

**PUNATSANGCHHU-I HYDROELECTRIC PROJECT AUTHORITY
BHUTAN**



BIDDING DOCUMENT

FOR

**TEMPORARY RE-ALIGNMENT OF WANGDUE-TSIRANG NATIONAL
HIGHWAY(NH) – WIDENING & BLACKTOPPING OF ROAD FROM BHU TO
STP-NH JUNCTION**

(NIT No. PHPA-I/SE(C&P)/146-01/2026)

January, 2026

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SECTION I
NOTICE INVITING TENDER



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PUNATSANGCHHU-I HYDROELECTRIC PROJECT AUTHORITY, BHUTAN
NOTICE INVITING TENDER (NIT No. PHPA-I/SE(C&P)/146-01/2026)

Sealed item rate bids are hereby invited for and on behalf of Punatsangchhu-I Hydroelectric Project Authority (PHPA-I) from experienced & financially sound Bhutanese and Indian bidders fulfilling the eligibility criteria specified in the Bidding Document for the Work **“Temporary Re-Alignment of Wangdue-Tsirang National Highway - Widening & blacktopping of road from BHU to STP-NH Junction”**.

Eligibility Criteria

The participating Bidders shall fulfil the following criteria:

1. Have an average turnover of Nu./Rs. **47 million or more** of any 3 years of the last 5 years preceding the last date of bid submission.
2. Have a valid trade license and BCTA's registration certificate as **Large Class (W1)** category for Bhutanese bidders and **Class II (Building & Road)** or **equivalent category** for Indian bidders issued by authority concerned.
3. Have the latest income tax clearance Certificate. If such a Clearance Certificate is not being issued by the concerned Authority, a certified photocopy of the latest income tax return shall be submitted by the Bidders.
4. Bidders should have experience of having successfully completed road works during the last 7 years preceding the last date of bid submission, with the following value:

Three similar works, each of value not less than **24 million**

OR

Two similar works, each of value not less than **35 million**

OR

One similar work of value not less than **47 million**

Bidders must submit the Completion Certificate issued by previous client(s) for the above similar works executed by them. Such a Certificate shall indicate the value, date, and the site of works, and shall specify whether they were satisfactorily completed

5. Bidders shall submit from the Bank or Financial Institutions in Bhutan/India showing evidence of access to or availability of a credit line of at least Nu./Rs. **24 million**.

The prospective Bidders may purchase the Bidding Document from the office of the Superintending Engineer (C&P), Bjimthangkha w.e.f **12.01.2026** to **02.02.2026** on payment of a



non-refundable fee of Nu./Rs. **5,000** (five thousand) only in the form of a cash warrant or bank draft drawn in favor of PHPA-I, payable at the Bank of Bhutan (Bajo or Thimphu). The bidder can also download the Bidding Document from the PHPA-I website: www.phpa1.gov.bt at free of cost. Any corrigendum/addendum/errata in respect of this tender shall be made available only at the mentioned website.

The PHPA-I reserves the right to reject any or all the bids without assigning any reason thereof.

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Superintending Engineer (C&P)



SECTION II
INSTRUCTION TO BIDDERS



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INSTRUCTION TO BIDDERS

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GENERAL

1 Introduction

Sealed item rate bids are invited for and on behalf of the Punatsangchhu-I Hydroelectric Project Authority (PHPA-I) from experienced & financially sound Bidders from Bhutan and India for the Work as described in the Bid Data Sheet (BDS).

2 Scope of Work

The scope of work shall be as specified in Section VI- General Technical Specifications.

3 Eligible Bidders

3.1 The participating Bidders shall fulfil the following criteria:

- 3.1.1 Have an average turnover of Nu. /Rs. **47 million or more** of any 3 years of the last 5 years preceding the last date of submission of the Bid.
- 3.1.2 Have a valid trade license and BCTA's/CDB's registration certificate as **Large Class (W1)** category for Bhutanese bidders and **Class II** (Building & Road) or **equivalent category** for Indian bidders issued by the authority concerned.
- 3.1.3 Have the latest income tax clearance Certificate. If such a Clearance Certificate is not being issued by the concerned Authority, a certified photocopy of the latest income tax return shall be submitted by the Bidder.
- 3.1.4 Bidders should have experience of having successfully completed Road works during the last 7 years preceding the last date of bid submission, with the following value:

Three similar works, each of value not less than **24 million**

OR

Two similar works, each of value not less than **35 million**

OR

One similar work of value not less than **47 million**

Bidders must submit the Completion Certificate issued by previous client(s) for the above similar works executed by them. Such a Certificate shall indicate the value, date, and the site of works, and shall specify whether they were satisfactorily completed.

- 3.1.5 Bidders shall submit from the Bank or Financial Institutions in Bhutan/India showing evidence of access to or availability of a credit line of at least **Nu. /Rs. 24 million**.
- 3.2 A bidder shall not have more than 7 works in hand at the time of bids opening. Bidders shall declare about the '**work in hand**' along with the bid.
- 3.3 A Bidder shall not have a conflict of interest. Any Bidders found to have a conflict of interest shall be disqualified. Bidders may be considered to have a conflict of interest with one or more parties in this bidding process if:
 - 3.3.1 they have at least one controlling partner in common; or
 - 3.3.2 they receive or have received any direct or indirect subsidy from either party; or



- 3.3.3 they have the same authorized legal representative for purposes of this Bid; or
 - 3.3.4 they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the Bid of another Bidder, or influence the decisions of the Employer regarding this Bidding process; or
 - 3.3.5 A Bidder participating in more than one Bid in this Bidding process shall result in the disqualification of all Bids; or
 - 3.3.6 A Bidder or any of its affiliates has been hired (or is proposed to be hired) by the Employer as Project Manager for the Contract implementation; or
 - 3.3.7 A Bidder or any of its affiliates employs or otherwise engages a close relative of a civil servant who either is employed by the Employer or has authority over the Bidder or its affiliates or over the Bid. For the purposes of this Sub-Clause, a close relative is defined as immediate family, which includes father, mother, brother, sister, spouse, and own children.
- 3.4 Government-owned enterprises shall be eligible only if they can establish that they:
- 3.4.1 are legally and financially autonomous,
 - 3.4.2 operate under commercial law, and
 - 3.4.3 are not a dependent agency of the Employer.
- 3.5 Bidders shall provide such evidence of their continued eligibility satisfactory to the Employer as the Employer shall reasonably request.
- 3.6 A Bidder shall be excluded if:
- 3.6.1 as a matter of law or official regulation, Bhutan prohibits commercial relations with the country in which the firm is constituted, incorporated or registered; or by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, Bhutan prohibits any import of goods or contracting of Works or services from that country in which the firm is constituted, incorporated or registered or any payments to persons or entities in that country.
 - 3.6.2 he is insolvent or is in receivership or is a bankrupt or is in the process of being wound up, or has entered into an arrangement with his creditors; or
 - 3.6.3 his affairs are being administered by a court, judicial officer, or appointed liquidator; or
 - 3.6.4 he has suspended business or is in any analogous situation arising from similar procedures under the laws and regulations of his country of establishment; or
 - 3.6.5 he has been found guilty of professional misconduct by a recognized tribunal or professional body; or
 - 3.6.6 he has not fulfilled his obligations with regard to the payment of taxes, social security, or other payments due in accordance with the laws of the country in which he is established or of the Kingdom of Bhutan; or
 - 3.6.7 he is or has been guilty of serious misrepresentation in supplying information required for any prior registration with the Employer or the Construction Development Board of Bhutan; or



- 3.6.8 he has been convicted of fraud and/or corruption by a Competent Authority; or
- 3.6.9 he has not fulfilled his Contractual obligations with the Employer in the past; or
- 3.6.10 he has been debarred from participation in public procurement by any Competent Authority as per law; or
- 3.6.11 Any successful bidder in the earlier tenders failed to sign the contract agreement with PHPA-I within the prescribed time period.

4 Number of Bids per Bidder

Each Bidder shall submit only one Bid. A Bidder who submits or participates in more than one Bid (other than as a Sub Contractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the Bidder's participation to be disqualified.

5 Signatory Authority for Submission of Bid

5.1 Signatory Authority of the submission of Bids shall be as follows:

- 5.1.1 In the case of a proprietary firm, the Bid shall be signed by the Proprietor.
- 5.1.2 In the case of a Limited Company or Corporation, the Bid shall be signed by an authorized person holding the Power of Attorney for signing the Bid. A Power of Attorney (in original) shall accompany the Bid.
- 5.1.3 Bid documents are not transferable.

6 Cost of Bidding

Bidders shall bear all costs associated with the preparation and submission of their Bids, and the PHPA-I will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.

7 Site Visit

- 7.1 Bidders are advised to visit the site to verify, examine, and obtain all key information that may be necessary for preparing the Bid. The costs of visiting the Site shall be at the Bidder's own expense.
- 7.2 A Bidder or his representative will be granted permission to enter the site of work only upon the condition that the Employer or his personnel or agent will not be responsible for death or personal injury or loss or damage to property and other loss, damage, cost, or expenses incurred as a result of inspection/visit.

BIDDING DOCUMENT

8 Contents of Bidding Document

- 8.1 The Bidding document is as stated below and should be read in conjunction with any corrigendum/modification issued to this document:
 - 8.1.1 Notice Inviting Tender (NIT)
 - 8.1.2 Instructions to Bidders (ITB)
 - 8.1.3 Bidding Data Sheet (BDS)



- 8.1.4 General Conditions of the Contract (GCC)
 - 8.1.5 Special Conditions to Contract (SCC)
 - 8.1.6 General Technical Specifications (GTS)
 - 8.1.7 Forms
 - 8.1.8 Bill of Quantities
 - 8.1.9 Drawings
 - 8.1.10 Any other document forming part of the Bid.
- 8.2 Bidders are expected to examine carefully the contents of all the above documents.
- Failure to comply with the requirements of the Bid submission will be at the Bidder's own risk. Bids that are not substantially responsive to the requirements of the Bidding document will be rejected. Prior to the last date of submission of the Bid, the Employer may, for any reason whatsoever, modify the Bid by issuing a corrigendum/addendum, which will become a part of the Bidding document. No modification of the Bid shall be permissible after the last date of submission, whatsoever may be the reason.
- PHPA-I may, at its discretion, extend the deadline for submission of Bid, if considered necessary.
- 9 Clarification of Bidding Document**
- 9.1 Any prospective Bidder requiring any clarifications of the Bidding Document ***may notify PHPA-I in writing to the address mentioned in the BDS, not later than 10 days prior to the date of bid submission.*** If required, PHPA-I will issue a clarification in writing not later than **5 days** prior to the deadline for submission of the Bid. All such clarification shall form part of the Bidding Document and shall accompany the Bidder's Bid. Written copies of PHPA-I's response (including a description of the enquiry but without identifying its source) shall be uploaded on PHPA-I's website (www.phpa1.gov.bt).
- 9.2 Bidders or their official representatives may attend a pre-bid meeting, if any, which will take place at the time and place stated in the BDS.
- 10 Amendment of Bidding Document**
- 10.1 At any time but not later than 5 days prior to the deadline for submission of Bids, the PHPA-I may, for any reason, whether at its own initiative or in response to a clarification requested by prospective Bidders, modify the Bidding Document by the issuance of a Corrigendum/Addendum through the PHPA-I's website.

PREPARATION OF BID

- 11 Language of Bid**
- Bid prepared by the Bidder and all correspondence and documents relating to the Bid exchanged by the Bidder and the PHPA-I shall be written in the English language only.
- 12 Documents Comprising the Bid**
- 12.1 Bid to be prepared and submitted by the Bidder shall comprise the following: -



- 12.1.1 Complete Bidding document, forms, and schedules used thereto, duly filled in and signed wherever required without altering the formats;
 - 12.1.2 Bid Security in accordance with clause 16 of ITB. The Bids that do not contain the required Bid Security will be summarily rejected;
 - 12.1.3 Valid Trade license and latest Tax Clearance Certificate & Pre-Contract Integrity Pact Statement;
 - 12.1.4 Abstract programme for completing various works in MS Excel or MS Project;
 - 12.1.5 List of Machinery, Equipment, tools, and Manpower proposed to be deployed;
 - 12.1.6 Site organization proposed for this work;
 - 12.1.7 Methodology proposed to be adopted for this work;
 - 12.1.8 Any other relevant material/information.
- 12.2 For Bid submissions, the bidders may refer to the eligibility criteria and other mandatory data prior to the submission of bids.
- 13 Bid Price**
- 13.1 Unless stated otherwise in the Bidding Document, the Contract shall cover the entire scope of work as described in Clause 2 of ITB, based on the schedule of unit rates/prices submitted by the Bidder. For any item in the Bill of Quantities (BoQ) where the Bidder has not entered a rate or price, or has quoted zero, the Bidder shall nonetheless be required to execute the item. However, no separate payment shall be made by PHPA-I for such items, and the cost shall be deemed to be included in the rates/prices quoted for other items in the BoQ.
- 13.2 Bidders are advised to quote a rate for all the items in the BoQ.
- 13.3 In accordance with the BDS, the rates quoted by the Bidder may be subjected to adjustment during the performance of the Contract as per the provisions of GCC, Clause-64.
- 13.4 The Bidders shall quote its final all-inclusive net price, including all incidental costs, for carrying out the Contract. All duties, taxes including Goods & Services Tax (applicable GST rates in Bhutan) and other levies payable by the Contractor under the Contract, or for any other cause prior to the deadline for submission of Bids, shall be included in the rates, prices and total Bid price submitted by the Bidder.
- 14 Currencies of Bid and Payment**
- The unit rate shall be Ngultrum (Nu./Rs.), and the payment shall be made in the currency of the Bid.
- 15 Bid Validity Period**
- 15.1 Bids shall remain valid for acceptance for a period specified in the BDS.
- 15.2 In exceptional circumstances, prior to expiry of the original Bid validity period, the PHPA-I may request the Bidder for a specified extension in the period of validity along with the validity of the Bid Security. The request and the responses thereto shall be made in writing. A Bidder may refuse the request without forfeiting his Bid Security. A Bidder agreeing to the request will not be



required/ nor permitted to modify his Bid, but will be required to extend the validity of his Bid security correspondingly. The provision of ITB Clause 16.3, regarding discharge and forfeiture of Bid security, shall continue to apply during the extended period of Bid validity.

16 Bid Security

16.1 Bidders shall furnish as part of their Bid, a Bid Security in original, denominated in the currency and amount specified in BDS, in a separate sealed envelope.

16.1.1 Any Bid not accompanied by Bid Security of specific value and validity shall be rejected by PHPA-I as *non-responsive*.

16.1.2 The Bid Securities of the unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder furnishing the Performance Security and signing the Contract Agreement, in any event, not later than 30 days after the expiry of the validity of the Bid.

16.2 Bid Security shall be in any of the following forms:

16.2.1 Demand Draft issued by any Financial Institution of Bhutan/India and drawn in favor of **Punatsangchhu-I Hydroelectric Project Authority** payable at Bank of Bhutan (Wangdue) and State Bank of India, Jaigaon. If the demand draft validity is less than the bid security validity, PHPA-I shall encash the said draft after opening of the bid prior to expiry of its validity.

16.2.2 Unconditional Bank Guarantee (BG) issued by any Financial Institution of Bhutan or State Bank of India or any other Scheduled Bank in Bhutan/India and pledged in favour of the **Punatsangchhu-I Hydroelectric Project Authority**. The Proforma for Bank Guarantee shall be in accordance with the Proforma for bid security (Form 2) enclosed at Section-VII of this Bidding Document.

16.3 Bid Security is liable to be forfeited if:

16.3.1 Bid is withdrawn during the period of its validity, after opening of Bids.

16.3.2 Correction of Bid price is not accepted by the Bidder pursuant to ITB Clause 29.

16.3.3 Successful Bidder fails to sign contract agreement and furnish Performance Security within the specified time limit.

17 Bidding Condition

Bidders shall submit their Bids complying with the requirement of the Bidding Document. Any deviation from the Bidding document shall be liable for rejection.

18 Format for Submittal

Format for submittal of related information for Bid shall be as per the Section VII - Forms, and shall be strictly adhered to.

19 Signing of Bid

19.1 Bidders shall prepare one original of the documents comprising the Bid as described in ITB Clause 12, bound with the volume containing the Forms of Bid. The Bid, typed or written in indelible ink and shall be signed by a person duly authorized. ***Proof of authorization shall be furnished in the form of a written Power of Attorney (in original) along with the Bid.***



All pages of the Bid and entries where amendments have been made shall be initialed by the person signing the Bid.

- 19.2 The complete Bid shall be without alternations or erasures, except those to accord with instructions issued by the PHPA-I, or as necessary to correct errors made by the Bidder, in which case such corrections shall be initialed by the person signing the Bid.

SUBMISSION OF BID

20 Sealing and Marking of Bid.

- 20.1 The bids shall be submitted in one original and one copy enclosed in an inner envelope, duly marking the envelopes as "original" and "copy" as appropriate.

- 20.2 The bids shall be submitted in a **Single-Stage: Two-Envelope system, Techno-Commercial Bid** along with valid Bid Security in **Envelope-I** and **Price Bid (Envelope-II)** enclosed together in a larger outer envelope and shall be marked as "Confidential" and shall be addressed to:

20.2.1 Superintending Engineer (Contracts & Procurement Circle), PHPA-I, Wangdue, Bhutan.

20.2.2 bear the following identification:

20.2.2.1 Bid for ".....".

20.2.2.2 **"DO NOT OPEN BEFORE"** the date & time specified in Bidding Data Sheet.

- 20.2.3 The inner envelopes shall clearly identify the envelope number and the contents of the envelopes detailed as under:

a) Envelope- I

- i. Valid Bid Security
- ii. Duly filled Proforma forms
- iii. Complete Bidding document specified under Clause 12 along with all amendments as mentioned in ITB Clause 10 except Price Bid
- iv. Envelope shall be superscribed as "Techno-Commercial Bid".

b) Envelope - II

- i. Duly filled price/rate of items in the BoQ
- ii. Envelope shall be superscribed as "Price Bid".

- 20.2.4 If the outer envelope is not sealed and marked as above, PHPA-I shall assume no responsibility for the misplacement or premature opening of the Bid.

21 Deadline for Submission of Bids.

- 21.1 The Bids must be submitted within the time and date specified in BDS.

- 21.2 PHPA-I may, at its discretion, extend the deadline for submission of Bids by issuing an amendment, in which case all rights and obligations of the PHPA-I and the Bidders previously subject to the original deadline shall thereafter be subject to the new deadline, as extended.



22 Late Submission of Bid

Any Bid received by the PHPA-I after the deadline for submission of Bids prescribed by the PHPA-I in ITB Clause-21 shall be returned unopened (outer envelope shall be opened to know the Bidder's address).

23 Modification and Withdrawal of Bid

- 23.1 Bidders may modify or withdraw their Bid before the deadline for submission of Bid by giving modification or withdrawal notice in writing to PHPA-I.
- 23.2 Bidder's modifications or notice of withdrawal shall be prepared, sealed and clearly marked as "Modification" or "Withdrawal" as appropriate and delivered/submitted prior to deadline for submission of Bid in accordance with ITB Clause 21.
- 23.3 No Bid will be modified after the deadline for submission of the Bid. Withdrawal of the Bid between deadline for submission and expiry of Bid validity will result in forfeiture of Bid Security pursuant to ITB Clause 16.3.

24 Bidding Document

Entire set of Bidding Document shall be submitted after filling it wherever required & signing each page as a token of acceptance of all terms & conditions of the Bidding Document. No portion of the Bidding Document shall be retained by the Bidder.

BID OPENING AND EVALUATION

25 Bid Opening

- 25.1 PHPA-I shall open the Techno-Commercial Bids, including modifications made pursuant to ITB Clause 23, in the presence of the Bidders or their authorized representatives who may choose to attend at a time & place mentioned in the BDS.
- 25.2 Envelopes marked "WITHDRAWAL" shall be opened and read out first. Bids for which an acceptable notice of withdrawal has been submitted pursuant to ITB Clause 23, shall not be opened.
- 25.3 The Bidder's name, modifications, withdrawals, presence or absence of Bid Security and other such details as considered appropriate will be announced at the time of opening Techno-Commercial Bids. The record of the Bid opening including information disclosed will be preserved for office records.
- 25.4 The "Price Bid" (Envelope II) of only those bidders whose Techno-Commercial bids have been ascertained to be substantially responsive to the requirement of the Bidding Document shall be opened later. The date, time and venue for the opening of the price bids shall be notified separately to the eligible and technically qualified bidders, who wish to be present.

26 Confidentiality of Bid

- 26.1 After the public opening of Bids, information relating to the examination, clarification, evaluation and comparison of Bids and recommendations concerning the Award of Contract shall not be disclosed to Bidders or other persons not officially concerned with such process.



- 26.2 Any effort by a Bidder to influence the PHPA-I in the process of examination, clarification, evaluation, comparison of Bids, and in decisions concerning Award of Contract, may result in the rejection of his Bid.

27 Clarification of Bid

To assist in the examination, comparison and evaluation of Bid, the PHPA-I may ask Bidders for clarification of the Bids, including a breakdown of unit rate. But no change in price or substances of Bid will be sought, agreed or permitted except as required to confirm the correction of arithmetic errors discovered by PHPA-I in the evaluation of Bids. The request for clarification and its response shall invariably be in writing.

28 Determination of Responsiveness

- 28.1 Prior to the detailed evaluation of the Bid, it will be determined whether each Bid:

- 28.1.1 has been properly signed;
- 28.1.2 is accompanied by required bid security;
- 28.1.3 is substantially responsive to the requirements of the Bidding Document;

- 28.2 A substantially responsive document is one which conforms to all the terms, conditions & specifications without material deviation or reservation which:

- 28.2.1 affects in any substantial way the quality or scope of the Work;
- 28.2.2 limits in any substantial way the scope of Work;
- 28.2.3 is inconsistent with the Bidding Document;
- 28.2.4 affects unfairly the competitive position of other Bidders.

- 28.3 Bids not found substantially responsive are liable to be rejected. Conditions if added by the Bidder, which have adverse bearing on the cost and scope of tendered work shall make the Bid liable to disqualification.

29 Corrections of Errors in Bid

- 29.1 The price bids shall be checked by the Employer for any arithmetic errors in computation and summation. Errors will be corrected by the Employer as follows:

- 29.1.1 where there is a discrepancy between the rate in figures and words, the rate in words will govern; and
- 29.1.2 where there is a discrepancy between the unit rate and the total amount derived from the multiplication of the unit rate and the quantity, the unit rate as quoted will govern and the total amount shall be corrected unless in the opinion of the Employer, there is an obvious misplacement of the decimal point in the unit rate in which case the total amount as quoted shall govern and the unit rate shall be corrected.
- 29.1.3 if there is an error in a total corresponding to the addition or subtraction of sub-totals, the sub-totals shall prevail and the total shall be corrected.



- 29.1.4 If the Bidder does not quote for any item, it is presumed that he will execute the quantity mentioned in the BoQ free of cost and he has covered the price of this item in rate of other items quoted by him.
- 29.2 If the Bidder does not accept the corrected amount of Bid, his Bid will be rejected and the Bid security will be forfeited.

30 Evaluation and Comparison of Bid

- 30.1 PHPA-I will only evaluate and compare the Bids determined to be substantially responsive.
- 30.2 In evaluating Bids, PHPA-I will determine, for each Bid, the Evaluated Bid Price by adjusting the Bid Price as follows:
- 30.2.1 making any correction for errors;
 - 30.2.2 making an appropriate adjustment for any discount and;
 - 30.2.3 making an appropriate adjustment for acceptable quantifiable variations or deviations.
- 30.3 If the Bid price of the bidder appears abnormally low or seriously unbalanced (**below or above 20% of the estimated value**), PHPA-I shall eliminate the bid (s) from the further evaluation.
- 30.4 PHPA-I reserves the right to accept or reject any variation, deviation or alternative offers. Variations, deviations, alternative offers and other factors which are in excess of the requirements of the Bidding Document or otherwise result in the accrual of unsolicited benefits to PHPA-I shall not be taken into account in Bid evaluation.
- 30.5 PHPA-I will carry out a detailed technical evaluation of the Bids in order to determine whether the technical aspects are in accordance with the requirements. In order to reach to such determination, PHPA-I will examine and compare the technical aspects of the Bid s on the basis of the information provided by the Bidders.
- 30.6 Supplied overall completeness and compliance with the General Technical Specifications and Drawings as specified in Section VI- General Technical Specification; suitability of the Works/ Services offered in relation to the environmental and climatic conditions prevailing at the Site. The Bid that does not meet minimum acceptable standards of completeness, consistency and detail will be rejected as non-responsive.
- 30.7 All other considerations being equal, preference shall be given to the Bhutanese bidder to allocate the work.

31 Qualification of the Bidder

- 31.1 PHPA-I shall determine to its satisfaction whether the Bidder selected is having the lowest evaluated responsive Bid, meet the terms of the qualification requirements stipulated in the BDS and have the capacity and capability to perform the Contract.
- 31.2 The determination shall be based upon an examination of the documentary evidence, including the authenticity of the Bidder's qualifications and capacity & capability submitted by the Bidder.



AWARD OF CONTRACT

32 Award Criteria

PHPA-I will award the Contract to the Bidder whose Bid has been determined to be substantially responsive to the Bidding Document and has been evaluated as the lowest Bid.

33 PHPA-I's Right to accept any Bid and or to reject any or all Bids

PHPA-I reserves the right to accept or reject any Bid, and to annul the Bidding process and reject all Bids, at any time before award of the Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the PHPA-I's action.

34 Notification of Award

34.1 Prior to the expiry of the Bid validity period prescribed or any extension thereof, PHPA-I will notify the successful Bidder in writing that his Bid has been accepted.

34.2 This notification letter shall be issued to the successful Bidder by the PHPA-I in Form (hereinafter and in the Conditions of Contract called the "Letter of Award") in duplicate and will state the sum that PHPA-I will pay to the successful Bidder in consideration of the execution, and completion of the Works by the successful Bidder as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").

35 Performance Security

35.1 Within **15 days** of the issue of the letter of award by PHPA-I, but not later than the date of the signing of the Agreement, the successful Bidder shall furnish to the PHPA-I, a Performance Security in the form of a Bank Guarantee or Demand Draft for an amount equal to **10%** of the Contract Price.

35.2 Performance Security provided by the successful Bidder in the form of a Bank Guarantee or Demand Draft shall be in favour of PHPA-I issued by any Financial Institution in Bhutan/India. Bank Guarantee shall be on the Proforma (Form 3) attached at Section-VII of this bidding document.

36 Signing of the Contract

36.1 Upon submission of the Performance Security as per ITB Clause 35, and within **15 days** of issue of the Letter of Award, the successful Bidder or his authorized representative shall attend the office of the **Superintending Engineer (C&P Circle), PHPA-I, Bjimthangkha, Bhutan** for the signing of the Contract Agreement on a date and time mutually agreed upon, or as specified in the Letter of Award.

36.2 In case the successful Bidder fails to sign the Contract Agreement within the deadline specified above, it shall lead to cancellation of the award and forfeiture of Bid Security.



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SECTION III
BID DATA SHEET



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BID DATA SHEET

The following Bid Data for the Work to be procured shall amend and/or supplement the Clauses in the Instruction to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in the ITB.

