for the project signboard will specifically adhere to the General Guidelines No. 2.2.3 of the Circular while the content of the information shall conform to the General Guidelines No. 2.2.6 and the sample format shown in “Annex A” of the Circular.

Material Requirements

Tarpaulin

The design and format of the tarpaulin shall have the following specifications:

- Color : White
- Size : 8 ft. x 8 ft.
- Resolution : 70 dpi
- Font : Helvetica
- Font Size of Main Information : 3 inches
- Font Size of Sub-Information : 1 inch
- Font Color: Black

Suitable Frame : Rigid wood frame with post;
and Posting: Outside display at the project location after award has been made.

**ANNEX 14
PROJECT BILLBOARD**

Name of Agency Business Address						PLGU LOGO
Project: _____			Cost: _____			
Location: _____			Fund Source/s: LP, GOP, LGU			
Implementing Agency/ies: _____						
Development Partner/s: _____						
Contractor/Supplier: _____						
Brief Description of Project: _____						
Project Details:						
Project Date			Project Status			Remarks
Duration	Started	Target Date of Completion	Percentage of Completion	As of (Date)	Cost Incurred to Date	

For particulars or complaints about this project, please contact the Regional Office or Cluster which has audit jurisdiction on this project.

COA Regional Office No./Cluster: _____
 Address: _____
 Contact No.: _____ or Text COA Citizen's Desk at 0915-5391957

World Bank Anti-Corruption Hotline: 105-11-1-800-831-0463

The information shall contain but not limited to i.) logo of the funding agencies, ii.) the name of implementing agencies, iii.) name of contractor, iv.) subproject’s title, location, cost and description, v.) project details to include duration, date started, target date of completion and project status, and vi.) COA and WB Anti-corruption Hotline.

The display/and or affixture of the picture, image, motto, logo, color motif, initials or other

symbol or graphic representation associated with the top leadership of the project proponent or implementing agency/unit/office, on project billboard, is considered unnecessary. (General Guidelines No. 2.2.6)

Post and Frame

Posts and frames/braces shall be made from good lumber with a 2X3 and 2x2 inches size respectively and shall be well-seasoned, straight and free of injurious defects. The frame will be covered with 2 pieces ¼ inch thick marine plywood where the tarpaulin will be attached.

Concrete Foundation Blocks

The concrete for the foundation blocks shall be Class A in accordance with Item 405, Structural Concrete and shall be of the size shown on the Plans.

Construction Requirements

Excavation and Backfilling

Holes shall be excavated to the required depth to the bottom of the concrete foundation as shown on the Plans.

The space around the post shall be backfilled to the ground line with approved material in layers not exceeding 100 mm and each layer shall be moistened and thoroughly compacted. Surplus excavated material shall be disposed of by the Contractor as directed by the Engineer.

Erection of Posts

The posts shall be erected vertically in position inside the formwork of the foundation block prior to the placing of the concrete and shall be adequately supported by bracing to prevent movement of the post during the placing and setting of concrete. The posts shall be located at the positions shown on the Plans.

Tarpaulin Installation

Tarpaulin shall be installed in accordance with the details shown on the Plans. The frame should be covered with the marine plywood before the tarpaulin is attached.

Method of Measurement

The quantities of project billboard shall be in pieces of such signs of the size specified, including the necessary posts and supports erected and accepted.

Basis of Payment

The quantities measured as determined in the Method of Measurement, shall be paid for at the contract unit price for the Pay Items shown in the Bid Schedule which price and payment shall be full compensation for furnishing and installing project billboard, for excavation, backfilling and construction of foundation blocks, and all labor, equipment, tools and incidentals necessary to complete the Item.

Payment will be made under:

Pay Item No.	Description	Unit of Measurement
B.5	Project Billboard	Each

B.7 CONSTRUCTION SAFETY & HEALTH PROGRAM

The following shall be the minimum requirements for the approval of a Construction Safety and Health Program (CSHP) under the Department of Labor and Employment (DOLE) Department Order No. 13, Series 1998.

1.1 Company Safety and Health Policy. The following shall apply:

A Company Safety Policy which shall serve as the general guiding principles in the implementation of safety and health on site duly signed by the highest company official or his duly authorized representative who has the over---all control of project execution and should include the contractor’s general policy towards occupational safety, worker’s welfare and health, and environment.

A Safety policy, which shall include the commitment that the contractor shall comply with DOLE minimum safety requirements, including reporting requirements of the Occupational Health and Safety Standards (OSHS), and other relevant DOLE issuances. These may include, but are not limited to the following:

- a. Registration (Rule 1020 and DO 18---02)
- b. Report of Safety Committee Organization (Rule 1040)
- c. Notification of Accidents and Occupational Illnesses (Rule 1050)
- d. Annual Work Accident/Illness Exposure Data Report (Rule 1050)
- e. Application for installation of mechanical/electrical equipment for construction of structure for industrial use (Rule 1070 and 1160)
- f. Annual Medical Report (Rule 1960)

1.2 Specific Construction Safety and Health Program shall contain the tendering agency’s requirements in addition to the minimum requirements under the appropriate sections of D.O. No. 13 whenever deemed as applicable.

1.3 Composition of Construction Safety and Health Committee.

A structure and membership of the construction safety and health committee which shall be consistent with the minimum requirements of Section 11 of D.O. 13, series of 1998.

1.4 Safety and Health Personnel. The following shall apply:

- a. All appointed first---aiders shall be duly trained and certified by the Philippine National Red Cross and shall possess a Certificate of Basic First Aid Training Course (Standard) with a valid PNRC ID Card.

- b. All appointed Safety Officers shall have completed the 40-hour BWC prescribed safety and health course as required by Rule 1030 of the OSHS, as amended by D.O. 16. All full-time safety personnel shall be accredited by the BWC pursuant to D.O. 16.
- c. All physicians and nurses assigned at the project site shall have completed the Bureau prescribed course on occupational safety and health course, pursuant to Rule 1960 of the OSHS.

1.5 Specific duties and responsibilities of the Safety Officer. The following shall apply:

- a. Specific duties and responsibilities shall comply with the outlined duties and responsibilities in Rule 1047 of the OSHS; and
- b. Procedure on the required performance of the assigned duties and responsibilities of safety officers in the construction site.

1.6 Applicable In-plant Safety and Health Promotion and Continuing Information Dissemination. The following shall apply:

- a. Detailed information dissemination or advisories to the new employees prior to on-site assignment, e.g. conduct of safety orientation, company's health and safety policies, hazards related to the job safety measures, safe work procedures.
- b. Detailed programs on continuing education such as trainings and seminars, if any, that shall be given to employees, e.g. BOSH, refresher course, first aid training, refresher course toolbox meeting, construction safety training for site safety officers, 80-hour advance safety course prescribe.
- c. Arrangements for conveying information on safety and health IEC materials e.g. Posters/comics/flyers, safety signages, handbooks/manuals, bulletin boards
- d. Arrangements for setting up sub-committees on safety and health, where necessary.
- e. Schedule of safety related activities, e.g. toolbox meeting, health and safety committee meeting

1.7 Accident and incident investigation, recording, and reporting. The following shall apply:

- a. All accidents or incidences shall be investigated and recorded.
- b. All work related accidents resulting to disabling injuries and dangerous occurrences as defined in OSH Standards (Rule 1050) shall be reported.
- c. Responsible or duly authorized officer for accident or incident investigation recording and reporting who are either the employer/owner/project manager/safety officer
- d. Accident Report shall contain the minimum information as required in DOLE/BWC/OHSD/IP-6.
- e. Shall notify the appropriate DOLE Regional within 24 hours in case of fatal accidents. An accident investigation shall be conducted by the Regional Office within forty eight

(48) hours after receipt of initial report of the employer.

1.8 Provisions for the protection of the general public within the vicinity of the company premises during construction and demolition. The following shall apply:

- a. Measures in order to ensure the safety of the general public shall be pursuant to Rule 11 of the National Building Code---Implementing Rules and Regulations: Protection of Pedestrians During Construction or Demolition
- b. Appropriate provisions and rules of OSHS
 - Rule 1412.09: Protection of the Public
 - Rule 1412.12: Protection against collapse of Structure
 - Rule 1412.16: Traffic Control
 - Rule 1413: Excavation
 - Rule 1417: Demolition
 - Rule 1060: Premises of Establishments
 - D.O. 13, Section 9: Construction Safety Signs
 - Other relevant provisions of OSHS.

1.9 General safety within construction premises. The following shall apply:

The provisions for danger signs, barricades, and safety instructions for workers, employees, public, and visitors such as, housekeeping; walkway surfaces; means of access i.e. stairs, ramps, floor openings, elevated walkways, runways and platforms; and, light.

1.10 Environmental Control (Rule 1070 of the Standards). The following shall apply:

- a. Monitoring and control of hazardous noise, vibration and air---borne contaminants such as gases, fumes, mists and vapors.
- b. Provisions to comply with minimum requirements for lighting, ventilation and air movement.