ITB Clause Reference	Data
General	
1. Name of work	Temporary Re-Alignment of Wangdue-Tsirang National Highway (NH) - Widening & Blacktopping of road from BHU to STP-NH Junction
3.5 A Bidder shall be excluded if	If the Contract has been terminated by the PHPA-I due to fundamental breach of Contract by the Contractor in last 2 years prior to submission of the Bid.
Bidding Document	
9.1 Clarification on Bidding Document	Employer's address for clarification in writing: <i>Superintending Engineer (C&P), Punatsangchhu-I Hydroelectric Project Authority (PHPA-I), Bjimthangkha, Wangdue Email: secontracts@phpa1.gov.bt</i>
9.2 Pre-bid Meeting	Not applicable
Preparation of Bids	
13 Bid Price	Price quoted by Bidder shall remain firm & not subject to adjustment during the performance of the Contract.
14 Currency of Bid and Payment	Currencies of Bid shall be Ngultrum (Nu.)/ Rupee (Rs.)
15 Bid Validity Period	The bid shall remain valid up to 90 days from the deadline for submission of a bid.
16 Bid Security	Bid Security amount is Nu./Rs. 1,200,000.00 and shall remain valid for 30 days beyond the validity period of the Bids , as extended, if applicable, in accordance with ITB Sub-Clause 15.2
Submission of Bids	
20 Sealing and Marking of Bids	The Employer's address for the purpose of Bid submission is: <i>Superintending Engineer (C&P), PHPA-I, Bjimthangkha, Wangdue, Bhutan OR Liaison Office, PHPA-I, Phuntsholing, Chhukha</i>
21 Deadline for bid	The deadline for submission of bids shall be on 02.02.2026 at



submission	1300 Hrs. (BST). Bids shall be received at the office of SE(C&P), PHPA-I, Bjimthangkha, Wangdue
Bid opening and Evaluation	
25 Bid opening	The bid opening shall take place on 05.02.2026 at 1430 Hrs. (BST) in the O/o Superintending Engineer (C&P), PHPA-I, Bjimthangkha, Wangdue.
30 Evaluation and Comparison of Bids & 31 Qualification of the Bidder	<p>The following qualification requirement has to be met by the Bidder:</p> <p>Financial</p> <ol style="list-style-type: none"> 1. Average turnover for any 3 years of last 5 years preceding the last date of bid submission shall be equal to Nu./Rs 47 million or more. 2. The Bidder must have credit line facilities in the relevant form issued by any Banks or Financial Institutions in Bhutan/India for at least Nu./Rs. 24 million. <p>Technical</p> <ol style="list-style-type: none"> 1. Experience in having completed Road work during the last 7 years as below <ol style="list-style-type: none"> i. 1 work of value not less than Nu./Rs. 47 million, OR ii. 2 road works each of value not less than Nu./Rs 35 million, OR iii. 3 road works each of value not less than Nu./Rs 24 million and submit at least one Completion Certificate of the above work issued by the previous client(s). Such a Certificate shall indicate the value, date, and site of works, and shall specify whether they were successfully completed. 2. The essential construction equipment to be made available for the Contract by the Bidder shall be: <ol style="list-style-type: none"> a. Excavator/Payloader – 1 No b. Road roller- 1 No c. Truck – 1 No d. Air compressor – 1 No. e. Survey equipment – 1 No <p>The bidder is required to furnish a document to prove</p>



	<p>ownership of the equipment. In case of hire, the agreement/consent letter along with proof of ownership with the lessor shall be submitted.</p> <p>3. The skilled and experienced manpower required for the timely and quality execution of the work to be made available for the Contract by the Bidder shall be:</p> <ol style="list-style-type: none"> One Graduate Engineer (Civil) with a minimum of 3 years of work experience in a similar field. One Site Supervisor with a minimum 3 years of experience in similar work. <p>CV of the personnel shall be submitted.</p>
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SECTION IV

GENERAL CONDITIONS OF CONTRACT



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DEFINITIONS AND INTERPRETATIONS

1 Definitions

- 1.1 In the Contract, as hereinafter defined, the following words and expressions shall have the meanings hereby assigned to them, except where the context otherwise requires:
- 1.1.1 'PHPA-I'/'Project Authority' means the Punatsangchhu-I Hydroelectric Project Authority and the legal successor in title to the PHPA-I who will employ the Contractor.
 - 1.1.2 "RGoB" means the Royal Government of Bhutan.
 - 1.1.3 "BDS" means Bid Data Sheet.
 - 1.1.4 "Tender/Bid, tenderer/bidders" means synonymous throughout this Contract document.
 - 1.1.5 'Contractor'/'Supplier' means the person or persons, firm or company, group of firms or Joint Venture, whose bid has been accepted by the PHPA-I and includes the Contractor's personal representatives, successors and permitted assigns.
 - 1.1.6 Employer/Department/Authority shall mean Punatsangchhu-I Hydroelectric Project Authority and include a duly authorized representative or any other person empowered or any other person empowered on behalf of PHPA-I to discharge all or any of its functions.
 - 1.1.7 Accepting Authority shall mean the Managing Director of Punatsangchhu-I Hydroelectric Project Authority or his authorized nominee.
 - 1.1.8 "Engineer-in-Charge" (EIC) means the Engineer-in-Charge appointed from time to time by the PHPA-I and notified in writing to the Contractor to act as the Engineer-in-Charge for the purposes of the Contract.
 - 1.1.9 "Engineer-in-Charge's Representative" means any Engineer or assistant of the Engineer-in-Charge appointed from time to time by the PHPA-I or the Engineer-in-Charge to perform the duties set forth in Clause-2, hereof, whose authority shall be notified in writing to the Contractor by the Engineer-in-Charge.
 - 1.1.10 "Works" shall include both Permanent Works and Temporary Works.
 - 1.1.11 "Temporary works" means all temporary works of every kind required in or about the execution or maintenance of Works.
 - 1.1.12 "Permanent Works" means the permanent works to be executed and maintained in accordance with the Contract.
 - 1.1.13 "Contract" means the Conditions Governing the Contract, Technical Specifications, Drawings, priced Bill of Quantities, Letter of Award, and the Contract Agreement.
 - 1.1.14 "Contract Price" means the aggregate price payable to the Contractor as specified in the Contract at the time of award.



- 1.1.15 "Constructional Plant", "Plant and Equipment" or "Machinery" means and include plant, equipment, machinery, tools, appliances, other implements of all description or things of whatsoever nature required in or about the execution, or maintenance of the Works but does not include materials or other things intended to form or forming part of the Permanent Works.
- 1.1.16 "Specifications" means the Technical Specifications and other Specifications referred to in the Bidding Documents and any modification thereof or addition thereto or deletion therefrom as may, from time to time, be furnished/ decided by PHPA-I and/or submitted by the Contractor and approved in writing by the Engineer-in-Charge.
- 1.1.17 "SBRW" shall mean the latest 'Specifications for Building and Road Works' of the Ministry of Infrastructure and Transport, RGoB, Thimphu.
- 1.1.18 "Drawings" means the drawings referred to in the Specifications and any modification of such drawings approved in writing by the Engineer-in-Charge and such drawings, as may, from time to time, be furnished by PHPA-I and/or submitted by the Contractor and approved in writing by the Engineer-in-Charge.
- 1.1.19 Special Conditions to Contract referred to in these conditions shall mean relevant schedule(s) annexed to these tender documents or the standard schedule mentioned in Section V with amendments thereto, if any.
- 1.1.20 "Site" means the land and other places on, under, in or through which the Permanent Works or Temporary Works, designed by the Engineer-in-Charge are to be executed and any other lands and places provided by the PHPA-I for the purposes of working space or any other purpose as may be specifically designated in the Contract or subsequently approved as forming part of site.
- 1.1.21 "Approved" means approved in writing, including subsequent written confirmation of previous verbal approval, and "approval" means approval in writing, including as aforesaid.
- 1.1.22 "Director (Technical)" means the Chief of Engineering of the Works or his successor and to whom the Engineer-in-Charge reports.
- 1.1.23 "Managing Director" means the Technical and Administrative head of the Project.
- 1.1.24 "GoI" means Government of India.
- 1.1.25 "Sub-Contractor" means the party or parties having a direct Contract with the Contractor and to whom any part of the Contract has been sublet by the Contractor with the consent, in writing, of the Engineer-in-Charge.
- 1.1.26 "Manufacturer" means the party proposing to design and/or manufacture the equipment and materials as specified, complete or in part.



- 1.1.27 "Letter of Award" means the letter from the PHPA-I conveying acceptance of the bid subject to such reservations as may have been stated therein.
- 1.1.28 Metric system shall be followed in all interpretation and execution of Works under this Contract. Any conversion found necessary shall be in accordance with the figures given in 'Indian Standard', IS 786-1967 and subsequent revision(s) of this Standard.
- 1.1.29 "Day" means a day from midnight to midnight.
- 1.1.30 "Month" means from the beginning of a given date of a calendar month to the end of the preceding date of the next calendar month.
- 1.1.31 "Week" means seven consecutive days.
- 1.1.32 "Quarter" means a period of three consecutive months starting from January, April, July and October i.e., January to March, April to June, July to September, and October to December.
- 1.1.33 "Ngultrum" means Bhutanese Currency.
- 1.1.34 "Rupee" means Indian Currency
- 1.1.35 Words in the singular number shall include the plural number and vice-versa where the context so requires. "He" shall include "She" and vice-versa.
- 1.1.36 "Cost" means all expenditure properly incurred or to be incurred, whether on or off the site, including overhead and other charges allocable thereto, but does not include any allowance for profit.
- 1.1.37 The "Goods" means all the equipment/machinery's accessories and/or other materials, etc., which the Contractor is required to supply to PHPA-I under the scope of the Contract for execution of all works in totality.
- 1.1.38 "Services" means services ancillary to the supply of Goods, such as transportation and insurance, and any other incidental services such as installation, performance of on-site erection, testing, painting, commissioning for the supplied goods, training, and other such obligations of the Contractor covered under the Contract.
- 1.1.39 Retention money & security deposit are synonymous.
- 1.1.40 Defects Liability Period means the period of validity of warranties given by the Contractor commencing at the completion of the Works or a part thereof, if separate completion of the Works for such part has been provided in the Contract, during which the Contractor is responsible for defects with respect to the Works



ENGINEER-IN-CHARGE AND ENGINEER-IN-CHARGE'S REPRESENTATIVE(S)

2 Duties and Powers of Engineer-in-Charge and Engineer-in-Charge's Representative(s)

- 2.1 The Engineer-in-Charge shall carry out such duties in issuing decisions, Certificates and orders as are specified in the Contract.
- 2.2 The Engineer-in-Charge's representative(s) shall be responsible to the Engineer-in-Charge, and his duties are to watch and supervise the works and to test and examine any materials to be used or workmen employed in connection with the Works. He shall have no authority to relieve the Contractor of any of his duties or obligations under the Contract nor, except as expressly provided hereunder or elsewhere in the Contract, to order any Work involving delay or any extra payment by the Engineer-in-Charge, nor to make any variation of or in the Works.
- 2.3 The Engineer-in-Charge may, from time to time in writing, delegate to the Engineer-in-Charge's Representative(s) any of the powers and authorities vested in the Engineer-in-Charge and shall furnish to the Contractor a copy of all such written Delegation of Power and Authorities. Any written instructions or approval given by the Engineer-in-Charge's Representative(s) to the Contractor within the terms of such delegation, but not otherwise, shall bind the Contractor as though it had been given by the Engineer-in-Charge. Provided always as follows:

Failure of the Engineer-in-Charge's Representative(s) to disapprove any Work or materials shall not prejudice the powers of the Engineer-in-Charge thereafter to disapprove such Work or materials and to order the pulling down, removal or breaking up thereof.

- 2.4 If the Contractor is dissatisfied by reason of any decision of the Engineer-in-Charge's Representative(s), he shall be entitled to refer the matter to the Engineer-in-Charge, who shall thereupon confirm, reverse or vary such decision.

3 Assignment

The Contractor shall not assign the Contract or any part thereof, or any benefit or interest therein or thereunder, otherwise than by a charge in favor of the Contractor's bankers of any money due or to become due under this Contract, without the prior written consent of the PHPA-I.

4 Sub-letting

The Contractor shall not sub-let the whole of the Works. Except where otherwise provided by the Contract, the Contractor shall not sub-let any part of the Works without the prior written consent of the Engineer-in-Charge, which shall not be unreasonably withheld, and such consent, if given, shall not relieve the Contractor from any liability or obligation under the Contract and he shall be responsible for the acts, defaults and neglects of any sub-Contractor, his agents, Employees or workmen as fully as if they were the acts, defaults or neglects of the Contractor, his agents, employee or workmen. Provided always that the provision of labour on a piece work basis shall not be deemed to be a sub-letting under this Clause.



CONTRACT DOCUMENTS

5 Language and Law

- 5.1 The Contract documents shall be drawn up in English. All correspondence and documents relating to the bid, exchanged by the bidder and the PHPA-I, shall be submitted in the prescribed form in English. All supporting documents and printed literature in connection with the bid shall be preferably in English.

The law to which the Contract is to be subject and according to which the Contract is to be construed shall be the law for the time being in force in Bhutan and within the jurisdiction of Thimphu courts.

5.2 Documents Mutually Explanatory

Several documents forming the Contract are to be taken as mutually explanatory of one another, but in case of ambiguities or discrepancies, the documents shall take precedence in the order in which they are set out in the Proforma of Agreement (Forms).

6 Drawings

6.1 Custody of Drawings

The drawings shall remain in the sole custody of the Engineer-in-Charge, but 2 copies thereof shall be furnished to the Contractor free of charge. The Contractor shall make and provide at his own expense, any further copies required by him.

6.2 One copy of drawings to be kept on site

One copy of the drawings, furnished to the Contractor as aforesaid, shall be kept by the Contractor on the Site and the same shall, at all reasonable times, be available for inspection and use by the Engineer-in-Charge and the Engineer-in-Charge's Representative and by any other person authorized by the Engineer-in-Charge in writing.

7 Further Drawings and Instructions

The Engineer-in-Charge shall have full power and authority to supply to the Contractor from time to time, during the progress of the Works, such further drawings and instructions as shall be necessary for the purpose of the proper and adequate execution and maintenance of the Works. The Contractor shall carry out and be bound by the same.

GENERAL OBLIGATIONS

8 Contractor's General Responsibilities

- 8.1 The Contractor shall, subject to the provisions of the Contract, and with due care and diligence, execute and maintain the Works and provide all labour, including the supervision thereof, materials, constructional plant and all other things, whether of a temporary or permanent nature, required in and for such execution and maintenance, so far as the necessity for providing the same is specified in or is reasonably to be inferred from the Contract.



- 8.2 The Contractor shall take full responsibility for the adequacy, stability and safety of all site operations and methods of construction, provided that the Contractor shall not be responsible, except as may be expressly provided in the Contract, for the design or specification of the Permanent Works, or for the design or specification of any Temporary Works prepared by the Engineer-in-Charge.
- 8.3 The Contractor shall promptly inform the Engineer-in-Charge of any error, omission, fault and other defects in the design of or specifications for the Works which are discovered when reviewing the Bidding Document or in the process of execution of the Works.
- 8.4 Where no specifications have been laid down, the materials used and the Work done shall conform to the relevant Specifications for Building and Road Works (latest) or I.S. Code or as directed by the Engineer-in-Charge.
- 8.5 All instructions and orders given by the Engineer-in-Charge at Site are to be maintained in the **Site Instruction Book** and shall be taken to have been conveyed to the Contractor for his compliance.
- 8.6 The Contractor must have a site office to receive normal correspondence between 9.00 AM and 5.30 PM on working days and urgent correspondence at any time on all days.

9 Contract Agreement

The Contractor shall, when called upon so to do, enter into and execute a Contract Agreement, to be prepared and completed at the cost of the PHPA-I in the Proforma annexed, with such modification as may be necessary.

10 Performance Security

- 10.1 For the due performance of the Contract, the Contractor shall furnish to the PHPA-I a Performance Security in the form of Bank Guarantee/Demand Draft. The amount of the Bank Guarantee/Demand Draft shall be **10% of the Contract Price**. The bank guarantee/demand draft shall be issued by any Financial Institutions in Bhutan/India. The cost of complying with the requirements of this Clause shall be borne by the Contractor unless the Contract otherwise provides.
- 10.2 The proceeds of the Performance Security shall be payable to PHPA-I as compensation for any loss, resulting from Contractor's failure to complete his obligation under the Contract.
- 10.3 The Performance Security shall be valid until **30 days** after the issue of Completion Certificate.
- 10.4 Should the Contract period, for whatever reasons be extended, the Contractor, on receipt of written request from the Engineer-in-Charge, shall at his own cost get the validity period of Bank Guarantee in respect of Performance Security furnished by him extended and shall furnish the extended/revised Bank Guarantee to the Engineer-in-Charge before the expiry date of the Bank Guarantee originally furnished.



- 10.5 Performance Security shall not be refunded till the Contractor produces NOC from all concerned including the Labour and Environmental officers. As soon as the work is virtually complete, the Contractor shall apply for the Clearance Certificate to the Labour/Environmental Officer under intimation to the Engineer-in-Charge. On receipt of the said communication, the Engineer-in-Charge shall write to the Labour/Environmental Office to intimate if any complaint is pending against the Contractor in respect of the work. If no complaint is pending on record after completion of the work and/or no communication received from the Labour/Environmental Officer to this effect till 6 months after the date of completion, it will be deemed to have received the Clearance Certificate and the security deposit will be released if otherwise due.

11 Inspection of Site

The Contractors are advised to inspect and examine the Site and its surroundings and information available in connection therewith and to have satisfied himself, so far as is practicable, before submitting his Bid, as to the form and nature thereof, including the subsurface conditions, the Hydrological and climatic conditions, the extent and nature of work, and materials necessary for the completion of the Works, means of access to the Site and the accommodation he may require and, in general, shall be deemed to have obtained all necessary information, subject as above mentioned, as to risks, contingencies and all other circumstances which may influence or affect his Bid. The costs of visiting the site shall be at the bidder's own expense.

12 Sufficiency of Bid

The Contractor shall be deemed to have satisfied himself before bidding as to the correctness and sufficiency of his Bid for the Works and of the rates stated in the priced Bill of Quantities and the Schedule of Rates, if any, which Bid rates shall, except in-so-far as it is otherwise provided in the Contract, cover all his obligations under the Contract, and all matters and things necessary for the proper execution/completion and maintenance of all the permanent works.

13 Works to be to the Satisfaction of Engineer-in-Charge

Save in-so-far as it is legally or physically impossible the Contractor shall execute and maintain the Works in strict accordance with the Contract to the satisfaction of the Engineer-in-Charge and shall comply with and adhere strictly to the Engineer-in-Charge's instructions and directions on any matter whether mentioned in the Contract or not, touching or concerning the Works. The Contractor shall take instructions and directions only from the Engineer-in-Charge, or, subject to the limitations referred to in Clause-2 hereof, from the Engineer-in-Charge's Representative.

14 Programme to be furnished

- 14.1 Within a period of 15 days, the Contractor shall, after the acceptance of his Bid by PHPA-I, submit to the Engineer-in-Charge for his approval, 2 copies of the detailed **Construction Programme** in MS Excel or MS Project showing the order of sequence and procedure in which he proposes to carry out the Works. The Contractor's programme shall conform to the total time period and completion of the work specified in Clause-40 hereof. The Contractor shall thereafter revise the



programme on a monthly basis (if required) and submit to the Engineer-in-Charge by the first week of the following month.

- 14.2 The detailed construction programme submitted by the Contractor for orderly completion of the Works shall show the planned sequence of operations and the dates for commencement and completion of all salient features of the Works.
- 14.3 The programme shall cover activities on the Site and procurement and delivery activities.
- 14.4 The programme shall be orderly and realistic to meet this requirement and should include a chart of the principal quantities of Work forecast for monthly execution, and a schedule of payments expected to be made to the Contractor by the PHPA-I.
- 14.5 The Contractor shall promptly advise the Engineer-in-Charge of any occurrence requiring substantial revision of the programme, giving a detailed explanation of the cause of the revision, and shall furnish a revised programme within 15 days of such occurrence.
- 14.6 If at any time it should appear to the Engineer-in-Charge that the actual progress of the Works does not conform to the approved programme, the Contractor shall produce, at the request of the Engineer-in-Charge, a revised programme showing the modifications to the approved programme necessary to ensure completion of the Works within the time for completion as defined in Clause-40 hereof.
- 14.7 The submission to and approval by the Engineer-in-Charge or Engineer-in-Charge's Representative of such program or the furnishing of such particulars shall not relieve the Contractor of any of his duties or responsibilities under the Contract.
- 14.8 The Contractor shall, whenever required by the Engineer-in-Charge or Engineer-in-Charge's Representative, also provide in writing, for his information, a general description of the arrangements, such as deployment of modern and efficient machinery, skilled and unskilled labour and methods, which the Contractor proposes to adopt for the execution of Works.
- 14.9 The Contractor shall have to obtain prior approval of the Engineer-in-Charge for the sequence of construction which he proposes to adopt.

15 Contractor's Superintendence

- 15.1 The Contractor shall provide all necessary superintendence during execution of the work and as long thereafter as may be necessary for proper fulfilling of the obligations under the Contract.
- 15.2 The Contractor shall immediately after receiving letter of award, intimate in writing to the Engineer-in-Charge the name, qualification, experience, age, address and other particulars along with Certificates of the Site Engineer to be the In-Charge of the work.
- 15.3 The Engineer-in-Charge shall within 15 days of receipt of such communication intimate in writing his approval or otherwise of Site Engineer of the Contractor.



- 15.4 Any such approval may at any time be withdrawn, and in case of such withdrawal, the Contractor shall appoint another such Site Engineer according to the provisions of this Clause. The decision of the EIC shall be final and binding on the Contractor in this respect.
- 15.5 Such Site Engineer shall be appointed by the Contractor soon after receipt of the approval from the Engineer-in-Charge and shall be available at the site within 15 days of the start of work.
- 15.6 The Site Engineer shall, on receiving reasonable notice from the Engineer-in-Charge, present himself to the Engineer-in-Charge and/or at the site of work, as required, to take instructions. Instructions given to the Site Engineer shall be deemed to have the same force as if these have been given to the Contractor. The Site Engineer representative and/or the Contractor or his responsible authorized agent shall be available at site as well as during recording of measurement of works and whenever so required by the Engineer-in-Charge by a notice as aforesaid and shall also note down instructions conveyed by the Engineer-in-Charge or his designated representative in the site order book and shall affix his signature in token of noting down the instructions and in token of acceptance of measurement.
- 15.7 If the Engineer-in-Charge is convinced that no such Site Engineer or agent is effectively appointed or is effectively attending or fulfilling the provision of this Clause, then the decision of the Engineer-in-Charge as recorded in the site order book and measurement recorded in Measurement Books shall be final and binding on the Contractor.
- 15.8 In case the Site Engineer of the Contractor does not discharge his duties satisfactorily, the Engineer-in-Charge shall have full powers to suspend the work, and the Contractor shall be held responsible for the delay so caused to the work.

16 Contractor's Employees

- 16.1 The Contractor shall provide its employees on the Site in connection with the execution and maintenance of the Works:
- 16.1.1 only such technical assistants as are skilled and experienced in their respective trades and such sub-agents competent to give proper supervision to the work they are required to supervise, and
- 16.1.2 such skilled, semi-skilled and unskilled labour as is necessary for the proper and timely execution and maintenance of the Works.
- 16.1.3 Experienced Safety Officer to maintain and supervise safety requirements at the site of Works. Safety standards shall be followed as provided in these documents.
- 16.2 The Engineer-in-Charge shall be at liberty to object to and require the Contractor to remove forthwith from the Works any person employed by the Contractor in or about the execution or maintenance of the Works who, in the opinion of the Engineer-in-Charge, misconducts himself, or is incompetent or negligent in the proper performance of his duties, or whose employment is otherwise considered by the Engineer-in-Charge to be undesirable and such persons shall not be again employed upon the Works without the written permission of the Engineer-in-Charge.



Any person so removed from the Works shall be replaced as soon as possible by a competent substitute approved by the Engineer-in-Charge.

17 Setting out

- 17.1 The Contractor shall be responsible for true and proper setting out of the works in relation to original points, lines and levels of reference given by the Engineer-in-Charge in writing.
- 17.2 The Contractor shall ensure the correctness thereof and shall carefully protect and preserve all benchmarks, pegs and other things used in setting out the Works.

18 Watching and Lighting

- 18.1 The Contractor shall, in connection with the Works, provide and maintain at his own cost, all lights, guards, fencing and watching when and where necessary or required by the Engineer-in-Charge or the Engineer-in-Charge's Representative, or by any duly constituted authority, for the protection of the Works, or for the safety and convenience of the public or others.
- 18.2 The Contractor shall also be responsible for temporary roadways, footways, guards, fences, caution notices etc., as far as the same may be rendered necessary by reason of the Work for the pedestrians or other traffic and owners/occupiers of the adjacent property and of the public and shall remain responsible for any accidents that may occur on account of his failure to take proper and timely precautions.

19 Care of Works

- 19.1 The Contractor shall take full responsibility for the care of the Works from the date of Commencement of Works until the date of issue of the Completion Certificate for the whole of the Works.
- 19.2 In the event of any loss or damage to the Works or any part thereof, during the period for which the Contractor is responsible for the care thereof, from any cause whatsoever, other than the risks defined in Clauses 19.5 & 19.6 of this Clause, the Contractor, at his own cost, shall rectify such loss or damage so that the permanent works conform in every respect within provision of the Contract to the satisfaction of Engineer-in-charge. The Contractor shall also be liable for any loss or damage to the Works occasioned by him in the course of any operation carried out by him for the purpose of complying with his obligations under Clause-46.
- 19.3 In the event of any loss or damage to the Permanent Works which may occur or arise out of any of the Risks defined in Clause 19.5, the same shall be made good/rectified by the Contractor, if and to the extent required by the Engineer-in-Charge, at the cost of the PHPA-I which sum shall be determined by the Engineer-in-Charge in accordance with Clause 47 and Clause 48.
- 19.4 In the event of any loss or damage which may occur or arise out of any of the risks defined in Clause 19.6, neither party to the Contract shall be liable to the other for any such loss or damage. However, in the event of any loss or damage to the Permanent Works arising as a consequence of the risk(s) defined in Clause 19.6 the same shall be made good/rectified by the Contractor at



the cost of the PHPA-I which sum shall be determined by the Engineer-in-Charge under the provisions of the Contract.

19.5 The PHPA-I's risks are as under:

- 19.5.1 Loss or damage due to the use or occupation by the PHPA-I of any section or part of the Permanent Works except as may be provided for in the Contract.
- 19.5.2 loss or damage to the extent that it is due to the design of the Works other than any part of the design provided by the Contractor.

19.6 Force Majeure/Excepted risks are as under:

- 19.6.1 war, hostilities (whether war be declared or not), invasion, act of foreign enemies, act of public enemies.
- 19.6.2 riot, commotion, disorder, any epidemic/pandemic, strike or lockout by persons other than the Contractor's personnel.
- 19.6.3 Ionizing, radiations or contamination by radio activity from any nuclear fuel, radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly.
- 19.6.4 Pressure waves caused by aerial devices travelling at supersonic speeds.
- 19.6.5 any operation of the forces of nature against which an experienced Contractor could not reasonably have been expected to take precautions.

20 Damage to Persons and Property

The Contractor shall, except if and so far as the Contract provides otherwise, indemnify the PHPA-I against all losses and claims in respect of injuries or damage to any persons or material or physical damage to any property whatsoever which may arise out of or in consequence of the execution and maintenance of the Works and against all claims, proceedings, damages, costs, charges and expenses whatsoever in respect of or in relation thereto except any compensation or damages for or with respect to injuries or damage to persons or property resulting from any act or neglect of the PHPA-I, his agent, Employees or other Contractors, not being employed by the Contractor, or for or in respect of any claims, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto or where the injury or damage was contributed to by the Contractor, his Employees or agents, such part of the compensation as may be just and equitable having regard to the extent of the responsibility of the PHPA-I, its Employees or agents or other Contractors for the damage or injury.

21 Third Party Insurance

- 21.1 Before commencing the execution of the Works, the Contractor, but without limiting his obligations and responsibilities under Clause-20 hereof, shall insure against his liability for any material or physical damage, loss or injury which may occur to any property, including that of the PHPA-I, or to any person, including any employee of the PHPA-I, by or arising out of the



execution of the Works or in the carrying out of the Contract, otherwise, than due to the matters referred to in the provision to Clause- 20 hereof.

22 Accidents or Injury to Workmen

22.1 The PHPA-I shall not be liable for or in respect of any damages or compensation payable according to law in respect or in consequence of any accident or injury to any workman or other person in the employment of the Contractor or any sub-Contractor, save and except an accident or injury resulting from any act or default of the PHPA-I, its agents or Employees. The Contractor shall indemnify and keep indemnified the PHPA-I against all such damages and compensation, save and except as aforesaid, and against all claims, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto.

22.2 On the occurrence of accident arising out of the Works which result in death, or which is so serious as to be likely to result in death, the Contractor shall, within 24 hours of such accident, report in writing to the Engineer-in-Charge and other statutory bodies of the Government the facts stating clearly and in sufficient details the circumstances of such accident and the subsequent action. All other accidents on the Works involving injuries to persons or damage to property other than that of the Contractor shall be promptly reported to the Engineer-in-Charge and other statutory bodies of the Government, stating clearly and in sufficient details of the facts and circumstances of the accidents and the action taken. In all cases, the Contractor shall indemnify the PHPA-I against all loss or damage resulting directly or indirectly from the Contractor's failure to report in the manner aforesaid. This includes penalties or fines, if any, payable by the PHPA-I as a consequence of failure to give notice or failure to conform to the provisions of any Act in regard to such accidents.

22.3 Insurance against Accident, etc., to Workmen

The Contractor shall insure against such liability with an insurer approved by the PHPA-I, which approval shall not be unreasonably withheld, and shall continue such insurance during the whole of the time that any persons are employed by him on the Works and shall, when required, produce to the Engineer-in-Charge or the Engineer-in-Charge's Representative such policy of insurance and the receipt for payment of the current premium. Provided always that, in respect of any persons employed by any sub-Contractor, the Contractor's obligation to insure as aforesaid under this sub-Clause shall be satisfied if the sub-Contractor shall have insured against the liability in respect of such persons in such manner that the PHPA-I is indemnified under the policy, but the Contractor shall require such sub-Contractor to produce to the Engineer-in-Charge or the Engineer-in-Charge's Representative, when required, such policy of insurance and the receipt for the payment of the current premium.

23 Giving of Notices, Payment of Fees and Compliance with Statutes and Regulations, etc.

23.1 Giving of Notices and Payment of Fees

The Contractor shall give all notices and pay all fees required to be given or paid by any Statute, Ordinance, or other Law, or any regulation, or by-law of any local or other duly constituted authority in relation to the execution of Works and by the rules and regulations of all public



bodies and companies whose property or rights are affected or may be affected in any way by the Works.

23.2 Compliance with Statutes, Regulations, etc.

The Contractor shall conform in all respects with the provisions of any such Statute, Ordinance or Law as aforesaid and the regulations or by-laws of any local or other duly constituted authority which may be applicable to the Works and with such rules and regulations of public bodies and companies as aforesaid and shall keep the PHPA-I indemnified against all penalties and liability of every kind for breach of any such Statute, Ordinance or Law, regulation or by-law.

- 23.3 The Contractor shall be fully responsible for compliance with any Notices, payment of any fees, etc. under this Clause.

24 Fossils etc.

All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the Site of the Works shall, as between the PHPA-I and the Contractor, be deemed to be the absolute property of the PHPA-I/RGoB. The Contractor should protect such findings from any damage/theft & notify immediately to the Engineer-in-Charge &/or his authorized representative.

25 Compliance with Tax laws

- 25.1 The Royal Government of Bhutan shall exempt taxes, levies/duties for plant, construction materials & equipment, machineries and services imported for direct use in the construction of the Project. Any procurement made under tax exemption basis shall be liable for tax payment as per the Tax Act of the Kingdom of Bhutan if disposed off in Bhutan.
- 25.2 Any Contractor, sub-Contractor or consultants recruited in connection with the Project will be liable for tax in Bhutan as per the Income Tax Act of Bhutan 2025 and applicable Goods and Services Tax (GST) rates in accordance with the GST Act of Bhutan 2020 and amendment thereof. Further, such recruiting agency shall be responsible for deducting and remitting Tax Deducted at Source (TDS) as per the provision of the said Income Tax Act. For Bhutanese and Indian bidder, a contractor tax of 2% and 5% respectively shall be deducted from the bill (s).
- 25.3 With effect from 1st July 2017, all exports (including ones to Bhutan) are 'zero rated items' under the GST regime in the GoI. Therefore, no reimbursement or costs on account of any tax implications will be admissible. However, in the situation, if the categorization is changed for exports from 'zero rated' to any other slab, the same will be applicable.
- 25.4 The Royal Government of Bhutan shall receive royalty from the Contractor for the timber, boulders, aggregates and other construction materials required from Bhutan for the work.
- 25.5 The Contractor shall obtain necessary permits and deposit royalty with local authorities for supply of such materials required for the work.



26 Interference with Traffic and Adjoining Properties

All operations necessary for the execution of the Works shall, in so far as compliance with the requirements of the Contract permits, be carried on so as not to interfere unnecessarily or improperly with the convenience of the public, or the access to, use and occupation of public or private roads and footpaths to or of properties whether in the possession of the PHPA-I or of any other person. The Contractor shall save harmless and indemnify the PHPA-I in respect of all claims, proceedings, damages, costs, charges and expenses whatsoever arising out of, or in relation to, any such matters in-so-far as the Contractor is responsible there for.

27 Extraordinary Traffic

27.1 Protection of Highways and Bridges

The Contractor shall use every reasonable means to prevent any of the highways or bridges communicating with or on the routes to the Site from being damaged or injured by any traffic of the Contractor or any of his sub-Contractors and, in particular, shall select routes, choose and use vehicles and restrict and distribute loads so that any increase in traffic frequency as will inevitably arise from the moving of plant and material from and to the Site, shall be limited, as far as reasonably possible to arise any unnecessary traffic congestion damage or injury which may be occasioned to such highways & bridges.

27.2 Settlement of Extraordinary Traffic Claims

If during the execution of the Works or at any time thereafter, the Contractor shall receive any claim arising out of the execution of the Works in respect of damage or injury to highways or bridges, he shall immediately report the same to the Engineer-in-Charge and thereafter the PHPA-I shall negotiate the settlement of and pay all sums due in respect of such claim and shall indemnify the Contractor in respect thereof and in respect of all claims, proceedings, damages, costs, charges and expenses in relation thereto. Provided always that if and so far as any such claims or part thereof shall, in the opinion of the Engineer-in-Charge, be due to any failure on the part of the Contractor to observe and perform his obligations under Clause 27.1, then the amount certified by the Engineer-in-Charge to be due to such failure shall be paid by the Contractor to the PHPA-I.

28 Opportunities for other Contractors

The Contractor shall, in accordance with the requirements of the Engineer-in-Charge, afford all reasonable opportunities for carrying out their works to any other Contractors employed by the PHPA-I and their workmen and to the workmen of the PHPA-I and of any other duly constituted authorities who may be employed in the execution on or near the Site of any work not included in the Contract or of any Contract which the PHPA-I may enter into in connection with or ancillary to the Works.

29 Upkeep of Site

- 29.1 During the progress of the Works, the Contractor shall keep the site reasonably free from all unnecessary obstructions and shall store or dispose of any Constructional plant and surplus

materials and clear away and remove from the site any wreckage, rubbish, or Temporary Works no longer required.

- 29.2 In case the Contractor does not keep the area clean and if it is necessary to get the area cleaned, the Engineer-in-Charge shall issue a notice of 48 hours, and in the event of non-compliance by the Contractor, get the area cleaned by some other agency at the cost of the Contractor. In case of rubbish accumulating due to deposition by more than one Contractor, the share of charges to be borne by the Contractors as indicated by the Engineer-in-Charge.

30 Clearance of Site on Completion

On the completion of the Works, the Contractor shall clear away and remove from the Site all Constructional Plant, surplus materials, rubbish, and Temporary Works of every kind, and leave the whole of the site and Works clean and, in a workman, like condition to the satisfaction of the Engineer-in-Charge.

LABOUR

31 Labour

31.1 Engagement of Labour

The Contractor shall make his own arrangements for the engagement of all labour, local or otherwise, and save in-so-far as the Contract otherwise provides, for the transport, housing, feeding, and payment thereof. The Contractor shall not employ in connection with the Works any person who has not completed 18 years of age. No female labour shall be employed on night shifts. The Contractor shall have to arrange permits for the labour/staff for their entry into Bhutan, at their own cost. The Contractor shall recruit local manpower (skilled and unskilled) and use local resources to the extent possible.

31.2 Supply of Water

The Contractor shall, having regard to local conditions, provide on the Site, to the satisfaction of the Engineer-in-Charge or his Representative, an adequate supply of drinking and other water for the use of the Contractor's staff and workmen.

31.3 Alcoholic Liquor & Drugs

The Contractor shall not, otherwise than in accordance with the Statutes, Ordinances and Government Regulations or orders for the time being in force, import, sell, give, barter or otherwise dispose of any alcoholic liquor, or drugs, or permit or suffer any such importation, sale, gift, barter or disposal by his Sub-Contractors, agents or employees.

31.4 Disorderly Conduct, etc.

The Contractor shall, at all times, take all reasonable precautions to prevent any unlawful, riotous, or disorderly conduct by or amongst his employees and for the preservation of peace and protection of persons and property in the neighborhood of the Works against the same.



31.5 Contractor to Follow Labour and Employment Act 2007

The Contractor shall, in respect of labour employed by him, comply with the provisions of the various labour laws, Minimum Wages as per the **Labour and Employment Act 2007** and its Rules and Regulations, RGoB, and shall indemnify the PHPA-I in respect of all claims that may be made against the PHPA-I for non-compliance thereof by the Contractor.

Notwithstanding anything contained herein, the Engineer-in-Charge may take such actions as may be necessary for compliance with the various labour laws and recover the costs thereof from the Contractor.

31.6 Observance by Sub-Contractors

The Contractor shall be responsible for the observance by his Sub-Contractors of the foregoing provisions.

32 Returns of Labour etc.

The Contractor shall deliver to the Engineer-in-Charge or his Representative, a return in detail in such form and at such intervals as the Engineer-in-Charge may prescribe, showing the supervisory staff and the number of the several classes of labour from time to time employed by the Contractor on the site.

MATERIALS AND WORKMANSHIP

33 Materials and Workmanship

33.1 Materials and Workmanship

- 33.1.1 The Contractor shall be responsible for arranging all the materials required for the construction of the Works from the source(s) acceptable to the PHPA-I, other than those materials to be issued by the PHPA-I, as listed under the materials inventory available with the PHPA-I. He shall also be responsible for the proper transportation and storage of these materials to the satisfaction of the Engineer-in-Charge and shall bear all related costs.
- 33.1.2 The Engineer-in-Charge shall be entitled at any reasonable time to inspect or examine all such materials. The Contractor shall provide reasonable assistance for such inspection or examination as may be required.
- 33.1.3 The Contractor shall initiate timely action to procure the materials well in advance so as to ensure that the progress of Works does not suffer for want of the materials on the site at least 30 days before these are intended to be used on Works. Any setback to the progress of the Works and consequent delay in completion of the Works on account of non-availability of materials at the Site shall be the sole responsibility of the Contractor.
- 33.1.4 Any assistance that the Engineer-in-Charge can give to the Contractor for arranging the materials shall be provided on a "no responsibility" basis.



33.2 Quality of materials, Workmanship, and Tests

- 33.2.1 The Contractor shall provide the materials of the quality, kind, and specifications as provided in the Contract. The Contractor shall produce to the Engineer-in-Charge certified quality test reports in respect of the materials procured by him.
- 33.2.2 In case the materials procured by the Contractor are not to the satisfaction of the Engineer-in-Charge and do not conform to the specifications laid in the Contract, such materials shall be rejected by the Engineer-in-Charge, and the cost incurred on such procurement shall be the responsibility of the Contractor.
- 33.2.3 The workmanship shall be of the kind described in the Contract and in accordance with the Engineer-in-Charge's instructions.
- 33.2.4 All the materials and the workmanship shall be subjected, from time to time, to such tests as the Engineer-in-Charge may require. The Contractor shall provide such assistance, instruments, machines, labour and materials as are required for examining, measuring and testing any material and shall supply samples of materials, before incorporation in the Works, for testing, as may be selected and required by the Engineer-in-Charge.

33.3 Cost of Samples

All samples shall be supplied by the Contractor at his own cost.

33.4 Cost of Tests

Cost for any test intended by or provided for in the Contract shall be borne by the Contractor.

34 Inspections of Operations

The Engineer-in-Charge or any person authorized by him shall, at all times, have access to the Works and to all places where the materials, manufactured articles or machinery are being obtained for the Works and the Contractor shall afford every facility for and every assistance in or in obtaining the right to such access.

35 Examination of Work Before covering up

- 35.1 No Work shall be covered up or put out of view without the approval of the Engineer-in-Charge or his Representative and the Contractor shall afford full opportunity for the Engineer-in-Charge or the Engineer-in-Charge's Representative to examine and measure any work which is about to be covered up or put out of view and to examine foundations before permanent work is placed thereof. The Contractor shall give due notice whenever any such work or foundations is or are ready or about to be ready for examination and the Engineer-in-Charge or the Engineer-in-Charge's Representative shall, without unreasonable delay, unless he considers it unnecessary and advises the Contractor accordingly, attend for the purpose of examining and measuring such work or of examining such foundations.

35.2 Uncovering and making Openings



The Contractor shall uncover any part or parts of the Works or make openings in or through the same as the Engineer-in-Charge or Engineer-in-Charge's Representative may, from time to time, direct and shall reinstate and make good such part or parts to the satisfaction of the Engineer-in-Charge and all such costs shall be borne by the Contractor.

36 Removals of Improper Work and Materials

36.1 *The Engineer-in-Charge shall have power to issue instructions from time to time for:*

- 36.1.1 the removal from the Site, within such time as may be specified in the instructions, of any materials which, in the opinion of the Engineer-in-Charge, are not in accordance with the Contract,
- 36.1.2 the substitution of proper and suitable materials, and
- 36.1.3 the removal and proper re-execution, notwithstanding any previous test thereof or interim payment therefor, of any work which in respect of materials or workmanship is not, in the opinion of the Engineer-in-Charge, in accordance with the Contract.

36.2 *Default of Contractor in Compliance*

In case of default on the part of the Contractor in carrying out such instruction, as specified in Clause 36.1, the Engineer-in-Charge shall be entitled to employ and pay other persons to carry out the same and all expenses consequent thereon or incidental thereto shall be recoverable from the Contractor by the Engineer-in-Charge or may be deducted from any money due or which may become due to the Contractor.

37 Suspension of Work

- 37.1 The Contractor shall on the order/instructions of the Engineer-in-Charge suspend the progress of the Works or any part thereof for such time or times and in such manner as the Engineer-in-Charge may consider necessary and the Contractor shall during such suspension properly protect and secure the Works as is necessary in the opinion of the Engineer-in-Charge. If such suspension is:

- 37.1.1 provided for in the Contract, or
- 37.1.2 necessary for the proper execution of the Works or by reason of weather conditions or on account of any default on the part of the Contractor, or
- 37.1.3 necessary for the safety of the Works or any part thereof,

then, the Contractor shall not be entitled to payment of extra costs (if any) incurred by him during the period of suspension of the Works. Provided however that in the event of any suspension being ordered by the Engineer-in-Charge for reasons other than aforementioned and if each such period of suspension exceeds a continuous period of 14 days, the Contractor shall be entitled to such extension of Time for Completion of the Works as the Engineer-in-Charge may deem proper having regard to the period or periods of such suspensions and shall



also be entitled to such compensation as the Engineer-in-Charge may consider to be reasonable cost incurred by the Contractor during the periods of such suspension.

- 37.2 If the progress of Works or any part thereof is suspended on the order of the Engineer-in-Charge for a continuous period of not less than 90 days at a time for reasons other than those referred to in sub-Clause 37.1.1, 37.1.2, 37.1.3 of Clause 37.1 above, the Contractor may serve a written notice to the Engineer-in-Charge requiring permission within 15 days from the receipt thereof to proceed with the Works or that part thereof in regard to which progress is suspended and if such permission is not granted within the said 15 days period, the Contractor may by a further written notice served on the PHPA-I elect to treat the suspension where it affects part only of the Works as an omission of such part and where it affects the whole of the Works as an abandonment of the Contract by the Employer.

COMMENCEMENT AND DELAYS

38 Commencements of Works

The Contractor shall commence the Works on Site within a period of **15 days** from the date of issue of the Letter of Award.

39 Possession of Site

- 39.1 Save in so far as the Contract may prescribe, the extent of portions of the Site of which the Contractor is to be given possession from time to time, the Engineer-in-Charge in turn will issue written order to commence the Works, give to the Contractor possession of so much of the Site as may be required to enable the Contractor to commence and proceed with the execution of the Works in accordance with the programme referred to in Clause-14 hereof.

The Contractor shall not be allowed, without any prior consent of the Engineer-in-Charge, to occupy other Government and/or PHPA-I land for temporary use.

39.2 Rights of Way and Facilities

The Contractor shall bear all costs and charges for special or temporary rights of way required by him in connection with access to the Site. The Contractor shall also provide, at his own cost, any additional facilities outside the Site required by him for the purpose of the Works.

- 39.3 The Contractor shall not be entitled to any additional payment against any delay in handing over of site up to the extent of 30 days from the date of issuance of the Letter of Award.

40 Time for Completion

- 40.1 The period of completion of the whole of the Work shall be specified in SCC or such extended time as may be allowed under Clause-41 hereof. The period of completion shall be reckoned from 15 days of issue of the Letter of Award to the Contractor by the PHPA-I. The programme submitted by the Contractor in accordance with Clause-14 should match with the total time of completion as specified in this Clause.



- 40.2 The time for completion of the works shall be extended in the event of any deviations resulting in additional cost over the Contract Price. If requested by the Contractor, the same shall be worked out in proportion to the additional cost of the altered, additional, or substituted work against the original Contract Price.

41 Extension of Time for Completion

- 41.1 Should the amount of extra or additional work of any kind or any cause of delay referred to in these Conditions, or exceptional adverse climatic conditions which result in stoppage of work, and such stoppage of work is duly recorded in the hindrance register maintained by Contractor and verified by PHPA-I. The Contractor shall, within 28 days of such circumstances, or as soon thereafter as is practicable, submit to the Engineer-in-Charge, full and detailed particulars of any extension of time to which he may consider himself entitled. The Engineer-in-Charge shall determine the period of such hindrance and, accordingly, notify the Contractor of the time extension. The Contractor shall not be entitled to any payment for the time-related costs incurred by him, if any, except those provided under the Contract, during the extended period for completion of Works.
- 41.2 The Contractor shall maintain a record of hindrances in the **Hindrance Register** (Form No. 12), which shall be endorsed by the Engineer-in-Charge or the Engineer-in-Charge's representative on a monthly basis. Only such hindrances approved by the Engineer-in-Charge will be taken into consideration for granting of any time extension.
- 41.3 **Site Order Book** shall be maintained at the site systemically and securely by the Engineer-in-Charge or the Engineer-in-Charge's Representative.

42 Shift Works

- 42.1 To achieve the required progress, the Work may be carried out round the clock. The period of completion and the number of working days shall not be affected by the number of shifts. No extra amount on account of any shift work is payable to the Contractor.

43 Rate of Progress

- 43.1 To ensure proper progress during the execution of the Works, the Contractor shall complete 1/8th of the Works before 1/4th of the whole time allowed in the Contract has elapsed, 3/8th of the Works before one half of such time has elapsed, and 3/4th of the Works before 3/4th of such time has elapsed.
- 43.2 If for any reason, which does not entitle the Contractor to an extension of time, the rate of progress of the Works of any section at any time is not commensurate with the rate of progress stipulated in this Clause and in the opinion of the Engineer-in-Charge does not ensure completion by the prescribed time or extended time for completion, the Engineer-in-Charge shall so notify the Contractor in writing and the Contractor shall thereupon take such steps as are necessary and the Engineer-in-Charge may approve to expedite progress so as to complete the Works or such section by the prescribed time or extended time. The Contractor shall not be entitled to any additional payment for taking such steps.



44 Liquidated Damages for Delay

- 44.1 If the Contractor fails to achieve completion of the Works within the time prescribed by Clause-40 hereof, then the Contractor shall pay to the PHPA-I the sum stated in SCC as liquidated damages. The PHPA-I may, without prejudice to any other method of recovery, deduct the amount of such damages from any money in its hands, due or which may become due to the Contractor. The payment or deduction of such damages shall not relieve the Contractor from his obligation to complete the Works, or from any other of his obligations and liabilities under the Contract.
- 44.2 The Liquidated Damages penalty will be charged for all delays due to the fault of the Contractor at 1% per week, subject to a maximum of 10% of the Initial Contract Price.
- 44.3 In the event of termination of the Contract in accordance with Clause-59 of GCC, referred hereof, PHPA-I shall be entitled to recover Liquidated Damages up to 10% of the Contract price. The Performance Security shall be adjusted towards Liquidated Damages. The balance work (if any) under the Contract shall be executed in any other manner by PHPA-I by recovering the value equivalent to **20% of the balance works up to a maximum of 10% of the Contract Price** from the Contractor.

45 Certification of Completion of Works

When the whole of the works have been substantially completed and have satisfactorily passed any final test that may be prescribed by the EIC, the Contractor may give a notice to that effect to the Engineer-in-Charge or to the Engineer-in-Charge's representatives, accompanied by an undertaking to finish any outstanding work within a mutually agreed period. Such notice and undertaking shall be in writing and shall be deemed to be a request by the Contractor for the Engineer-in-Charge to issue a Certificate of Completion in respect of the Works. The Engineer-in-Charge shall, within 21 days of the date of delivery of such notice either issue to the Contractor, a Certificate of Completion stating the date on which, in his opinion, the Works are substantially completed in accordance with the Contract or give instructions in writing to the Contractor specifying all the Works which, in the Engineer-in-Charge's opinion, are required to be done by the Contractor before the issue of such Certificate. The Engineer-in-Charge shall also notify the Contractor of any defects in the Works affecting substantial completion that may appear after such instructions and before completion of the Works specified therein. The Contractor shall be entitled to receive such Certificate of Completion within 21 days of completion to the satisfaction of the Engineer-in-Charge.

MAINTENANCE AND DEFECTS

46 Maintenance and Defects

46.1 Defects Liability Period

In these Conditions, the expression "Defects Liability Period" shall be as specified in SCC, calculated from the date of completion of the Works, certified by the Engineer-in-Charge in accordance with Clause -45 hereof.



46.2 Execution of Work of Repair, etc.

To the intent that the Works shall, at or as soon as practicable after the expiration of the Defects Liability Period be delivered to the PHPA-I in the condition required by the Contract, fair wear and tear excepted, to the satisfaction of the Engineer-in-Charge, the Contractor shall complete the work, if any, outstanding on the date of completion, as certified under Clause-45 hereof, as soon as practicable after such date and shall execute all such work of repair, amendment, reconstruction, rectification and making good defects, imperfections, shrinkages or other faults as may be required of the Contractor in writing by the Engineer-in-Charge during the Defects Liability Period or within 14 days after its expiration, as a result of an inspection made by or on behalf of the Engineer-in-Charge prior to its expiration.

46.3 Cost of Execution of Works of Repair, etc.

All repair works shall be carried out by the Contractor at his own expense if the necessity thereof shall, in the opinion of the Engineer-in-Charge, be due to the use of materials or workmanship not in accordance with the Contract, or due to neglect or failure on the part of the Contractor to comply with any obligation, expressed or implied, on the Contractor's part under the Contract. If, in the opinion of the Engineer-in-Charge, such necessity shall be due to any other cause, the value of such work shall be ascertained and paid for as if it were additional work.

46.4 Remedy on Contractor's Failure to carry out Work Required

If the Contractor fail to do any such work as aforesaid required by the Engineer-in-Charge, the PHPA-I shall be entitled to employ and pay other persons to carry out the same and if such work is the work which in the opinion of the Engineer-in-Charge, the Contractor was liable to do at his own expense under the Contract, then all expenses consequent there on or incidental thereto shall be recoverable from the Contractor by the Engineer-in-Charge from any money due or which may become due to the Contractor.

ALTERNATIONS, ADDITIONS, OMISSIONS AND EXTRA ITEMS

47 Variations

47.1 The Engineer-in-Charge shall make any variation in the form, quality or quantity of the Works or any part thereof or substitution for original specifications, design, drawings and instructions that may, in his opinion be necessary and for that purpose, or if for any other reason it shall, in his opinion be appropriate, he shall have power to order the Contractor to do and the Contractor shall do any or all of the following:

- 47.1.1 increase or decrease the quantity of any work included in the Contract;
- 47.1.2 omit or substitute any such work;
- 47.1.3 change the character or quality or kind of any such work;
- 47.1.4 change the levels, lines, positions, and dimensions of any part of the work;



47.1.5 execute, additional work of any kind necessary for the completion of the works, and

47.1.6 change any specified sequence or timing of construction of any part of the work.

No such variations shall in any way vitiate or invalidate the Contract, but the effect, if any, of all such variations shall be valued in accordance with Clause-48 hereof.

Provided that where the issue of an instruction to vary the Works is necessitated by some default of or breach of Contract by the Contractor or for which he is responsible, any additional cost attributable to such default shall be borne by the Contractor. Any altered, additional, and substituted work which the Contractor may be directed to do in the manner above specified as part of the Works shall be carried out by the Contractor on the same conditions in all respects on which he agreed to do the main Works.

48 Determination of Price Variation

48.1 Upon certified completion of the whole Works, if a reduction or increase in the total value of the work is found to be within 20% of the initial Contract Price, then there shall be no change in the Contract rates for individual items of work specified in the bill of quantities, irrespective of the quantum of variation in individual items.

48.2 However, if a reduction or an increase is found to be more than 20% of initial Contract price, the increase in payment for minus variation or decrease in payment for plus variation shall be specified based on slabs of variation in the Contract value as specified below:

Variation in Value of Works	Increase in Payment for minus variation	Decrease in Payment for plus variation
Up to 20%	Nil	Nil
Above 20% and up to 35 %	6.00%	3.00%
Above 35% and up to 60%	8.00%	4.00%
Above 60 % and up to 100%	10.00%	5.00%
Above 100%	-	5.00%

While working out the value of Works for the purpose of variation, the extra items for which new rates have been paid and payment towards price adjustment; and the adjustment towards statutory variations shall not be considered.

Illustration

- a) In case of variation in value of Works by (plus) + 60 percent, the payment for (60-20) percent i.e., 40 percent of Contract value of Works shall be decreased by 4 % (four percent.). The reduction in Contract rates shall commence as soon as the value of Works executed reaches 120% of Contract Price.
- b) In case of variation in value of Works by (minus) – 55 percent, the payment for (55-20) percent i.e., 35 percent of Contract value of Works shall be increased by 8% (eight percent).



- 48.3 No variation limit for any individual BOQ item has been specified in these GCC except for the payment due to the Contractor as detailed above. No claim for revision of rate(s) for any individual BOQ item shall be admissible irrespective of the extent to which the ordered quantity may get revised (+) or (-) during the actual execution of the Works.
- 48.4 Within 14 days of the date of instruction for executing varied Works and before the commencement of such Works, notice shall be given either:
- a) by the Contractor to the Employer of his intention to claim extra payment or a varied rate or price, or
 - b) by the Engineer-in-Charge to the Contractor of the intention to vary a rate or price.
- 48.5 The Contractor within 14 days from the receipt of an order to execute any extra item shall submit rate analysis to the Engineer-in-Charge supported by documentary evidence of basic rates adopted therein; having regard to the cost of materials, actual wages of labour, and other operational costs. The analysis so provided by the Contractor shall form the basis for determination of rates for such extra items. Extra items of work/supply which are not provided in the Bill of Quantities shall be paid on the basis of Bhutan Schedule of Rates (BSR) after adjusting such rates for the place of Works and cost index prevailing at the time of award. If rates for such extra items are not available in BSR, the rates for such items shall be determined based on the actual expenditure relating to that item including cost of materials, fabrication/machinery handling and erection at Site plus twenty percent (20%) towards overheads including profits. The price of varied items determined by the Engineer-in-Charge shall be final and binding on the Contractor. No payment shall be made for the items of Works ordered to be omitted.
- 48.6 If there is delay in the agreement between Employer and the Contractor on the rate of varied Works, provisional rates @ 75% of the rates as determined by the Engineer-in-Charge shall be payable as a provisional payment till such time as the rates are finalized.
- 48.7 Under no circumstances, the Contractor shall at any stage suspend work on account of non-settlement of rates of such item(s).

PLANT, TEMPORARY WORKS AND MATERIALS

49 Plants, Temporary Works and Materials

49.1 Contractor to Provide Plant

The Contractor shall provide at his own expense all Constructional Plant, Temporary Work and materials including Equipment, Materials and Camps required for the execution of the Works. He shall furnish along with the bid a list of items of all Constructional Plant and machinery which he shall be deploying on the particular job. He shall also make necessary arrangements for supplementing them at his own expense, if required to do so by the Engineer-in-Charge at the time of award of the Contract, or later on as the Work progresses.



49.2 *Plant etc., Exclusive Use for the Works.*

All Constructional Plant, Temporary Works and materials provided by the Contractor shall, when brought on to the Site, be deemed to be exclusively intended for the execution of the Work and the Contractor shall not remove the same or any part thereof, except for the purpose of moving it from one part of the Site to another, without the consent, in writing of the Engineer-in-Charge.

49.3 *Removal of Plant etc.*

Upon completion of the Works, the Contractor shall remove from the Site all the said Constructional Plant and Temporary works remaining thereon and any unused materials provided by the Contractor after obtaining written permission from the Engineer-in-Charge.

49.4 *PHPA-I not Liable for Damage to Plant etc.*

PHPA-I shall not at any time be liable for the loss of or damage to any of the said Constructional Plant, Temporary Works or materials save as mentioned in Clause-19 and Clause-60 hereof.

50 *Approval of Materials etc. not implied*

The operation of Clause-49 hereof shall not be deemed to imply any approval by the Engineer-in-Charge of the materials or other matters referred to therein nor shall it prevent the rejection of any such materials at any time by the Engineer-in-Charge.

MEASUREMENT

51 *Quantities*

The quantities set out in the Bill of Quantities are the approximate estimated quantities of the Work, and they are not to be taken as the actual quantities of the Works to be executed by the Contractor in fulfillment of his obligations under the Contract.