1.11 Guarding of hazardous machinery (Rule 1200 of the Standards). The following shall apply:

- a. Provisions for installation/design of built---in machine guards.
- b. Provisions for built---in safety in case of machine failure.
- c. Provisions for guarding of exposed walkways, access---ways, working platforms.

1.12 Provisions for and use of Personal Protective Equipment (PPE) --- (Rule 1080 of the Standards). The following shall apply:

- a. Appropriate types and duly tested PPEs to be issued to workers after the required training on their use.
- b. Provisions for maintenance, inspection and replacement of PPEs.

- c. In all cases the basic PPE commonly required for all types of construction projects are hard hats, safety shoes and working gloves. Other PPEs shall be required depending on the type of work and hazards.

1.13 Handling of Hazardous Substances – (Rule 1090 of the Standards). The following shall apply:

Provision for identification, safe handling, storage, transport and disposal of hazardous substances and emergency procedure in accordance with Material Safety Data Sheet (MSDS) in cases of accidents.

1.14 General materials handling and storage procedures. – (Rule 1150 of the Standards). The following shall apply:

- Safe use of mechanical materials handling equipment
- Secured and safe storage facilities
- Regular housekeeping as necessary so as not to constitute and/or present hazards
- Clearly marked clearance limits
- Proper area guarding of storage facilities

1.15 Installation, use and dismantling of hoist and elevators.---Rule 1415.10 Testing and Examination of Lifting Appliance, Rule 1220 Elevators and Related Equipment. The following shall apply:

- a. Provisions to ensure safe installation, use and dismantling of hoist and elevator;
- b. Periodic inspection of hoists and elevators.

1.16 Testing and inspection of electrical and mechanical facilities and equipment. The following Rules of the Occupational Safety and Health Standards shall apply: **Rule Coverage**

- a. Rule 1160 --- Boiler
- b. Rule 1170 --- Unfired Pressure Vessels
- c. Rule 1210 --- Electrical Safety
- d. Rule 1220 --- Elevators and Related Equipment
- e. Rule 1410 --- Construction Safety
- f. Rule 1415.10 – Training and Examination of Lifting Appliance

1.17 Workers skills and certification. The following shall apply:

- a. Provisions to ensure that workers are qualified to perform the work safely.
- b. Provisions to ensure that only qualified operators are authorized to use and operate electrical and mechanical equipment.

1.18 Provisions for emergency transportation facilities for workers. The following shall apply:

Rule 1963.02 of the Occupational Safety and Health Standards – Emergency Medical and Dental Services

1.19 Fire Protection Facilities and Equipment. The following rule shall apply:

- a. Fire protection facilities and equipment as required under Rule 1940 of the OSHS
- b. Proposed structure and membership of fire brigade
- c. Provision for training on emergency preparedness

1.20 First aid and health care medicines, equipment and facilities.

- a. Identification of the proposed first aid and health care facilities that the employer shall provide satisfying the minimum requirements of OSHS.
- b. Identification of the medical and health supplies, such as medicines and equipment to be provided.
- c. In all cases, the provision of first aid medicines and emergency treatment shall be mandatory.
- d. In the absence of the required on site health care facilities, the employer shall attach a copy of a written contract with a recognized emergency health provider as required under the OSHS.

1.21 Workers Welfare Facilities. The following shall apply:

- a. Provisions for toilet and sanitary facilities
- b. Proposed bathing, washing, facilities
- c. Proposed facilities for supplying food and eating meals
- d. Proposed facilities for supplying potable water for drinking and for washing
- e. Proposed facilities for locker rooms, storing and changing of clothes for workers.

1.22 Proposed Hours of Work and Rest and Rest Breaks. The following shall apply:

- a. Work schedules, working hours, shifting schedules
- b. Frequency and length of meals and breaks
- c. Schedule of rest periods

1.23 Waste Disposal. The following shall apply:

- a. Proposed method of clearing and disposal of waste.
- b. Provisions for permits and clearance where require in disposal of hazardous wastes.

1.24 Disaster and Emergency Preparedness Contingency

1.25 Safety Program . The Safety Programs shall contain the following:

- a. Standard work procedures.

- b. Job hazard analysis for the following activities as applicable to the project.
- c. Other hazardous work, not outline herein but will be performed during project execution must also be included.

The activities may consist of any number of the following, depending on the nature of the project, vis-à-vis exposure to hazards:

- a. Site Clearing
- b. Excavations
- c. Erection and dismantling of scaffolds and other temporary working platforms
- d. Temporary electrical connections/installations
- e. Use of scaffolds and other temporary working platforms
- f. Working at unprotected elevated working platforms or surfaces
- g. Work over water
- h. Use of power tools and equipment
- i. Gas and electric welding and cutting operations
- j. Working in confined spaces
- k. Use of internal combustion engines
- l. Handling hazardous and/or toxic chemical substances
- m. Use of hand tools
- n. Working with pressurized equipment
- o. Working in hot or cold environments
- p. Handling, storage, usage and disposal of explosives
- q. Use of mechanized lifting appliances for movement of materials
- r. Use of construction heavy equipment
- s. Demolition

The hazard analysis shall contain the following:

- a. Identification of possible hazards for a particular activity.
- b. Identification of any company permits or clearances needed prior to the performance of the activity together with the name of person/s who is authorized to issue such permit or clearance.
- c. Identification of the proposed improvement in work standard procedures that shall be followed during implementation of a particular activity.
- d. Company inspection procedures to ensure safety during the execution of a particular activity.

- e. Identification of emergency procedures in case of accidents or any untoward incident while performing a particular activity.

1.26 Company Penalties/Sanctions for Violation/s of the Provision/s of Safety and Health Program – The appropriate penalties or sanctions for violation of company rules and regulations or those stipulated in the CHSP and the observance of due process.

2. Personal Protective Equipment by Type of Project

2.1 General Building Construction Project (GBC). The following classifications shall apply:

Classification: Air Navigation Facilities, Power Transmission & Distribution, Building and Housing, Communication facilities, Sewerage, water treatment plants and Site/Land development.

2.2 General Engineering Construction Project. The following classifications shall apply:

Classifications: Roads and Airports (Horizontal structure), bridges, irrigation system, flood control and drainages, dams, tunneling, ports and harbor, water supply

2.3 Specialty Construction Project. The following classifications shall apply:

Classifications: Electrical work, mechanical work, plumbing and sanitary work, air conditioning or refrigeration, water proofing work, painting work, communication facilities, foundation or piling work, structural steel work, concrete pre---cast, elevator or escalator, well drilling work, navigational equipment and instrument installation, electromechanical work, metal roofing and siding installation, structural demolition and landscaping.

3. Safety Personnel and Skilled Worker. The following shall apply: **3.1 Minimum Required Safety Personnel.** The following shall apply:

- a. The General Constructor shall provide for a full time officer, who shall be assigned as the general construction safety and health officer to oversee full time the overall management of the Construction Safety and Health Program.
- b. The General Constructor shall provide for additional Construction Safety and Health Officer/s in accordance with the requirements for Safety Officer of D.O. 16, s. 2001, depending of the total number of personnel assigned to the construction project site.
- c. The General Constructor shall provide for one (1) Construction Safety and Health Officer for every ten (10) units of heavy equipment assigned to the project site.
- d. Each construction contractors/subcontractors shall provide for the required number of safety officers in accordance with the requirements of D.O. 16 series 2001.

3.2 Qualification and Training of Safety and Health Personnel and Skilled Workers. The following shall apply:

- a. Training of OSH Personnel shall be pursuant to D.O. 16 series of 2001 and its Procedural Guidelines.
- b. Worker Skills Certification for the critical operations/occupations shall be pursuant to

D.O. 13 and D.O. 19 as well as the TESDA requirements on worker competency.

4. Construction Heavy Equipment. The following shall apply:

4.1 Accreditation of Organization for Testing of Construction Heavy Equipment shall be pursuant to D.O. No. 16 and its Implementing Guidelines and Procedural Guidelines on Accreditation and Performance Audit of Testing Organization for Construction Heavy Equipment.

4.2 Conduct of Inspection and Test of Construction Heavy Equipment shall be pursuant to Sec. 10 of D.O. No. 13 and its Procedural Guidelines. The following shall apply:

- a. Procedural Guidelines on Accreditation and Performance Audit of Testing Organization for Construction Heavy Equipment
- b. Standard Checklist for Testing and Inspection of Construction Heavy Equipment.
- c. Inspection Procedures for DOLE Inspectors

4.3 TESDA Certification Requirements for Operators. Certification for Operators shall be in accordance with the requirements of TESDA on worker competency.

4.4 Monitoring and Evaluation of CHE Test/Inspection conducted shall be pursuant to the Procedural Guidelines on Accreditation and Performance Audit of Testing Organization for Construction Heavy Equipment.

5. Signages and Barricades. The following shall apply:

Construction Safety Signages shall be provided as a precaution and to advise the workers and the general public of the hazards existing in the worksite.

5.1 Signage Procedures: The signages shall be:

- a. Posted in prominent positions and at strategic locations.
- b. As far as practicable, be in the language understandable to most of the workers employed in the site.
- c. For non-raised floor areas, the attached yellow CAUTION sign shall be used when using yellow CAUTION tape.
- d. For non-raised floor areas, the attached red DANGER sign shall be used when using the red DANGER tape.
- e. Placed in designated areas at four (4) feet from ground level, if there is no other more practicable height placement.
- f. Regularly inspected and maintained in good condition to achieve its purpose. Signages that are damaged; illegible or that no longer apply as to purpose, site or language, shall be removed or be replaced by the safety officer when needed.
- g. Removed after the hazard is completely eliminated. If upon work completion the hazard is still present, the signage shall remain in place.

- h. Designed and constructed following the Overall Dimensions of Safety Signs Formula as required by the OSHS
- i. Specific with the type of hazard and should indicate the name of the contaminant/ substance involved (for chemical hazards), and the type of PPE or respiratory equipment to be worn.

5.2 Posting of Signages shall include, but not limited to the following places:

- a. Areas where there are risks of falling objects.
- b. Areas where there are risks of falling, slipping, tripping among workers and the public
- c. Prior to entry in project sites, locations and its perimeter.
- d. Where there is mandatory requirement on the usage of PPEs.
- e. Areas where explosives and flammable substances are used or stored
- f. Approaches to working areas where danger from toxic or irritant airborne contaminants/ substances may exist,
- g. All places where contact with or proximity to electrical facility/equipment can cause danger
- h. All places where workers may come in contact with dangerous moving parts of machinery or equipment
- i. Locations of fire alarms and fire---fighting equipment
- j. Locations for instructions on the proper usage of specific construction equipment, tools.

5.3 Barricading Procedures: The following shall apply:

- a. The contractor shall provide all necessary barricades, safety tapes, safety cones or safety lines as required in isolating or protecting an unsafe work area from other workers, pedestrians or vehicular traffic.
- b. Barricades shall completely enclose the hazardous area and effectively limit unintentional or casual entry.
- c. Barricades shall be three (3) feet vertical height from the ground, when no other more practical height specification is available.
- d. Barricades shall be maintained in good condition to achieve its purpose.
- e. Barricades that are damaged; faded or that no longer apply as to purpose, site or meaning, shall be removed or shall be replaced by the safety officer.
- f. Barricade tape shall not be used on the floor as this presents a slipping hazard of its own.
- g. In addition to using the proper warning tape, the contractor shall use the appropriate safety signage when barricading an area.

h. All barricades shall be removed after the hazard is completely eliminated.

I. Upon work completion, if the hazard is still present, the barricade shall remain in place.

5.4 Installation of barricades shall include, but not limited to the following worksites conditions:

- a. hazardous areas
- b. trip hazard
- c. robotic movement
- d. energized electrical works
- e. overhead suspended load test
- f. critical high pressure test
- g. chemical introduction
- h. fall exposure
- i. Emergency Response Zone
- j. Unsafe condition zone
- k. Danger zone
- l. Confined and enclosed space

6. Construction Safety and Health Committee. The following shall apply:

6.1 Composition

- a. Project Manager or his representative as chairperson ex-officio
- b. General Construction Safety and Health Officer
- c. Construction Safety and Health Officers
- d. Safety representatives (SAFETY OFFICER) from each subcontractor.

If DOLE's minimum requirements based on the number of workers of the contractor requires only a part time safety officer, the safety officer need not be an accredited safety practitioner or consultant.

- e. Doctors, nurses and other health personnel pursuant to the requirements stated in Rule 1042 of the OSHS
- f. Workers' representatives

If there are no contractor's sub-contractors or the constructor is a subcontractor, the safety and health committee shall be in accordance with the requirements of Rule 1040 of the Occupational Safety and Health Standards.

6.2 Duties and responsibilities

- a. The Project Manager or his representative shall act as the Chairperson of the committee.
- b. The committee shall conduct safety meetings at least once a month.
- c. The persons constituting the Safety and Health Committee shall, as far as practicable, be at the construction site whenever construction work is being undertaken.
- d. The committee shall continually plan and develop accident prevention programs.
- e. The committee shall review reports of inspection, accident investigation and monitor implementation of the safety program.
- f. The committee shall provide necessary assistance to government authorities authorized to conduct inspection in the proper conduct of their activities
- g. The committee shall initiate and supervise safety trainings for its employees
- h. The committee shall conduct safety inspection at least once a month, and shall conduct investigation of work accidents and shall submit a regular report to DOLE.
- i. The committee shall initiate and supervise the conduct of daily brief safety meetings or toolbox meetings.
- j. The committee shall prepare and submit to DOLE, reports on said committee meetings.
- k. The committee shall develop a disaster contingency plan and organize such emergency service units as may be necessary to handle disaster situations.

7. Construction Safety and Health Reports. The following shall apply:

7.1 The Construction Safety and Health Report shall include:

- a. Monthly summary of all safety and health committee meetings
- b. Summary of all accident investigations /reports
- c. Corrective/Preventive measures/action for each hazard
- d. Periodic hazards assessment with corresponding remedial measures for new hazards
- e. Safety promotions and trainings conducted/attended

7.2 Submission of Reports. The following shall apply:

- a. All general constructors shall be required to submit a monthly construction safety and health report to the BWC copy furnished the DOLE Regional Office concerned.
- b. In case of any dangerous occurrence or major accident resulting in death or permanent total disability, the concerned employer shall notify the appropriate DOLE Regional Office within twenty---four (24) hours from occurrence.
- c. After the conduct of investigation by the concerned construction safety and health officer, the employer shall report all disabling injuries to the DOLE Regional Office on or before the 20th of the month following the date of occurrence of accident using the

8. Cost of Construction Safety and Health Program. The following shall apply:

8.1 The total cost of implementing a Construction Safety and Health Program shall be mandatory and shall be made an integral part of the project's construction cost as a separate pay item, duly quantified and reflected in the Project's Tender Documents and likewise reflected in the Project's Construction Contract Documents.

8.2 The cost of the following PPEs: helmet, eye goggles, safety shoes, working gloves, rain coats, dust mask, ear muffs, rubber boots, and other similar PPE's shall be indicated/enumerated per cost, per worker, foreman, leadman, jackhammer operator, carpenter, electrician, mason, steelman, painter, mechanic, welder, plumber, heavy equipment operator, physician/inspector, and other such personnel.

8.3 The PPEs shall be sufficient in number for all workers particularly where simultaneous construction activities/operations in different areas are being undertaken.

8.4 The cost of the minimum required inventory of medicines, supplies and equipment as indicated in "Attachment C" of the OHS Standards shall be included.

8.5 The safety personnel manpower cost salaries/wages, benefits shall be included.

8.6 Cost of safety promotions/activities, training conducted and salaries of safety and health personnel, medical personnel employed or engaged by constructor.

9. Safety and Health Information. The following shall apply:

9.1 Workers shall be adequately and suitably:

- a. Informed of potential safety and health hazards to which they may be exposed at their workplace.
- b. Instructed and trained on the measures available for the prevention, control and protection against those hazards.

9.2 Every worker shall receive instruction and training regarding general safety and health common to construction sites which shall include, but not limited to the following:

- a. The basic rights and duties of the workers at the construction site.
- b. The means of access and egress, both during normal work and in emergency situations.
- c. The measures for good housekeeping.
- d. The location and proper use of welfare and first---aid facilities.
- e. The proper care and use of the items or personal protective equipment and protective clothing provided the workers.
- f. The general measures for personal hygiene and health protection.
- g. The fire precautions to be taken.

- h. The action to be taken in case of any emergency.
- i. The requirements of relevant health and safety rules and regulations.

9.3 *The instruction, training and information materials provided shall be given in a language or dialect understood by the worker.*

Written, oral, visual and participative approaches shall be used to ensure that the worker has understood and assimilated the information.

9.4 Each supervisor or any person e.g. foreman, lead man, gangboss, and other similar personnel shall conduct daily tool box or similar meetings prior to the start of the operations for the day to discuss with the workers and to anticipate safety and health problems related.

9.5 No person shall be deployed in a construction site unless he has undergone a safety and health awareness seminar conducted by safety professionals or accredited organizations or other institutions recognized by DOLE.