52 *Works to be measured*

52.1 Engineer-in-Charge shall, except as otherwise provided, ascertain and determine the measurement value in accordance with the Contract of work done.

52.2 All measurement of all items having financial value shall be entered in Measurement Book and/or level in the field book so that a complete record is obtained of all works performed under the Contract.

52.3 All measurements and levels shall be taken jointly by the Engineer-in-Charge or his authorized representative and by the Contractor or his authorized representative from time to time during the progress of the work and such measurements shall be signed and dated by the Engineer-in-Charge and the Contractor or his representative as token of his acceptance. If the Contractor objects to any of the measurement recorded, a note shall be made to that effect with reasons and signed by both the parties.



- 52.4 If for any reason, the Contractor or his authorized representative is not available and the work of recording measurements is suspended by the Engineer-in-Charge or his representative, the Engineer-in-Charge shall not entertain any claim from Contractor for any loss or damages on this account. If the Contractor or his authorized representative does not remain present at the time of such measurements after the Contractor or his authorized representative has been given a notice in writing 3 days in advance or fails to countersign or to record objection within a week from the date of the measurement, then such measurements recorded in his absence by the Engineer-in-Charge or his representative shall be deemed to be accepted by the Contractor.
- 52.5 The Contractor shall, without extra charge, provide all appliances, instruments, labour and other items necessary for survey, measurement and recording of levels etc.
- 52.6 In the case of items which are not covered by specifications, measurements issued by the **Ministry of Infrastructure and Transport, Department of Infrastructure Development, Thimphu, Bhutan**, RGoB and if for any item no such standard is available, then a mutually agreed method shall be followed.

53 Method of Measurement

The Works shall be measured net, notwithstanding any general or local custom, except where otherwise specifically described or prescribed in the Contract. However, the guidelines given in relevant part of the **Specifications of Building & Road Works-2025** published by the Ministry of Infrastructure and Transport, Department of Infrastructure Development, Thimphu, Bhutan, RGoB, will prevail in case of any confusion that may arise during measurement.

54 Security Rules

The Work shall be a protected area. The Contractor, his employees and labourers shall have to follow the Security Rules as may be imposed from time to time by the Engineer-in-Charge or by the Royal Government of Bhutan. If the Contractor, his employees or labourers are found to be reluctant to follow the Rules, the Engineer-in-Charge will have the right to prohibit such persons from entering into the Work area. If required, the Engineer-in-Charge shall have the authority to take the help of local District Administration and or local police, if it is considered absolutely necessary.

55 Foreign Personnel

- 55.1 The Contractor shall submit to the PHPA-I, the details and bio-data of all personnel he proposes to bring into Bhutan for the performance of the Works under the Contract. Such data for each person shall, besides the proof of his citizenship (either passport or voter identity card only will be acceptable), contain the name, his present address, his assignment and responsibility in connection with the Works, and a short resume of his qualifications, experience etc. in relation to the Works to be performed by him.
- 55.2 Any person unsuitable and unacceptable to the PHPA-I shall not be brought to Bhutan. Any person, if found unsuitable or unacceptable to the PHPA-I on a later date, shall within a



reasonable time, be repatriated by the Contractor, who shall make alternative arrangements for providing a suitable replacement.

- 55.3 No person brought to Bhutan for the purposes of the Works shall be repatriated without the consent of the PHPA-I in writing, which shall be based on a written request from the Contractor for such repatriation giving reasons for such an action to the Engineer-in-Charge. The PHPA-I may give permission for such repatriation provided it is satisfied that the progress of Works shall not suffer due to such repatriation/replacement.
- 55.4 The Contractor and his expatriate personnel shall observe/respect all Bhutanese Acts, Laws, Rules and Regulations and shall not in any way interfere with Bhutanese political and religious affairs and shall meticulously follow any other Rules and Regulations which the RGoB, the PHPA-I and the Engineer-in-Charge may impose on them from time to time. The Contractor's expatriate personnel shall work and live-in close co-operation with their co-workers and the community and shall not engage themselves in any other employment either part time nor shall they take part in any local politics.
- 55.5 PHPA-I will assist the Contractor, to the extent possible, in obtaining necessary permits to travel to Bhutan and back by issuing necessary Certificates and other information required by the RGoB and other agencies.

CERTIFICATE AND PAYMENT

56 Certificate and Payment

56.1 *Interim Payment Certificate*

The Contractor shall submit an application for interim payment, in duplicate to the Engineer-in-Charge at the end of each month in a Proforma approved by the Engineer-in-Charge. The application shall include the following items, as applicable, which shall be taken into account in the sequence listed.

- 56.1.1 the estimated Contract Price of the Permanent Works executed up to the end of the month in question, obtained by applying the base unit rates and prices in the Bill of Quantities to the quantities measured by the Engineer-in-Charge pursuant to Clause-52,
- 56.1.2 the estimated Contract value of the Permanent Works obtained as in 56.1.1, executed up to the end of the previous month.
- 56.1.3 the estimated Contract value at base unit rates and prices, of the Permanent Works for the month in question obtained by deducting 56.1.2 from 57.1.1.
- 56.1.4 an amount reflecting any changes pursuant to Clause-63 hereof.
- 56.1.5 any amount to be deducted on account of the repayment of Advances under the provisions set forth in Clause 56.2 and
- 56.1.6 any other sum to which the Contractor may be entitled under the Contract.



It may be noted that all interim payments would be treated as provisional payments.

Within 28 days of receipt of the said applications for interim payment, it shall be approved or amended such that, in the Engineer-in-Charge's opinion, the Certificate reflects the amount due to the Contractor in accordance with the Contract. In case of differences in opinion as to the value of any item, the Engineer-in-charge's view shall prevail. When the Engineer-in-Charge has determined the amount due to the Contractor, he shall issue to the Contractor a Certificate hereinafter called "Interim Payment Certificate" certifying the amount due to the Contractor, and

No Interim Payment Certificate shall be issued for a sum less than 1% of the Contract Price.

The Engineer In-Charge may make any correction or modification in any previous interim Payment Certificate which was issued by him. The Engineer In-Charge shall have authority to omit or reduce the value of such work in any Interim Payment Certificate if any work is not carried out to his satisfaction.

56.2 Retention Money

- 56.2.1 Deduction of Retention Money amounting to 10% (ten percent) of the amount included in any monthly Interim Payment Certificate pursuant to Clause 56.1 due to the Contractor on account of Permanent Works executed shall be made by the Engineer-in-Charge.
- 56.2.2 The Retention Money shall be certified due for payment after the expiration of the Defect Liability Period, notwithstanding that at such time there may be outstanding claims by the Contractor against the PHPA-I. Provided always that, if at such time there shall remain to be executed by the Contractor any Works ordered during such period pursuant to Clause-46 hereof, the PHPA-I shall be entitled to withhold payment until the completion of such Works or so much of the Retention Money as shall, in the opinion of the Engineer-in-Charge represent the cost of the Works so remaining to be executed, and
- 56.2.3 On completion of the whole of the works, the Retention Money may be substituted by a Bank Guarantee issued by any Financial Institution in Bhutan/India acceptable to PHPA-I. The Bank Guarantee on the proforma of the PHPA-I form shall be valid until the issue of the Defect Liability Certificate by PHPA-I.
- 56.2.4 Retention Money shall not be refunded till the contractor produces a NOC from all concerned, including the labour officers. As soon as the work is virtually complete, the Contractor shall apply for the clearance certificate to the Labour Officer under intimation to the Engineer-in-Charge. On receipt of the said communication, the Engineer-in-Charge shall write to the Labour Office to intimate if any complaint is pending against the Contractor in respect of the work. If no complaint is pending on record till after three months after completion of the work and/or no communication received from the Labour Officer to this effect till six months after the date of completion, it will be deemed to have received the clearance certificate and the security deposit will be released if otherwise due.



56.3 Advances

Advances for execution of the Works, if required by the Contractor, will be granted in the following cases, provided that the advances are spent only for the Work under the Contract.

56.3.1 Mobilization Advance

- i. Advance to the extent of **10%** of the Contract Price can be granted for mobilization of labour, stores, and workshops, including camps, labour sheds, and Construction Plant, etc., for preliminary and enabling Works. The Contractor is to use the advance payment only to pay for equipment, Plant, Materials, and Mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance has been used in this way by supplying copies of invoices or other documents to the project manager.
- ii. The release of this advance shall be regulated and governed by the following conditions:
 - a. The advance shall be interest-free.
 - b. The advance will be released if requested by the Contractor in writing within one month of the order to commence the work.
 - c. The advance will be disbursed on the production of the irrevocable Bank Guarantee (on the Proforma in Forms) from any Financial Institution of Bhutan/India for an amount equal to the required advance payment, and the BG shall be valid till the advance is fully recovered.

The advance is recoverable, and the deduction of the advance shall be made on pro-rata percentage basis from the interim payments certified by the Engineer-in-Charge under the Contract. The deduction shall commence in the next Interim Payment Certificate following that in which the total of all such payments to the Contractor has reached 10% of the Contract Price until such time as the advance has been fully repaid, provided always that the entire amount of advance shall be completely deducted by the time the total of all payments to the Contractor has reached 80% of the Contract Price.

56.3.2 Secured Advance

- i. The Contractor shall be entitled to Secured Advance during the execution of the work up to **75%** of the assessed value of any materials which in the opinion of the Engineer-in-Charge are non-perishable, non-fragile and non-combustible and are in accordance with the Contract and which have been brought to site in connection therewith and are adequately stored and/or protected against damage by weather or other causes but which have not at the time of advance been incorporated in the Works.



- ii. When materials on account of which an advance have been made under this sub-Clause are incorporated in the work, such advance shall be recovered/deducted from the next payment of the Contractor.
- iii. Secured Advance shall also be payable on other items of perishable nature, fragile, and combustible, with the approval of the Engineer-in-Charge and provided that the Contractor takes comprehensive insurance cover for the full cost of such materials. The decision of the Engineer-in-Charge shall be final and binding on the Contractor in this matter.
- iv. No Secured Advance shall, however, be paid on high-risk materials such as glass, petrol, diesel, etc.

56.3.3 Corrections

Since all the interim payment Certificates are issued provisionally, the Engineer-in-Charge may, by any Interim Payment Certificate, make any correction or modification in any previous Certificate (other than one purporting to be Final Payment Certificate) which shall have been issued by him and shall have power to modify or withhold any Interim Certificate if the Works or any part thereof, are not being carried out to his satisfaction.

56.4 Final Account

- 56.4.1 Not later than 2 months after the date of issue of the Certificate of Completion of Works in pursuance of Clause-45 hereof, the Contractor shall submit a draft statement of Final Account and supporting documentation to the Engineer-in-Charge showing in detail the value of the work done in accordance with Contract, together with all further sums which the Contractor considers to be due to him under the Contract up to the date of Defects Liability Certificate (Hereinafter called the "Contractor's Draft Final Account").
- 56.4.2 Within 4 months after receipt of the Contractor's Draft Final Account and of all information reasonably required for its verification, the Engineer-in-Charge shall determine the value of all matters to which the Contractor is entitled under the Contract. The Engineer-in-Charge shall then issue to the Contractor a statement (hereinafter called the "Engineer-in-Charge's Draft Final Account") showing the final amount to which the Contractor is entitled under the Contract. The Contractor shall sign the Engineer-in-Charge's Draft Final Account as an acknowledgement of the full and final value of the work performed under the Contract and shall promptly submit a signed copy (hereinafter called the "Final Account") to the Engineer-in-Charge within 30 days, failing which the Engineer-in-Charge shall consider it as accepted by the Contractor.

56.5 Final Certificate

On receipt of the Final Account, the Engineer-in-Charge shall promptly prepare and issue to the Contractor a Final Payment Certificate certifying any further money due to the Contractor in respect of the Contract. Payment to the Contractor of the amount due under the Final Payment Certificate shall be made by the PHPA-I within 60 days of such Certificate being issued. In the



event of non-payment/ failing to collect by the Contractor within the said period, no interest shall accrue to the Contractor.

57 Approval only by Maintenance Certificate

No Certificate other than the Maintenance/Defects Liability Certificate referred to in Clause-58 hereof shall be deemed to constitute approval of the Works.

58 Maintenance Certificate

58.1 The Contract shall not be considered as completed until a Maintenance/Defects Liability Certificate shall have been signed by the Engineer-in-Charge stating that the Works in all respect have been completed and maintained to his satisfaction. This Certificate shall be issued by the Engineer-in-Charge within 28 days after the expiry of the Defects Liability Period or if different periods become applicable to different sections or parts of the Works, the expiry of the latest such period, or as soon thereafter as any work ordered during such period, pursuant to Clause-46 hereof, shall have been completed to the satisfaction of the Engineer-in-Charge and full effect shall be given to this Clause, notwithstanding any previous entry on the Works or the taking possession, using thereof or any part thereof by the PHPA-I.

58.2 Cessation of PHPA-I's Liability

The PHPA-I shall not be liable to the Contractor for any matter or thing arising out of or in connection with the Contract or execution of the Works unless the Contractor shall have made a claim in writing in respect thereof before the issuing the Maintenance/Defects Liability Certificate.

REMEDIES AND POWERS

59 Remedies and Powers

59.1 Default of Contractor

If the Contractor shall become bankrupt, or have a receiving order made against him, or shall present his petition in bankruptcy, or shall make an arrangement with or assignment in favors of his creditors, or shall agree to carry out the Contract under a committee of inspection of his creditors or, being a corporation, shall go into liquidation (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), or if the Contractor shall assign the Contract, without the consent in writing of the PHPA-I first obtained, or shall have an execution levied on his goods, or if the Engineer-in-Charge shall certify in writing that, in his opinion, the Contractor:

59.1.1 has abandoned the Contract, or

59.1.2 without reasonable excuse has failed to commence the Works or has suspended the progress of the Works for 28 days after receiving written notice from the Engineer-in-Charge to proceed, or



- 59.1.3 has failed to remove materials from the site or to pull down and replace work for 28 days after receiving from the Engineer-in-Charge's written notice that the said materials or work had been condemned and rejected by the Engineer-in-Charge under these conditions, or
- 59.1.4 despite previous warnings by the Engineer-in-Charge in writing, is not executing the Works in accordance with the Contract, or is persistently or flagrantly neglecting to carry out his obligations under the Contract, or
- 59.1.5 has, to the detriment of good workmanship, or defiance of the Engineer-in-Charge's instruction to the contrary, sub-let any part of the Contract;

then the Engineer-in-Charge may, after giving 14 days' notice in writing to the Contractor, enter upon the Site and expel the Contractor, from the entire Works or part thereof, without thereby voiding the Contract, or releasing the Contractor from any of his obligations or liabilities under the Contract, or affecting the rights and powers conferred on the PHPA-I or the Engineer-in-Charge by the Contract, and may itself complete the entire Work or part thereof as the case may be or may employ any other Contractor to complete the Works at the risk and cost of the Contractor in accordance with Clause 44.3.

- 59.1.6 PHPA-I or such other Contractor may use for such completion so much of the Constructional Plant, Temporary works and materials, which have been deemed to be reserved exclusively for the execution of the works, under the provisions of the Contract, as he or they may think proper, and the PHPA-I may, at any time, sell any of the said Constructional Plant, Temporary works and unused materials and apply the proceeds of sales in or towards the satisfaction of any sums due or which may become due to the Contractor under the Contract.

59.2 Valuation at Date of Forfeiture

The Engineer-in-Charge shall, as soon as may be practicable after any such entry and expulsion by the PHPA-I, fix and determine ex-party, or by or after reference to the parties, or after such investigation or enquiries as he may think fit to make or institute, and shall certify what amount, if any, had at the time of such entry and expulsion been reasonably earned by or would reasonably accrue to the Contractor in respect of work actually done by him under the Contract and the value of any of the said unused or partially used materials, any Constructional Plant and any Temporary Works.

59.3 Payment after Forfeiture

- 59.3.1 If the PHPA-I shall enter and expel the Contractor under this Clause, it shall not be liable to pay to the Contractor any money on account of the Contract until the expiration of the Defects Liability Period and thereafter until the costs of execution and maintenance, damages for delay in completion, if any, and the percentage to apply to the value of work not completed, as indicated in the SCC, have been ascertained and the amount thereof certified by the Engineer-in-Charge. The Contractor shall then be entitled to receive only such sum or sums, if any, as the Engineer-in-Charge may certify would have been payable to him upon due completion by him after deducting the said amount. If such amount shall exceed



the sum which would have been payable to the Contractor on due completion by him, then the Contractor shall, upon demand, pay to the PHPA-I the amount of such excess and it shall be deemed a debt due by the Contractor to the PHPA-I and shall be recoverable accordingly.

- 59.3.2 In the event of the above course being adopted by the Engineer-in-Charge, the Contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any Constructional Plant, material or entered into any agreements or made any advances on account or with a view to the execution of the Works or the performance of the Contract.

SPECIAL RISKS/TERMINATION

60 Special Risks/Termination of Contract

60.1 Special Risks

The special risks are war, hostilities (whether war be declared or not), invasion, act of foreign enemies, and all other risks described in Clause-19.6 hereof.

60.2 Termination of the Contract

If, during the currency of the Contract, any of the Special Risks mentioned hereinabove which, whether financially or otherwise, materially affects the execution of the Works, the Contractor shall, unless and until the Contract is terminated under the provisions of this Clause, continue to use his best endeavors to complete the execution of the Works. Provided always that the PHPA-I shall be entitled at any time after occurrence of such Special Risks to terminate the Contract by giving written notice to the Contractor and upon such notice being given, this Contract shall, except as to the right of the parties under this Clause and to the operation of Clause-68 hereof, terminate, but without prejudice to the rights of either party in respect of any antecedent breach thereof.

60.3 Removal of Plant on Termination

If the Contract shall be terminated under the provisions of the last preceding sub-Clause, the Contractor shall, with all reasonable dispatch, remove from the Site all Constructional Plant and shall give similar facilities to his sub-Contractors to do so.

60.4 Payment if Contract is Terminated

If the Contract is terminated as aforesaid, the Engineer-in-Charge shall issue a Certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting & securing the Works less advance payments received in respect of Constructional Plant and materials and any other sums which at the date of termination were recoverable by the PHPA-I from the Contractor under the terms of the Contract.



NOTICES

61 Notices

61.1 *Service of Notices to Contractor*

All Certificates, notices, or written orders to be given by the Engineer-in-Charge to the Contractor under the terms of the Contract shall be served either through post or hand delivery to the Contractor's office on Site or his principal place of business, or such other address as the Contractor shall nominate for this purpose.

61.2 *Service of Notice to PHPA-I or its Engineer-in-Charge*

All notices to be given to the PHPA-I or to its Engineer-in-Charge under the terms of the Contract shall be served to the Engineer-in-Charge, PHPA-I, Bjimthangkha, Wangdue.

61.3 *Change of Address*

Either party may change these addresses through prior written notice.

DEFAULT OF PHPA-I

62 Default of PHPA-I

62.1 In the event of the PHPA-I failing to pay to the Contractor the amount due under any Certificate of the Engineer-in-Charge within 90 days after the same shall have become due under the terms of the Contract, subject to any deduction that the PHPA-I is entitled to make under the Contract, the Contractor shall be entitled to issue a notice to the Engineer-in-Charge stating that he shall be terminating his Works after 30 days from the issue of such notice, for the reasons stated therein. However, if within the said period of 30 days, the Engineer-in-Charge notifies the Contractor that the reasons stated in the notice of the Contractor are not valid or that the alleged event of default of the PHPA-I has been remedied or no longer exists, then the Contractor shall not be entitled to terminate the Contract.

62.2 If the Contractor becomes entitled to terminate the Contract in terms of Clause 62.1, after expiry of the notice of 30 days, he may, notwithstanding the provisions of Clause 49.2 hereof, remove from the Site all Constructional Plant brought by him.

62.3 In the event of such termination, the PHPA-I shall be under the same obligations to the Contractor in regard to payment as if the Contract had been terminated under the provisions in Clause-60 hereof.

CHANGES IN COSTS AND LEGISLATION

63 Increases or Decrease of Costs

63.1 If the prices of materials and/or wages of labour required for execution of the work increase/decrease, the Contractor's payment shall be adjusted for such variation as per provisions detailed below and the amount of the Contract shall accordingly be varied, subject to the condition that such variation in prices shall be available only for the work done during the



stipulated period of the Contract as per Clause 40 including such period for which the Contract validity is extended under the provisions of Clause 41 of the Contract without any action under the Clause 44. Such variation in the prices of materials and labour, when due, shall be worked out based on the following provisions:

- 63.1.1 No price adjustment shall be allowed for the work within the first 12 months of the Contract. The base date for working out such variation for the Contract period exceeding 12 months shall be the last stipulated date of Bid submission, including extension, if any.
- 63.1.2 The cost of work on which variation will be payable shall be reckoned as 80% of the cost of work as per the bills, running or final, excluding any work for which payment is made at prevailing market rates. From this amount, the value of materials supplied under Clause 56.3 of this Contract and proposed to be recovered in the particular bill shall be deducted before the amount of compensation for price variation is worked out. In the case of materials brought to the site for which any secured advance is included in the bill, the full value of such materials as assessed by the Engineer-in-Charge (and not the reduced amount for which secured advance has been paid) shall be added to the cost of work shown in the bill for operation of this Clause.

Similarly, when such materials are incorporated in the work and the Secured Advance is deducted from the bill, the full assessed value of the materials originally considered for operation of this Clause should be deducted from the cost of the work shown in the bill, running or final.

- 63.1.3 The compensation for escalation for material shall be worked out as per the formula given below:

$$V_m = 0.80 W \times 0.75 \times (MI - M_{10}) / M_{10}$$

Where,

V_m : Variation in material cost, i.e., increase or decrease in the amount in BTN to be paid or recovered.

W : Cost of work as indicated in Clause 63.1.2.

MI & M_{10} : Material Index (Index Number published by National Statistical Bureau) for the period under consideration and that valid on the last stipulated date of Bid submission, including extension, if any (Clause 63.1.6).

- 63.1.4 The following principles shall be followed while working out the indices mentioned in Clause 63.1.2.
- The compensation for price variation shall be worked out at quarterly intervals and shall be with respect to the cost of work done as per bills paid during the 3 calendar months of the said quarter. The first such payment shall be made after the first 12 months of the Contract, excluding the month in which the tender was accepted and



thereafter at three-month intervals. At the time of completion of the work, the last period for payment might become less than 3 months, depending on the actual date of completion.

- ii. The index (MI) relevant to any quarter/period for which such compensation is paid shall be the arithmetical average of the indices relevant to the 3-calendar-month period. If the period up to date of completion after the quarter covered by the last such installment of payment is less than 3 months, the index MI shall be the average of the indices for the months falling within that period.

63.1.5 The compensation for escalation for labour shall be worked out as per the formula given below:

$$VI = 0.80 W \times 0.25 \left(\frac{25}{100} \right) \times (LI - LIo) / LIo$$

Where:

VI: Variation in labour cost i.e., amount of increase or decrease in BTN to be paid or recovered.

W: Cost of work as indicated in Clause 63.1.2.

LIo: Minimum daily wage in BTN. of an unskilled adult male mazdoor, fixed by the Royal Govt. of Bhutan on the last stipulated date of Bid submission, including extension, if any.

LI: Minimum wage in BTN of an unskilled adult male mazdoor, fixed by the Royal Govt. of Bhutan on the last date of the quarter previous to the one under consideration.

63.1.6 The following principles will be followed while working out the compensation as per Clause 63.1.4.

- i. The price variation for labour shall also be paid at the same quarterly intervals as applicable to materials under this Clause. If such a revision of minimum wages takes place during any such quarterly intervals, the compensation shall be applicable at revised rates only for work done in subsequent quarters.
- ii. Irrespective of variation in minimum wages of any category of labour, for the purpose of this Clause, the variation in the rates for an unskilled adult male mazdoor alone shall form the basis for working out the compensation payable on the labour component.
- iii. Subsequent Legislation

If, after the date 30 days prior to the latest date of submission of Bid for the Works, there occur in Bhutan changes to any Statute, Ordinance, Decree or other Law or any regulation or by-law of any local or other duly constituted authority, or the introduction of any such Statute, Ordinance, Decree, Law, Regulation or bye-law which causes additional or reduced amount to the Contractor, other than above Clause (63.1.3 & 63.1.5) in the execution of the Works, such additional or reduced amount shall be



certified by the Engineer-in-Charge after examining the record provided by the Contractor and shall be paid by or credited to the PHPA-I. Notwithstanding the foregoing, such additional or reduced amount shall not be separately paid or credited if the same shall already have been taken into account in the indexing of any input to the price adjustment formulae in accordance with sub-Clause 63.1.3 & 63.1.5 of this Clause.

ADDITIONAL CLAUSES

64 Bribery and Collusion

64.1 The PHPA-I shall be entitled to terminate the Contract and recover from the Contractor the amount of any loss resulting from such termination if the Contractor shall have offered or given to any person any consideration of any kind as an inducement or reward for doing, forbearing to do, any action in relation to obtaining, or in the execution of the Contract or any other Contract with the PHPA-I, or for showing favour to any person in relation to the Contract or any other Contract with the PHPA-I, or if any of the like acts shall have been done by any person employed by the Contractor or acting on his behalf (whether with or without the knowledge of the Contractor), or if the Contractor shall have come to any agreement with another Contractor or number of Contractors whereby an agreed quotation or estimate shall be offered as a bid to the PHPA-I by one or more Contractor(s).

64.2 *In the event of such termination, the Contractor shall:*

64.2.1 proceed as provided in Clause-60.3 hereof;

64.2.2 be paid by the PHPA-I as provided in Clause-60.4 hereof, provided that any loss referred to in Clause-65.1 shall first be deducted.

65 Termination of Contract for PHPA-I's Convenience

65.1 The PHPA-I shall be entitled to terminate this Contract at any time for the PHPA-I's convenience after giving 60 days' prior notice to the Contractor.

65.2 In the event of such termination, the Contractor shall:

65.2.1 Proceed as provided in the sub-Clause-60.3 hereof, and;

65.2.2 be paid by the PHPA-I as provided in sub-Clause-60.4 hereof.

66 Environment, Pollution, and Noise

66.1 Subject to and without prejudice to any other provision of the Contract and the law of the land and its obligations as applicable, the Contractor shall take all reasonable precautions in connection with streams, watering, drains, water courses, underground water resources, including percolating water, and will prevent:

66.1.1 Silting



- 66.1.2 Erosion of the beds or banks
- 66.1.3 Pollution of the water so as to adversely affect the quality or appearance thereof or cause injury or death to animals and plants.
- 66.1.4 Any interference with the supply to or obstruction from such sources
- 66.1.5 Pollution of the water so as to adversely affect the quality thereof.
- 66.2 All works shall be carried out without unreasonable noise and disturbance. The Contractor shall indemnify and keep the PHPA-I indemnified from & against any responsibility for damages or in carrying out the work and against all claims, demands, proceedings, damages, costs, charges, and expenses whatsoever in regard to or in relation to such liability. All RGoB environment protection laws will be duly implemented. The vegetation and land shall be protected from damage during the course of execution except to the barest minimum essentially required not to cause or permit any one to cause any nuisance, disturbance, or pollution or inconvenience to the public, employer, or neighborhood of the site.

67 Occupational Health and Safety

The Contractor shall comply with the Labour and Employment Act of Bhutan-2007, Regulations on Occupational Health and Safety (OHS) and Welfare-2012, or any revisions thereof. Payment towards Personal Protective Equipment (PPE) and Common Protection Measures (CPMs) as listed in the latest BSR for worker's OHS measures at construction sites shall be released upon certification by the Engineer-in-Charge.

67.1 Non-compliance

If during the performance of works under the Contract, the PHPA-I informs the Contractor that it is the opinion of the Engineer-in-Charge that the Contractor is:

- 67.1.1 Not conducting the work in compliance with the Contractor's Health and Safety Coordination Plan, relevant Safe Working Method Statements, relevant legislation, or Health and Safety procedures provided by the RGoB from time to time, or
- 67.1.2 Conducting the work in such a way as to endanger the Health and Safety of Contractors' employees or its Contractors' and sub-Contractors' employees, and the public.
- 67.1.3 Conducting the work in such a way as to risk property, plant, equipment, or materials.

The Contractor shall remedy that breach of Health and safety promptly.

67.2 Consequences of its non-compliance

- 67.2.1 The Engineer-in-Charge shall reject the Contractor's claim on the worker's Occupational Health and Safety measures.