9.6 *Specialized instruction and training shall be provided to the following:*

- a. Drivers and operators of lifting appliances, transport, earth---moving and materials---handling equipment and machinery; or any equipment of specialized or dangerous nature.
- b. Workers engaged in the erection or dismantling of scaffolds.
- c. Workers engaged in excavations at least one (1) meter deep or deep enough to cause danger, shafts, earthworks, underground works or tunnels.
- d. Workers handling explosives or engaged in blasting operations.
- e. Workers engaged in pile---driving.
- f. Workers in compressed air cofferdams and caissons.
- g. Workers engaged in the erection of prefabricated parts of steel structural frames and tall chimneys, and in concrete work, form work and other such type of work.
- h. Workers handling hazardous substances and materials.
- i. Workers as signalers and riggers.
- j. Other types of workers as may be categorized by TESDA

10. Welfare Facilities. The following shall apply:

The employer shall provide the following welfare facilities in order to ensure humane working conditions:

10.1 *Adequate supply of safe drinking water:*

- a. If the water is used in common drinking areas, it shall be stored in closed containers from which the water is dispensed through taps or cocks. Such containers shall be cleaned and disinfected at regular intervals but not exceeding fifteen (15) days.
- b. Notices shall be posted conspicuously in locations where there is water supply that is

not for drinking purposes

10.2 Adequate sanitary and washing facilities:

- a. Adequate facilities for changing and for the storage and drying of work clothes.
- b. Adequate accommodation facilities for taking meals and for shelter.
- c. Adequate washing facilities regardless of sex for every 25 employees up to the first 100 and an additional of one (1) facility for every 40 additional workers.
- d. Suitable living accommodation for workers and as may be applicable for their families, such as separate sanitary, washing and sleeping facilities for men and women workers.

10.3 Adequate and suitable toilet and bath facilities for both male and female workers at the following ratio:

- a. Where the number of female workers exceeds 100, one (1) toilet and bath facilities for every 20 female workers up to the first 100 and one (1) toilet and bath facilities for every 30 additional female workers.
- b. Where the number of male workers exceeds 100 and sufficient urinals have been provided, one (1) toilet and bath facilities for every 25 males up to the first 100 and one (1) more for every 40 additional male workers.
- c. Every toilet shall be provided with enclosure, partitioned off so as to provide/ensure privacy. If feasible, shall have a proper door and fastenings, so doors shall be tight fitting and self-closing.
- d. Urinals shall be placed or screened so as not to be visible from other parts of the site, or other workers.
- e. Rest rooms shall be so arranged so as to be conveniently accessible to the workers and shall be kept clean and orderly at all times.
- f. Adequate hand-washing facilities shall be so provided within or adjacent to the toilet facilities
- g. In cases where persons of both sexes are employed, toilet and bath facilities for each sex shall be situated or partitioned so that the interior will not be visible even when the door of any facility is opened from any place where persons of the other sex have to work or pass.
- h. If toilet and bath facilities for one sex adjoin those for the other sex, the approaches shall be separate, and toilet and bath facilities for each sex shall be properly indicated.

Mode of Measurement

Method of Measurement shall be paid for at the contract unit price for the Pay Items shown in the Bid Schedule which price and payment shall be full compensation for the provision of Personal Protective Equipment (PPE) and Devices, Medicines, Medical Supplies and other incidentals necessary to complete the item.

Basis of Payment

Payment shall be made on a proportional basis, calculated by multiplying the percentage rate of physical progress to the total lump sum amount every progress billing.

Payment will be made under:

Pay Item No.	Description	Unit of Measurement
B.7	Construction Safety & Health program	Lump Sum

B.9 MOBILIZATION AND DEMOBILIZATION**General**

Work under this Contract shall be in accordance with the terms and conditions stipulated in the Bid Documents.

Scope of Work

This Section includes mobilization, demobilization, assembly, and disassembly of all proposed minimum equipment including incidentals necessary to complete the work. It shall be computed based on the equipment requirements of the project stipulated in the proposal and contract booklet. In no case shall mobilization and demobilization exceed 1% of the Estimated Direct Cost (EDC) of the civil works items

Mobilization

- a) The Contractor shall mobilize and put into operation all equipment required to undertake the Bid Documents, which is the Bill of Quantities and all associated work items.
- b) Mobilization shall include the transferring to the job-sites of all equipment necessary for the execution and completion of the work subject to the confirmation of the LGU.
- c) Equipment encountering breakdowns must be repaired at the most expeditious method possible at no cost to the LGU. In the event that the equipment call for major repair works that cannot be undertaken at the site, the Contractor shall replace such equipment with equal or better performance capacity at no additional mobilization costs to the LGU, and the Contractor shall not be entitled to any time extension.
- d) The Contractor will be held responsible for any damage to existing structures, works, materials, or equipment because of his operations. The Contractor shall repair or replace any damaged structures, works, materials, or equipment to the satisfaction of the LGU, and at no additional cost to the Procuring Entity.
- e) The Contractor shall be responsible for all damage to streets, roads, railroads, curbs, sidewalks, highways, shoulders, ditches, embankment, culverts, bridges, or other public or private property, which may be caused by the transport of equipment to or from the Works.

- f) All construction equipment provided by the Contractor shall, when brought on to the Site, be deemed to be exclusively intended for the construction and completion of the Works and the Contractor shall not remove the same or any part thereof without the approval of the LGU.
- g) The LGU shall not at any time be liable for the loss or damage to any of the said construction plant and equipment provided by the Contractor.

Demobilization

Demobilization upon request of the Contractor and approval by the LGU shall include the following:

- a) The dismantling, preparation and loading for removal and shipment of all Contractors' equipment at the site after completion of the works.
- b) Transportation of all the above equipment from the site to the Contractor's home station or somewhere else outside the sites.
- c) Removal of all supplementary markers furnished and installed by the Contractor, provided that the LGU has not taken the option to retain the markers.
- d) The clean-up of the Site and the removal of materials, debris, waste, etc., and making good damages or temporary alterations, to the satisfaction of the LGU.
- e) The restoration, up to a degree acceptable to the LGU, of damage to the surrounding area (including vegetation, minor structures etc.) resulting from the construction or construction-related activities

Method of Measurement

The Lump sum price shall provide for the mobilization and demobilization of all Contractor's equipment to cover all costs for mobilization and demobilization, transportation, insurance during transportation, port fees, taxes, utilities, operators and all other incidentals.

The payment shall cover the dismantling of the work site by the Contractor, with removal of all the alterations, construction equipment, so that the site is restored to the state it was in before the installations and equipment were placed there.

Basis of Payment

All costs associated with and necessary for compliance with this Specification shall be included in the Lump Sum price. No additional or separate payment will be made in this regard.

The LGU may at any time withhold payment if in the opinion of the Engineer, the requirements of this Specification section are not provided.

The Lump Sum payments will be paid following the schedule below:

- 50 % of the lump sum cost will be paid for mobilization and 50% for demobilization.
- The progress billing for mobilization is computed by dividing the number of equipment mobilized at the site over the total minimum number of equipment required in the bidding documents multiplied by 50% of the lump sum cost. Likewise, payment for demobilization will follow the computation process for mobilization but only after the completion of the works assigned to the equipment and site restored in good condition.

<u>Pay Item</u>	<u>Description</u>	<u>Unit</u>
B.9	Mobilization and Demobilization	lump sum

ITEM 103 – STRUCTURE EXCAVATION

103.1 Description

This Item shall consist of the necessary excavation for foundation of bridges, culverts, underdrains, and other structures not otherwise provided for in the Specifications. Except as otherwise provided for pipe culverts, the backfilling of completed structures and the disposal of all excavated surplus materials, shall be in accordance with these Specifications and in reasonably close conformity with the Plans or as established by the Engineer.

This Item shall include necessary diverting of live streams, bailing, pumping, draining, sheeting, bracing, and the necessary construction of cribs and cofferdams, and furnishing the materials therefore, and the subsequent removal of cribs and cofferdams and the placing of all necessary backfill.

It shall also include the furnishing and placing of approved foundation fill material to replace unsuitable material encountered below the foundation elevation of structures.

No allowance will be made for classification of different types of material encountered.

103.2 Construction Requirements

103.2.1 Clearing and Grubbing

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

103.2.2 Excavation

(1) General, all structures. The Contractor shall notify the Engineer sufficiently in advance of the beginning of any excavation so that cross-sectional elevations and measurements may be taken on the undisturbed ground. The natural ground adjacent to the

structure shall not be disturbed without permission of the Engineer.

Trenches or foundation pits for structures or structure footings shall be excavated to the lines and grades or elevations shown on the Plans or as staked by the Engineer. They shall be of sufficient size to permit the placing of structures or structure footings of the full width and length shown. The elevations of the bottoms of footings, as shown on the Plans, shall be considered as approximate only and the Engineer may order, in writing, such changes in dimensions or elevations of footings as may be deemed necessary, to secure a satisfactory foundation.

Trenches or foundation pits for structures or structure footings shall be excavated to the lines and grades or elevations shown on the Plans or as staked by the Engineer. They shall be of sufficient size to permit the placing of structures or structure footings of the full width and length shown. The elevations of the bottoms of footings, as shown on the Plans, shall be considered as approximate only and the Engineer may order, in writing, such changes in dimensions or elevations of footings as may be deemed necessary, to secure a satisfactory foundation.