- 67.2.2 The Engineer-in-Charge may direct the Contractor to suspend the work until such time as the Contractor satisfies the Engineer-in-Charge that the work will be resumed in conformity with applicable health and safety provisions.
- 67.2.3 During periods of suspension referred to above, the PHPA-I shall not be required to make any payment whatsoever to the Contractor.
- 67.2.4 If the Contractor fails to rectify any breach of health and safety for which the work has been suspended, or if the Contractor's performance has involved recurring breaches of health and safety, the PHPA-I may as its option terminate the work forthwith, without further obligation to the Contractor. In this event, the PHPA-I's liability shall be limited to payment for the work performed and costs incurred by the Contractor up to the time of termination or an earlier suspension of works.

SETTLEMENT OF DISPUTES

68 Arbitration

- 68.1 Except where otherwise provided in the Contract, all questions and disputes relating to the meaning of the specifications, design, drawings and instructions herein before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the Contract, designs, drawings, specifications, instructions, orders or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination completion or abandonment thereof shall be dealt with as mentioned hereinafter.
- 68.2 If the Contractor considered any work demanded of him to be outside the requirements of the Contract, or disputes any drawings, record or decision given in writing by the Engineer-in-Charge on any matter in connection with or arising out of the Contract or carrying out of the work, to be unacceptable, he shall promptly within 15 days request the Engineer-in-Charge in writing for written instruction or decision. There upon, the Engineer-in-Charge shall give his written instructions or decision within a period of 30 days from the receipt of the Contractor's letter.

If the Engineer-in-Charge fails to give his instructions or decision in writing within the aforesaid period or if the Contractor is dissatisfied with the instructions or decision of the Engineer-in-charge, the Contractor may, within 15 days of the receipt of Engineer-in-charge's decision, appeal to the Director (Technical), PHPA-I, who shall afford an opportunity to the Contractor to be heard, if the latter so desires, and to offer evidence in support of his appeal. The Director (Technical), PHPA-I shall give his decision within 30 days of receipt of Contractor's appeal. If the Contractor is dissatisfied with his decision, the Contractor shall within a period of 30 days from receipt of his decision, give notice to Director (Technical), PHPA-I for resolution of disputes or differences through arbitration in accordance with the rules and procedures prescribed in the SCC, failing which the said decision shall be final, binding and conclusive and not referable to adjudication by the Contractor.



SECTION V

SPECIAL CONDITIONS OF CONTRACT



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SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract (SCC) shall supplement and/or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

SL	Clause Reference to GCC	Data
1	10. Performance Security	The Performance Security shall be 10 % of the Contract Price in the form of a Bank Guarantee (on the proforma form of PHPA-I) issued by any Financial Institution in Bhutan/India and valid until 30 days after the date of issue of the Completion Certificate .
2	21. Minimum amount of third-party insurance	As permissible under the policy.
3	40. Time for Completion	The work shall be completed within 6 months . The period of completion shall be reckoned from the 15 th day of issue of the Letter of Award.
4	44.2. Liquidated Damage	1% per week of delays, subject to a maximum of 10% of the Initial Contract Price .
5	46.1. Defects Liability Period	Defects Liability Period shall be for 12 months .
6	59.3. Payment after forfeiture	The percentage to apply to the value of the work not completed, representing the PHPA-I's additional cost for completing the balance work is 20% up to a maximum of 10 % of the Contract Price .
6	63. Increase or decrease of cost	The prices shall remain firm during the performance of this contract and shall not be adjusted for increase or decrease in cost.
7	68. Arbitration	Except where a decision has become final and conclusive, all disputes arising in connection with this Contract shall be referred to arbitration at the Bhutan Alternative Dispute Resolution Centre (BADRC). The parties shall follow the procedure as contained in the Alternatives Resolution Act of Bhutan 2013 and Alternative Dispute Resolution Rules & Regulations 2019 or any amendment thereof.



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SECTION VI
GENERAL TECHNICAL SPECIFICATIONS



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GENERAL TECHNICAL SPECIFICATIONS

1. General

The General Technical Specifications (hereinafter called **GTS**) shall give general information about execution of various items of works under the Contract and cover the specified stipulations for measurements and payment therefor included in the Bill of Quantities.

These specifications shall be the part of the requirements for various items of works, which shall be executed according to the stipulations of the Contract. Hence, the instructions given herein form an integral part of and are applicable to the bidding documents issued for the works. Addenda to these specifications may be issued, as required during bidding and construction phases.

These specifications shall be read in conjunction with Bill of Quantities (BoQ), and the Conditions of Contract. While quoting the price, the Contractor shall comply with all provisions contained within the bidding documents with an objective to complete each items of work without any addition of cost thereof. In case Specifications, BoQ and Condition of Contract do not corroborate each other for completion of any particular item of work, the same as well as the assumptions made in quoting of price for such item(s) of Works shall be brought out clearly in the bid.

It is the intent of these specifications to establish acceptable standards of quality as specified in the technical specifications. Minor deviations in details due to manufacture's standard for brought out items will be considered for acceptance provided that, in the opinion of the Engineer-in-Charge, the proposed substitutions are equal in quality to those specified.

The Contractor shall be required to be use locally manufactured Bhutan Standard Bureau (BSB) certified Domestic construction materials especially Reinforcement & Steel Section and Electrical items, etc. in the Buildings and Road construction works. The material shall conform to latest BSB standards or in the absence of these standards to the equivalent IS Codes. These materials must be cost effective as compared to the imported materials of certified quality standards.

All works shall comply with the quality requirements defined in the **Specifications for Building and Road works (SBRW-2025)**, Royal Govt. of Bhutan, Ministry of Infrastructure and Transport, Department of Infrastructure Development, Thimphu, Bhutan.



1.1 Scope of Work

The scope of work for **Temporary Re-Alignment of Wangdue-Tsirang National Highway (NH) - Widening & blacktopping of road from BHU to STP-NH Junction** which shall include, but not limited to the following:

- Earth work excavation, Site preparation, Demolition work, form work, PCC, Pavement works such as GSB, WMM, side drain stone soling, RRM, Weep holes, Gabion wall and RC Pipes and other miscellaneous works to fulfill functional requirements but not limited to the major items of works, as per drawings, specifications, Bill of Quantities and /or as directed by the Engineer-in-Charge within the stipulated time period.

2.0 Scope of work Facilities

The scope of working facilities under this clause to design, provide, erect, operate and maintain all the working facilities as would be necessary for execution of the Works within the specified time schedule, but not necessarily limited to the following:

- Camp and Facilities
- Plant and Equipment
- Electric Power Supply System
- Water Supply System
- Sewage & Waste Water and Garbage Disposal System

Working Facilities shall be subject to the Engineer-in-Charge's approval. The Contractor shall comply with all applicable laws, regulations, and ordinances relating to the construction and operation of the working facilities in Bhutan.

2.2 Submissions

The Contractor shall submit basic plans of Working Facilities along with his bid. He shall attach to his bid documents drawings and operating descriptions for his proposed working facilities. At least **15 days** prior to commencing the work, the Contractor **shall submit** to the Engineer-in-Charge for approval the drawings of layout and details of Working Facilities.

Should the Engineer-in-Charge determine that the details of working facilities furnished does not meet all requirements, the deficiencies shall be made good by the Contractor before commencement of the work. Any cost incurred therefor or replacement shall be borne by the Contractor.

2.3 Camp and Facilities

The Camp and Facilities shall include but are not limited to:

- Accommodation for Staff and Workmen
- Miscellaneous Working Facilities like:
- Stores, Warehouses and sheds for the Contractor

Office for the Contractor shall be of sufficient size and fully furnished and equipped. All working facilities shall be equipped with proper light arrangement, water supply, telephone,



sewage and waste water disposal system. Contractor shall make his own arrangement for all working facilities.

The Contractor shall acquaint himself with all applicable laws and regulations as applicable in Bhutan for handling and use of explosives. All such laws, regulations and rules etc., as are amended from time to time shall be binding on the Contractor.

2.4 Plant and Equipment

2.4.1 General

The Contractor shall provide all construction plants and equipment necessary for the efficient execution of the work described in the Specifications and details supplied by the Contractor in the constructional plant and equipment schedule. The Contractor shall also deploy additional equipment, if needed, at his own cost for timely completion of the Works.

The capacity and number of equipment shall conform to the specific minimum requirements for the works and the climatic conditions prevailing at the site. The Contractor shall maintain all his equipment, tools and plants with sufficient spare parts, special tools for repair work and complete standby units of vital parts to guarantee a continuous operation without untimely delays. The Contractor shall remain fully responsible for any delays due to disregard of said necessity.

2.4.2 Transportation and Storage Facilities for Cement

Transportation of cement shall be accomplished in adequately weather-tight trucks or other means which will protect the cement completely from exposure to moisture. Storage of cement at the Site shall be done in weather-tight and properly ventilated structures with adequate provisions for the prevention of absorption of moisture.

2.5 Electric Power Supply System

The power supply to the construction sites, camps and the entire project area shall be designed for continuous operation, 24 hours a day, with sufficient capacity to satisfy peak and emergency demands.

2.6 Water Supply System

The Contractor shall be fully responsible for the arrangement of necessary facilities for water supply. The Contractor shall design, construct, equip, operate and maintain two separate water installations at the Site necessary for the adequate supply of:

- a) Raw water: for general construction use, treated to the extent necessary to meet specified requirements (e.g. for concrete),
- b) Potable water: for supply to all camps, site office and plants requiring high quality water meeting relevant requirements for drinking water.

2.7 Sewage, Waste Water and Garbage Disposal System

The Contractor shall construct, equip, operate and maintain all the installation necessary to properly collect, treat and dispose of sewage from the camp office and other construction facilities. The Contractor shall not, under any circumstances, discharge sewage or



contaminated water into natural streams or any open areas. Treatment and disposal of sewage shall be performed in accordance with the current related standards and laws in force in Bhutan and always subject to the Engineer-in-Charge's approval. The drainage systems shall be designed taking into account the rainfall /snowfall rate in the area and the disposal of rainwater/snow shall be accomplished in such a way that no erosion problems are caused which may alter the stability of the soil.

The Contractor shall provide necessary arrangements for disposal of waste and garbage disposal. The areas surrounding camps, offices, job facilities and the work sites shall be kept clean and free of refuse at all times. No waste shall be dumped in areas other than those approved by the Engineer-in-Charge for waste disposal. No waste of any kind shall be deposited in any watercourses. The Contractor shall observe the norms prescribed by the Government of Bhutan for keeping all areas clean.

2.8 Testing and Quality Control

The Contractor shall collect the samples as specified or as directed by the Engineer-in-Charge, carryout the relevant test as approved by the Engineer-in-Charge and submit the test reports to the Engineer-in-Charge in time. All tests will be made according to the approved standards.

2.9 Medical Care Facilities

In the event of illness of an epidemic nature breaking out, the Contractor shall carry out and comply with all orders, arrangements or regulations, which may be issued by the Government or local authorities. Basic Medical facilities are available at Wangdue. The Contractor shall provide and maintain one first aid facilities at the work site.

2.10 Environmental Obligations

The Contractor shall, during the whole period of the Works comply fully with all applicable laws and regulations relating to environmental protection, mitigating measures for reducing environmental impacts and remedial works on completion of the Works. This obligation shall extend to the construction sites themselves, all the Contractor's site installations, and all quarries, borrow areas and tips.

2.11 Final Clean-Up

Upon the Completion of Works, or when any plant has completed its functions, the Contractor shall dismantle and demobilize all temporary facilities and remove all refuse, debris, objectionable material, and fill, grade and dress all excavated areas in a clean and proper condition acceptable to the Engineer-in-Charge. All such areas, as far as possible, shall conform to the natural appearance of the landscape.

2.12 Measurement and Payment

No separate payment for establishing the working facilities shall be made. Cost of all such working facilities shall be included in the unit price of works. No separate payment shall be made for complying with any environmental obligations required by applicable laws and regulations, and all such costs incurred by the Contractor to this end shall be considered as being included in the Contractor's Unit Prices.



SECTION VII

FORMS



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Form 1: Proforma for Agreement

[Note; This Proforma is included in the Bidding Documents only for the information of Bidders. Only the successful Bidder shall, in due course, be required to fill this Proforma].

THIS AGREEMENT MADE the _____ day of _____ BETWEEN Punatsangchhu-I Hydroelectric Project Authority (PHPA-I) _____ of (Mailing address of PHPA-I) _____ (hereinafter called "the PHPA-I") of the one part and (Name of Contractor) _____ of (Mailing address of Contractor) _____ (hereinafter called "the Contractor") of the other part.

WHEREAS the PHPA-I is desirous that " _____ " (herein after referred to as "the Work") should be executed by the Contractor AND WHEREAS by a Letter of Award No. _____ dated _____ the PHPA-I has accepted a Bid by the Contractor for the execution and completion of such Works AND WHEREAS the Contractor has agreed to undertake such work and furnish a performance security/bond.

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the conditions of Contract hereinafter referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz;
 - 2.1 The Agreement
 - 2.2 The Letter of Award
 - 2.3 Corrigendum/Amendments if any
 - 2.4 Documents furnished by bidder
 - 2.5 General Conditions of the Contract
 - 2.6 General Technical Specifications
 - 2.7 Special Conditions to Contract
 - 2.8 Appendix
 - 2.9 Bill of Quantities
 - 2.10 Drawings
 - 2.11 Any other documents as forming part of the Contract
3. The aforesaid documents shall be taken as complementary and mutually explanatory of one another, but in case of ambiguities or discrepancies, shall take precedence in the order set out under para 2 above.



4. In consideration of the payment to be made by the PHPA-I to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the PHPA-I to execute and complete the Works in conformity, in all respects, with the provisions of the Contract.
5. The PHPA-I hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein the Contract Price or such other sum as may become payable under the provisions of the Contract at the time and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused their respective common Seals to be hereunto affixed (or have hereunto set their respective hands and Seals) the day and year first above written.

SIGNED, SEALED AND DELIVERED

NAME _____
on behalf of the Contractor

NAME _____
on behalf of the PHPA-I

in the presence of:

in the presence of;

NAME _____
Address _____

NAME _____
Address _____



Form 2: Proforma for Bank Guarantee for Bid Security

To

The Punatsangchhu-I Hydroelectric Project Authority (PHPA-I)

(Address of PHPA-I)

WHEREAS, (Name of Bidder) _____ (hereinafter called "the BIDDER") has submitted his bid dated (_____ for the construction of (Name of Contract) _____ (hereinafter called "the Bid")).

KNOW ALL MEN by these presents that we (Name of Bank) _____ of (Name of Country) _____ having our registered office at _____ (hereinafter called "the Bank") are bound unto the Punatsangchhu-I Hydroelectric Project Authority (PHPA-I) in the sum of _____ for which payment well and truly to be made to the PHPA-I the Bank binds himself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this _____ day of _____.

THE CONDITIONS of this obligation are;

1. If the Bidder withdraws his Bid during the period of bid validity specified in the Proforma of Bid; or
2. If the Bidder having been notified of the acceptance of his Bid by the PHPA-I during the period of bid validity;
 - 2.1 fails or refuses to execute the Proforma of Agreement in accordance with the Instructions to Bidders, if required; or
 - 2.2 fails or refuses to furnish the Performance Security, in accordance with the Instructions to Bidders,

We undertake to pay to the PHPA-I up to the above amount upon receipt of its first written demand, provided that in its demand the PHPA-I will note that amount claimed by it is due to it owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date **120 days** after the closing date for submission of bids as stated in the Invitation to Bid or as extended by you at any



time prior to this date, notice of which extension to the Bank being hereby waived, and any demand in respect thereof should reach the Bank not later than the above date.

DATE

SIGNATURE OF THE BANK

WITNESS

SEAL

(Signature, Name and Address)



Form 3: Proforma for Bank Guarantee for Performance Security

To

The Punatsangchhu-I Hydroelectric Project Authority,

(Address of PHPA-I)

WHEREAS (Name and Address of Contractor) _____ (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. _____ dated _____ to execute (Name of Contract and Brief Description of Works) _____ (hereinafter called "the Contract").

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of Nu. _____ (Amount of Guarantee in words to be inserted by the Guarantor), representing the percentage of the Contract Price, specified in the Contract, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of Nu. _____ (Amount of Guarantee) as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed there under or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.



This guarantee is valid until the date of **30 days** after issuing of the Completion Certificate.

SIGNATURE AND SEAL OF THE GUARANTOR

Name of Bank

Address

Date

Note: The Bidders are not required to fill this Proforma.



Form 4: Proforma for Bank Guarantee for Mobilization Advance

In consideration of the Punatsangchhu-I Hydroelectric Project Authority (PHPA-I) (which expression shall unless repugnant to the subject or context include its administrators, successors and assigns), (hereinafter called the "Principal") having agreed to make advance payment to (Name and full address of the Contractor) _____ (hereinafter called "the Contractor(s)", (which expression shall unless repugnant to the subject or context or meaning thereof include its successors, administrator, executors and permitted assigns), whose bid for (Name of the Contract) _____ has been accepted and to whom the acceptance of the bid has been communicated by a Letter of Award and who is required to execute a formal agreement on conditions of production of a Bank Guarantee for Rs..... (Both in figures and words) _____ we, the _____ Bank (any financial institutions in Bhutan) hereinafter referred to as "the Bank") do hereby undertake promise and guarantee payment to the Principal on demand all the amounts advanced by the Principal to the said Contractor.

1. The Bank further agrees that;
 - 1.1. The Principal shall have the fullest liberty without affecting in any way the liability of the Bank under the Guarantee or Indemnity, from time to time, to vary any of the terms and conditions of the said Contract or to extend time for performance by the said Contractor or to postpone for any time and from time to time any of the powers exercisable by it against the said Contractor and either to enforce or forbear from enforcing any of the terms and conditions governing the said Contract or the securities available to the Principal and the Bank shall not be released from its liability under these presents by any exercise by the Principal of the Liberty with reference to the matters aforesaid or by reason of time being given to the said Contractor or any other forbearance, act or omission on the part of the Principal or any indulgence by the Principal to the said Contractor or of any other matter or thing whatsoever which under the law relating to sureties would but for this provision have the effect of a releasing the Bank from its such liability.
 - 1.2. These presents shall be governed by and constructed in accordance with Bhutanese laws.
 - 1.3. The Bank hereby declares that it has the power to issue this Guarantee and the undersigned has full power to do so.
 - 1.4. It shall not be necessary for the Principal to proceed against the Contractor before proceeding against the Bank and the Guarantee herein contained shall be enforceable against the Bank, notwithstanding any other security which



the Principal may have obtained or obtain from the Contractor, shall at the time when proceedings are taken against the Bank hereunder, be outstanding or unrealized.

- 1.5. The Guarantee herein contained shall remain in full force and effect, during the period that would be taken for the performance of the terms and conditions of the said Contract, Letter of Award and the Agreement which is to be executed as aforesaid and that it shall continue to be enforceable until all the dues of the Principal have been duly paid and its claims satisfied and discharged and till the Principal discharges the Guarantee in writing or until _____ whichever is earlier.
2. The Bank lastly undertakes not to revoke this Guarantee until all the dues of the Principal have been duly paid except with the previous consent of the Principal in writing.

Dated the _____ Day of _____ 2021

Here affix the Common Seal of the
Bank for _____ Bank Ltd.

Note: The Bidders are not required to fill this Proforma.



Form 5: Proforma for Bank Guarantee for Retention Money.

To

The Punatsangchhu-I Hydroelectric Project Authority,

(Address of PHPA-I)

WHEREAS (Name and Address of Contractor) _____ (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. _____ dated _____ to execute (Name of Contract and Brief Description of Works) _____ (hereinafter called "the Contract").

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of Nu. _____ (Amount of Guarantee in words to be inserted by the Guarantor), representing the amount of retention money, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of Nu. _____ (Amount of Guarantee) as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed there under or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.



This guarantee is valid until the date of **30 days** after completion of Defects Liability Period.

SIGNATURE AND SEAL OF THE GUARANTOR

Name of Bank

Address

Date

Note: The Bidders are not required to fill this Proforma.



Form 6: Pre-Contract Integrity Pact.

Note: This Proforma is included in the Bidding Documents for information of Bidders and shall be signed by successful Bidder when the work(s) is awarded. Signing authorities will be the head of the client (agency) or the authorized representative of the bidder.

1. General:

Whereas the Punatsangchhu-I Hydroelectric Project Authority (PHPA-I) hereinafter referred to as the "Employer" on one part, and(Name of bidder or his/her authorized representative, with power of attorney) representing M/s., (Name of firm), hereinafter referred to as the "Bidder" on the other part hereby execute this agreement as follows:

This agreement shall be a part of the standard bidding document, which shall be signed by both the parties at the time of purchase of bidding documents and submitted along with the tender document. This IP is applicable only to "large" scale works, goods and services, the threshold of which will be announced by the government from time to time. The signing of the IP shall not apply to framework Contracting such as annual office supplies etc.

2. Objectives:

Whereas, the Employer and the Bidder agree to enter into this agreement, hereinafter referred to as IP, to avoid all forms of corruption or deceptive practice by following a system that is fair, transparent and free from any influence/unprejudiced dealings in the Bidding process and Contract Administration, with a view to:

- 2.1 Enabling the Employer to obtain the desired Contract at a reasonable and competitive price in conformity to the defined specifications of the works or goods or services; and
- 2.2 Enabling bidders to abstain from bribing or any corrupt practice in order to secure the Contract by providing assurance to them that their competitors will also refrain from bribing and other corrupt practices.

3. Scope:

The validity of this IP shall cover the bidding process and Contract Administration period.

4. Commitments of the Employer:



The Employer Commits itself to the following: -

- 4.1 The Employer hereby undertakes that no officials of the Employer, connected directly or indirectly with the Contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favor or any material or immaterial benefit or any other advantage from the Bidder, either for themselves or for any person, organization or third party related to the Contract in exchange for an advantage in the bidding process and Contract Administration.
- 4.2 The Employer further confirms that its officials shall not favor any prospective bidder in any form that could afford an undue advantage to that particular bidder in the bidding process and Contract Administration and will treat all Bidders alike.
- 4.3 Officials of the Employer, who may have observed or noticed or have reasonable suspicion shall report to the head of the employing agency or an appropriate government office any violation or attempted violation of clauses 4.1 and 4.2.
- 4.4 Following report on violation of clauses 4.1 and 4.2 by official(s), through any source, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings shall be initiated by the Employer and such a person shall be debarred from further dealings related to the bidding process and Contract Administration.

5. Commitments of Bidders

The Bidder commits himself/herself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of the bidding process and Contract administration in order to secure the Contract or in furtherance to secure it and in particular commits himself/herself to the followings:-

- 5.1 The Bidder shall not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favor, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the Employer, connected directly or indirectly with the bidding process and Contract Administration, or to any person, organization or third party related to the Contract in exchange for any advantage in the bidding process and Contract Administration.
- 5.2 The Bidder shall not collude with other parties interested in the Contract to manipulate in whatsoever form or manner, the bidding process and Contract Administration.
- 5.3 If the bidder(s) have observed or noticed or have reasonable suspicion that the provisions of the IP have been violated by the procuring agency or other



bidders, the bidder shall report such violations to the head of the procuring agency.

6. Sanctions for Violation:

The breach of any of the aforesaid provisions shall result in administrative charges or penal actions as per the relevant rules and laws.

6.1 The breach of the IP or commission of any offence (forgery, providing false information, mis-representation, providing false/fake documents, bid rigging, bid steering or coercion) by the Bidder, or any one employed by him, or acting on his/her behalf (whether with or without the knowledge of the Bidder), shall be dealt with as per the terms and conditions of the Contract and other provisions of the relevant laws, including De-barment Rules.

6.2 The breach of the IP or commission of any offence by the officials of the procuring agency shall be dealt with as per the rules and laws of the land in vogue.

7. Monitoring and Administration:

7.1 The respective procuring agency shall be responsible for administration and monitoring of the IP as per the relevant laws.

7.2 The bidder shall have the right to appeal as per the arbitration mechanism contained in the relevant rules.

We, hereby declare that we have read and understood the clauses of this agreement and shall abide by it.

The parties hereby sign this Integrity Pact at (place) _____ on (date) _____

EMPLOYER



Witness:

BIDDER

Witness:

Form 7: Bidder's Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date:[insert date of Bid submission]

NIT No.:

1.	Bidder's Legal Name:
2.	Bidder's or each member of JV's Country of Registration:
3.	Bidder's Year of Registration:
4.	Bidder's Legal Address in Country of Registration:
5.	Bidder's Local Address in Bhutan (if any):
6.	Bidder's Website Address:
7.	Bidder's Business Activities:
8.	Bidder's Authorized Representative 1. Name: 2. Designation: 3. Address: 4. Telephone/Fax numbers: 5. E-mail Address:
9.	Attached are copies of the following original documents: [check the box(es) of the attached original documents] <input type="checkbox"/> Tax Clearance Certificate of Bidder named in 1 or 2 above <input type="checkbox"/> Trade License of Bidder named in 1 or 2 above

Signature.....

Date :

Place :

Name.....

Designation.....



Form 8: Past Performance Data

Bidder's Name & Address: NIT No:

To

[PHPA-I's Name & Address]

Details of similar Works in last five (5) years

Sl. No.	Owner/ Client	Scope of Work	Order Value	Date of Order	Schedule Completion Date	Actual/ Completion Date	Reason for Delay (if any)

Date :

Signature.....

Place :

Name.....

Designation.....

Seal.....

Note:

1. Continuation sheets of like size and format may be used and annexed to this Form if required.
2. Relevant documents/LOA/Orders to be furnished to justify the data above.



Form 9: Present Order Book Position.

Bidder's Name & Address: NIT No:

To

[PHPA-I's Name & Address]

List of works under execution and their present status

S. No.	Owner/ Client	Scope of Work	Order Value	Date of Order	Schedule Time of Completion	Value of Outstanding Work	Actual/ Expected Time of Completion	Reason for Delay (if any)

Date :

Signature.....

Place :

Name.....

Designation.....

Seal.....

Note:

1. Continuation sheets of like size and format may be used and annexed to this Form if required.
2. Relevant documents/LOA/Orders to be furnished to justify the data above.



Form 10: Data regarding Key Construction Personnel

Bidder's Name & Address: NIT No:

To

[PHPA-I's Name & Address]

The qualification and experience of key construction personnel proposed for administration and execution of the Contract at the Site are as follows:

Position	Quantity	Name	Qualification	Years of experience

Date :

Signature.....

Place :

Name.....

Designation.....

Seal.....

Note:

1. Please furnish the complete Site organization chart proposed to be set up for execution of the Contract.
2. Continuation sheets of like size and format, may be used and annexed to this Form if required.



Form 11: Data regarding available Equipment/ Machinery

Bidder's Name & Address: NIT No:

To

[PHPA-I's Name & Address]

Items of equipment	Quantity	Description, make, Capacity and age (years)	Condition (new, good, poor) and number available	Owned, leased (from whome?), or to be purchased (from Whom?)

Date :

Signature.....

Place :

Name.....

Designation.....

Seal.....

Note: The above list of Equipment & Machineries indicates minimum requirements. However, we shall deploy any additional Equipment and Machineries, which may be required as per the directive of the Engineer-in-Charge to execute the work satisfactorily and as per the time schedule stipulated.



Form 12: Performa for hindrance register

Sl.no	Nature of hindrance	Items of works which could not be executed on account of this hindrance	Date of start of hindrance	Date of removal of hindrance	Overlapping period if any	Net hindrance in days	Weightage of this hindrance	Net effective days of hindrance	Signature of PHPA-I' s representatives	Signature of Contractor



SECTION VIII
BILL OF QUANTITIES



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BILL OF QUANTITIES (BoQ)

Item No.	Item	Unit	Quantity	Rate (Nu./Rs.)		Amount (Nu)
				In Fig.	In Words	
1	Dismantling and Demolition work					
1.1	Demolishing stone rubble masonry including stacking useful materials & disposal of rubbish within 50m lead- In Cement mortar	cum	50.00			
2	Site Preparation					
2.1	Clearing jungle including uprooting of vegetation & trees of girth <300mm, disposal with all leads and lifts	Sq. m	19,980.00			
2.2	Felling trees including cutting of trunks and branches, removal of roots, stacking of serviceable material and disposal of rubbish within all leads and lifts, all complete.					
2.2.1	Girth 300 to 600mm	each	30.00			
2.2.2	Girth 600 to 1200 mm	each	10.00			
2.2.3	Girth 1200 to 2400 mm	each	15.00			
3	Excavation/Filling					
3.1	Earthwork in excavation over areas, exceeding 300mm in depth, 1.5 m in width as well as 10 sq.m on plan including disposal of excavated earth (disposed earth to be levelled and neatly dressed)					
3.1.1	All types of Soil	cum	2,279.16			
3.1.2	All types of rock (with or without blasting)	cum	569.79			
3.2	Earthwork in Excavation in foundation trenches or drains including dressing of sides and ramming of bottom, disposal of surplus excavated soil within 50m lead					
3.2.1	All types of soil	cum	2,304.25			
3.2.1	All types of rock (with or without blasting)	cum	576.06			



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3.3	Excavation of road formation/trace/box cutting, with excavator including separate deposition of soil, rocks and stones with all lead and lift					
3.3.1	All types of soil	cum	7,189.60			
3.3.2	All types of rock (With or Without blasting)	cum	1,797.40			
3.4	Providing and laying filter material (600mm wide) in trenches, sides of foundations, walls etc. with 100 to 200 mm stones wherever applicable.	cum	1,194.00			
3.5	Construction of embankment by laying dry earth in horizontal layers not exceeding 200mm in depth(compact), including watering, power rolling, dressing and preparation of site with selected excavated earth within 50mm lead	cum	1,397.00			
3.6	Extra for compaction of earth in embankments under suitable moisture conditions to give at least 95% of the proctor density	cum	1,397.00			
4	Pavement works					
4.1	Subgrade Preparation					
4.1.1	Preparation of sub grade with proper camber by excavating earth to depth equal to pavement thickness, consolidation with roller, disposal of surplus earth up to 50m	cum	7,770.00			
4.1.2	Preparation of sub grade with proper camber by excavating earth to depth equal to pavement thickness, consolidation with roller, disposal of surplus earth including all leads and lifts- Consolidation of subgrade with roller and making good the undulation with earth and re rolling the sub grade	sqm	11,100.00			
4.2	Granular Sub-base					
4.2.1	Providing and laying Granular sub-base course (GSB) to required degree of compaction with proper formation of cross fall using motor grader for laying and compacted to required density as per material gradation and aggregate quality specified	cum	2,220.00			



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4.3	Wearing Coat					
4.3.1	Providing and laying wet mix macadam graded aggregate base course to required degree of compaction with proper formation of cross fall by using well graded crushed aggregates premixed with OMC using suitable mixer, motor grader as per material gradation and a aggregates quality specified	cum	2,035.00			
4.4	Dense Bituminous Macadam (DBM)					
4.4.1	Providing and Laying Dense Bituminous Macadam (DBM) to required degree of compaction based on mixture design (job mix formula) approved by the supervising engineer by mechanized method using asphalt plant, paver, steel roller, tyre roller etc. complete	Sqm	10,004.50			
4.5	Asphalt/Bituminous Concrete					
4.5.1	Providing and Laying Asphalt/Bituminous Concrete to required degree of compaction based on the job mixture design approved by the supervising engineer using asphalt plant, paver, steel roller, tyre roller etc. as per material gradation and aggregate quality specified	Sqm	10,004.50			
4.6	Prime coat					
4.6.1	Providing and applying prime coat using bitumen emulsion conforming to IS: 8887, using asphalt/bitumen sprayer including repairing the surface and cleaning with road broom. On W.M.M @ 0.75kg/sqm	Sqm	10,004.50			
4.7	Tack coat					
4.7.1	Providing and applying tack coat using bitumen emulsion conforming to IS: 8887, using asphalt/bitumen sprayer including preparing the surface and cleaning with road broom. On DBM/Prime coat @0.3 kg/sq.m	Sqm	10,004.50			
4.8	Road marking					
4.8.1	Providing and apply Road marking with hot applied thermoplastic compound with reflectorising glass beads on Bituminous surface as per IRC:35 and technical specifications. The finished surface to be level and free from streaks and holes	Sqm	545.70			



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4.9	Scarifying					
4.9.1	Scarifying metalled (water bound) road surface disposal of rubbish up to 50m and consolidation of the aggregate received from scarifying	Sqm	8,140.00			
5	Crash Barrier					
5.1	Providing and erecting "W" metal beam crash barrier (3mm thick wmetal beam of 4m length, width 310mm, wave height- 81-85mm, 1.8m long Channel post 150x75x5mm @ 2m c/c & 330mm long spacer 150x75x5mm) including excavation and PCC 1:1.5:3 for channel post, complete as per drawing.	m	200.00			
6	Stone Soling					
6.1	Providing and laying Hand packed stone filling or soling with stones	cum	459.90			
7	Form Work					
7.1	Providing and fixing centering and shuttering (form work) including strutting and propping etc. and removal of form work etc. complete	sqm	438.43			
8	Plain Cement Concrete					
8.1	Providing and laying in position plain cement concrete in 1:3:6 (1 cement : 3 sand : 6 graded crushed rock 40 mm nominal size)excluding the cost of centering and shuttering - All work upto plinth level	cum	182.60			
8.2	Providing and laying in position plain cement concrete excluding the cost of centering and shuttering - All work upto plinth level: 1:2:4 (1 cement : 2 sand : 4 graded crushed rock 20 mm nominal size)	cum	376.20			
9	Random Rubble Masonry					
9.1	Random Rubble Masonry in cement Mortar 1:6 with hard stone/boulder hammer-dressed in retaining/breast walls	cum	4,258.25			
10	Weep Holes					
10.1	Providing weep holes in stone masonry wall with 75 mm dia PVC pipe, existing through the full width of the structure with slope of 1V:8H towards draining face, Complete as per drawing.	m	4,245.29			
11	Gabion Wall					



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11.1	Providing & filling hand-packed stone in G.I mesh 4mm (8swg) including supplying and weaving of mesh complete- Double-knotted mesh-100mm	cum	255.00		
12	Pipes				
12.1	Providing and laying NP2 class R.C pipes, including collars, jointly in cement mortar 1:2 including testing of joints etc.- complete 1050 mm dia.	m	40.00		
13	Occupational Health and Safety (OHS)				
13.1	Providing temporary living accommodation which includes bed room, kitchen, and toilet cum bathroom including proper water supply and electricity as per the drawing and temporary living accommodation standards. The accommodation facilities must be dismantled and cleaned upon the completion of project. All reusable materials of the accommodation facilities will remain as the property of the bidder upon completion of the project.	L/s	1.00		
14	Temporary Living Accommodation				
14.1	Incorporation of Occupational Health and Safety measures at construction sites, including Insurance, Personal Protective Equipment (PPE), First Aid kits, Boundary Fencing, Scaffolding, Safety nets, Traffic management, signage etc as listed in the specifications. The standards and specifications for the Insurance, OHS materials and (or) equipment shall comply with the Labour and Employment Act - 2007, Regulation on Occupational Health, Safety and Welfare - 2012, and other relevant national documents. All OHS items will remain the property of the bidder upon completion of the project	L/s	1.00		
TOTAL AMOUNT					
REBATE, IF ANY					
FINAL TOTAL AMOUNT					
FINAL TOTAL AMOUNT (IN WORDS) :					



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SECTION IX
DRAWINGS



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NOTES:

1. THIS DRAWING SHOWS LAYOUT PLAN OF EXISTING FARM ROAD.
2. ALL DIMENSIONS ARE IN MILLIMETERS, ELEVATIONS A CHAMGE ARE IN METERS. NO DIMENSION SHALL BE MEASURED FROM THE DRAWING.
3. THE DRAWING SHALL BE CHECKED AGAINST THE WORK REFERENCED DRAWINGS BEFORE STARTING THE WORK. DISCREPANCY, IF ANY, SHALL BE BROUGHT TO THE NOTICE OF WAPCOS IMMEDIATELY.
4. THIS DRAWING HAS BEEN PREPARED BASED ON THE JOINT SITE INSPECTION OF PHPAI AND WAPCOS ON 02.07.2023. ALL DIMENSIONS AND ELEVATIONS ARE BASED ON THE PROPOSED ROAD FROM BHJ TO NATIONAL HIGHWAY.
5. THIS DRAWING HAS BEEN PREPARED IN CONTINUATION TO THE EARLIER DRAWING AND COST ESTIMATE OF THE PROPOSED REALIGNED ROAD (ALREADY SUBMITTED TO PHPAI VIA WAPCOS).
6. THE DRAWING HAS BEEN PREPARED FOR WIDENING AND BLACK TOPPING OF EXISTING FARM ROAD JOINING THE PROPOSED REALIGNED ROAD FROM BHJ TO NATIONAL HIGHWAY BASED ON SITE INSPECTION AND DISCUSSIONS WITH PHPAI.
7. ROAD STRETCH 100M FROM BHJ TO NATIONAL HIGHWAY (BLACK TOPPING) IS SHOWN IN THE DRAWING.
8. TRACK CLOSURE AND ROAD MARKING OF THE PROPOSED REALIGNED ROAD FROM BHJ TO FARM ROAD JUNCTION HAS BEEN CONSIDERED ALONG WITH THIS FARM ROAD COST ESTIMATE.
9. DRAWINGS HAVE BEEN REVISED TO BHA STANDARDS AS PER BHA STANDARDS (REVISED) DATED 12.03.2023.

FOR STUDY PURPOSE

PUNATSANGCHU HYDROELECTRIC PROJECT AUTHORITY (BHUTAN)

CONSULTANT

WAPCOS

A DIVISION OF BHA GROUP

PUNATSANGCHU-I H.E. PROJECT (BHUTAN)

PROPOSED WIDENING & BLACKTOPPING OF
EXISTING FARM ROAD - LAYOUT PLAN

SHOWN DESIGNED CHECKED APPROVED

WAPCOS PROJECT OFFICE, BUNTHAN, BHUTAN

DRG. NO. WAPPHET/UPW/ET/PL/02/2023

NOV. 2023

REV.0

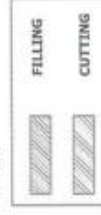


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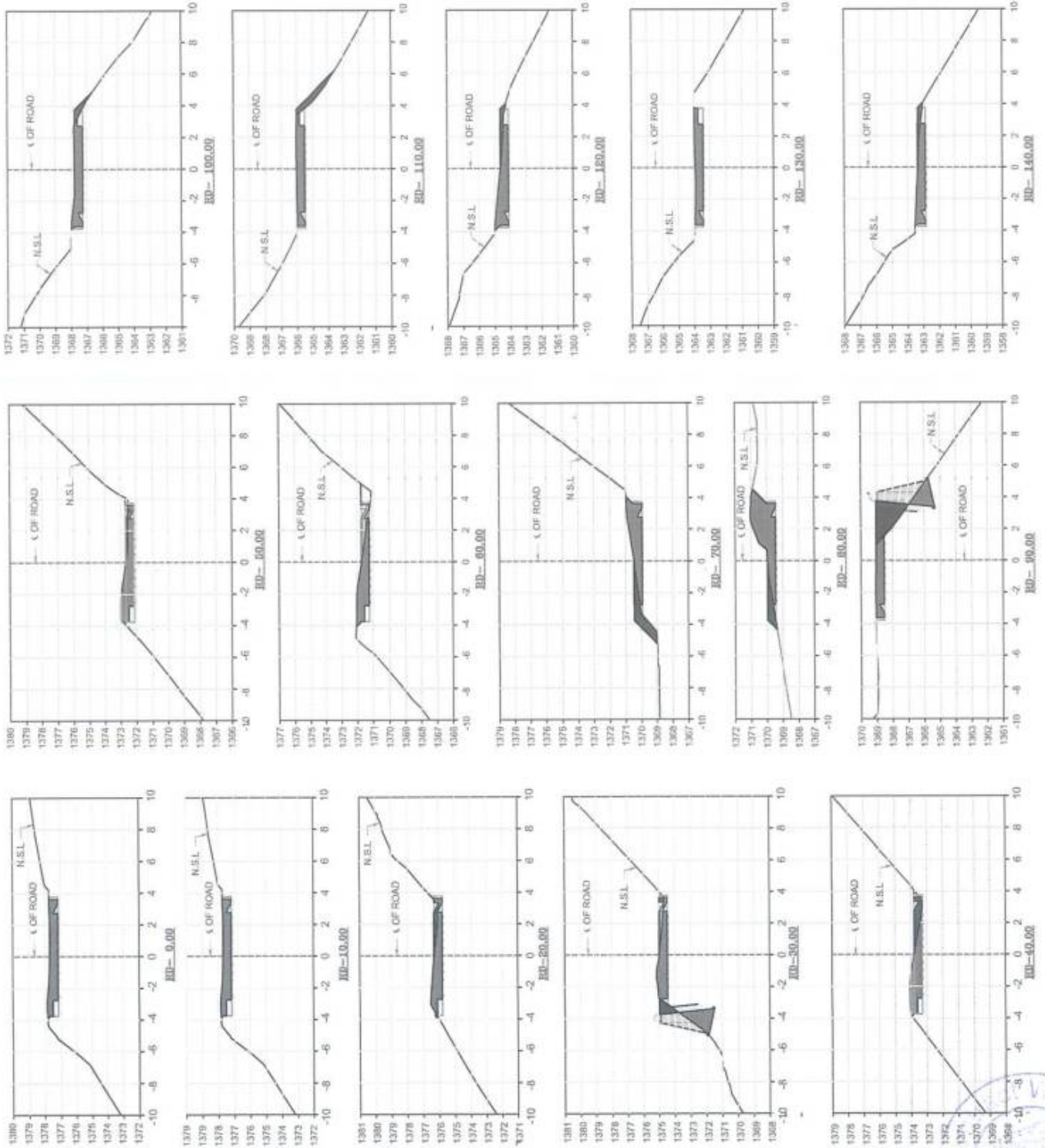
NOTES:

1. THIS DRAWING SHOWS 'CROSS SECTIONS' FROM CH. 0+00 TO CH. 1+400.00 OF EXISTING AND PROPOSED FARM ROAD.
2. ALL DIMENSIONS ARE IN METERS. ELEVATIONS & CHAMBERS ARE IN METERS. NO DIMENSIONS SHALL BE MEASURED FROM THE DRAWING.
3. ALL DETAILS/WORKS SHALL BE CHECKED ALONG WITH THE REFERENCED DRAWINGS BEFORE STARTING THE WORK.
4. THIS DRAWING HAS BEEN PREPARED BASED ON THE JOINT SITE INSPECTION OF PHPA AND WAPCOS ON 02.07.2025 & 12.07.2025 FOR FARM ROAD JOINING THE PROPOSED REALIGNED ROAD.
5. THE DRAWING HAS BEEN PREPARED FOR MEETING AND BLACK TOPPING OF EXISTING FARM ROAD JOINING THE PROPOSED REALIGNED ROAD FROM BHU TO NATIONAL HIGHWAY BASED ON SITE INSPECTION AND DISCUSSIONS WITH PHPA.
6. DRAWINGS HAVE BEEN REVIEWED TO BHU STANDARDS AS PER THE REQUIREMENTS OF BHU STANDARDS (PH. PPA/PAE/CDMD/PA/2020/192, DATED 2.02.2025).

LEGEND:



FOR STUDY PURPOSE



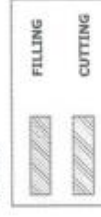
PUNATSANGCHHU-1 H.E. PROJECT (BHUTAN)			
CONSULTANT			
WAPCOS			
(A JOINT VENTURE OF INDIA AND NEPAL)			
PUNATSANGCHHU-1 H.E. PROJECT (BHUTAN)			
PROPOSED WIDENING & BLACKTOPPING OF EXISTING FARM ROAD			
CROSS SECTION FROM CH.0.00M TO CH.140.00M			
DRAWN	DESIGNED	CHECKED	APPROVED
WAPCOS PROJECT OFFICE, BHIMTANGHRA, BHUTAN			
DRL NO. WAP/PAE/PA/2020/192/0203M			
NOV. 2025			
REV-0			

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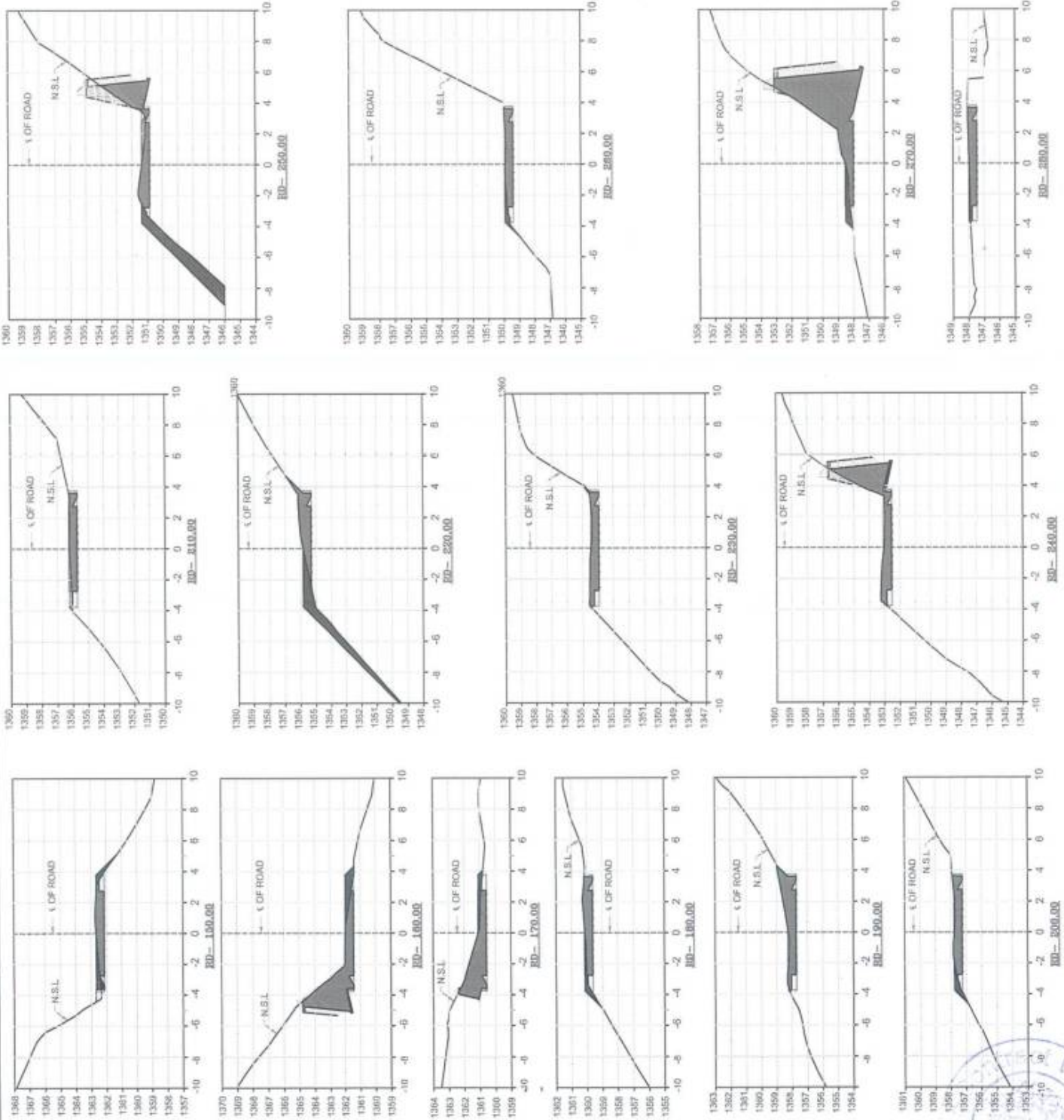
NOTES:

1. THIS DRAWING SHOWS "CROSS SECTION" FROM CH. 150.00M TO CH. 280.00M.
2. ALL DIMENSIONS ARE IN MILLIMETERS. ELEVATIONS & CHAINAGE ARE IN METERS. NO DIMENSION SHALL BE MEASURED FROM THE DRAWING.
3. ALL DETAILS/REVISIONS SHALL BE CHECKED ALONG WITH THE REFERENCED/RELATED DRAWING BEFORE STARTING WORKS.
4. THIS DRAWING HAS BEEN PREPARED BASED ON THE JOINT SITE INSPECTION OF PHPAI AND WAPCOS ON 02.07.2025 & 12.07.2025 FOR FARM ROAD JOINING THE PROPOSED REALIGNED ROAD.
5. THE DRAWING HAS BEEN PREPARED FOR WIDENING AND BLACK TOPPING OF EXISTING FARM ROAD JOINING THE PROPOSED REALIGNED ROAD FROM BHU TO NATIONAL HIGHWAY BASED ON SITE INSPECTION AND DISCUSSIONS WITH PHPAI.
6. DRAWINGS HAVE BEEN PREPARED TO THE STANDARDS AS PER (DMC) (H-20/2025/142, DATED 21.03.2025).

LEGEND:



FOR STUDY PURPOSE



PUNATSANGCHULI HYDROELECTRIC PROJECT AUTHORITY (BHUTAN)



PUNATSANGCHULI-I H.E. PROJECT (BHUTAN)
PROPOSED WIDENING & BLACKTOPPING OF
EXISTING FARM ROAD
CROSS SECTION FROM CH.150.00M TO CH.280.00M

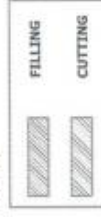
DRAWN	DESIGNED	CHECKED	APPROVED
WAPCOS PROJECT OFFICE, BIMTHANJHA, BHUTAN			
DRG. NO. WAPPH/EP/PM/MT/ET/CS/2037			REV-A
			NOV. 2025

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NOTES:

1. THIS DRAWING SHOWS CROSS SECTION FROM CH. 290.00M TO CH. 410.00M. THE EXISTING FILLING AND CUTTING ARE SHOWN IN THE CROSS SECTION.
2. ALL DIMENSIONS ARE IN MILLIMETERS. ELEVATIONS & CHAINAGE ARE IN METERS. NO DIMENSION SHALL BE MEASURED FROM THE DRAWING.
3. ALL DETAIL DIMENSIONS SHALL BE CHECKED ALONG WITH THE REFERENCED DRAWINGS BEFORE STARTING THE WORK. ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF WAPCOS IMMEDIATELY.
4. THIS DRAWING HAS BEEN PREPARED BASED ON THE JOINT SITE INSPECTION OF PHPA AND WAPCOS ON 02.07.2025 & 12.07.2025 FOR FARM ROAD JOINING THE PROPOSED REALIGNED ROAD. THE DRAWING HAS BEEN PREPARED FOR WIDENING AND BLACK TOPPING OF EXISTING FARM ROAD JOINING THE PROPOSED REALIGNED ROAD FROM BML TO NATIONAL HIGHWAY BASED ON SITE INSPECTION AND DISCUSSION WITH PHPA.
5. DRAWINGS HAVE BEEN REVISED TO BML STANDARDS AS PER DISCUSSION WITH PHPA ON 02.07.2025 & 12.07.2025. (CHD/PA/2025/152, DATED 1.09.2025).

LEGEND:



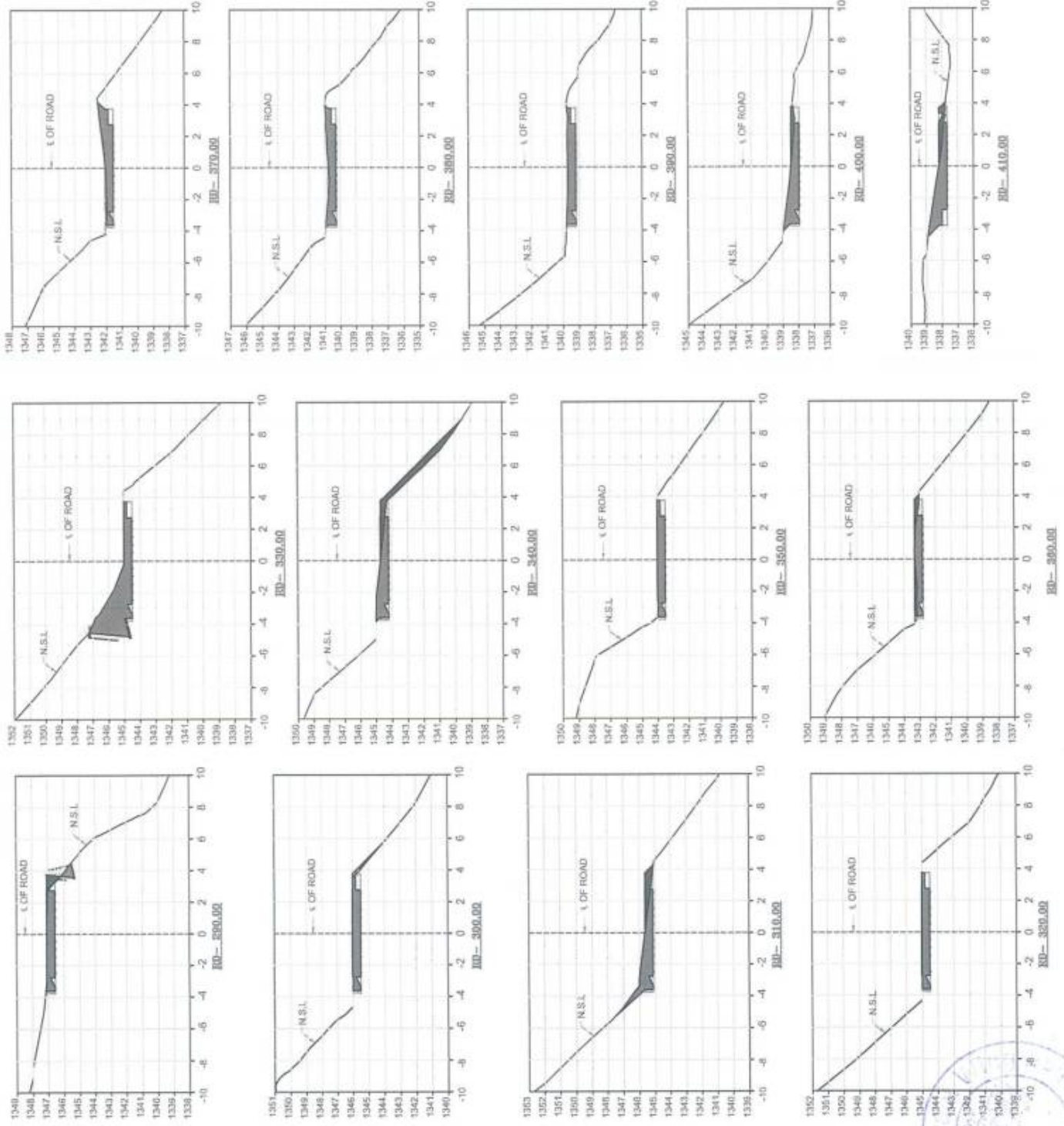
FOR STUDY PURPOSE

PUNATSANGCHHU HYDROELECTRIC PROJECT AUTHORITY (BHUTAN)

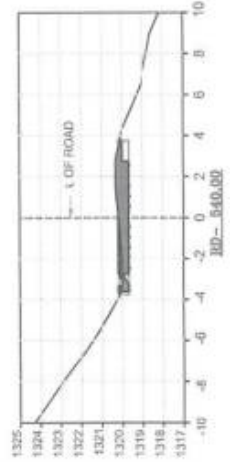
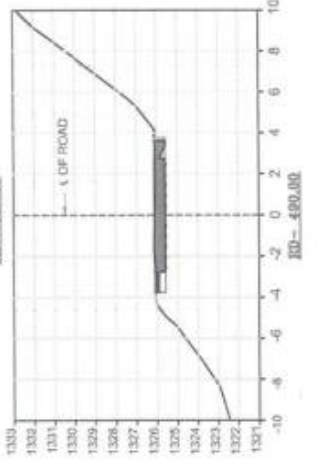
CONSULTANTS
WAPCOS
(A UNIT OF BHEL LIMITED)


PUNATSANGCHHU-I H.E. PROJECT (BHUTAN)
PROPOSED WIDENING & BLACKTOPPING OF
EXISTING FARM ROAD
CROSS SECTION FROM CH. 290.00M TO CH. 410.00M

DRAWN	DESIGNED	CHECKED	APPROVED
WAPCOS PROJECT OFFICE, BHMTHANGHOLA, BHUTAN			
DRG. NO. WAPHEP-FRMWSTER/03/2038			
NOV. 2025			
REV-0			



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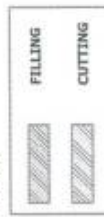
PUNATSANGCHU-I HYDROELECTRIC PROJECT AUTHORITY (BHUTAN)		PUNATSANGCHU-I H.E. PROJECT (BHUTAN)	
GENERAL (A11)		IN AID OF PUNA-VEST (GENERAL)	
 WAPCOS A DIV OF PUNA-VEST (GENERAL)			
PROPOSED WIDENING & BLACKTOPPING OF EXISTING FARM ROAD CROSS SECTION FROM CH.420.00M TO CH.540.00M			
BRANCH	DESIGNED	CHECKED	APPROVED
WAPCOS PROJECT OFFICE, BAHATHANGMA, BHUTAN		NOV. 2015	
DRO. NO. WAPRIE-PUNATSANGCHU-1/2015		REV-0	
		8	

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NOTES:

1. THIS DRAWING SHOWS "CROSS" SECTIONS FROM CH. 550.00M TO 680.00M OF EXISTING FARM ROAD. THE ELEVATIONS & CHANGING ARE IN METERS. NO DIMENSION SHALL BE MEASURED FROM THE DRAWING.
2. ALL DETAIL DIMENSIONS SHALL BE CHECKED ALONG WITH THE REFERENCED DRAWINGS BEFORE STARTING THE WORK.
3. THIS DRAWING HAS BEEN PREPARED BASED ON THE JOINT SITE INSPECTION OF PHAPAI AND WAPCOS ON 02.07.2025 & 12.07.2025 FOR FARM ROAD JOINING THE PROPOSED REALIGNED ROAD FROM BHU TO NATIONAL HIGHWAY.
4. THIS DRAWING HAS BEEN PREPARED FOR WIDENING AND BLACK TOPPING OF EXISTING FARM ROAD JOINING THE PROPOSED REALIGNED ROAD FROM BHU TO NATIONAL HIGHWAY BASED ON SITE INSPECTION AND DISCUSSION WITH PHAPAI.
5. DRAWINGS HAVE BEEN REVISED TO BH STANDARDS AS PER PHAPAI LETTER NO. 001/2025 DATED 18.07.2025 (PH. PHAPAI/001/2025/001) DATED 18.07.2025.