(2) Structures other than pipe culverts. All rock or other hard foundation materials shall be cleaned all loose materials, and cut to a firm surface, either level, stepped, or serrated as directed by the Engineer. All seams or crevices shall be cleaned and grouted. All loose and disintegrated rocks and thin strata shall be removed. When the footing is to rest on material other than rock, excavation to final grade shall not be made until just before the footing is to be placed. When the foundation material is soft or mucky or otherwise unsuitable, as determined by the Engineer, the Contractor shall remove the unsuitable material and backfill with approved granular material. This foundation fill shall be placed and compacted in 150 mm (6 inches) layers up to the foundation elevation.

When foundation piles are used, the excavation of each pit shall be completed before the piles are driven and any placing of foundation fill shall be done after the piles are driven. After the driving is completed, all loose and displaced materials shall be removed, leaving a smooth, solid bed to receive the footing.

(3) Pipe Culverts. The width of the pipe trench shall be sufficient to permit satisfactory jointing of the pipe and thorough tamping of the bedding material under and around the pipe.

Where rock, hardpan, or other unyielding material is encountered, it shall be removed below the foundation grade for a depth of at least 300 mm or 4 mm for each 100 mm of fill over the top of pipe, whichever is greater, but not to exceed three-quarters of the vertical inside diameter of the pipe. The width of the excavation shall be at least 300 mm (12 inches) greater than the horizontal outside diameter of the pipe. The excavation below grade shall be backfilled with selected fine compressible material, such as silty clay or loam, and lightly compacted in layers not over 150 mm (6 inches) in uncompacted depth to form a uniform but yielding foundation.

Where a firm foundation is not encountered at the grade established, due to soft, spongy, or other unstable soil, such unstable soil under the pipe and for a width of at least one diameter on each side of the pipe shall be removed to the depth directed by the Engineer and replaced with approved granular foundation fill material properly compacted to provide adequate support for the pipe, unless other special construction methods are called for on the Plans.

The foundation surface shall provide a firm foundation of uniform density throughout the length of the culvert and, if directed by the Engineer, shall be cambered in the direction parallel to the pipe centerline.

Where pipe culverts are to be placed in trenches excavated in embankments, the excavation of each trench shall be performed after the embankment has been constructed to a plane parallel to the proposed profile grade and to such height above the bottom of the pipe as shown on the Plans or directed by the Engineer.

103.2.3 Utilization of Excavated Materials

All excavated materials, so far as suitable, shall be utilized as backfill or embankment. The surplus materials shall be disposed off in such manner as not to obstruct the stream or otherwise impair the efficiency or appearance of the structure. No excavated materials shall be deposited at any time so as to endanger the partly finished structure.

103.2.4 Cofferdams

Suitable and practically watertight cofferdams shall be used wherever water-bearing strata are encountered above the elevation of the bottom of the excavation. If requested, the Contractor shall submit drawings showing his proposed method of cofferdam construction, as directed by the Engineer.

Cofferdams or cribs for foundation construction shall in general, be carried well below the bottoms of the footings and shall be well braced and as nearly watertight as practicable. In general, the interior dimensions of cofferdams shall be such as to give sufficient clearance for the construction of forms and the inspection of their exteriors, and to permit pumping outside of the forms. Cofferdams or cribs which are tilted or moved laterally during the process of sinking shall be righted or enlarged so as to provide the necessary clearance.

When conditions are encountered which, as determined by the Engineer, render it impracticable to dewater the foundation before placing the footing, the Engineer may require the construction of a concrete foundation seal of such dimensions as he may consider necessary, and of such thickness as to resist any possible uplift. The concrete for such seal shall be placed as shown on the Plans or directed by the Engineer. The foundation shall then be dewatered and the footing placed. When weighted cribs are employed and the mass is utilized to overcome partially the hydrostatic pressure acting against the bottom of the foundation seal, special anchorage such as dowels or keys shall be provided to transfer the entire mass of the crib to the foundation seal. When a foundation seal is placed under water, the cofferdams shall be vented or ported at low water level as directed.

Cofferdams shall be constructed so as to protect green concrete against damage from sudden rising of the stream and to prevent damage to the foundation by erosion. No timber or bracing shall be left in cofferdams or cribs in such a way as to extend into substructure masonry, without written permission from the Engineer.

Any pumping that may be permitted from the interior of any foundation enclosure shall be done in such a manner as to preclude the possibility of any portion of the concrete material being carried away. Any pumping required during the placing of concrete, or for a period of

at least 24 hours thereafter, shall be done from a suitable sump located outside the concrete forms. Pumping to dewater a sealed cofferdam shall not commence until the seal has set sufficiently to withstand the hydrostatic pressure.

Unless otherwise provided, cofferdams or cribs, with all sheeting and bracing involved therewith, shall be removed by the Contractor after the completion of the substructure. Removal shall be effected in such manner as not to disturb or mar finished masonry.

103.2.5 Preservation of Channel

Unless otherwise permitted, no excavation shall be made outside of caissons, cribs, cofferdams, or sheet piling, and the natural stream bed adjacent to structure shall not be disturbed without permission from the Engineer. If any excavation or dredging is made at the side of the structure before caissons, cribs, or cofferdams are sunk in place, the Contractor shall, after the foundation base is in place, backfill all such excavations to the original ground surface or stream bed with material satisfactory to the Engineer.

103.2.6 Backfill and Embankment for Structures Other Than Pipe Culverts

Excavated areas around structures shall be backfilled with free draining granular material approved by the Engineer and placed in horizontal layers not over 150 mm (6 inches) in thickness, to the level of the original ground surface. Each layer shall be moistened or dried as required and thoroughly compacted with mechanical tampers.

In placing backfills or embankment, the material shall be placed simultaneously in so far as possible to approximately the same elevation on both sides of an abutment, pier, or wall. If conditions require placing backfill or embankment appreciably higher on one side than on the opposite side, the additional material on the higher side shall not be placed until the masonry has been in place for 14 days, or until tests made by the laboratory under the supervision of the Engineer establishes that the masonry has attained sufficient strength to withstand any pressure created by the methods used and materials placed without damage or strain beyond a safe factor.

Backfill or embankment shall not be placed behind the walls of concrete culverts or abutments or rigid frame structures until the top slab is placed and cured. Backfill and embankment behind abutments held at the top by the superstructure, and behind the sidewalls of culverts, shall be carried up simultaneously behind opposite abutments or sidewalls.

All embankments adjacent to structures shall be constructed in horizontal layers and compacted as prescribed in Subsection 104.3.3 except that mechanical tampers may be used for the required compaction. Special care shall be taken to prevent any wedging action against the structure and slopes bounding or within the areas to be filled shall be benched or serrated to prevent wedge action. The placing of embankment and the benching of slopes shall continue in such a manner that at all times there will be horizontal berm of thoroughly compacted material for a distance at least equal to the height of the abutment or wall to the backfilled against except insofar as undisturbed material obtrudes upon the area.

Broken rock or coarse sand and gravel shall be provided for a drainage filter at weepholes as shown on the Plans.

103.2.7 Bedding, Backfill, and Embankment for Pipe Culverts

Bedding, Backfill and Embankment for pipe culverts shall be done in accordance with Item 500, Pipe Culverts and Storm Drains.

103.3 Method of Measurement

103.3.1 Structure Excavation

The volume of excavation to be paid for will be the number of cubic metres measured in original position of material acceptably excavated in conformity with the Plans or as directed by the Engineer, but in no case, except as noted, will any of the following volumes be included in the measurement for payment:

- (1) The volume outside of vertical planes 450 mm (18 inches) outside of and parallel to the neat lines of footings and the inside walls of pipe and pipe-arch culverts at their widest horizontal dimensions.
- (2) The volume of excavation for culvert and sections outside the vertical plane for culverts stipulated in (1) above.
- (3) The volume outside of neat lines of underdrains as shown on the Plans, and outside the limits of foundation fill as ordered by the Engineer.
- (4) The volume included within the staked limits of the roadway excavation, contiguous channel changes, ditches, etc., for which payment is otherwise provided in the Specification.
- (5) Volume of water or other liquid resulting from construction operations and which can be pumped or drained away.
- (6) The volume of any excavation performed prior to the taking of elevations and measurements of the undisturbed ground.
- (7) the volume of any material rehandled, except that where the Plans indicate or the Engineer directs the excavation after embankment has been placed and except that when installation of pipe culverts by the imperfect trench method specified in Item 500 is required, the volume of material re-excavated as directed will be included.
- (8) The volume of excavation for footings ordered at a depth more than 1.5 m (60 inches) below the lowest elevation for such footings shown on the original Contract Plans, unless the Bill of Quantities contains a pay item for excavation ordered below the elevations shown on the Plans for individual footings.

103.3.2 Bridge Excavation

The volume of excavation, designated on the Plans or in the Special Provisions as "Bridge Excavation" will be measured as described below and will be kept separate for pay purposes from the excavation for all structures.

The volume of bridge excavation to be paid shall be the vertical 450 mm (18 inches) outside of and parallel to the neat lines of the footing. The vertical planes shall constitute the vertical faces of the volume for pay quantities regardless of excavation inside or outside of these planes.

103.3.3 Foundation Fill

The volume of foundation fill to be paid for will be the number of cubic metres measures in final position of the special granular material actually provided and placed below the foundation elevation of structures as specified, complete in place and accepted.

103.3.4 Shoring, Cribbing, and Related Work

Shoring, cribbing and related work whenever included as a pay item in Bill of Quantities will be paid for at the lump sum bid price. This work shall include furnishing, constructing, maintaining, and removing any and all shoring, cribbing, cofferdams, caissons, bracing, sheeting water control, and other operations necessary for the acceptable completion of excavation included in the work of this Section, to a depth of 1.5 m below the lowest elevation shown on the Plans for each separable foundation structure.

103.3.5 Basis of Payment

The accepted quantities, measured as prescribed in Section 103.3, shall be paid for at the contract unit price for each of the particular pay items listed below that is included in the Bill of Quantities. The payment shall constitute full compensation for the removal and disposal of excavated materials including all labor, equipment, tools and incidentals necessary to complete the work prescribed in this Item, except as follows:

- (1) Any excavation for footings ordered at a depth more than 1.5 m below the lowest elevation shown on the original Contract Plans will be paid for as provided in Part K, Measurement and Payment, unless a pay item for excavation ordered below Plan elevation appears in the Bill of Quantities.
- (2) Concrete will be measured and paid for as provided under Item 405, Structural Concrete.
- (3) Any roadway or borrow excavation required in excess of the quantity excavated for structures will be measured and paid for as provided under Item 102.
- (4) Shoring, cribbing, and related work required for excavation ordered more than 1.5 m (60 inches) below Plan elevation will be paid for in accordance with Part K.

Payment will be made under:

Pay Item Number	Description	Unit of Measurement
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103 (1)a

Structure Excavation (Common Soil)

Cubic Meter

ITEM 511 – GABIONS AND MATTRESSES

511.1 Description

This Item shall consist of furnishing, forming wire mesh baskets, and placing rocks installed at the locations designated, in accordance with this Specification and in conformity with the lines, grades, dimensions, and arrangements shown on the Plans or as directed by the Engineer.

511.2 Material Requirements

511.2.1 General

Gabions shall be constructed of wire mesh and shall be supplied in various lengths and heights. A double twisted wire mesh container of variable sizes, uniformly partitioned into internal cells, interconnected with other similar units, and filled with stones at the project site to form flexible, permeable, monolithic structures such as retaining walls, sea walls, channel linings, revetments and weirs for erosion control. The lengths shall be multiples of 2, 3 or 4 times the width of the gabion and heights shall be 0.50 m to 1.00 m or as shown on the plans. The horizontal width shall not be less than one meter. Gabion furnished shall be of uniform width.

The width, height and length of the gabion as manufactured shall not differ more than $\pm 5\%$ from the ordered size prior to filling.

Mattresses are double twisted wire mesh container uniformly partitioned into internal cells with relatively small height in relation to other dimensions, having smaller mesh openings than the mesh used for gabions. Mattresses are generally used for riverbank protection and channel linings. The length shall be 3.00 m to 6.00 m, the width shall be 2.00 m and the height shall be 0.17 m, 0.23 m or 0.30 m or as shown on the Plans.

The width and length of the revet mattress as manufactured shall not differ more than $\pm 5\%$, and the height shall not differ more than $\pm 10\%$ from the ordered size prior to filling.

511.2.2 Wire

The wire used in the manufactured of double-twisted mesh for use in gabions and mattresses shall conform to the specifications as shown below as appropriate for the style ordered.

511.2.2.1 Style 1 double-twisted mesh shall be manufactured from zinc-coated steel wire conforming to Specification ASTM A 641, Class 3 coating, soft temper.

511.2.2.2 Style 2 double-twisted mesh shall be manufactured from Zn-5A1-MM-coated steel wire conforming to Specification ASTM A 856/A 856 M, Class 3 coating, soft

temper.

511.2.2.3 Style 3 double-twisted mesh shall be manufactured from the same type of metallic-coated steel wire as style 1 with an additional PVC coating extruded into the metallic-coated steel wire. The PVC coating shall conform to the following requirements:

		Test Method
1. Specific Gravity	1.30 to 1.35	D 792
2. Tensile Strength, min	20.6 MPa	D 412
3. Modulus of Elasticity, min	18.6 MPa	D 412
4. Hardness, shore "D"	between 50 & 60	D 2240
5. Brittleness Temp, max	9°C (15°F) or lower temp.	D 746
6. Resistance to Abrasion, % weight loss, max.	12%	D 1242

The PVC coating shall not show cracks or breaks after the wires are twisted in the fabrication of the mesh.

511.2.2.4 Style 4 double-twisted mesh shall be manufactured from aluminum-coated steel wire conforming to Specification ASTM A 809, soft temper.

511.2.3 Lacing Wire and Stiffener

Lacing wire and stiffeners shall be made of wire having the same coating material as the double-twisted wire mesh conforming to Specification ASTM A 641, A 856/A 856 M or A 809 with a tensile strength in accordance with subsection 509.2.7.

511.2.4 Fasteners made from zinc-coated steel wire, zinc - 5% aluminum mischmetal alloy-coated steel wire and aluminum-coated steel shall conform to specification A 764, Type A, B, or C, Table 2 or Table 3.

511.2.5 Gabion and mattresses shall be manufactured with all components mechanically connected at the production facility with the exception of the mattresses lid which is produced separately from the base. All gabions and mattresses shall be supplied in the collapsed form, either folded and bundled or rolled, for shipping.

511.2.6 Dimensions

The minimum size of the galvanized and PVC coated wire to be used in the fabrication of the gabion and mattresses shall be as follows:

		Diameter, mm	
		Gabion	Mattresses
		Metallic Coated	Metallic Coated
		PVC Coated	PVC Coated

Body Wire	3.05	2.70	2.20	2.20
Selvedge or Perimeter Wire	3.80	3.40	2.70	2.70
Tying and Connecting Wire	2.20	2.20	2.20	2.20

Diameter Tolerances for Galvanized Wire to be used in the fabrication of gabion and mattress shall be $\pm .10$.

The nominal and the minimum thickness of PVC coating shall be 0.50 mm and 0.38 mm, respectively.

511.2.7 Mechanical Properties

Tensile Strength – The tensile strength of Zinc-coated wire used in the fabrication of gabion and mattresses when tested in accordance with Test Methods ASTM A 370, shall be as follows:

	Strength, max, Mpa	
	Gabion	Mattresses
Body Wire	485	515
Selvedge or Perimeter Wire	485	485
Tying and Connecting Wire	515	515

511.2.8 Weight of Coating

The minimum weight of zinc per unit area of uncoated wire surface shall be in accordance with ASTM A 975 or as follows:

Wire Diameter, mm	Class 3 or A Coating, g/m ² , ASTM A 641
Over 1.90 to 2.30	220
Over 2.30 to 2.70	230
Over 2.70 to 3.10	240
Over 3.10 to 3.50	260
Over 3.50 to 3.90	270

511.2. 9 Rock Fill

Rock used in the gabions and mattresses shall consist of hard, durable rock pieces that will not deteriorate when submerged in water or exposed to severe weather conditions. Rock pieces shall be generally uniformly graded in sizes ranging from 100 mm to 200 mm. Filled gabions shall have a minimum density of 1,400 kg/m³. Voids shall be evenly distributed.

No rock size shall exceed 2/3 the mattress depth and at least 85% by weight of the stone shall have a size greater than 80 mm. No stones shall be able to pass through the mesh.

The rock shall meet the requirements of AASHTO M 63 except that the sodium sulphate soundness loss shall not exceed 9% after 5 cycles.

511.2.10 Filter Fabric

Filter cloth shall consist of 70% polypropylene and 30% polyethylene.

511.3 Construction Requirements

511.3.1 Fabrication

1. Gabions and mattresses shall be in the form of rectangular baskets of the required dimensions and shall be manufactured from wire as specified in Subsection 509.2.2. Gabions shall be made of steel wire double twisted forming a uniform hexagonal mesh type 8 x 10 having a nominal mesh openings of 83 by 114 mm. Mattresses shall be made of steel wire double twisted forming a uniform hexagonal mesh type 6 x 8 having a nominal mesh openings of 64 by 83 mm. Tolerances on the hexagonal, double-twisted wire mesh opening shall not exceed $\pm 10\%$ on the nominal dimension D values, 64 mm for mattresses and 83 mm for gabions. The edges shall be formed into a securely connected selvedge adequate to prevent raveling.

Individual basket ties and connections shall be made by using a quantity of wire not less than 8% of the weight of each basket.

2. When the gabion length exceeds its width, it shall have securely tied diaphragms connected at all edges to form individual cells of equal length and width.

Gabions shall be fabricated in such a manner that the sides, ends, lids and diaphragms can be assembled at the construction site into rectangular baskets of the specified sizes. Gabions shall be of single unit construction, base, lids, ends and sides shall be either woven into a single unit or one edge of these members connected to the base section of the gabion in such a manner that the strength and flexibility at the point of connection is at least equal to that of the mesh.