LEGEND:



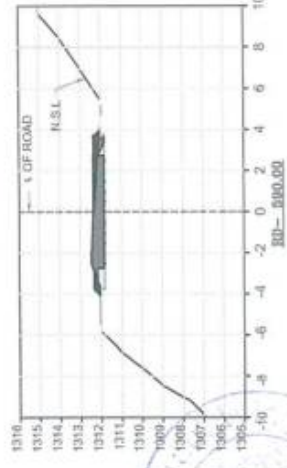
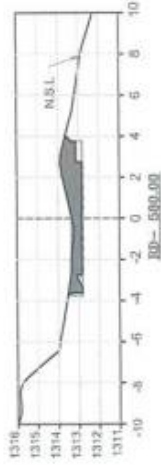
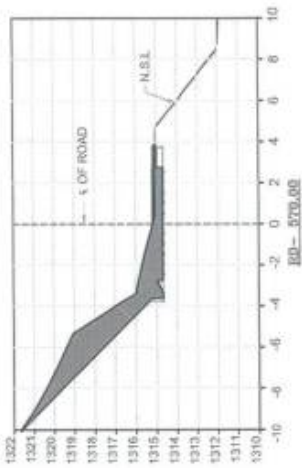
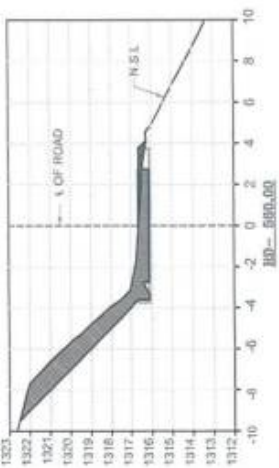
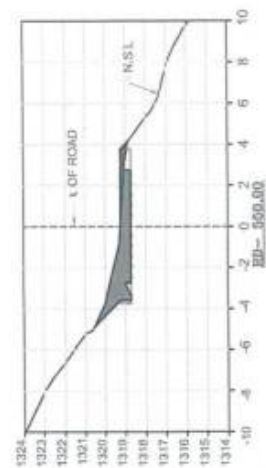
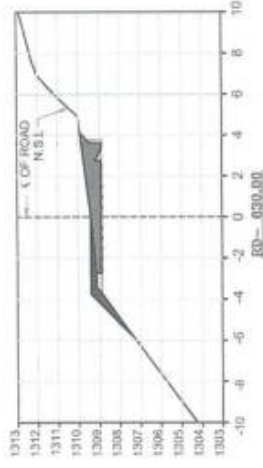
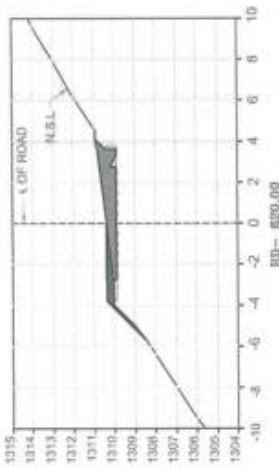
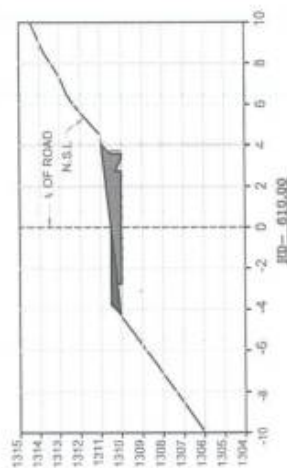
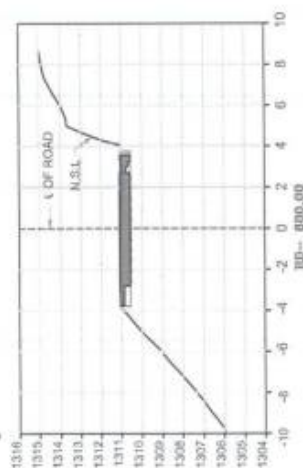
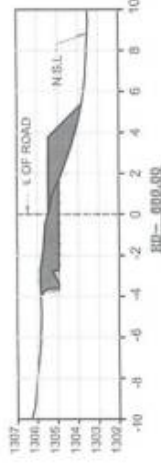
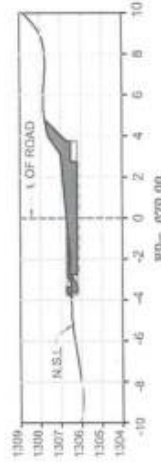
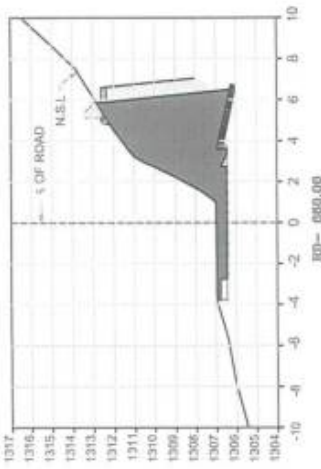
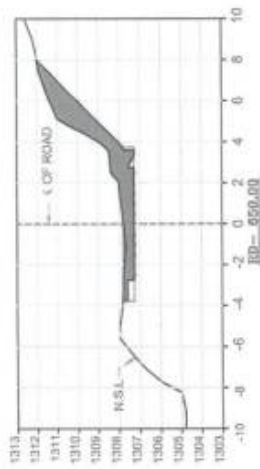
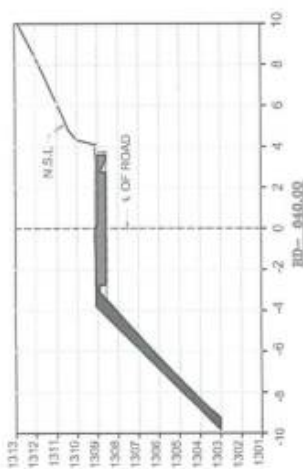
FOR STUDY PURPOSE

PUNATSANGCHU HYDROLECTRIC PROJECT AUTHORITY (BHUTAN)



PUNATSANGCHU-I H.E. PROJECT (BHUTAN)
PROPOSED WIDENING & BLACKTOPPING OF
EXISTING FARM ROAD
CROSS SECTION FROM CH.550.00M TO CH.680.00M

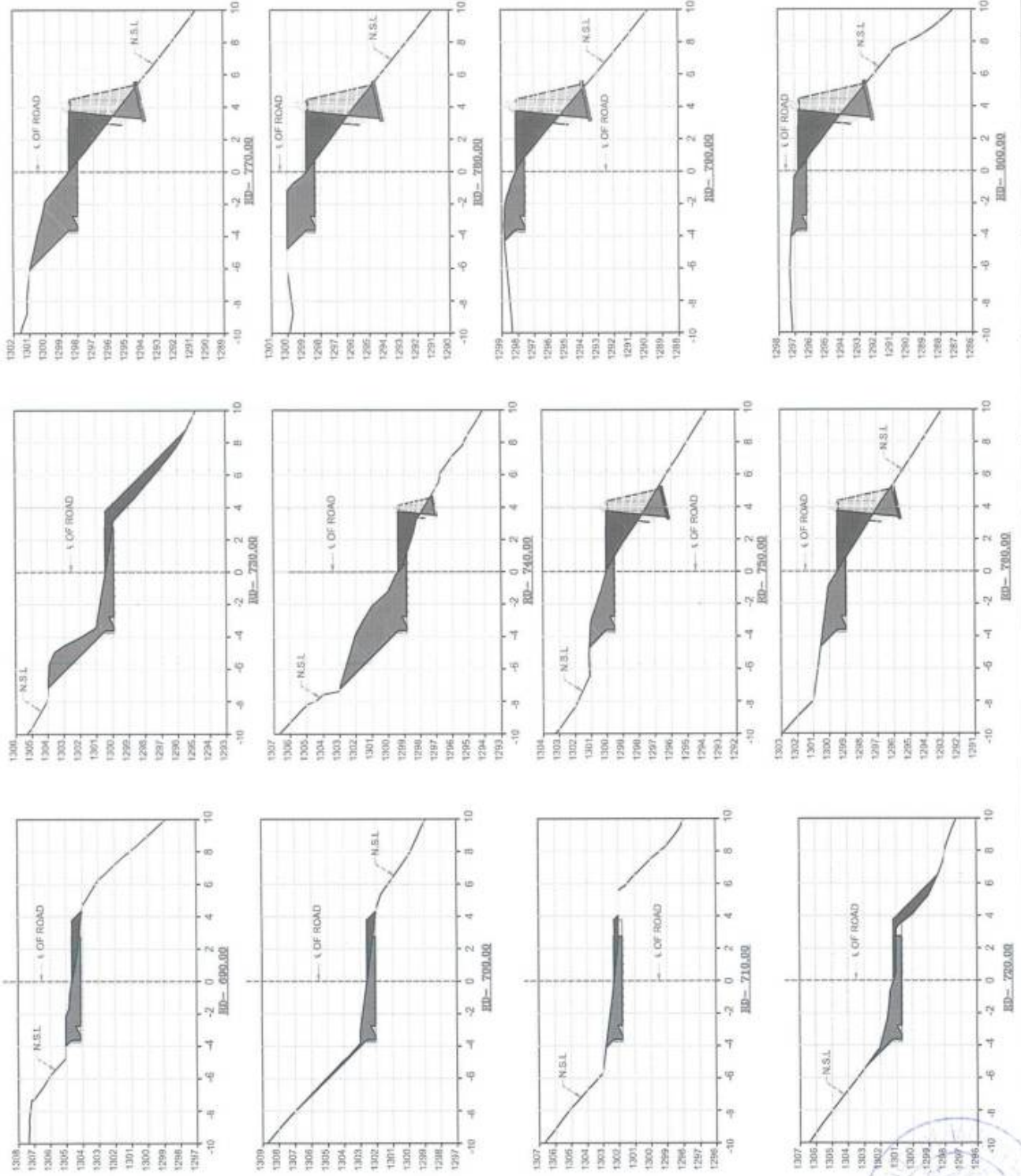
DRAWN	CHECKED	APPROVED
WAPCOS PROJECT OFFICE, BANTHANAKHA, BHUTAN		
BRS NO. WAPPH/PH/2025/001/2025		
REV-0		



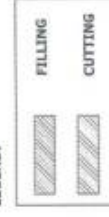
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NOTES:

1. THIS DRAWING SHOWS "CROSS SECTIONS" FROM CH. 690.00M TO 800.00M OF EXISTING FARM ROAD FROM BHAJ TO NATIONAL HIGHWAY. ELEVATIONS & CHANGING ARE IN METERS. NO DIMENSION SHALL BE MEASURED FROM THE DRAWING.
2. ALL DETAIL DIMENSIONS SHALL BE CHECKED ALONG WITH THE REFERENCED DRAWINGS BEFORE STARTING THE WORK.
3. THIS DRAWING HAS BEEN PREPARED BASED ON THE JOINT SITE INSPECTION OF PHAPAI AND WAPCOS ON 02.07.2025 & 12.07.2025 FROM BHAJ TO NATIONAL HIGHWAY. THE PROPOSED HEADED ROAD FROM BHAJ TO NATIONAL HIGHWAY IS 12M WIDE. THE PROPOSED TYPING OF EXISTING FARM ROAD JOINING THE PROPOSED HEADED ROAD FROM BHAJ TO NATIONAL HIGHWAY IS BASED ON SITE INSPECTION AND DISCUSSIONS WITH PHAPAI.
4. DRAWINGS HAVE BEEN REVISED TO 3M STANDARDS AS PER PHAPAI. (DATE: 02.07.2025) (BY: 02.07.2025) (NO. PHAPAI/2025/013, CH. 690.00M).



LEGEND:

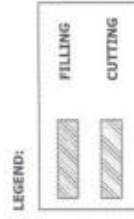



FOR STUDY PURPOSE

PUNATSANGCHHU HYDROELECTRIC PROJECT AUTHORITY (BHUTAN)			
CONSULTANTS			
PUNATSANGCHHU-I H.E. PROJECT (BHUTAN)			
PROPOSED WIDENING & BLACKTOPPING OF			
EXISTING FARM ROAD			
CROSS SECTION FROM CH. 690.00M TO CH. 800.00M			
DRAWN	CHECKED	APPROVED	
WAPCOS PROJECT OFFICE, BANGKOK, THAILAND			NOV. 2025
DRG. NO. WAPNIP/PHAPAI/EF/CH/SS/0241			REV.0

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1. THIS DRAWING SHOWS "CROSS SECTION" FROM CH. 8+0.00 TO 8+100.00 OF EXISTING FARM ROAD.
2. ALL DIMENSIONS ARE IN MILLIMETERS. ELEVATIONS & CHANGE ARE IN METERS. NO DIMENSION SHALL BE MEASURED FROM THE ABUTMENT.
3. ALL DETAIL DIMENSIONS SHALL BE CHECKED ALONG WITH THE REFERENCED DRAWINGS BEFORE STARTING THE WORK. DISCREPANCIES, IF ANY, SHALL BE BROUGHT TO THE NOTICE OF THE ARCHITECT IMMEDIATELY.
4. THIS DRAWING HAS BEEN PREPARED BASED ON THE J.O.T. NO. 107/2005 OF PPAIPL AND WAPCOS ON 02.03.2005 FOR FARM ROAD JOINING THE PROPOSED REALIGNED ROAD FROM B-1 TO NATIONAL HIGHWAY.
5. THE DRAWING HAS BEEN PREPARED FOR WEEDING AND BLACK TOPPING OF EXISTING FARM ROAD JOINING THE PROPOSED REALIGNED ROAD. THE DRAWING IS NOT TO BE USED FOR ANY OTHER SITE INVESTIGATION AND DECISIONS WITH PPAIPL.
6. DRAWINGS HAVE BEEN REVISED TO 50% STATION AS PER PPAIPL NOTE (HEET. DATED 13.03.2005) (No. PPAIPL/EE/2005/105-106, DATED 2.03.2005).



PUNJATSANGCHHU-1 HYDROELECTRIC PROJECT AUTHORITY (BHUTAN)	CONSULTANTS	 WAPCOs (A GOVT. OF NEPAL UNDERTAKING)	PUNJATSANGCHHU-1 T.E. PROJECT (BHUTAN)
<p align="center"> PROPOSED WIDENING & BLACKTOPPING OF EXISTING FARM ROAD CROSS SECTION FROM CH.310.00M TO CH.950.00M </p>			
ISSUED	DESIGNED	CHECKED	APPROVED
WAPCOs PROJECT OFFICE, BHUTHANGHRA, BHUTAN		NOV., 2005	
DRD. NO. WAPCOs-APWAF/05/CS/024		REMARKS	
		A	

NOTES:

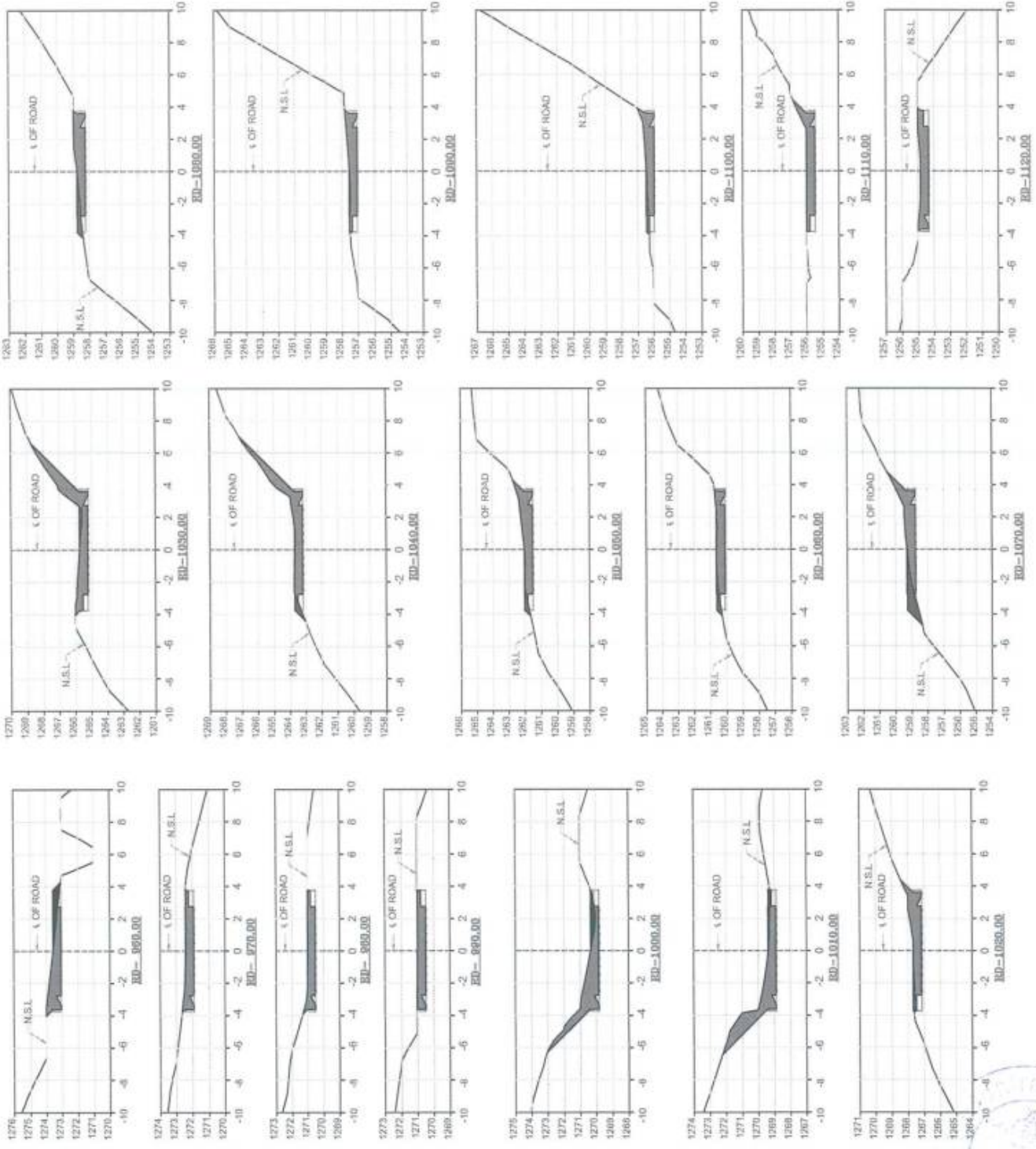
1. THIS DRAWING SHOWS "CROSS SECTIONS" FROM CH. 970.00M TO CH. 1120.00M OF THE PROPOSED WIDENING & BLACKTOPPING OF THE EXISTING FARM ROAD.
2. ALL DIMENSIONS ARE IN MILLIMETERS. ELEVATIONS & CHANGING ARE IN METERS. NO DIMENSIONS SHALL BE MEASURED FROM THE DRAWING.
3. ALL DIMENSIONS SHALL BE CHECKED ALONG WITH THE REFERENCED ATTACHED DRAWINGS BEFORE STARTING THE WORK. ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF WAPCOS IMMEDIATELY.
4. THIS DRAWING HAS BEEN PREPARED BASED ON THE JOINT SITE INSPECTION OF PHPAJ AND WAPCOS ON 02.07.2020 & 12.07.2020 FOR FARM ROAD JOINING THE PROPOSED REALIGNED ROAD TO THE EXISTING FARM ROAD.
5. THE DRAWING HAS BEEN PREPARED FOR WIDENING AND BLACKTOPPING OF EXISTING FARM ROAD JOINING THE PROPOSED REALIGNED ROAD FROM PHJ TO NATIONAL HIGHWAY BASED ON SITE INSPECTION AND DISCUSSIONS WITH PHPAJ.
6. DRAWINGS HAVE BEEN PREPARED WITH STANDARD AS PER DRAWING STANDARDS DATED 13.04.2020. PH. PYP/PAISE (ICM/PA/2020/25/123, DATED 13.03.2020).

LEGEND:



FOR STUDY PURPOSE

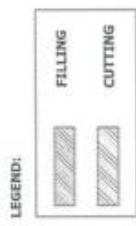
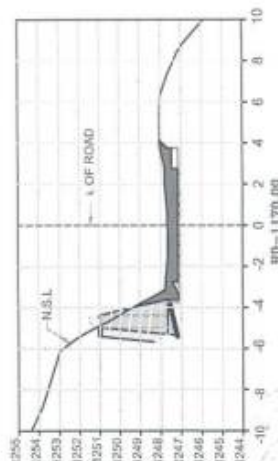
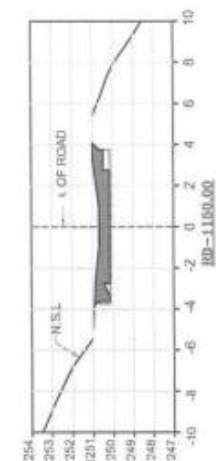
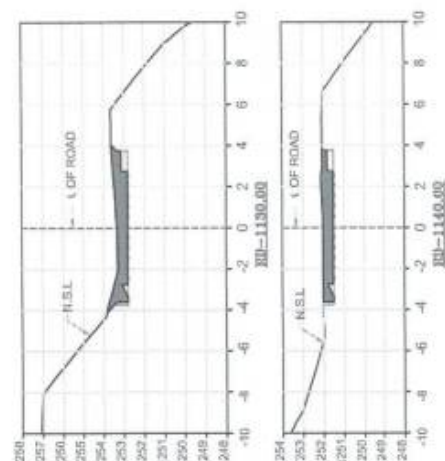
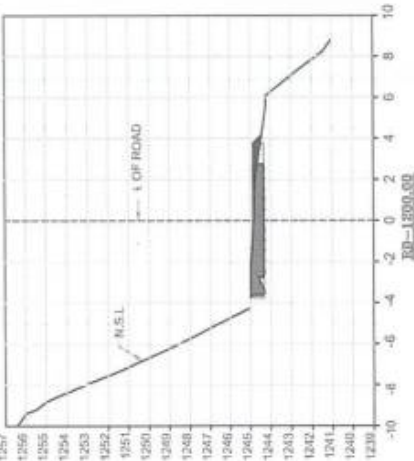
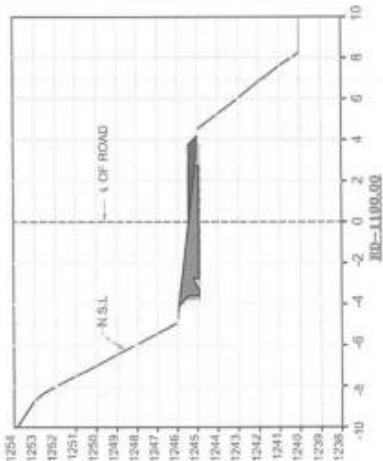
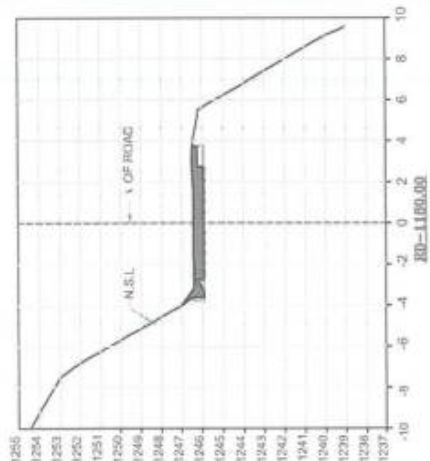
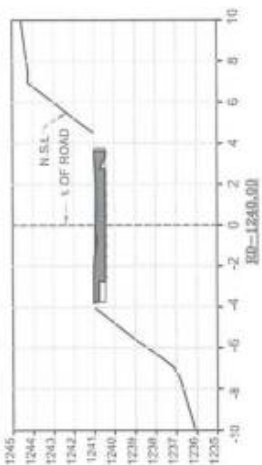
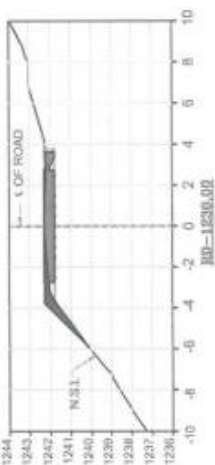
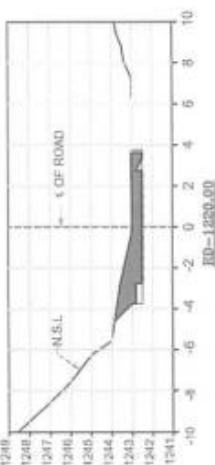
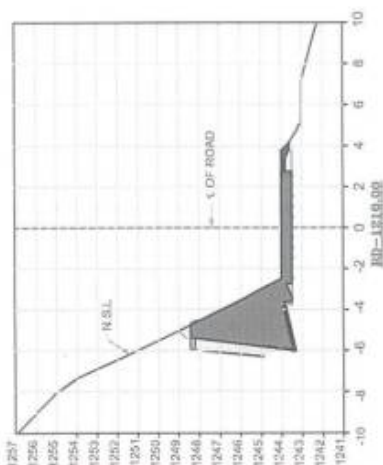
PUNATSANGCHHU HYDROELECTRIC PROJECT AUTHORITY (BHUTAN)			
CONSULTANTS			
WAPCOS			
IN CHARGE OF THE PROJECT			
PUNATSANGCHHU-I H.E. PROJECT (BHUTAN)			
PROPOSED WIDENING & BLACKTOPPING OF			
EXISTING FARM ROAD			
CROSS SECTION FROM CH. 970.00M TO CH. 1120.00M			
DRAWN	DESIGNED	CHECKED	APPROVED
WAPCOS PROJECT OFFICE, BIMTHANKHA, BHUTAN			
DRG. NO. WAP/PH/PA/PAISE/PCS/2020/123			
NOV., 2020			
REV-0			



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NOTES:

1. THIS DRAWING SHOWS "CROSS SECTIONS" FROM CH. 1130.00M TO CH. 1240.00M.
2. ALL DIMENSIONS ARE IN METERS. ELEVATIONS & CHANGES ARE IN METERS. NO DIMENSION SHALL BE MEASURED FROM THE DRAWING.
3. ALL DETAIL DIMENSIONS SHALL BE CHECKED ALONG WITH THE REFERENCED DRAWINGS BEFORE STARTING THE WORK.
4. THIS DRAWING HAS BEEN PREPARED BASED ON THE JOINT SITE INSPECTION OF PHPA AND WAPCOS ON 02.07.2023 & 03.07.2023 FOR FARM ROAD JOINING THE PROPOSED REALIGNED ROAD.
5. THE DRAWING HAS BEEN INSPECTED FOR VERNIER AND BLACK TOPPING OF EXISTING FARM ROAD JOINING THE PROPOSED REALIGNED ROAD FROM R/L TO NATIONAL HIGHWAY BASED ON SITE INSPECTION AND DISCUSSIONS WITH PHPA.
6. DRAWINGS HAVE BEEN REVISED TO 3001 STANDARDS AS PER PHPA/PH/2023/03/03/132 DATED 20.03.2023.