The gabion shall be equally divided by diaphragms, placed at not more than 1.0 m intervals, and of the same mesh and gauge as the body of the gabions, into cells the length of which does not exceed the horizontal width. The gabion shall be furnished with the necessary diaphragms secured in proper position on the base in such a manner that no additional tying at this junction will be necessary.

3. Four cross-connecting wires shall be provided in each cell having a height of one half the width or less, and eight cross-connecting wires shall be provided in each cell having a height greater than one half the width.

All perimeter edge of the mesh forming the gabion shall be securely selvedged so that the joints, by tying the selvedges, have at least the same strength as the body of the mesh.

Selvedge wire used through all the edges (perimeter wire) shall not be less than 3.80 mm diameter and shall meet the same specifications as the wire mesh.

511.3.2 Assembly and Construction:

1. Gabions shall be installed in a workmanlike manner. The gabions shall be placed on a smooth foundation. Final line and grade shall be approved by the

Engineer.

Each gabion unit shall be assembled by binding together all vertical edges with wire ties on approximately 152 mm (6 inches) spacing or by a continuous piece of connecting wire stitched around the vertical edges with a coil every 102 mm (4 inches). Empty gabion units shall be set to line and grade as shown on the Plans or as described by the Engineer. Wire ties or connecting wires shall be used to join the units together in the same manner as described above for assembling. Internal tie wires shall be uniformly spaced and securely fastened in each cell of the structure.

A standard fence stretcher, chain fall, or iron rod may be used to stretch the wire baskets and hold alignment.

2. When possible the subgrade of the mattress and gabion shall be properly compacted to a depth of 150 mm. The Contractor shall consider the cost of subgrade preparation in the unit prices. Filter fabric as beds of gabions and mattresses forming the structure shall be suitably leveled and shall be securely connected along the complete length of all contact edges by means of the above specified tying and connecting wire.
3. Before the filling material is placed, the gabions and mattresses shall be carefully selected for uniformity of size, and the pieces shall be handplaced to provide a neat appearance as approved by the Engineer.

The gabions shall be filled with stone carefully placed by hand or machine to assure alignment and avoid bulges with a minimum voids. Alternate placing of rock and connection wires shall be performed until the gabion is filled. After a gabion has been filled, the lid shall be bent over until it meets the sides and edges. The lid shall then be secured to the sides, ends and diaphragms with the wire ties or connecting wire in the manner described for assembling.

The vertical joints of gabions and mattress baskets shall be staggered as in running bond in brickwork.

4. The cells in any row shall be filled in stage so that local deformation may be avoided. That is at no time shall the cell be filled to a depth exceeding 30 cm more than the adjoining cell.
5. Filter fabric shall be placed between earth surface and gabion or mattress structures. Filter fabric shall be rolled out into a flat non-rutted surface free from sharp objects, weighing down the edges. Construction equipment shall not be allowed into unprotected fabric. Jointing is normally affected by overlapping not less than 300 mm, but it is preferable to joint by sewing or industrial stapling. Joint edges should be facing downwards to avoid protruding through the surface material.

511.4 Method of Measurement

The quantities to be paid for shall be the number of cubic meter of gabions and mattresses and the area of filter cloth completed and accepted.

511.5 Basis of Payment

Quantities determined as provided above shall be paid for at the appropriate contract unit price per unit of measurement for the Pay Item shown in the Bid Schedule, which price and payment shall constitute full compensation for all necessary excavation, subgrade preparation, for furnishing, placing wire baskets and fill materials and for all labor, equipment accessories, tools, and incidentals necessary to complete the Item.

Payment will be made under:

Pay Item Number	Description	Unit of Measurement
511 (1)	Gabions	Cubic Meter
511 (2)	Mattresses	Cubic Meter
511 (3)	Filter Cloth	Square Meter

ITEM 611 / SPL (3)a- TREE PLANTING

611.1 Description

This Item shall consist of furnishing and planting deciduous shade, flowering trees and evergreen trees less than 150 mm in diameter on the areas and in the arrangements indicated on the Plans or as indicated by the Engineer, including the digging and preparation of pocket holes, furnishing and placing the necessary topsoil, mulch, water, fertilizer and other incidentals necessary to complete the Item.

611.2 Material Requirements

611.2.1 Topsoil

Topsoil shall conform to the requirements of Item 608, Topsoil.

611.2.2 Mulching

Mulching material shall consist of approved wood chips, ground or crushed corn cobs, wood shavings, sawdust or peat moss. Wood chips shall be combination of wood slivers with ground wood or sawdust.

Bracing stakes for plants shall be 50 mm x 50 mm of rough wood free from unsound loose knots, rot, cross grain and sapwood or other defects that may impair its strength.

Anchor stakes shall be of the same quality as bracing stakes and of the size specified under operations calling for their use.

Wrapping material for trees shall be waterproof paper or burlap.

The tying material to be used in wrapping trees shall be jute twine or similar material not less than 2-ply for trees 7.5 mm or less in diameter and 3-ply for trees over 7.5 mm in diameter.

The wire to be used in bracing trees 7.5 mm or less in diameter shall be 3 mm (No. 11) galvanized steel wire and for trees over 75 mm in diameter, 40 mm (No. 9) galvanized steel wire shall be used. All wires shall be new and free from bends or kinks.

611.2.3 Trees

All trees furnished under this Item shall be 150 mm or less in diameter and shall be true to name and type and shall follow standard names of trees in accordance with the Bureau of Forestry Standards as adopted by the Department of Public Works and Highways.

When specified in the Provisions, certain varieties of plants will be furnished by the government.

The Contractor shall submit complete and detailed information concerning the sources of supply for each item of plant materials before planting operations.

All existing laws and regulations requiring inspection for plant diseases and infections shall be complied with and each delivery shall be accompanied by necessary certificates of clearance to be presented to the Engineer.

Plants furnished by the Contractor shall be healthy, shapely and well-rooted and roots shall show no evidence of having been restricted or deformed at any time. Plants shall be well-grown and free from insect pest and disease.

Root condition of plants furnished by the Contractor in containers will be determined by the removal of earth from the roots of not less than two plants nor more than two (2) percent of total number of plants of each specie or variety except when container-grown plants are from several sources, the roots of not less than two plants of each specie or variety from each source will be inspected by the Engineer. In case the sample plants inspected are found to be defective, the Government reserves the right to reject the entire lot or lots of plants represented by the defective samples. Any plant rendered unsuitable for planting because of this inspection will be considered as samples and will not be paid for.

611.3 Construction Methods

611.3.1 Balling of Plants and Trees

Balling is employed in plants and trees to be transplanted or transferred. To ball out the trees, the depth to which the root system reaches is first determined. Digging around the tree is then done, being careful not to cut many roots. Watering the soil before balling is prohibited. The surface of the earth is kept as smooth as possible. After the tree is dug out, the roots and earth is wrapped immediately with the sacking material. The tree could now be tipped over and rolled to a new location. These plants shall be hauled by the ball only and not by the plant itself. The slightest indication of manufactured earth balls or hauling of the

plants itself will be a cause for rejection of such plants.

611.3.2 Digging Plants

All plants, nursery-grown or collected, shall be dug with care and skill immediately before shipping and avoiding all possible injury to the plants, loss or damage of the roots, particular attention being given to fibrous roots in this respect. After the plants are dug, their roots shall not be permitted to dry out. They shall not be exposed to hot temperatures. All plants shall be dug in dormant state and shall be so held until planted.

611.3.3 Temporary Storage and Plant Spray

After delivery and inspection, the plants shall be sprayed with an approved anti-desiccant prior to planting, heeling-in or storing, except in the case of collected stock which shall not be heeled-in or stored, but shall be sprayed with anti-desiccant immediately and planted within 36 hours after digging.

The spray shall cover both upper and lower surfaces of the branches and foilage to the point of run-off. Spray nozzles shall be the type to produce a fine mist.

Spraying shall be included for payment in the pertinent planting item. Following spray treatment with anti-desiccant, all plants which cannot be planted promptly shall be heeled-in in a trench, spread and the roots covered with moist soil. If plants are not to be stored for a period longer than 10 days, they may be placed in an approved well-ventilated, cool and moist storage shed and the roots completely covered with moist straw. All plants heeled-in or stored shall be properly maintained by the Contractor until planted. In the event heeled-in plant material must be held over for a longer period, such heeled-in material shall be lifted and replanted in a satisfactory manner in nursery rows.

The ball of soil and roots of balled and burlapped plants, if not immediately planted after delivery and inspection, shall be adequately protected by topsoil covering until removed for planting in a manner appropriate to the conditions and satisfactory to the Engineer.

Such emergency storage of plant shall be at the entire risk of the Contractor, including maintenance of same.

611.3.4 Layout of Planting

Before digging pocket holes or beds, the Contractor shall lay out, by suitable staking, the location of all pocket holes and beds. The layout of planting shall be approved by the Engineer.

611.3.5 Roots and Top Pruning

The ends of all broken and damaged roots, 6 mm diameter or larger, shall be pruned with a clean cut removing no more than the injured portion. All plants shall be pruned to balance the top with the root system keeping the natural shape of the species. All dead woods shall be removed. All cuts and wounds, 12 mm or over in diameter, shall be painted with tree wound dressing immediately after the pruning.

611.3.6 Pocket Holes

Pocket holes shall be dug at the locations shown on the Plans or as directed by Engineer. The holes shall be dug to the depth and cross-section specified and should be of sufficient size to provide for not less than 150 mm of top soil backfill beneath and around the root system. The holes shall be dug with the sides vertical. Surplus excavation from the bed and pocket holes shall be disposed off as directed by the Engineer.

611.3.7 Backfill

The pocket holes shall be backfilled with topsoil as each plant is set. The topsoil shall be well-tamped by the worker's feet, rods or other approved tamping devices as it is shovelled into the holes. The backfill in holes on slopes shall be built-up on the lower side to catch and hold water. During planting the topsoil surrounding the plant be slightly depressed to hold water.

611.3.8 Planting

The plants to be planted shall be the specie, variety and size specified. The operation of the actual planting shall not be performed at any time when the soil is not in a friable or workable condition. The Engineer shall also approve the location of each individual plant taking into consideration its size and shape, in order that the best possible arrangement will result.

One plant shall be planted in the center of each pocket hole and in the arrangement shown on the Plans. The plants shall be set on tamped topsoil backfill brought to the height necessary to plant them at the same depth they grew, carefully spreading out the roots of barefoot stock in their natural position. Upright plants shall be kept in a vertical position. After placing the plant in the hole, the backfill shall be carefully made, tamping with the worker's feet and with round-end rods or other approved tamping devices to insure topsoil in and about all the roots. The topsoil shall be settled in and about the plant roots by application of water but at no time shall tamping or further topsoil backfill be made while this wet topsoil backfill is of a consistency that would permit its being compacted or puddled by so doing. All compaction shall be such that no plant will settle lower than the depth above specified. No air pocket shall be left around the root of any plants.

After filling halfway on the earth ball, the burlap shall be loosened and the top half cut off and removed after which the balance of the pocket hole shall be backfilled and tamped.

After planting and prior to mulching, fertilizers shall be applied evenly over the top of the backfilled area. Care shall be used so that the fertilizer does not get into contact with the stem, trunk, branches or leaves of the plants.

611.3.8.1 Tree Planting along National Road

The trees to be used for this purpose shall be the varieties the root systems of which grow downward rather than sideward to avoid situations where the roots spread sideward and consequently destroy the road and sidewalk slabs.

Trees shall be planted in a neat row, within the road right-of-way (ROW) and as close as possible to the ROW limit, with sufficient allowance so that the trees when fully grown will not encroach on the adjoining property or touch electric and other overhead utility lines. The center-to-center spacing between trees shall be 10-20 metres (m). For road sections with a generally north-south alignment, the trees on one side of the road shall be staggered vis-à-vis the trees on the other side of the road. This arrangement will help to ensure that enough sunlight will fall on the road and thus help to keep the road dry even during the rainy season.

For roads without curbs, the trees shall be planted with a minimum clear distance of 0.60 m beyond the edge of the shoulder, but in no case less than 3.0 m from the edge of the pavement. For roads with curbs, particularly in urban areas, the trees shall be planted with a minimum setback of 1.00 m beyond the face of the curb.

Where there are longitudinal drainage canals, the trees shall be planted on the outer side of such canals. On the roadway curves and intersections, the pertinent design standards on sight distance shall be observed.

Non-traversable hazards (ravine, waiting shed, etc.) along the line of trees shall be provided with appropriate barriers, e.g., guardrails, and clearly marked, so that these do not pose hazards to motorists.

The Contractor concerned shall undertake and be responsible for the maintenance of the planted trees during the contract warranty period of the road project covered by his contract. The contractor's maintenance work shall comply with the provision of subsection 611.3.10 (Watching and Maintenance). The maintenance of trees shall be faithfully undertaken as an integral part of the regular road maintenance program and shall be included in the reports therefore as a regular work item under Activity No. 209 of the Highway Maintenance Activity Standards.

The tree planting shall be undertaken not only along national roads programmed for construction or improvement, but also along existing national roads especially those outside developed urban areas where there are no trees or only a few trees have been planted. For such existing roads, the required tree planting shall be undertaken by the District Engineering Office concerned. The tree planting shall be undertaken in both contractual projects and projects by administration.

611.3.9 Mulching

Within 24 hours after planting, mulching material shall be spread to cover the plant hole and the area 150 mm outside the periphery of the plant hole. The depth and application for wood chips shall be a minimum of 150 mm. For ground or crushed corn cobs, sawdust or peat moss the minimum depth shall be 100 mm.

611.3.10 Watering and Maintenance

All plants shall be watered during the planting operations, subject to direction and approval of the Engineer. From time to time during the life of the Contract, sufficient water shall be applied so that not only will the topsoil backfill about each plant be kept moist, but also for moisture to extend into the surrounding soil.

The Contractor shall, during the life of the Contract, properly care for all plants furnished, planted or stored, performing such watering, weeding, cultivating or other ordinary maintenance work as shall be necessary to keep the stock in a live and healthy condition. Plants which have died back into the crown or beyond a normal pruning line shall be replaced by the Contract at no additional expense to the Government.

611.3.11 Bracing

All deciduous and evergreen trees shall be braced immediately after planting. Deciduous trees from 1.20 m to 1.80 m in height shall have one vertical support stake. Deciduous trees from 1.80 m to 2.50 m in height shall have two vertical support stakes.

Balled and burlapped deciduous or evergreen trees within the above size ranges shall be supported with the number of stakes specified for the group but instead of being placed vertically, shall be driven so that the stake does not enter or contact the earth ball around the plant roots. The stake or stakes shall be so placed that after being driven in place, the upper foot of the stake is within approximately 100 mm of the trunk at one-half of the height of the tree. If two are required, they shall be driven on opposite sides of the tree with the stake tops on opposite sides for fastening.

All trees, deciduous or evergreen over two and one-half meters shall be braced by the tripod method as directed by the Engineer.

611.3.12 Dead Trees

Before completion and final acceptance of the project, all trees not healthy or that have died back into the crown or beyond the normal pruning line shall be replaced by the Contractor at his own expense with trees of the specified species or variety, size and quality and meeting the Specification.

611.4 Method of Measurement

The quantity to be paid for shall be the number of trees of each specie or variety called for in the Plans furnished, planted and accepted with the necessary mulch, topsoil, water, fertilizer and other incidentals to complete the Item.

611.5 Basis of Payment

The quantities as determined in Subsection 611.4, Method of Measurement, shall be paid for at the contract unit price each of the trees of each specie or variety furnished, planted and accepted which price and payment shall constitute full compensation for furnishing all labor, tools and incidentals necessary to complete the Item.

Payment will be made under:

Pay Item No.	Description	Unit of Measurement
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611 (1)	Trees (Furnishing and Transplanting)	Each
611 (2)	Trees (Transplanting)	Each

Section VII. Drawings

[Insert here a list of Drawings. The actual Drawings, including site plans, should be attached to this section, or annexed in a separate folder.]

Section VIII. Bill of Quantities

Item No.	Scope of Work	Unit	Quantity	Unit Price		TOTAL
				In Words	In Figures	
A.1.1(8)	Provision of Field Office (Rental)	L.S.	1.00			
A.1.2(2)	Provision of 4x4 Pick Up Type Service Vehicle for the Engineer on Bare Rental Basis	L.S.	1.00			
B.5	Project Billboard/Signboard	Each	1.00			
B.7	Occupational Safety & Health	L.S.	1.00			
B.9	Mobilization/ Demobilization	L.S.	1.00			
103(1)a	Structure Excavation (Common Soil)	Cu.m.	181.80			
511(1)	Gabions	Cu.m.	606.00			
511(2)	Mattresses	Cu.m.	185.40			
511(3)	Filter Cloth	Sq.m.	927.00			
SPL (3)a	Tree Planting – With Tree Guard	Pcs.	1,295.00			
Total Bid Cost						

Amount in Words: _____

_____.

Section IX. Checklist of Technical and Financial Documents

Notes on the Checklist of Technical and Financial Documents

The prescribed documents in the checklist are mandatory to be submitted in the Bid, but shall be subject to the following:

- a. GPPB Resolution No. 09-2020 on the efficient procurement measures during a State of Calamity or other similar issuances that shall allow the use of alternate documents in lieu of the mandated requirements; or
- b. any subsequent GPPB issuances adjusting the documentary requirements after the effectivity of the adoption of the PBDs.

The BAC shall be checking the submitted documents of each Bidder against this checklist to ascertain if they are all present, using a non-discretionary “pass/fail” criterion pursuant to Section 30 of the 2016 revised IRR of RA No. 9184.

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;
or
Original copy of Notarized Bid Securing Declaration; **and**
- ☐ (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.