FOR STUDY PURPOSE

PUNATSANGCHHU HYDROELECTRIC PROJECT AUTHORITY (BHUTAN)			
CONSULTANTS			
WAPCOS			
IN CHARGE OF PROJECT MANAGER			
PUNATSANGCHHU-1 H.E. PROJECT (BHUTAN)			
PROPOSED WIDENING & BLACKTOPPING OF EXISTING FARM ROAD			
CROSS SECTION FROM CH.1130.00M TO CH.1240.00M			
DESIGN	DRAWN	CHECKED	APPROVED
WAPCOS PROJECT OFFICE, BUMTHANGHRA, BHUTAN			
DRS. NO. WAPPH/2023/03/03/132			
NOV. 2023			
REV.2			

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NOTES:

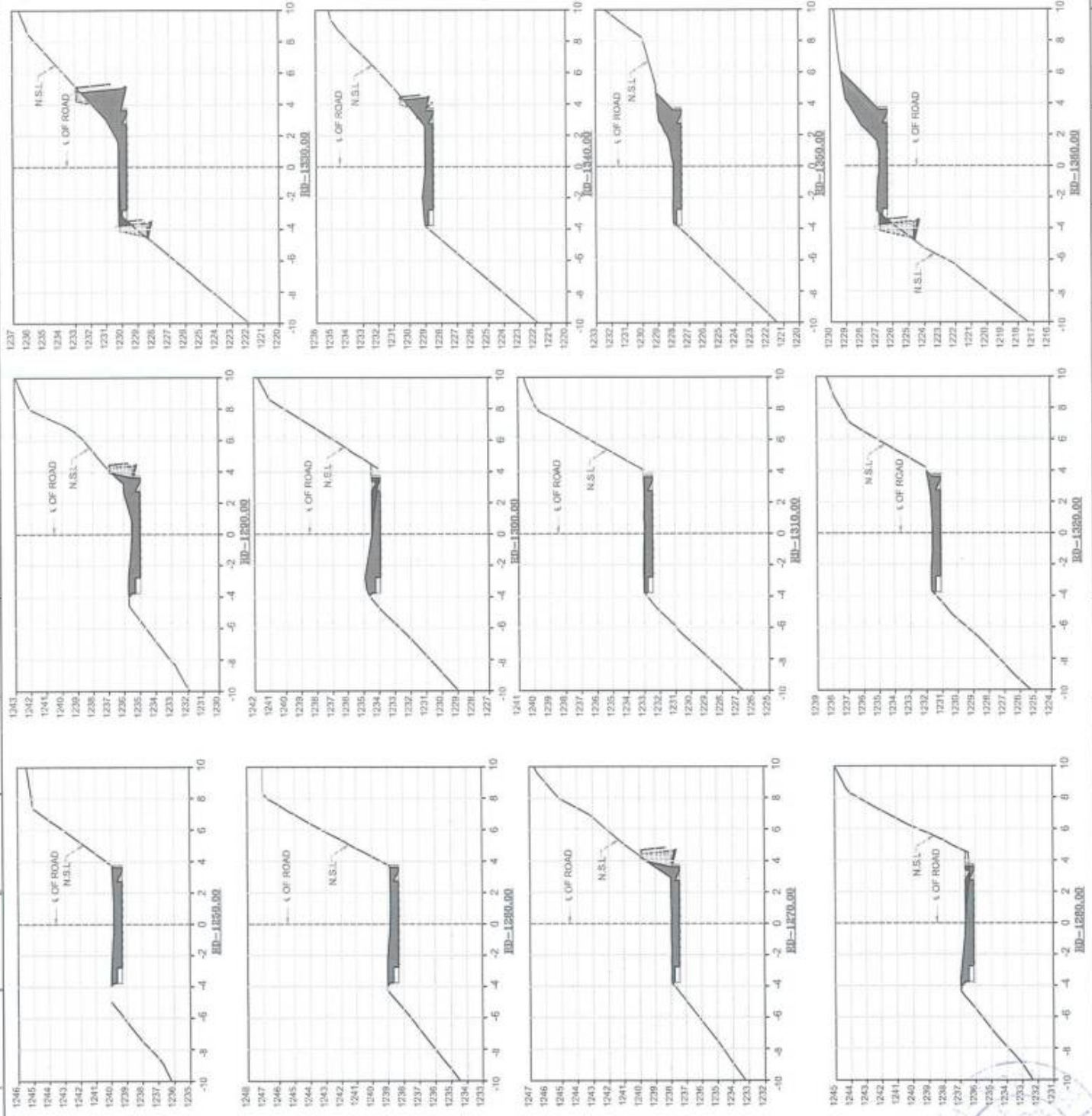
1. THIS DRAWING SHOWS 'CROSS SECTIONS' FROM CH. 1335.00M TO CH. 1360.00M OF EXISTING ROAD AND PROPOSED ROAD. ALL DIMENSIONS ARE IN METERS. NO DIMENSION SHALL BE MEASURED FROM THE DRAWING.
2. ALL DIMENSIONS SHALL BE CHECKED ALONG WITH THE REFERENCED DRAWINGS BEFORE STARTING THE WORK.
3. THIS DRAWING HAS BEEN PREPARED BASED ON THE JOINT SITE INSPECTION OF PHPAI AND WAPCOS ON 02.07.2005 & 12.07.2005 FOR FARM ROAD JOINING THE PROPOSED REALIGNED ROAD TO NATIONAL HIGHWAY.
4. THE DRAWING HAS BEEN PREPARED FOR WIDENING AND BLACK TOPPING OF EXISTING FARM ROAD JOINING THE PROPOSED REALIGNED ROAD FROM BHU TO NATIONAL HIGHWAY BASED ON SITE INSPECTION AND DISCUSSIONS WITH PHPAI.
5. DRAWINGS HAVE BEEN REVISIONED TO 864 STANDARDS AS PER PHPAI/PA/2005/0132, DATED 3.08.2005.
6. PHPAI/PA/2005/0132, DATED 3.08.2005.

LEGEND:



FOR STUDY PURPOSE

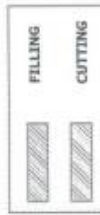
PUNATSANGCHHU-1 HYDROELECTRIC PROJECT AUTHORITY (BHUTAN)			
CONSULTANT			
WAPCOS			
MINISTRY OF ROAD TRANSPORT			
PUNATSANGCHHU-1 H.E. PROJECT (BHUTAN)			
PROPOSED WIDENING & BLACKTOPPING OF EXISTING FARM ROAD			
CROSS SECTION FROM CH.1350.00M TO CH.1360.00M			
DRAWN	DESIGNED	CHECKED	APPROVED
WAPCOS PROJECT OFFICE, BANGKOK, THAILAND			
REV. NO. 1: WAPCOS/PA/2005/0132/004			
NOV. 2005			
REV.4			



NOTES:

1. THIS DRAWING SHOWS "CROSS SECTIONS" FROM CH. 1370.00M TO 1460.00M OF EXISTING FARM ROAD.
2. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
3. ALL DETAIL DIMENSIONS SHALL BE MEASURED FROM THE CENTERLINE OF ROAD.
4. THIS DRAWING HAS BEEN PREPARED BASED ON THE JOINT SITE INSPECTION OF PHAPAI AND WAPCOS ON 02.07.2025 & 12.07.2025 FOR FARM ROAD JOINING THE PROPOSED REALIGNED ROAD FROM BHU TO NATIONAL HIGHWAY.
5. THE EXISTING ROAD IS A GRAVEL ROAD, FOR WIDENING AND BLACK TOPPING OF EXISTING FARM ROAD JOINING THE PROPOSED REALIGNED ROAD FROM BHU TO NATIONAL HIGHWAY BASED ON SITE INSPECTION AND DISCUSSIONS WITH PHAPAI.
6. DRAWINGS HAVE BEEN REVISED TO SRA STANDARDS AS PER PHAPAI NOTE SHEET DATED 13.07.2025 (No. PHAP/EE (CONV)W-55203P-192 DATED 2.08.2024).

LEGEND:



FOR STUDY PURPOSE

PUNATSANGCHU HYDROELECTRIC PROJECT AUTHORITY (BHUTAN)

CONSULTANTS



(A GOVT. OF NEPAL COMPANY)

PUNATSANGCHU-I H.E. PROJECT (BHUTAN)
PROPOSED WIDENING & BLACKTOPPING OF EXISTING FARM ROAD
CROSS SECTION FROM CH.1370.00M TO CH.1460.00M

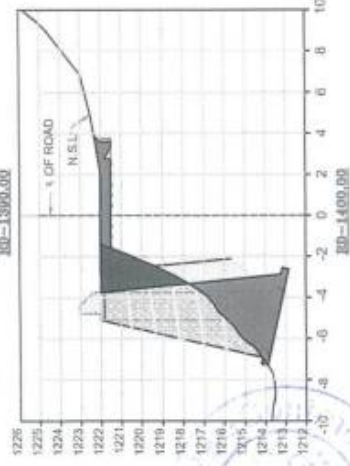
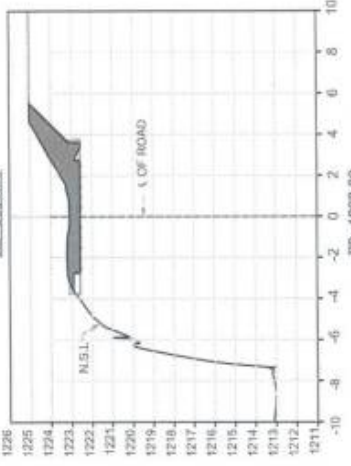
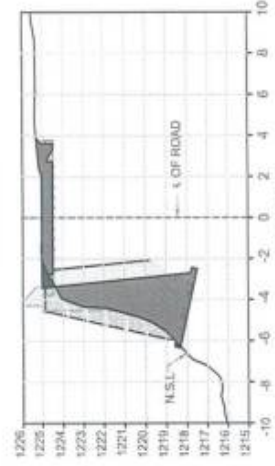
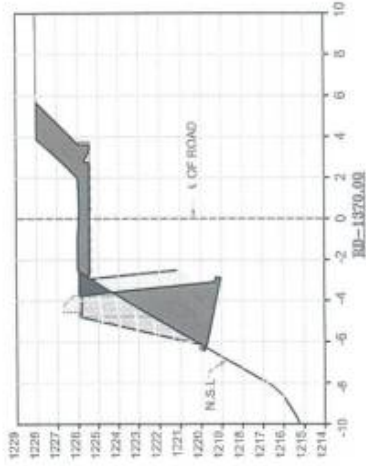
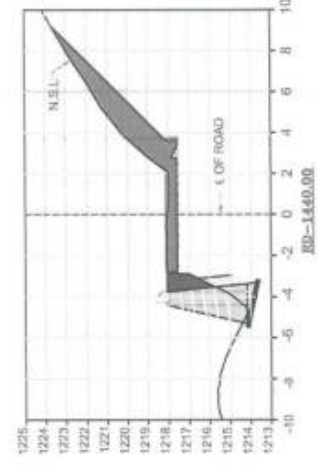
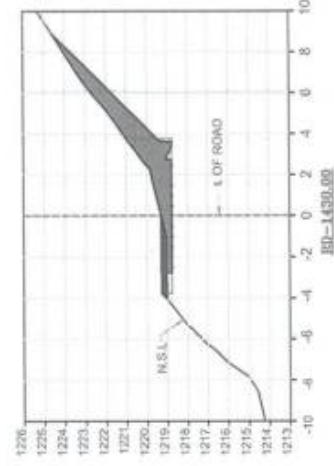
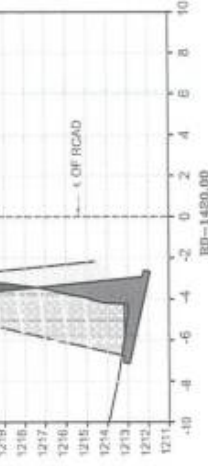
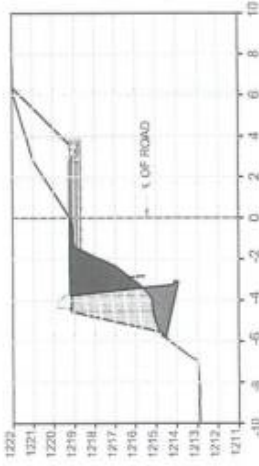
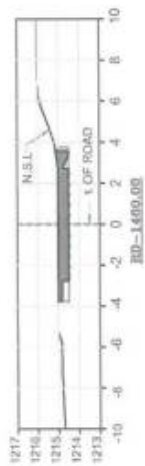
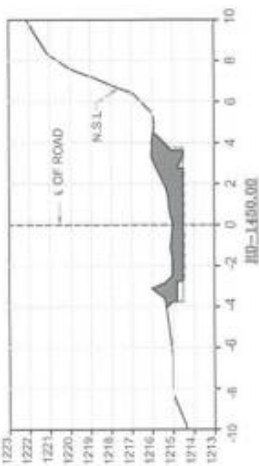
DRAWN DESIGNED CHECKED APPROVED

WAPCOS PROJECT OFFICE, BUNTHANBHARA, BHUTAN NOV. 2025

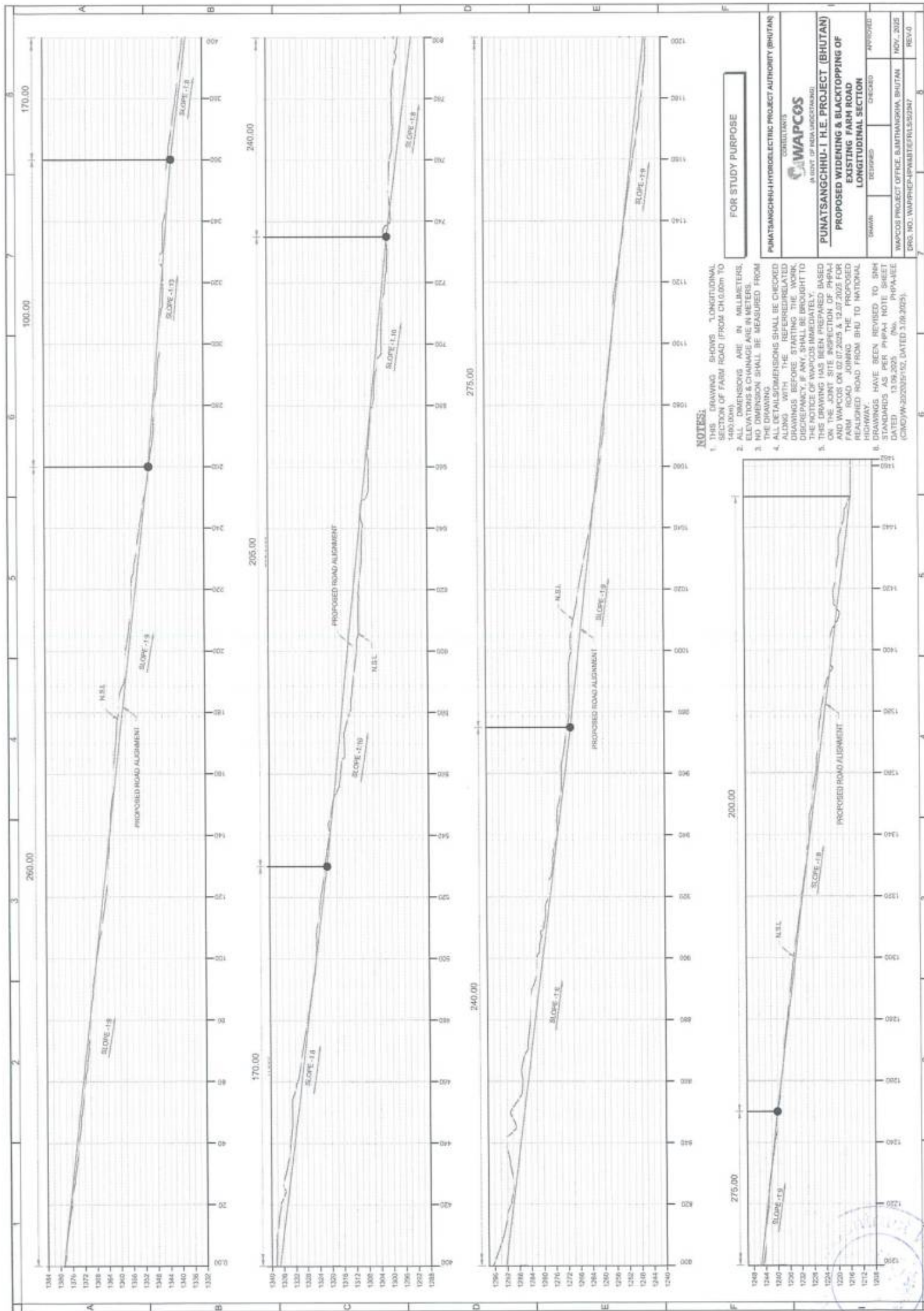
DRG. NO. WAP/PH/14/11/2025/PC/05/046

NOV-2025

NOV-20



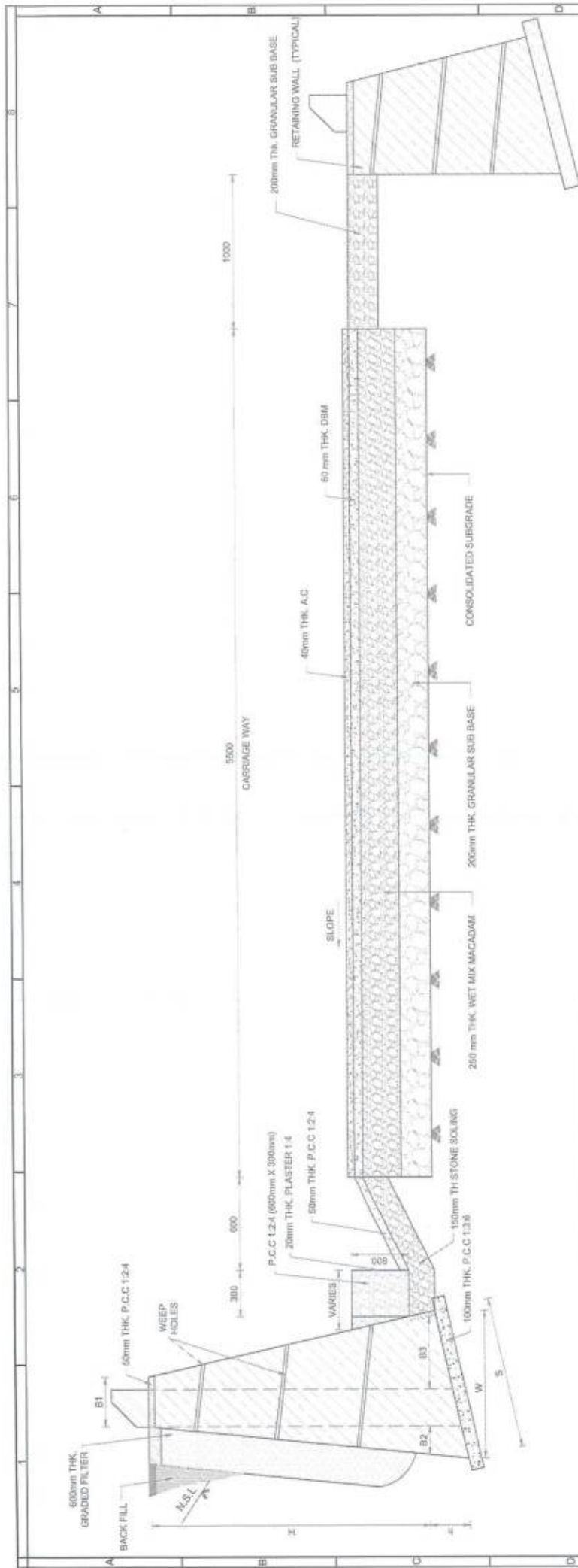
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NOTES:

1. THIS DRAWING SHOWS LONGITUDINAL SECTION OF FARM ROAD (FROM CH.0.00m TO 1400.00m).
2. ALL DIMENSIONS ARE IN MILLIMETERS, ELEVATIONS & CHAINAGE ARE IN METERS.
3. NO DIMENSION SHALL BE MEASURED FROM THE DRAWING.
4. ALL DETAILS/DIMENSIONS SHALL BE CHECKED ALONG WITH THE REFERENCE TO THE WORK DISCREPANCY, IF ANY, SHALL BE BROUGHT TO THE NOTICE OF WAPCOS IMMEDIATELY.
5. THIS DRAWING HAS BEEN PREPARED BASED ON THE JOINT SITE INSPECTION OF PH-141 AND WAPCOS ON 02.07.2025 & 12.07.2025 FOR FARM ROAD JOINING THE PROPOSED REALIGNED ROAD FROM BHU TO NATIONAL HIGHWAY.
6. DRAWINGS HAVE BEEN REVISED TO SHM STANDARDS AS PER PH-141 NOTE IN PLACE (GNO/JW-2020/5102, DATED 3.09.2025).

PUNATSANGCHHU-1 HYDROELECTRIC PROJECT AUTHORITY (BHUTAN)			
CONSULTANTS			
WAPCOS			
IN CHARGE OF INDIA (KOLKATA)			
PUNATSANGCHHU-1 H.E. PROJECT (BHUTAN)			
PROPOSED WIDENING & BLACKTOPPING OF EXISTING FARM ROAD			
LONGITUDINAL SECTION			
DRAWN	DESIGNED	CHECKED	APPROVED
WAPCOS PROJECT OFFICE, BLMTHANOKHA, BHUTAN			
NOV. 2025			
DRG. NO. WAP/HIEP/PM/MT/ET/LS/23/247			
REV.0			



HEIGHT (mm)	B1 (mm)	B2 (mm)	B3 (mm)	h (mm)	W (mm)	S (mm)
4000	800	400	1000	500	2000	2060
4250	750	430	1060	560	2240	2310
4500	750	450	1130	580	2330	2400
4750	750	480	1190	600	2420	2490
5000	750	500	1430	770	2680	2790
5250	750	530	1500	800	2780	2890
5500	750	550	1570	820	2870	2980
5750	750	580	1640	850	2970	3090
6000	750	600	1710	880	3060	3180
6250	750	630	1790	910	3170	3300
6500	750	650	1860	930	3260	3390
7000	750	700	2000	990	3450	3590

FOR STUDY PURPOSE

NOTES:

1. THE DRAWING SHOWS TYPICAL PAVEMENT CROSS SECTION & RETAINING WALL OF FARM ROAD.
2. ALL DIMENSIONS ARE IN MILLIMETERS, ELEVATIONS & CURVE RADIUS ARE IN METERS. NO DIMENSION SHALL BE INFERRED FROM THE DRAWING.
3. ALL DIMENSIONS SHALL BE AS SHOWN ALONG WITH THE DETAILED DRAWINGS BEFORE STARTING THE WORK. DISCREPANCY, IF ANY, SHALL BE BROUGHT TO THE NOTICE OF WAPCOS IMMEDIATELY.
4. THIS DRAWING HAS BEEN PREPARED BASED ON THE JOINT SITE INSPECTION OF PHRAI AND WAPCOS ON 02.07.2023 & 12.07.2023 FOR FARM ROAD, JOINING THE PROPOSED REALIGNED ROAD FROM BHAI TO NATIONAL HIGHWAY 100, PHRAI, NOTE DATED 13.07.2023 (N.H. PHRAI) (SMDOWN-202307102, DATED 3.08.2023).
5. DRAWING PREPARED BY: WAPCOS PROJECT OFFICE, BHMTHANGKHA, BHUTAN.
6. SHEET DATED 13.07.2023 (N.H. PHRAI) (SMDOWN-202307102, DATED 3.08.2023).

PUNATSANGCHHU HYDROELECTRIC PROJECT AUTHORITY (BHUTAN)

PROJECT UNIT

WAPCOS

(A UNIT OF NEA UNDERSTANDING)

PUNATSANGCHHU-1 H.E. PROJECT (BHUTAN)
PROPOSED WIDENING AND BLACKTOPPING OF
FARM ROAD TYPICAL CROSS SECTION OF
PAVEMENT & RETAINING WALL

DESIGNED

CHECKED

APPROVED

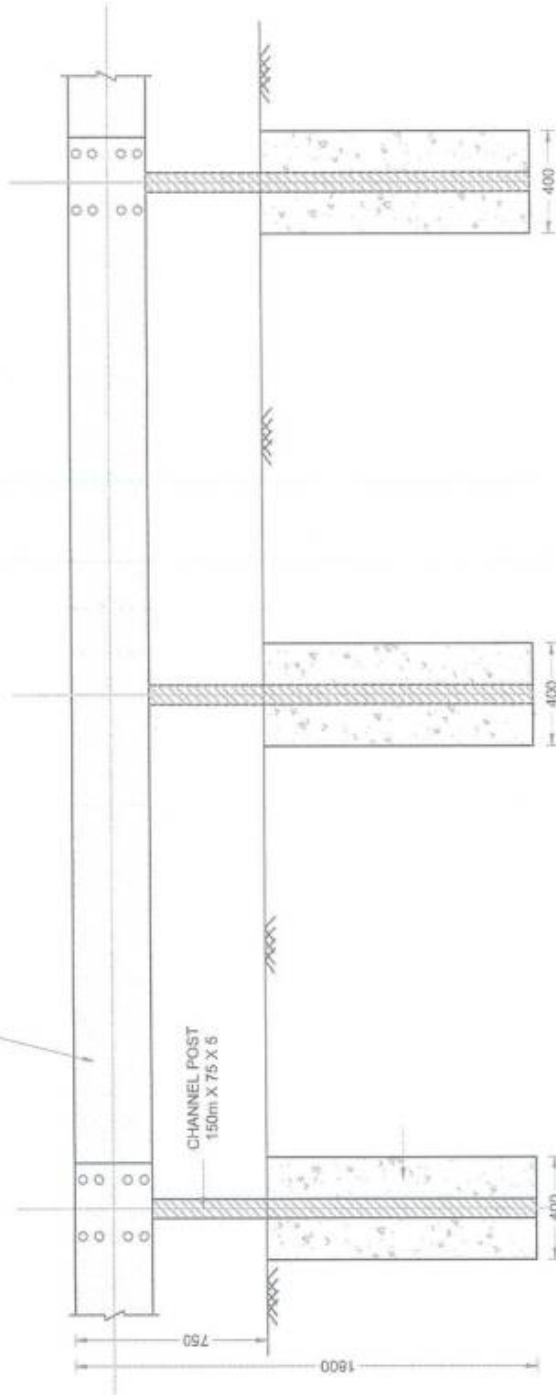
NOV. 2023

REV-0

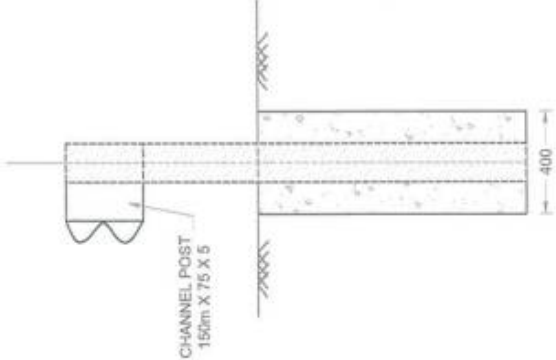
WAPCOS PROJECT OFFICE, BHMTHANGKHA, BHUTAN

DRG. NO. WAPPH/PAW/ART/PC/3/2248

W-BEAM (CORRUGATED METAL CRASH BARRIER)



ELEVATION



SIDE VIEW

FOR STUDY PURPOSE

NOTES:

1. THE DRAWING SHOWS "CROSS SECTIONS" FROM CH. 1370.00M TO 1480.00M OF EXISTING FARM ROAD.
2. ALL DIMENSIONS ARE IN MILLIMETERS. ELEVATIONS & CHANGES ARE IN METERS. DIMENSIONS ARE TO BE CHECKED ALONG WITH THE DRAWING.
3. ALL DETAIL DIMENSIONS SHALL BE CHECKED ALONG WITH THE REFERRED RELATED DRAWINGS BEFORE STARTING THE WORK. DISCREPANCY, IF ANY, SHALL BE BROUGHT TO THE NOTICE OF WAPCOS IMMEDIATELY.
4. THIS DRAWING HAS BEEN PREPARED BASED ON THE JOINT SITE INSPECTION OF INPA AND WAPCOS ON 02.02.2025 & 12.07.2025 FOR FARM ROAD JOINING THE PROPOSED REALIGNED ROAD FROM BHU TO NATIONAL HIGHWAY.
5. THE DRAWING HAS BEEN PREPARED FOR WIDENING AND BLACK TOPPING OF EXISTING FARM ROAD JOINING THE PROPOSED REALIGNED ROAD FROM BHU TO NATIONAL HIGHWAY. ELEVATION HEIGHT BASED ON SITE INSPECTION AND SURVEYING WITH INPA.
6. DRAWINGS HAVE BEEN REVISED TO DIN STANDARDS AS PER INPA NOTE SHEET DATED 13.05.2025 (No. INPA-EE (CMO)W-2025/0432, DATED 13.05.2025).

PUNATSANGCHULI HYDROLECTRIC PROJECT AUTHORITY (BHUTAN)			
CONSULTANT			
WAPCOS			
A. LOOT OF NAMA UNDEBTAMU			
PUNATSANGCHULI H.E. PROJECT (BHUTAN)			
PROPOSED WIDENING & BLACKTOPPING OF			
EXISTING FARM ROAD			
CRASH BARRIER			
DRAWN	DESIGNED	CHECKED	APPROVED
WAPCOS PROJECT OFFICE, BUTHANDEKHRA, BHUTAN			
DIN. NO. WAPNHEP-APWABTE/PC/25/0289			
NOV. 2025			
REV. A			

BLANK